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CHRONIC URETHRITIS AND CHRONIC URETERITIS CAUSED BY TONSILLITIS *

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The tonsils have been made the scapegoat for so many human ills that one hesitates to bring another charge against them. For eighteen months past, since having my attention directed to the possible relationship between tonsillitis and certain cases of chronic urethritis and chronic ureteritis, the evidence has been accumulating with such force that I feel justified in drawing up the indictment and ask that the problem be taken under advisement and judgment passed on it after experience may have justified or negatived my claims.

In a comparatively recent paper, Rosenheim[1] has reviewed the literature and found the following list of ailments ascribed in certain cases to tonsillar infection: aneurysm, appendicitis, erysipelas, and a number of other skin manifestations, meningitis, iritis, pleuritis, pericarditis, pneumonia, paraplegia and strabismus, parotitis, nephritis, osteomyelitis, phlegmon of the lower extremities, oophoritis and orchitis, septicemia, typhoid beginning with an angina, and tuberculosis.

It is only natural that we should look on such a list with some mental reservations, but no intelligent physician of to-day will deny that the infections and toxins of tonsillitis have an important causal relationship to many forms of rheumatism.

Those who have worked with the diseases of the urinary organs in women have for a number of years been familiar with the so-called rheumatic urethritis. In using this term I wish to exclude the old text-book application, for undoubtedly most cases of chronic granular urethritis are due to old gonorrheal infection, and our text-books have included these under the term "rheumatic." But we have seen many cases in which gonorrhea could be ruled out to a practical certainty and for which we have been at a loss for the etiologic factor. This is particularly true in the cases of respectable unmarried women who have a persistent urethritis and have intact hymen and very little probability of ever having contracted gonorrhea. Some of these chronic urethritides are associated with vulvitis and I have been inclined to class some of them as traumatic infections due to onanism. We see rare cases of cystitis and urethritis following immediately after marriage in which gonorrhea can be ruled out, and we find the infecting agent to be the colon bacillus or some other microorganism. These are undoubtedly traumatic infections. Theoretically a few of our chronic urethritis cases might be classed as auto-infections, because of the very short urethra and the myriads of bacilli and cocci normally inhabiting the region of the external urethral orifice.

If we rule out these possible auto-infections, gonorrhea, and trauma and infection from childbirth, coitus and onanism, we still have left a not inconsiderable proportion of our chronic urethritis cases for which we have heretofore been at a loss to explain the origin, and we have generally classed them as rheumatic urethritis. As a matter of fact most of these patients have suffered from some form of rheumatism and the local urethral treatment is more effective if the patient is given simultaneous internal antirheumatic treatment.

My experience with these cases is that they generally respond to local treatment more quickly than the chronic gonorrheal cases (although there are numerous exceptions to this rule), and as a rule they relapse within a few weeks or possibly months after the patients think themselves well.

I am not certain that there is any speculum picture to differentiate the rheumatic from the gonorrheal cases, but I am under the impression that we will find, in many of the rheumatic cases, most inflammation about the inner third of the urethra, while we all know that in the gonorrheal cases the inflammation persists longest about the outer third of the urethra, where are located most of the urethral crypts and glands.

ILLUSTRATIVE CASES

Case 1.—My attention was first called to the possible relationship between the tonsils and the urethra by a patient whom I had been treating for chronic urethritis from December, 1908, to May, 1909. During this five months I had been treating the urethra once or twice a week by dilating with Hegar dilators and mopping the urethra with either 3 or 10 per cent. silver solution. During this time I had on one occasion prescribed a gargle for a sore throat. May 20 the patient asked me why her throat should always be irritated immediately after I made the silver application. This sore throat lasted as long as the urethral reaction was active, about twenty-four hours if I used the 3 per cent. silver, and as long as three days after the 10 per cent. silver. She said that she had noticed this phenomenon for some time and she had also noticed that her throat and urethral irritation always seemed to be aggravated in damp weather. I examined her throat and found that the tonsils were large and presented numerous crypts over the surface. I referred her to Dr. T. Chew Worthington who reported as follows: "The tonsils, while very deep and buried between the pillars, are much larger than they appear, and show evidence of frequent inflammation, and I believe that they are largely responsible for the patient's rheumatic trouble; but I do not know to what extent they may cause the urethritis." They were so riddled by necrotic foci that it was impossible to remove them except by morcellement. I saw the patient three times within the next two

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* Read before the meeting of the Southern Surgical and Gynecological Association at Nashville, Tenn., Dec. 13, 1910.

[1] Rosenheim: The Tonsillar Ring and the Paranasal Sinuses as Portals of Entry of Infectious Diseases, Bull. Johns Hopkins Hosp., November, 1908, xix, 338.

months and her symptoms had rapidly disappeared, although she was having some discomfort at times and the urethra showed some granulations over its inner half.

One can scarcely appreciate the marvelous change in this patient without knowing the details of her history and having treated her as I did for five months without appreciable permanent relief. She was a single woman, a seamstress, 42 years of age and had entered the menopause two years previously. She remembers one attack of inflammatory rheumatism when 25. She had had bladder irritation at times for eight years, this occurring only once or twice a year up to within two years ago, since which time she had had no relief. She complained of great frequency and of sharp stinging pain in the neck of the bladder while voiding. She was often afraid to leave the house because of her inability to control the bladder. In addition to the local symptoms she had pain in the right groin and great discomfort and soreness across the entire lower abdomen. She often had a sinking feeling, nausea, and a desire to void if she made a misstep while walking, or if she rocked in a chair, or drove over a rough road, or rode in the street car. Bimanual examination of the pelvis and lower abdomen elicited considerable muscle spasm, and because of this and her very indefinite symptoms I was led on several occasions to think of the possibility of chronic appendicitis. Pelvic examination and high rectal examination were negative. Palpation over the urethra caused reflex pain in the bladder region. The most striking feature of her examination was the fact that on distention of the urethra when injecting the 10 per cent. cocain solution preparatory to the urethral treatment the patient always complained that I caused her typical abdominal pains reaching as high as the umbilicus, and a feeling of nausea. It was this one persistent and consistent complaint of the patient that soon led me to cease thinking of a chronic appendicitis. It well illustrates also a dictum that I have given my students for a number of years, viz., when dealing with any obscure abdominal complaint located below the level of the umbilicus, never to overlook an examination of the urethra.

Within two months after the tonsils were removed, the preliminary distention of the urethra with cocain did not cause abdominal discomfort. The spontaneous abdominal discomfort had disappeared and the only symptom was a slight local irritation in the urethra.

At my request the patient came to my office on Dec. 1, 1910. She had been practically well for the intervening fourteen months. On some days she is conscious of a slight uneasiness in the bladder, but she often holds the urine all day. She has never had the soreness across the hypogastrium nor the nausea and sinking attacks. Riding over a rough road or jarring from any cause does not affect her. While formerly she never dared sit in a draft, she now does not consider such matters. The anxious, harassed expression of the face has disappeared and she claims to be in perfect health. Cystoscopic examination shows the urethral mucous membrane to be normal.

Case 2.—In February, 1909, Dr. A. I. Miller, of Brattleboro, Vt., sent me a Miss B., aged 35, who had been complaining of bladder trouble since an operation for uterine displacement in October, 1907. The patient was in an extremely nervous condition and examination showed the urethra to be contracted throughout its length and to have a very granular, red mucosa. She remained at the Johns Hopkins Hospital for six weeks, being treated for her nervousness and having the urethra treated about once a week. Within six weeks the urethra easily took a number 12 Hegar (12 mm.) dilator and its mucosa was normal-looking. Fearing a return of her trouble, the patient did not go home on dismissal from the hospital and her fears were well founded, for her urethral irritation returned in a few days. In May the patient was complaining of joint trouble for the first time and was placed on aspirin treatment which helped her joints and seemed to help the urethra. After my experience with the first case and in view of her rheumatic manifestations I examined the patient's throat and found that she had large tonsils. She refused to have these operated on until Dec. 23, 1909, when Dr. H. C. Davis removed her tonsils, finding them in much the same condition as those found in the first patient. The patient's urethra answered more readily to the treatment after the removal of the tonsils, but for about seven months there was a small area at the base of the right tonsil which became much irritated at times, and the patient was then very likely to complain of rheumatism in her knees and of the urethral irritation. After the spot in the right fauces was repeatedly touched with 10 per cent. silver solution and the urethra dilated and touched with solution of the same strength, the patient has finally made an apparent complete recovery. For four months past the irritation has been almost completely absent and the urethral mucosa, examined on a number of occasions, has remained normal.

Case 3.—Miss W., aged 48, admitted to the Johns Hopkins Hospital Oct. 10, 1901, complained of bladder trouble, indigestion, and nervousness. The menopause occurred four months previously. As a child the patient had measles and diphtheria. She had pneumonia when 18 and suffered with neuralgia and headaches. Six years previously she had an infection of the middle ear from her throat and the ear drum ruptured and drained freely. Hearing had been impaired since and she had occasional attacks of earache. She had hay fever every summer for years.

Four years ago, or in July, 1897, she first had bladder trouble as a frequency of voiding with intense pain, and the urine contained blood and mucus for several days. The pain and frequency lasted three months.

In the following four years she had had about two attacks a year usually lasting about two weeks. In January, 1901, she was confined to her room for one week with an attack and since then had constantly felt that an attack was impending. Her present attack came on five weeks prior to admission. It began with intense pain which prevented sleep. The pain was more severe on voiding. She passed some blood.

Examination revealed a normal bladder and a severe urethritis located in the inner third of the urethra.

A few treatments resulted in an apparently perfect cure.

She was again admitted to the Johns Hopkins Hospital March 14, 1910. After leaving the hospital in 1901 the patient was free from urinary symptoms for two years. Her symptoms of frequency and pain then began and for two years she had occasional loss of control of the urine. In 1905 she had a severe attack of typhoid fever with a long, slow convalescence, and now for five years she has had almost constant bladder trouble. For the past year her symptoms have been worse and she generally wears a napkin because of complete incontinence.

I examined the patient March 16, 1910, and found a specimen of urine drawn by the catheter clear. After applying 10 per cent. cocain solution and placing the patient in the knee-breast posture the urethra was first sounded with a 5 mm. Hegar dilator. This broke down what felt like a soft scar tissue obstruction at or near the internal urethral orifice. No further obstruction was felt in dilating up to a 10 mm. Hegar dilator.

The bladder was normal, but the urine settled in the vertex was bloody. This blood was found to be flowing from the anterior aspect of the internal sphincter region, probably from the obstruction felt to give way under the No. 5 Hegar.

The patient improved rapidly under the treatment by dilatation and applications of 3 per cent. silver solution.

After three weeks she complained of an attack of sore throat and examination showed enlarged and inflamed tonsils. These were partially removed with the tonsillotome April 22, and the patient was soon discharged. In answer to a letter in November she wrote in part as follows: "I am stronger than when I went to the hospital last March, but the bladder trouble is no better; in fact, it is so bad I very seldom leave home. I cannot see that the removal of the tonsils has helped me at all. I have just as much rheumatism and sneeze very much each day; in fact, more than I ever did."

If my theory is tenable this is just the result one would expect from partial removal of the tonsils by the tonsillotome. The patient's reference to the persistent sneezing and her

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"nasal" method of talking make me think that she has paranasal sinus infection as well and she has been advised to return for more complete attention to the tonsils and air passages.

CASE 4.—Miss H., aged 26, consulted me July 14, 1910. For about three years the patient had had bladder symptoms more or less constant, but exaggerated with overexertion, and particularly on damp days. When at its worst there was almost a constant desire to void. She did not consider the distress a pain nor a severe burning, but said it was more of a nagging. For the previous five or six months there had been a peculiar tired feeling in the right pelvis and the patient worried for fear that some serious condition was developing.

The patient had quinsy twice as a child and she was bothered a great deal with her throat. She had a severe attack of quinsy last winter and after four days the abscess ruptured. She has not had rheumatism. Examination of the heart revealed a soft systolic murmur over the mitral region and an accentuated second sound at the base. Both tonsils were enlarged. The bladder urine was normal. The urethra was very tender on introduction of the catheter and on examination it was found to be granular and reddened throughout its length.

The urethra was dilated and swabbed with 3 per cent. silver solution July 14 and July 21. The patient was sent to Dr. Sanger, who removed the tonsils early in August. He reported the right tonsil as badly diseased. Two weeks after the tonsillectomy I found the urethral mucosa less tender and less inflamed. I gave the third treatment and the patient left the city to take a position as school teacher. I have heard indirectly that she is greatly improved in health, and as the urethra seemed to be the only point of complaint I conclude that this must be improved.

SUMMARY OF CASES

To review the evidence briefly in these four cases:

In Case 1, the patient, as long as she could remember, had a tendency to "catch cold" easily and had to avoid drafts. She had an attack of acute inflammatory rheumatism involving the joints of the left side seventeen years previously. For eight years she had had attacks of bladder trouble and abdominal discomfort which for the previous two years had kept her in almost constant agony and had often kept her housed because of the inability to control the urine. Five months of regular treatment about once a week had made but little impression on her urethral and reflex abdominal symptoms. After the tonsils were removed three treatments in the next two months resulted in a cessation of practically all her symptoms and she often retained the urine an entire day. This cure has lasted for fourteen months.

In Case 2 the patient had had constant bladder symptoms for over two years, the disturbed nights and diurnal irritation making of her almost a nervous wreck. Bladder and urethral treatments had been without permanent effect. Treatment of the urethra for six weeks while she was in bed resulted in an apparent cure, but one week after leaving the hospital the symptoms returned and the urethra looked as inflamed as ever. Months of treatment, with the patient boarding in the city and having almost complete rest, gave occasional periods of one to two weeks of improvement in the symptoms. After the tonsils were removed there was one inflamed area in the base of the right tonsil region which for seven months gave occasional exacerbations of sore throat accompanied by pain and tenderness in the knee-joints and an exaggeration of the urethral symptoms. For the four months following treatment the patient's throat gave but few symptoms and the urethra was well as regards symptoms and appearance. After the tonsil operation the patient took a position as matron of a woman's dispensary, her duties ranging from bookkeeper to scrub woman, so that her improved health cannot be ascribed in any way to opportunities for rest.

In Case 3, when first admitted to the hospital in 1901 the patient had been suffering for four years with recurring attacks of bladder trouble. A few treatments of the urethra gave complete relief. For two years she had approximate health and then for seven years her bladder trouble had been growing worse until she had to depend permanently on a pad for catching the urine. Again a few urethral treatments seemed to relieve her condition perfectly. Her tonsils were then shaved off with a tonsillotome and within a few weeks her symptoms became as bad as ever.

In Case 4 the patient had complained of bladder trouble for three years and gave a clear history of tonsillar trouble since childhood, with three attacks of quinsy. In her case the tonsils were removed after two urethral treatments, so that we have not the striking demonstration, as in the other three cases, of the futility of urethral treatments while the tonsils remain.

I realize that these four cases of chronic urethritis are too few in number and of too recent occurrence to serve as a basis for reliable conclusions. The evidence here set forth, however, is sufficient to warrant a more careful study of our chronic urethritis cases, for if we can relieve permanently only a small proportion of these chronic sufferers by a comparatively simple operation, we will have made an important advance in therapeutics.

Since I have been on the lookout for these cases I have added seven others to my list which probably belong to this class. Some of the patients have been under my care intermittently for several years and it is only because they have chanced to return during the past few months that they are mentioned in this report.

Two are worthy of an extended report.

CASE 5.—Mrs. M., of St. Paul, telephoned me from New York in September of this year asking for an office appointment, stating that she had been my patient three years ago. On looking up her history I made a mental prediction that diseased tonsils would be found on another examination.

The history taken on her first visit in May, 1907, was as follows: About June, 1906, the patient developed rheumatism in the right knee, for which she went to Mount Clemens, and while under treatment there the trouble involved the joints of the right hand and the third finger of the left hand. About this same time she began to have "bladder trouble." This developed gradually as a scalding or burning, which was more likely to come on ten or fifteen minutes after voiding, and which she thought was in the urethra rather than in the bladder. She had no trouble at night; the aggravation had been more persistent for the last four months, occurring every day or every other day and preventing her from walking or taking much exercise. On further inquiry regarding her rheumatism she said that in 1891 she had rheumatism in the right shoulder and arm and in 1903 she was at the French Lick Springs for rheumatism in the right knee. When she first consulted me she had just spent six weeks at the Arkansas Hot Springs for rheumatism in her hands.

The urine on examination at this first visit was normal; the bladder was somewhat reddened about the trigonum, and the urethra was narrowed and showed a granular red mucosa throughout its length. I made a diagnosis of chronic granular urethritis of rheumatic origin. After two treatments consisting in the dilatation of the urethra and the application of 3 per cent. silver solution on the first visit and of the 6 per cent. silver solution on the second visit, the patient was obliged to return home. I sent instructions to her physician in St. Paul concerning further treatment.

On her return in September, 1910, the patient stated that she had been fairly well and had taken no further treatment. She had recently had considerable anxiety, was in bad physical condition and her urethral trouble had returned. I examined the urethra through the Kelly cystoscope without first disturbing it with the Hegar dilators, and found that the granular redness was confined to the urethral sphincter and to the mucosa of the inner third of the urethra. In view of my recent experience I quizzed her more closely and found that she had her first bladder symptoms when 16 years of age; that she often had a sore throat as a child, but did not remember having tonsillitis. This past winter she had considerable "rheumatic sore throat." I examined her throat and found much congestion about the fauces; the tonsils were considerably enlarged and had deep crypts over the surface, these being free from white deposits at the time of my examination.

I sent her to a laryngologist who considered that her tonsils were undoubtedly a causative factor in the rheumatism.

Case 6.—Mrs. R., aged 32, mother of three children, the youngest 4 years old, was referred by Dr. Gaver of Mount Airy and admitted to the Church Home in June, 1909. She had had bladder trouble for the previous three years with only brief intervals of freedom from pain. At times she had been in bed a week because of agonizing pain. There had also been pain in the right flank region and the patient was then wearing a plaster because of the pain and weakness in this region. I first thought, on taking her history in my office, that she probably had tuberculosis of the right kidney. The urine catheterized from the bladder contained many epithelial cells, leukocytes and red blood-corpuscles. Examination for tubercle bacilli was negative, but the urine contained many cocci, some arranged in pairs, suggestive of gonococci; none could be found, however, in the pus-cells. After a day of rest in the hospital cystoscopy was done and the urethra was dilated with difficulty, there being a stricture about half way in and another at the internal orifice. The trigonum was of a deep red hue and apparently swollen; the bladder mucosa was everywhere traversed by congested vessels. Both ureteral orifices were red but neither showed particular evidence of disease. The right ureter was catheterized with a No. 5 wax-tipped bougie, which returned without scratch-marks. The urine from the right kidney was normal. After a few days' observation I made a diagnosis of appendicitis and a large congested appendix was removed. During four weeks in the hospital the patient received treatment for her cystitis and the urine became normal.

I have given this patient many urethral treatments in the eighteen months previous to this report. The stricture at the inner orifice still persists and she still had occasional attacks of urethral symptoms accompanied by granular reddening of the mucosa.

The patient had her tonsils removed about 1907 but she did not remember the chronologic sequence of her bladder and tonsillar trouble. She still has considerable throat trouble and examination shows a mass of tonsillar tissue on the right side.

The possible relationship between tonsillitis and ureteritis has been brought to my attention only recently, the two patients possibly belonging to this class still being under observation and only one of them having had her tonsils removed.

In September, 1910, Dr. Herman F. Derge of Eau Claire, Wis., sent me a patient 26 years old, who had the following history:

Case 7.—Six or seven years previously the patient had an attack of pneumonia, which was followed by tonsillitis and rheumatism. At that time her tonsils were treated with the cautery. Soon after this she began to have attacks of pain in the left flank region. At first these attacks occurred every two or three months and the patient would lie down and flex the left leg for an hour or two until the attack disappeared. Her attacks gradually became worse, but she never had any nausea or vomiting with the attacks until the spring of 1910.

In February, 1910, she had an attack of tonsillitis and rheumatism, followed by similar attacks in March and April. After this the attacks of pain in her side became much more severe and were accompanied by nausea and vomiting. Dr. Derge wrote me in August that he had had the patient under observation in the hospital for four weeks, and said: "During this time her temperature has always been normal and the pulse has ranged between 72 and 96. For the first three weeks the urine contained constantly 1 gm. of albumin, pus cells, some red blood-corpuscles and a small rather thick bacillus. On two separate occasions I have examined the urine for tubercle bacilli but have found none. I have also cystoscoped her twice and on each occasion failed to get a catheter into the left ureter. The bladder itself looks perfectly normal and she has had no vesical symptoms. For the past week the urine has looked perfectly normal, there being neither albumin nor pus cells present and she excretes on an average 2 liters a day. Yesterday she had another attack of pain in the left side, was nauseated and vomited."

On her arrival in Baltimore the patient looked exceedingly ill. She had been having an attack the previous night, with much nausea and vomiting. I found a mass in the left kidney region projecting about 4 cm. below the costal margin. This was very tender and on palpation of the pelvic brim in the region of the ureter considerable pain was caused. Urine catheterized from the bladder was acid, showed a specific gravity of 1028 and contained a slight amount, about 0.1 per cent. of albumin. The microscope showed many epithelial cells and an occasional red blood-corpuscle. Three good radiographs of the kidney, ureter, and vesical regions, respectively, were negative.

After a few days' rest in bed, with frequent injections of morphin to control her pain, I made an unsuccessful attempt to catheterize her left ureter. Nine days after her arrival Dr. Sanger removed her tonsils and about ten days later I again failed to catheterize the ureter.

For two weeks after the removal of the tonsils the patient had about the same symptoms in the kidney region, the attacks being more severe if anything. After this the attacks seemed to be less frequent and decidedly less severe, the patient was allowed to take walks and drives and go to the theater, thus leading about a normal life, and her attacks of pain which occurred every two or three days were aborted with one injection of ⅛ grain of morphin, whereas her former attacks had required from one to three ¼-grain injections.

Of course one cannot expect a disappearance of the scar tissue involving the ureter after the removal of the tonsils and I should explain the improvement in her condition as due to the removal of the toxins which had caused the repeated inflammatory attacks in the ureteral mucosa.

After waiting two months and being unable to dilate the stricture from the bladder end I operated to dilate the stricture from above. Through a left rectus incision the peritoneum was pushed medianward until the ovarian vessels and ureter were found running parallel in the peritoneum. This exposed the iliac vessels on the pelvic brim and the round ligament covered with peritoneum near its entry to the internal ring. It also gave excellent exposure of the bladder. By blunt finger dissection the ureter was easily followed down to the point where it ran under the uterine vessels. A point was selected on the ureter low enough down so that in case the stricture could not be dilated the ureter could be cut across and implanted into the bladder. At this point, about 5 cm. above the crossing of the uterine vessels, the ureter was opened lengthwise and I had no trouble in passing gum-elastic filiforms, and finally a large follower 7 mm. in diameter into the bladder. A renal catheter was then passed into the bladder and its distal end was passed almost up to the kidney. The ureter was closed with fine catgut and a small finger drain was carried down into the ureter wound. After the closure of the abdominal wound the table was elevated and through a Kelly cystoscope the pointed end of the renal catheter which had been passed into the bladder was located, grasped with the alligator forceps and drawn out through the urethra. The pointed end was cut off and the catheter was fastened to the thigh by adhesive strap and through this catheter the kidney was irrigated three times a day for five days with 1-10,000 silver nitrate solution. The bladder was given a similar irrigation once a day.

Three weeks after the operation the patient was walking about the hospital. She had no sign or symptom of returning trouble in the left kidney. A suggestive feature in this case, as in case of urethritis, was that she had a sore throat and hoarseness after each attempt to catheterize the ureter, such treatment being followed by my routine swabbing of the urethra with 3 per cent. silver solution.

Case 8.—The second case of stricture of the ureter was that of a colored woman, aged 48, who had been under my care in the cystoscopic dispensary for several weeks. She began to have bladder trouble in May, 1910. She complained of a frequency and burning and thought she had caught cold in the bladder. For two years she had had mild attacks of pain in the right kidney region. These occurred from one to three weeks apart and she had no discomfort in the side between the attacks. Since the bladder trouble began in May she thought that the attacks of pain in the side had been more frequent and more severe.

About the same time that the pain began in the side she had a bad attack of inflammatory rheumatism in the left knee. This lasted all winter. Off and on for three or four winters she had rheumatism under the left shoulder blade and in the cervical vertebræ, this at times keeping her from work. She noticed for two years previously that she caught cold very easily and had a sore throat even in the summer time.

Examination of the urine catheterized from the bladder showed a moderate number of pus-cells. The right ureteral orifice was slightly inflamed, presenting such a picture as one sometimes observes when a stone lies low in the ureter. On four different weekly visits I attempted to pass a wax-tipped catheter to the right kidney, being successful only on the second visit. The wax tip returned without scratch marks. On injection of the kidney pelvis her pain-phenomena in the right kidney region were imitated. The pelvis was but slightly dilated, holding but 12 c.c. of fluid. The point of obstruction to the renal catheter was located about 3 cm. from the bladder orifice of the ureter. *X*-ray examination of this region was negative.

The patient's tonsils were both considerably enlarged and she has promised to have them removed.

On meeting a stricture in the ureter and looking for the cause one thinks, in the order of their frequency, of stone, tuberculosis, gonorrheal infection, and then of pelvic inflammatory disease, appendicitis, and pelvic or abdominal tumors. We sometimes meet an obstruction to the catheter which is not met on another occasion and we conclude that the obstruction was probably peristaltic in character. Some obstructions are probably caused by unusual kinks in the ureter following inflammatory displacements. Most of the ureteral stricture or obstruction causes, such a stone, tuberculosis, and periureteral tumors, are easily differentiated. There are not a few strictures about the lower end of the ureter for which we have been unable to find an etiologic factor. I have been inclined to think that some of these may represent a healed focus of tuberculosis, some an infiltration of scar tissue about a stone which has later been dislodged and passed, and a more probable supposition to my mind has been that a gonorrheal infection of the bladder may have resulted in infectious material or toxins being carried in the periureteral lymphatics, causing a focus of inflammation in the ureter near the bladder. I have not been able to prove any of these suppositions in the case of ureteral strictures, but I am inclined to believe that this newer theory of tonsillar infections or toxins giving rise to ureteral stricture may be found to apply to some cases for the causation of which we would otherwise be in the dark. The futility of treatment by dilatation in such cases without removal of the tonsils is apparent.

I am not familiar with male genito-urinary work, but am told that many cases of chronic urethritis, trigonitis, inflammation of the verumontanum and other portions of the posterior tract cannot be traced to a gonorrheal infection. Dr. Geraghty of the Johns Hopkins Hospital tells me that he has seen cases of acute prostatitis with abscess formation which followed during or immediately after a tonsillitis. With such facts in hand it seems not improbable that some cases of chronic urethritis associated with chronic prostatitis may have their origin from tonsillar infections or toxins.

2305 St. Paul Street.

TWO CASES OF HUNTINGTON'S CHOREA WITH SPINAL FLUID FINDINGS

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Chronic progressive chorea associated with mental enfeeblement occurring during adult life, first fully described by Huntington in 1872, seems far more prevalent in the Middle West than in the East. There were but two cases of this type among the 2,436 admissions to Manhattan State Hospital[1] during 1909 and 1910. If this can be taken as an indication of the prevalency of Huntington's chorea in the East, it will be seen that it is quite low when compared to the number admitted at Kankakee, Illinois, and the Wisconsin State Hospital during the same period. The combined admission rate of these two last-named hospitals approximately equals that of the Manhattan State Hospital. At Kankakee there were two patients admitted[2] and five at the Wisconsin State Hospital. It will also be recalled that Hamilton's[3] twenty-seven cases were all taken from the Middle West.

The following two cases seem especially worthy of report in that the hereditary transmission, mental involvement and well marked chorea offer a picture classical of this disorder.

Case 1.—J. R., male, farmer, widower, was admitted to the Wisconsin State Hospital Oct. 15, 1910.

Family History.—The family history showed the maternal grandmother to have been choreic, although nothing definite as to mental symptoms could be obtained. Her death occurred at 56 and the cause given was "nervous trouble." The other grandparents died of old age. The patient's mother was admitted to this hospital in 1891, suffering from chorea and was described as being "demented." She was transferred to a county hospital where she died. The father died at 67 of "paralysis." There were eight children, of whom the patient was the oldest of five brothers. Two sisters died in infancy of unknown cause. The sister living is said to have chorea, which developed after childbirth, and is a patient at a state hospital in Washington. The youngest brother is said to be "nervous."

Personal History and Present Illness.—The patient was born June 12, 1869. Nothing of note occurred in his early life. He attended a country school and was thought to be unusually bright. After leaving school, he worked on a farm; married in 1900; wife died of typhoid fever in 1907; one child, a girl, at present 9 years old, is normal.

In 1904, twitchings were first noticed, although neither the brother nor the patient know what part first became involved. They described the twitchings as being general. These twitchings gradually became more pronounced, yet the patient continued at his work as a farmer, and was said to have been industrious and thoroughly capable. No mental symptoms were noticed until about one week previous to admission, when on returning from the field where he had been working, the patient complained bitterly that some one had strewn blood all about the field. He was very excitable and soon complained that he was covered with blood; that some one was dragging bloody ropes about the room. He became very much frightened, tried to lock himself in a room and began crying out at the top of his voice. He was sent to a jail where he remained two days, and then transferred to the state hospital at Mendota.

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[1] Communication from Dr. George H. Kirby, Director of Clinical Psychiatry, Manhattan State Hospital, New York.

[2] Communication from Dr. Frank P. Norbury, Superintendent, Kankakee State Hospital, Illinois.

[3] Hamilton, A. S.: Am. Jour. Insanity, liv, 3

On admission the patient was in a very apprehensive state, shouting almost continually, "Take them away. They are trying to kill me," etc. He pressed himself against the wall of the room, and when approached would strike out blindly. This apprehensive excitement, with very evident hallucinosis, subsided after forty-eight hours and the patient gradually became accessible. The auditory hallucinations were now readily spoken of by the patient, and continued another four days, gradually becoming less and less marked. During this time he complained that the "voices" threatened to kill him and several times he asked the examiner when he was to be executed. Within ten days after admission, the hallucinosis had entirely disappeared and the patient became readily accessible for both mental and physical examination.

Mental Symptom-Complex.—A vivid auditory and visual hallucinosis, accompanied by marked apprehension lasted for five days, and auditory hallucinations persisted for another four days (threatening voices). On return to a quiet state there was a definite amnesia for the delirious episode, with a mild intellectual deterioration, poor memory for dates and poor retention, but good insight for the hallucinosis.

Physical Symptoms.—The most striking features were the gait, the choreic movements and the very peculiar facial expression. The patient was of swarthy type, height 5 feet 6 inches, weight 150 pounds, hair slightly tinged with gray, no physical stigmata of degeneration. The chorea was general; the movements were rather slow and deliberate, though quite extensive, as if the muscles involved had acted to their full extent. All the muscles of expression showed this condition—the occipito-frontalis especially; the lips were alternately drawn back and then puckered, drawn to one side and then the other. There was a constant clicking of the tongue; the mouth opened and closed; the eyes could not be held steadily in one position, but moved slowly from one side to the other. The subptosis lent a very peculiar expression to them, as if the individual were intoxicated. There was present a persistent, irregular, spasmodic cough, with almost constant moaning and groaning. The arms and shoulders swayed about, the hands opening, closing and twisting; the trunk swayed forward, backward and to the side. In station, one leg would suddenly shuffle forward, to the side or backward; the gait was a peculiar skipping, swaying, dance-like activity. The toes were seen to flex, extend and spread themselves. The patient could hold a pencil and would attempt to write, although the specimen was hardly legible. While making this effort, the movements of the other parts seemed exaggerated. The muscles were well developed, powerful and firm, with a very noticeable increase of tone. The superficial reflexes were all active; the deep, very decidedly exaggerated. The pupils were equal and active to both light and accommodation. The speech was at all times very harsh, thick and interrupted by spasmodic cough; at times completely aphonic. No sensory disturbances could be made out. The pulse was irregular; at times seemed to pause, followed by a number of slighter pulsations in rapid order, until again assuming its regular rhythm. This would occur four or five times in a minute. The patient sometimes experienced difficulty in starting the act of urination. Deglutition was interfered with. During sleep the movements ceased, although they recurred immediately on awakening.

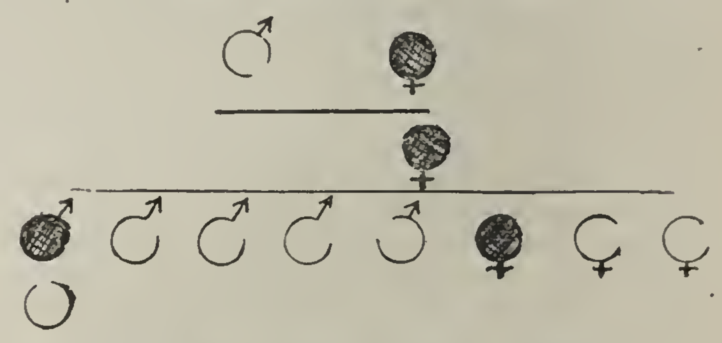
Case 2.—W. P., male, single, farmer, admitted to the Wisconsin State Hospital Oct. 28, 1910.

Family History.—The paternal grandfather suffered from chorea, and was said to have been mentally afflicted, though never committed. Of four boys and two girls in the succeeding generation, the oldest (father of the patient) developed chorea at the age of 55, became very forgetful and simple, and died of a strangulated hernia at 60. The youngest of these brothers developed chorea at about 50, became insane and died in an asylum. The next succeeding generation, that of the patient, comprised four boys, of whom the patient was the oldest, and one girl. Of these the patient was the only one thus far who showed symptoms of chorea, although the youngest brother, aged 32, was said to be decidedly nervous.

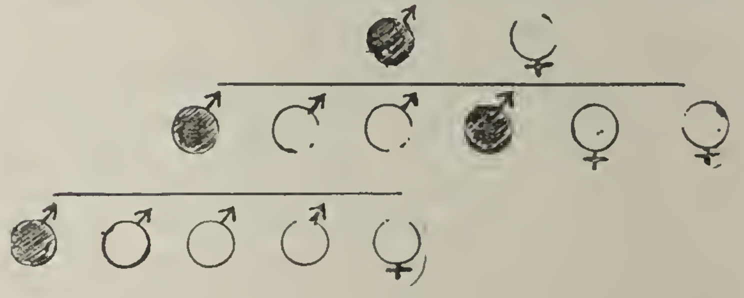
Personal History and Present Illness.—The patient was born in 1855. Nothing abnormal occurred during infancy or childhood and he was said to have been of average intelligence, getting along very well at school. He began farming at about 20 and continued at this until the onset of his mental symptoms. At the age of 7 he developed an abscess of the right leg, which discharged slightly though persistently for fifteen years. He was always very temperate in his habits and never had any venereal infection.

At the age of 38, mental failure was first noticed. This was in the nature of sudden outbursts of anger and a change in the patient's disposition. He was described as having become "preoccupied." This became more noticeable, and his memory was said to have become poor during the succeeding five or six years. The patient also began expressing peculiar ideas concerning his financial status; expressed himself as wishing to get rich quickly, laying great stress on a rather simple and not very serviceable combination garden tool, which he invented. He maintained that, if this could be properly exploited, it would result in great wealth, and he became very angry with his relatives when they interfered with his attempt to sell his property in order to capitalize this venture. He also had very unpractical ideas concerning the development and sale of real estate; would collect and answer every advertisement he could get hold of; finally became so irritable that he could no longer be taken care of at home. About five years previous to admission, at the age of 50, the motor symptoms first became noticeable. These were described as a "jerkiness," at first involving the hands and arms, gradually becoming more marked and general. During the last two years before admission the mental dulness became very pronounced.

Hereditary Transmission in Case 1.



Hereditary Transmission in Case 2.



Mental Symptom-Complex.—A general mental deterioration; gross memory defects; very meager knowledge of the events of the last five or ten years; retention *nil;* mildly euphoric; a few absurdly expansive ideas concerning personal capabilities; no insight.

Physical Symptoms.—The face presented a very peculiar, sleepy appearance without sign of emotion. The chorea was very noticeable, involving the muscles of the neck, shoulders, arms and hands mostly. The head was extended backward, or bowed forward, or either of these combined with rotation or lateral movement. The mouth was drawn to one side or the other, the shoulders hunched frequently and equally, together or alone. The arms moved forward or backward, forearms flexed and the fingers moved about. All of these movements were quite slow and of irregular frequency, although rarely was there any part unaffected. The legs showed relatively little, save when walking, when the gait was a peculiar, straddling, shuffling, swaying locomotion. The muscles were well developed, firm and of a good tone. The eyes were unaffected; pupils equal and active to both light and accommodation. A slight peripheral arteriosclerosis was present; pulse regular; soft systolic murmur at the apex. Superficial reflexes were all active and the deep were markedly increased. Speech was very thick and difficult to understand. Writing was impossible. Movements ceased during sleep.

Lumbar Puncture.—Spinal fluid examinations were made in both cases, and are interesting in that both were negative, cytologically and chemically. The method of examination employed was that used by Dr. Bybee and myself in a series of spinal fluid examinations recently reported.[4]

RESULTS OF THE EXAMINATION OF CEREBROSPINAL FLUID

	Case 1	Case 2
Cells per cu. mm....................	4	1
Small leukocytes	78 per cent.	76 per cent.
Plasma cells	16 per cent.	14 per cent.
Large lymphocytes	3 per cent.	2 per cent.
Polymorphonuclear leukocytes	1 per cent.	8 per cent.
Endothelial cells	0 per cent.	0 per cent.
Degenerate cells	2 per cent.	0 per cent.
Nonne and Appelt's, first phase.......	Faint.	Faint.
Nonne and Appelt's, second phase.....	Negative.	Negative.*
Noguchi's butyric acid test...........	Negative.	Negative.
Reaction to Fehling's solution.........	Reduction.	Reduction.

These negative findings are especially interesting in view of the difference of opinion held as to the pathologic condition present in these cases. Certain observers have viewed the condition as an inflammatory lesion of the cortex and meninges, some going so far as to associate it with general paralysis. On the other hand, more recent writers have contended that the condition is one of neuroglia proliferation. In the case with autopsy findings reported by Rusk[5] the author favors the latter contention. It would seem to me that the negative pleocytosis found in the above cases would also tend to rule out the presence of an inflammatory condition of the cortex or meninges. Dunlap's[6] report and that of Raecke[7] agree as to the absences of an inflammatory condition.

A glance at the genealogic charts will show that the hereditary transmission in Case 1 occurred through the female members of the family until the patient's generation, while in Case 2 it was through the male members and the males were alone affected.

It will be observed that these two cases vary considerably in the mental symptoms which were present. Case 1 showed, I believe, the "confusional hallucinatory delirium" spoken of by Brower and Bannister,[8] also agreeing in many respects with the delirium, occurring in these cases, described by Clouston[9] many years ago. Both cases show a marked memory defect, although in Case 2 the mental enfeeblement is more general and more marked. This latter case likewise shows the expansive delusional formation spoken of by Osler[10] and others.

Voluntary effort had no effect on the movements in Case 2, although here so much mental dilapidation is present that very likely this effort was not made, or at least not sustained. In Case 1, the movements were momentarily controlled in that part in which volition was exerted, although at the expense of the other parts. This was observed by Hamilton[3] to occur frequently, and was evident in Case 1, when he attempted to write. The patient exerted himself to the extent that a noticeable perspiration occurred on his forehead and called forth the remark from him: "Gosh, Doc, this makes me sweat."

The hypertonicity of the muscles noticed in Hamilton's[3] cases was present to a considerable degree in Case 1 and appreciably so in the upper extremities of Case 2.

No precipitating cause was obtainable. Alcohol and syphilis were denied in both cases. One rather interesting fact is that the grandparents in both cases were said to have been natives of New York State.

In order of occurrence of mental and motor symptoms, Patient 1 showed a chorea for approximately five years before noticeable mental symptoms occurred, while, on the other hand, Patient 2 showed mental symptoms twelve years before the motor became manifest. In both cases the informants were able to give reliable information.

In conclusion I wish to express my indebtedness to Dr. Charles Gorst, superintendent of the Wisconsin State Hospital, for permitting the report of these two cases.

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[4] Bybee and Lorenz: Arch. Int. Med., January, 1911.

[5] Rusk, G. Y.: Am. Jour. Insanity, lvi, No. 1.

[6] Dunlap, Charles B.: State Hosp. Bull., December, 1910, p. 417.

[7] Raecke: Arch. f. Psych. u. Nervenh., 1909, xlvi, Part II.

[8] Brower and Bannister: Practical Manual of Insanity, published 1902.

[9] Clouston, T. S.: Clinical Lectures on Mental Diseases, published 1884.

[10] Osler's Modern Medicine, published 1910.

TRAUMATIC PSYCHOSES AND POST-TRAUMATIC PSYCHOPATHIC STATES

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Various authors have attempted to establish a distinct clinical entity which could be termed traumatic psychosis, but a review of the cases reported in the literature shows that as yet we have not succeeded in attributing a distinct symptom-complex to this form of mental disorder. The only justification for grouping these cases under the heading of traumatic psychoses is their common etiologic factor, namely, trauma to the head. The degree and kind of injury are factors of some importance, and, as a general rule, only those injuries which produce an extensive, diffuse shaking up or shattering of the brain tissue, such as occurs in concussions or those which produce extensive pressure on the brain, will be followed by mental disturbances. A well-localized and circumscribed trauma to the brain is rarely followed by psychotic manifestations.

The general symptomatology of these cases varies greatly both in the time of occurrence and in the characteristic manifestations. The course of the disorder is also very variable, and it behooves one to be careful in rendering a prognosis in these cases. The cases which I am about to report in this paper have been selected because they illustrate the various forms and the variety of courses that this disease can take.

Kraepelin[1] in his work on psychiatry recognizes two forms of disturbance following trauma to the head, namely, a traumatic delirium and a traumatic feeblemindedness. His description of traumatic delirium does not vary very much from other delirious states, and simulates more the Korsakow's psychosis than any other mental disorder. This view is also shared by Calberlah,[2] who states that all these patients show the retrospective falsifications of memory and "confabulations"[3] so frequently seen in Korsakow's psychosis. This view, however, is denied by other writers on the subject and, as will be seen later, some of my cases showed nothing of this symptomatology.

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[1] Kraepelin: Psychiatrie, eighth edition.

[2] Calberlah: Arch. f. Psychiat., xxxviii.

[3] This word is used by W. A. White in his Outlines of Psychiatry, by Paton in his Psychiatry, and by others, in the sense of the narration, without intent to deceive, of fictitious experiences, in the truth of which the narrator fully believes.

According to Kraepelin, the immediate results following concussion are a more or less complete clouding of consciousness. The patients are sleepy, drowsy, forgetful, dull and distracted. After these symptoms pass away, a marked impairment of memory might be noticed. In the more severe cases, complete unconsciousness may take place, which may persist only for a very short time, or for hours or even for days. On awakening, the patients remain thoughtless and clouded, show a marked disturbance of the perception sphere, especially in observing the finer points. Because of this, the patients are unable to obtain a clear conception of the impressions and events of their immediate surroundings; they may be aware of being in a hospital, but do not know its nature or have any idea of how they came there or why they should be there; they fail to recognize the people about them, and suffer from a confusion of identities. They do not notice the individual characteristics of the various people about them. Here and there a patient may develop disturbances of the sensorium, particularly visual hallucinations. Delusions of a depressive nature have also been seen in some cases. The patients have no insight into their condition and cannot understand why they are kept in the hospital, as there is nothing wrong with them. The perception disorders may simulate in many ways those of Korsakow's psychosis, in that the patients "confabulate" and suffer from marked retrospective falsifications of memory.

These patients have no recollection, or only a very faint one, of the accident, sometimes absolutely denying its occurrence, or they describe it differently at different times. The retrospective falsifications of memory which are observed mostly cover only a short period immediately preceding the accident. Here and there, however, these falsifications may cover a longer period, even years preceding the accident. These lapses of memory as a rule correct themselves almost completely, later on. This is perhaps due in part to the assistance of the information derived from friends. While the memory for remote events is, as a rule, retained, recent and immediate events are usually forgotten. The patient is unable to repeat short stories immediately after reading them, does not recall the names of those about him, does not know whether he ever saw them before, has no idea how he came to be in his present situation; in short, cannot recollect events of the most recent occurrence. At the same time, various falsifications of memory begin to make their appearance, either a mixture of truth and fiction, or wholly new fabrications.

These can be stirred up and influenced by persuasion. However, wholly fantastic and adventurous tales can be brought forth by these patients to which they hold very tenaciously. At times one can detect in these tales, which are usually described with the utmost minuteness, fragments of actual occurrences; others remind one of delirious or dream-state experiences.

Concerning time, these patients find themselves mostly in the dark. Above all, they are unable to give, themselves, clear account of the length of time which has elapsed since the occurrence of particular recent events; they do not know how long they have been in the hospital nor how long they have been under treatment, when they had visitors or when they saw the physician last. Heilbronner[4] showed that there exists a special tendency to set recent occurrences further back. Along with these, they are unable to orient themselves temporally, successively, for any length of time.

The mental activities of the patients are, as a rule, rendered considerably defective. They are distractible, can exercise their mental faculties only with the greatest difficulty, solve ordinary arithmetical problems very poorly, are unable to form a correct opinion of their condition or of occurrences in their environment. They apprehend badly, lose the trend of a conversation readily, and cannot apply themselves to any subject for any length of time. Later on, they develop a highly egotistic and very irritable disposition, are fault-finding, easily angered, and have outbursts of violent temper. Their affect tone fluctuates to a great extent; now they are elated, jolly and happy; now depressed and lacrimose. Disturbances of speech and writing also occur. They have difficulty in finding suitable words for expressing their ideas, have a tendency to form neologisms. Asymbolia and parapractic disturbances are also noticed.

The above kaleidoscopic description by Kraepelin is not, however, seen very frequently. Head injuries may be followed by no untoward, immediate symptoms. The patient may not even lose consciousness, but walk to his home and apparently not be the worse for the experience, until later—sometimes weeks and even months later—he begins to show a very noticeable change in his psychic total. His entire mental make-up changes, he becomes easily tired, is incapable of any prolonged mental effort, is forgetful, irritable and distractible. He complains of vertigo, pressure sensations in the head, migraine, noises in the ears; he experiences a sort of general benumbed feeling and shows a marked tendency to outbreaks of violent temper on the least provocation. He acquires great intolerance for alcoholic beverages; the slightest indulgence causes him to become intoxicated; he reacts in an extraordinarily severe manner to alcoholic stimuli. To this may be added epileptiform seizures, fainting attacks, and rarely, dream-states which may follow later.

Ziehen,[5] while in the main agreeing with Kraepelin, has gone a step further, in that he arbitrarily divides the traumatic psychoses into three forms: a primary and a secondary traumatic psychosis and a post-traumatic psychopathic constitution. The primary form follows immediately after the injury or after a short interim. This latent period may be as long as a week. If a prolonged coma follows the injury, the patient may emerge from same in a delirious state. The disease picture is characterized by numerous hallucinations, disorientation, incoherence, coordination disturbances, insane excitements and anxiety affects. At times it corresponds to the picture of a dream-state, then again, to that of an acute paranoia hallucinatoria. The gait simulates that of a drunken person and often feverish movements are present, even when no complication of meningitis or focal lesion exists. Intercurrent somnolence is not rare. Along with the marked association disturbances, severe memory defects are also found. These usually persist even after the acute symptoms pass over. The behavior of the patients is also changed and assumes a more or less characteristic coloring. They may develop catatonic states with severe impulsive outbreaks of violence and an aimless wandering back and forth. Recovery often follows and these acute disturbances may completely pass over. Other cases, however, may develop on top of these acute disturbances, a chronic psychic changed personality, thus merging into the secondary traumatic psychosis.

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[4] Heilbronner: München. med. Wchnschr., 1905, p. 50.

[5] Ziehen: Psychiatrie, second edition.

These belong in most instances to the defect psychoses and are characterized by gradual deterioration, the gradual development of a defective intelligence. We therefore speak also of a traumatic dementia, or feeblemindedness. Frequently this dementia may be mistaken for paresis, because of the physical disturbances which may accompany it. These patients may have various paralyses and incoordinations of movement and speech. Indeed, even on section, the brain may simulate closely that of paresis. In most instances this dementia remains stationary after reaching a certain point, and aside from a moderate weakness of judgment, a diminished capability for complex and especially for abstract conceptions, and a loss of the more intricate affect tones, the patients remain fairly normal.

In his last group Ziehen places cases of those who develop a so-called psychopathic constitution; that is, a well-defined distinct psychosis is wanting, but a careful comparison of the individual's mentality before and after the accident will reveal definite changes in his psyche. Those who knew the individual before the injury will invariably notice that he is more irritable, oppressed and very cyclothymic. He becomes easily tired mentally, evidences a loss of interest in things in general, lacks in quickness of judgment and foresight and shows a diminished capacity for mental productivity. He also acquires a marked loss of resistance to the effects of heat, emotions, tobacco and especially alcoholic beverages. Physically he is inclined to attacks of headache and dizziness, especially when bending over. There is also developed a suitable soil for the effects of other deleterious agents. An insignificant etiologic factor, which before the injury would have had no harmful effect on the patient, is of sufficient potentiality after the trauma to develop severe psychoses or psychoneuroses. The traumatic psychopathic constitutionality also carries in some instances the ear marks of neurasthenia and hysteria, very frequently also mixed hysteroneurasthenic states.

As will be seen from the preceding, the two authors differ chiefly in that Ziehen recognizes more forcibly the hallucinatory experiences, while Kraepelin lays much stress on the falsifications of memory. The general prognostic view held by these authors is quite an optimistic one, especially concerning the acute primary mental disturbances following head injury. As to the pathology of these cases, very little is known. In most instances there exist diffuse microscopic changes in the brain substance, characterized especially by minute hemorrhages and softenings. The location of the trauma plays no important part, and while as a general rule one would expect a quite severe impact in order to produce a general concussion and disturbance of the brain substance, mental disturbances have been known to follow quite trifling injuries to the head.

Audernach[6] reports a case of head injury in which the only external evidence of trauma was a small hematoma of the scalp over the occipital region. On examining the cerebrospinal fluid, blood was found, the patient later developing a psychosis. Here I think is an opportune moment to mention that in lumbar puncture we have one of the most certain guides in determining the extent of damage which the nervous system has sustained from a particular trauma.

The above authors have been quoted rather fully because their writings embrace the representative views of the German psychiatrists on the subject. I may add here that Kreuser,[7] after an exhaustive study of the subject, comes to the conclusion that it is very difficult to attribute to trauma the endogenous psychoses such as paranoia, mania, melancholia and hebephrenia.

CASE REPORTS

Case 1.—A. B., white, male, aged 33, was admitted Nov. 3, 1904. Family history was negative; birth and childhood normal; school and occupational careers uneventful. He never suffered from any illness; uses alcoholic drinks moderately. July 27, 1902, he enlisted in the U. S. Navy and throughout his stay there was considered a good sailor. Oct. 5, 1904, at 11:30 p. m., while in a fight with another sailor, he was struck by the latter, fell down, striking his head on the pavement, was picked up by the police, who thought he was intoxicated, and taken to the first precinct station. There he was kept in the cell until 8 a. m. the next morning, when he was transferred to the casualty hospital. The naval authorities were communicated with and the patient was removed to the Naval Hospital on the same afternoon. The records of that hospital show that he was in a semi-comatose condition; pulse was slow and full; there was an odor of alcohol on his breath; there was slight confusion present, and a slight deviation of the left eye outward and upward. There were no paralyses and no vomiting; sensation was normal; temperature 100 F.; urine negative; involuntary urination and defecation; patient was restless. Behind the right ear there was a redness which appeared to indicate a fracture at the base of the skull, posterior fossa. Otherwise, no outward signs of injury to the skull were apparent. October 7, the patient appeared brighter; was taking nourishment; his brain was clearer; he answered questions; both pupils were equal and responded to light. There were no eye symptoms and no paralyses. Urination and defecation were involuntary; temperature between 98 and 100.4 F.; pulse slow and full. October 9, the patient's mind was clearer; he passed urine and feces voluntarily, and asked for nourishment; no localizing symptoms. October 10, mental condition not so good in the evening; involuntary evacuation of bowels and bladder; no localizing symptoms. October 12, the patient seemed stronger physically; polyuria was present; specific gravity of urine 10.06; acid; no sugar; no albumin; the patient had polydipsia. October 16, he talked irrationally; continually asked for water. October 18, he answered questions; could not tell his age correctly; talked disconnectedly. October 20, the patient was stronger; was restless; tried to drink urine; October 23, still wanted water; imagined he had $10,000,000 on the books; talked rapidly and at times disconnectedly.

The patient was admitted to the Government Hospital for the Insane Nov. 3, 1904, with a diagnosis of delusional insanity. On admission the physical examination was negative except for diminished patellar reflexes and absence of the plantar and cremasteric reflexes. Mentally he was dull, suspicious and apprehensive. Auditory hallucinations were prominent and he showed numerous delusions of a persecutory and grandiose type; complained of people cursing and abusing him; they were accusing him of performing certain indecent acts; heard someone say that they were going to spend $35 for poison with which to poison him. This same voice tells him that he is God and that he cannot die. Emotionally he was rather indifferent, seclusive on the ward, had no insight into his condition. As a rule, he behaved well but had frequent impulsive, violent outbreaks of anger, when he attacked other patients. He had no recollection of the accident, denied all knowledge of ever having been hurt or of having been arrested and subsequently taken to a hospital. All he knew was that he had a fever. In 1908 he was noted to still have pronounced auditory hallucinations and delusions of a persecutory type. Orientation, attention and comprehension were good; judgment impaired; no insight; at times the patient was depressed and worried; became easily excited and had a violent, uncontrollable temper, with frequent impulsive outbreaks of violence. At the time of writing this paper he is still confined to a ward for criminal insane on account of his violent, impulsive attacks on other patients. He is well oriented; has persecutory delusions, based on auditory hallucinations; no insight; is somewhat euphoric and egotistical; says that he is a highly educated man, and knows several languages. As a matter of fact, he speaks English very poorly and has great difficulty to find the proper word with which to express himself in his native tongue.

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[6] Audernach: Aertzl. Sachverst Ztg., No. 17.

[7] Kreuser: Württemb. Ztschr. f. Rechtspfl. u. Verw., ii, No. 1.

On closer questioning a retrospective amnesia, extending for a period of about two days before the accident occurred, was found to exist. He still denies all knowledge of the accident. There can be no doubt that this man's psychosis followed on the heels of the head injury, and his mental disturbance corresponds to a typical paranoid state. The patient shows now, over six years after the accident, no perceptible deterioration.

Case 2.— F. L., aged 58 on admission June 16, 1910. Nothing is known of his family history; birth and childhood normal; school and occupational careers uneventful. May 25 or 26, 1904, while in Alaska, he was struck over the head with a club during an altercation with three other men, two of whom he shot and killed, for which he is now under sentence for twenty years. The prison authorities state, in the papers which accompanied him on his transfer here, that he was erratic since admission to the prison Oct. 19, 1906. December 14, 1909, he was placed in an isolation ward for observation on account of writing scandalous letters and throwing them on the gallery of the cell-house, in order that other prisoners might pick them up and cause trouble. He has delusions of persecution. Diagnosis, paranoia.

Physically, on admission here, he showed a slight, coarse tremor of extended fingers; pupils were irregular in outline; mentally he was nervous and irritable; was as a rule cheerful and self-satisfied; quite talkative, and his conversation showed a marked degree of circumstantiality. He had a very exaggerated ego and was at times quite witty and quick to catch a joke. He comprehended well and his replies were coherent and relevant as a rule, but at times he would bring in a lot of irrelevant matter. His attention was mobile; consciousness unclouded; no delusions or hallucinations could be elicited; memory apparently unimpaired; emotionally he was cheerful as a rule, but inclined to be very cyclothymic; at times very irritable and fault-finding; made numerous requests daily; was always busy doing something on the ward.

He had numerous suggestions for the improvement of the hospital; read a good deal, and whenever seen, he commenced to elucidate a new scientific subject which he had been studying. He was neat and tidy in his habits but somewhat careless; was friendly towards those about him. He stated that ever since the injury his head had been "on the bum." For a long time after the injury he had frequent attacks of swooning, and on stooping over or turning in bed he often felt as though he would slide or pitch over. He asked to be sent here from prison in order to have his brain examined with an x-ray machine, and if it showed up any rotten spots like a specked apple, his skull could be opened and these spots scooped out. At the time of writing this paper the patient is in a state of mild hypomania; he is constantly busy with something or somebody on the ward; has numerous ideas as to improvements which should be instituted in the hospital; continually jumps from one subject to another without any directing goal. He possesses a pathologic degree of euphoria, is very unstable emotionally, somewhat irritable and impatient in a conversation, always wanting to have the upper hand; writes voluminous letters, using very flowery descriptions, and underscoring them in numerous places. He shows no clouding of consciousness and no appreciable memory defect, except that he is not certain about the date of the accident; he thinks it is either the twenty-fifth or the twenty-sixth of May. Here is a part of a conversation held with him Nov. 1, 1910:

"How do you feel, Mr. L.?" "I feel—say, I had a fine walk to-day; say, you see those gutters out there? They are natural sluices; we of course make them out of boards; so they started to inquire about me up there at the post-office. Say, I wish you could read that letter I wrote to the Attorney General." "You haven't told me, yet, how you feel, Mr. L." "All right, but say I had a swoon and my head goes round. Tell me what is epilepsy? I would like to know; you know they beat me unconscious; that letter, though, explains the whole thing; even the others said so," etc., etc.

The symptom-complex in this case resembles very much a typical state of hypomania, and there is very little doubt that its inception dates back to the time of the injury. The prison officials noted him to be erratic on arrival at the prison. His transfer to this institution probably became necessary because of an aggravation of his condition; this may perhaps be due to some arteriosclerotic changes in the brain. The patient is in the arteriosclerotic period.

Case 3.—N. M., a white man, aged 57 on admission June 18, 1910. One brother died of paresis, a sister at the time of his admission suffered from the fourth attack of recurrent mania; patient was always a man of limited mental endowment; he was the oldest boy in his class and was graded the lowest, reaching the third grade at the age of 12. He led an uneventful life, always using alcoholics. May 14, 1910, he was thrown to the ground from the rear platform of a car, sustaining a fracture at the base of the skull, on which a decompression operation was performed May 20. Following the accident the patient was in an almost completely unconscious state until the time of the operation six days later. He states that all he remembers was that he had a pain in his head. Following the operation he was confused, excited and at times violent; was very restless, wandered away from the house, losing his way, and was picked up on the street by the police and taken to the station house. On admission here, about a month after the injury, the patient was still slightly confused, but he cleared up in a very few days and was discharged recovered three weeks after admission. This case is a fair illustration of a simple confusion or delirious state following head trauma, with a complete recovery.

Case 4.—B. McK., a white man, aged 28 on admission Feb. 19, 1908, from the Naval Hospital at Philadelphia. The patient was a primitive individual of very meager attainments; early childhood and youth uneventful; at the age of 14 he fell, striking his forehead, and sustained a scalp wound which bled very profusely. His occupational career following this was of the lowest type; he would do any common labor which he could get, and finally on May 9, 1906, he enlisted in the U. S. Navy. In March, 1907, while on the ship *Connecticut* he fell from his hammock striking his head on an ammunition pack. Following this, he developed severe headaches, loss of memory, was frequently absent from duty for a day or so without any apparent cause, and could give no explanation for such absences; he had violent outbursts of temper, was very suspicious, seclusive and melancholy. Physically he showed a fibrillary tremor of extended fingers, knee-jerks slightly exaggerated, mild ankle-clonus, especially on the left side, speech somewhat thick and ataxic. After a short stay in the hospital he cleared up completely and was discharged July 2, 1908, as recovered. This is another illustration of mild mental disturbance, resembling somewhat a confused or delirious experience, following head injury, and which cleared up after a short time.

Case 5.—R. P., white, male, aged 44, Scotchman; family history negative, birth and childhood normal. He attended school between the ages of 4 and 17, graduating from grammar-school at 15; states that he was one of the first in his class. He launched on his occupational career immediately after leaving school, entering a jute concern as an apprentice and remaining there for three years. There he learned bookkeeping and business methods, and the inspection of jute. He made good progress and left at the expiration of his apprenticeship. While there he attended night school for six months. On arriving in this country at the age of 17, he soon obtained a position with a New York dry-goods firm, leaving that firm after a sojourn of one year because he had obtained a position as bookkeeper at a better salary. Here he remained four years, when he left and went on a three months' visit to Scotland. On returning to this country, he received a position as cashier for a metal company. This position he held for two years, when he was appointed manager of a real estate concern at a better salary. He used alcoholics in moderation up to 1896, but was never intoxicated to his knowledge up to that time. In 1896 (the patient does not remember the exact date), at the age of 33, he was thrown from a horse, striking his head on the pavement. He denies having been intoxicated at the time of the accident. He was picked up in a dazed condition; does not think he was totally unconscious at the time; remembers trying to get up but was unable to do so. He was taken to his boarding-house but has no recollection of this, remembers faintly being put to bed and having a severe convulsion; thinks the convulsion started with the muscles of the left side of his face and neck; remembers that his tongue was being protected by a spoon placed in his mouth; also that his fingers were in a spasm; lower extremities were not involved and he was not unconscious during the attack. He was told afterward that in one day he had thirty-six seizures. These epileptiform attacks lasted for a period of two weeks. He believes that he struck on the vertex of the skull over the parietal region; also suffered from occasional headache at that time. Vision and audition are unimpaired; there was no bleeding from any of the cranial apertures. Immediately following the accident he lost the power of speech and it was fully two months before he could articulate. According to his description of the speech defect, it was in all probability a purely motor aphasia. He says the words would come to his mind but he could not express them. After a stay of two weeks at his boarding-house, he was removed to a hospital where he remained four months; he says that his memory was affected during this time; that he was unable to think normally, and is certain that he was confused for some time following the injury. He states that he had no clear recollection of the accident, and that it was his friends who supplied him with the details. A letter which he wrote home about two months after the accident was kept by his people as evidence of his abnormal mental state. He recollects that he was able to perform the mechanical part of the writing, but that his ideas were confused. He gradually improved and was finally discharged as recovered. After leaving the hospital he obtained a position with a bicycle firm where he remained for two years; when the Spanish-American War broke out, he volunteered, and after eleven months' service in Georgia, he obtained an excellent discharge. He then joined the regular army and after serving his enlistment in the tropics was sent home with an excellent discharge. During this term of service he was summarily court-martialed four or five times, mostly for absences without leave, caused by his alcoholic indulgences. On being discharged from the army, he obtained a position as night clerk in a hotel, where he remained until 1906, when he reenlisted and was assigned to recruiting duty at San Francisco. At this he remained for about two months, during which period he had a summary court-martial for absence without leave, caused by drinking.

Shortly afterward, complaining of sore throat, he was sent to the observation ward of the general hospital at the Presidio and later was transferred here. The medical certificate on his admission stated that the patient used alcohol to excess; that on admission to the Presidio Hospital, he was nervous, egotistical, pugnacious, prevaricated, had fixed delusions about religious matters, was obscene, abusive and irresponsible. Physical examination was negative except for dilated facial capillaries and tremor of the extended fingers.

On admission here he showed a hypomanic state, was excited, had flight of ideas and prevaricated much. Later on, a depression set in, from which the patient gradually recovered. "Confabulations" were marked throughout. He was discharged Nov. 23, 1910, to accept a position with the Salvation Army, after a sojourn in this institution of almost twenty-eight months.

The life-history of this patient has been gone into with more detail in order to show how his head injury marked the turning point in his career. A Scotchman of average education, he came to this country and launched on a career which showed a steady ascent, at the age of 33 having reached a well-paying position as manager of a real estate firm. He meets with this head trauma, and we next see him occupying a low-salaried position in a bicycle shop. Then he turns to the army. Here he apparently finds great difficulty in adjusting himself to the prescribed, well-regulated army life. He was court-martialed five times during his first enlistment. He makes another attempt at getting along on the outside, but fails and finally returns to the army. The second attempt here starts out with a court-martial, and he finally breaks down, developing a psychosis. After spending twenty-eight months under the well-regulated and tranquil life of an institution, he lands in the Salvation Army, one of the havens for human derelicts.

Here, indeed, the far-reaching effects of a head injury can well be seen. In his case, it robbed him of the forces which are so essential for the battles of life, the faculties which bring about an adjustment between individual and environment. The importance of this class of mental disturbance to the general practitioner, and especially for the practicing neurologist, can hardly be overestimated, especially when we remember that according to Friedman's statistics, 60 per cent. of all concussions of the brain are followed by psychic disturbances for a year or more after the injury, and that according to Ziehen, the traumatic psychoses form 3 per cent. of all admission to hospitals for the insane. The general practitioner is the first one called on to attend these cases, and while he is prepared to meet the immediate effects of the head injury, he must not forget that next to the question of whether the patient is going to live or not, he is confronted with the problem of giving a prognosis as to what effects the injury will have on the patient's future life.

It is conceded by many that injuries of the brain, if not severe enough to prove fatal, heal very benignly; and the question of paramount importance which then comes up is not one of immediate interest, not one of death and life, but one of a more far-reaching importance, namely, "How will the future life of the patient be modified by this injury?" It must also be borne in mind that liability litigations, and suits for damages often arise in these cases, and the physician is the one called on to give the most important evidence in the case, namely, to what extent the individual has been deprived, by this injury, of his physical and mental earning capacity.

I have refrained from discussing the various neuroses or psychoneuroses which may follow trauma of any kind, and head trauma in particular, because my cases deal exclusively with the psychic part of the question. I will, however, mention in passing, that a score of German neurologists, headed by Mendel, now recognize a definite liability-law-hysteria of neurosis; that is, the existing liability law forms the psychogenic factor in these cases. I mention this because the question of malingering, simulation and exaggeration of symptoms, may also occur in what appears to be the purest kind of traumatic psychosis. Kreuser, however, comes to the conclusion that the above traits are rarely concomitants of the symptom-complex following head injuries. The common picture is one of such a severe disturbance of the individual's affects as to lead the victim to the life of a tramp and criminal.

CONCLUSIONS

The above considerations lead me to the following conclusions:

1. There is no psychotic entity which can be diagnosed as a traumatic psychosis without a history of a

definite relation of the mental disturbances to a preceding trauma of the head.

2. Contrary to Kreuser's views, even what he terms endogenous psychoses can be brought on by head injuries, as our paranoid and hypomanic cases show.

3. The prognosis is favorable in the cases which show acute mental disturbances, such as acute delirious or confusional states, while in those cases which resemble what Kreuser terms the endogenous psychosis, the prognosis is extremely bad. The hypomanic patient is still insane six years after the injury, while the paranoid patient has shown no appreciable improvement since the occurrence of the accident in 1904.

4. The last one of my series of cases shows that head injuries may have a lasting deleterious effect on the individual; that while a cross-section at any particular point may not show any gross pathologic findings, yet a study of the entire individual's life will reveal a decay of his finer functions of intellect, which stamps him as a chronic psychic invalid.

THE PROGNOSIS AND END-RESULTS OF TREATMENT OF GASTRIC ULCER

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The prognosis of gastric and of duodenal ulcer, as regards the percentage both of the mortality and of the curative effect of treatment, is difficult to determine. A mass of statistics is available but in many respects these statistics are insufficient and misleading. This applies to the reports of both medical and surgical cases.

Many of the discrepancies that exist between the statistics of physicians and surgeons are due to the fact that they refer to entirely different types of ulcer. The physician meets varieties that are not apt to come at any time under surgical observation. The physician sees all kinds; the surgeon sees only a limited number and a limited variety.

Let us consider for a moment the varieties of ulcer that come under the care of the physician and compare these with the varieties of ulcer that come under the care of the surgeon.

I. The physician is called on to treat as ulcer, three distinctly different sets of cases:

First, there are acute ulcers, constituting 15 to 20 per cent. of the total number of ulcerations. These are almost regularly amenable to medical treatment and afford a large percentage of the cases of ulcer in which permanent cure is obtained. It may be said that permanent cure is obtained in at least 90 per cent. These acute ulcers, however, by reason of their tendency to hemorrhage and perforation, add materially to the mortality rate. They do not come as a rule under the observation of the surgeon, except in the event of perforation, or more rarely of hemorrhage.

Second, there are cases of chronic ulcer with or without complications, such as recurring hemorrhages, perigastric adhesions and pyloric stenosis. These are the purely border-line cases and are seen alike by the physician and surgeon. The prognosis in these cases depends, (1) on the actual number that are really cases of ulcer; (2) on the thoroughness of the medical treatment, and (3) on the care that the patient takes of himself during his convalescence. These are practically the only ulcers which the surgeon sees and he sees only a part of them.

Third, there are the cases which are diagnosed as ulcer but which are not ulcer. When a surgeon operates on a patient, he sees the ulcer and recognizes it as such. The physician, on the other hand, makes his diagnosis without the benefit of such palpable and visible evidence, and may or may not be correct in his conclusions. It is certain that very many patients are treated for ulcers who are really suffering from chronic appendicitis or gall-bladder disease.

A few years ago, wishing to trace the end-result of ulcers treated by me, I sent circular letters of inquiry, to former patients, limiting the inquiries to those alone in whom the diagnosis of ulcer seemed certain.

Twelve per cent. of the replies received were to the effect that after the ulcer treatment, the symptoms had improved but had not entirely ceased, until, after an acute attack of appendicitis, the removal of the appendix had been followed by entire and permanent cessation of the gastric symptoms. This experience has never been forgotten.

In a recent article Cabot gives the results of a series of autopsies at the Massachusetts General Hospital, and finds that peptic ulcer, gastric and duodenal, was correctly diagnosed in but 36 per cent. of cases; ulcer was present, but not diagnosed, in 56 per cent.; ulcer diagnosed, but not found, in 8 per cent.

In my experience, from 12 to 18 per cent. of cases treated as ulcer are treated on a wrong diagnosis. Here comes in the weakness of the medical statistics. Not only are we liable to commit diagnostic sins of omission and of commission, but the range of such errors varies according to the different observers. One physician will not make a diagnosis of ulcer unless confronted by a case that runs a classical course, or one attended by hemorrhage or perforation, while another with equal clinical experience will diagnose ulcer on far less positive evidence.

It is evident that if one waits for an ulcer to run an aggressive and unmistakable course before making a diagnosis, one's mortality rate will be higher than if one included the milder and more amenable cases. The personal equation has a most important influence on statistics.

If, on the other hand, ulcer is too readily diagnosed we shall include a large number of cases of chronic appendicitis and gall-bladder disease, and thus be led to incorrect conclusions.

The inclusion of these cases incorrectly diagnosed will not add to the percentage of mortality, but rather to the reduction of the death-rate. On the other hand, it is obvious that we materially increase the percentage of those who are merely improved, or uninmproved, and we reduce the number of those clinically or permanently cured.

II. The surgeon, on the other hand, sees very few of the acute cases except in the event of perforation or hemorrhage; nor does he include among his cases of ulcer, those in which the ailment has been incorrectly diagnosed. He sees only these chronic ulcers with or without complication, in which exploration proves the diagnosis to be correct. Nor does he see all of these cases. He merely sees such a proportion of them as have proved rebellious to medical treatment, either because the ulcer was not one that could be cured by medicine and diet, or because the treatment by the physician had been insufficient, or because the patient had not been intelligent or persevering enough to carry out the treatment for a sufficient length of time.

It is natural for him, therefore, to take a more gloomy view of the results of medical treatment than would seem warranted by facts. This brings us to the difference in prognosis according to whether the statistics are compiled from private or from hospital sources.

In hospital cases the mortality is naturally greater than in private practice, because of the greater severity of the cases admitted and because of the larger proportion of cases entering the wards with severe hemorrhage or perforation. In 100 consecutive Bellevue Hospital cases, 17 per cent. of patients were admitted because of alarming hemorrhage; 7 per cent. because of perforation.

The results of treatment are very different in the two classes. For medical treatment to produce results in chronic ulcer, it should be continued for a long period of time, even after the cessation of symptoms. Hospital patients remain in the wards just as long as they suffer pain, and leave as soon as they are fairly comfortable, returning to a promiscuous, unsuitable diet and to a disregard of all medical conventions. No wonder, therefore, that so many are unimproved and that so many relapses occur. It is only after alarming hemorrhage that many of the hospital patients will undergo any treatment at all. The comparatively small number of perforations which occur in patients who have had an ulcer treatment because of hemorrhage shows the beneficial effect of medical treatment, even though it be inadequate to effect a permanent cure.

The difference between hospital and private cases has been well shown by Musser in a recent article. According to this writer, the mortality from ulcer treated medically in private practice was 3.1 per cent. In patients treated medically for ulcer in hospitals, the mortality was 12.4 per cent. These are figures compiled from a large number of sources.

Musser concludes that about 8 per cent. of ulcer patients, combined private and hospital, die as the result of the disease.

My own experience coincides remarkably with the figures just given. The mortality of ulcer treated in private practice has amounted to 3.1 per cent., the precise figure given by Musser. If we exclude the patients who are practically moribund when first seen, however, the mortality after treatment was begun was almost negligible. In compiling these reports of hospital cases, however, I have excluded those in which death resulted from intercurrent disease, not associated in any way with the gastric ulceration, comprising three cases of acute lobar pneumonia, one of uremia, one of arteriosclerosis and cerebral hemorrhage, in which chronic ulcer in the stomach was found at the autopsy, which had given no symptoms during life and which had in no way contributed to the death of the patient.

The general mortality of private and hospital patients combined, amounted to a little less than 7 per cent. My figures include about 175 ulcers in private practice, eighty-four in hospital.

PROGNOSIS OF ULCER TREATED SURGICALLY

Operation for gastric ulcer yields far better results when done by experienced operators than when done by the profession at large. The results obtained by such men as the Mayos, Robson, Moynihan and Finney, afford striking proof of their clinical wisdom, their skill in operation and their infinite genius for painstaking work.

In the leading hospitals of this city, gastro-enterostomy is done with a mortality that probably does not exceed 2 per cent. The result has been that gastro-enterostomy is no longer regarded as a formidable operation. One prominent New York surgeon writing to me on this subject says: "The operation in a benign condition is but a little more dangerous than an interval appendix operation."

It would be very unfortunate indeed if the general impression prevailed that gastro-enterostomies could be done as safely as this. These men are specialized surgeons and skilfully trained. The mortality of the operation as done by the profession at large is quite different, and the reports of physicians whose patients are operated on by different surgeons of more or less experience are not so very satisfactory.

In 150 benign cases quoted recently by Bettman and White, the immediate mortality was 10 per cent. Musser's combined statistics show fatalities in 11.4 per cent. of cases in private practice, 20 per cent. in hospital. Hall reports six deaths of his patients operated on by different surgeons. Dunham within two weeks reports that of forty-eight patients with ulcer under his care, on whom operations were performed, twelve died within seventeen days and six of these within three days, making an immediate mortality of 12.5 per cent. He estimates the mortality of operation for gastric ulcer in the past four years to be a trifle over 10 per cent.

Before accepting this figure of 10 per cent. mortality by surgical treatment, two facts must be considered:

1. It is but fair to the surgeon to say that many physicians are often extremely remiss in dallying too long with medical treatment, and turning over to the surgeon as a last resort an exhausted, starved and often bloodless patient. It is but fair to the physician, on the other hand, to say that the recent improvement in surgical statistics is not alone due to improvement in the surgical technic, but in great part to the wisdom of the physician in calling in surgical help earlier and in better-selected cases.

2. The ordinary operation for gastric ulcer is gastro-enterostomy and the low mortality rate of gastro-enterostomy is fixed in a few medical, and in many surgical minds, as the general surgical treatment of ulcer. As a matter of fact many ulcers are excised, some in accessible regions, others in regions more difficult to approach and these more severe operations raise the death-rate materially over that of gastro-enterostomy pure and simple.

It is very likely that many of these complicated operations are included in statistics under the general heading of gastro-enterostomy. In this way we may be unfair to gastro-enterostomy as an operative procedure, but, on the other hand, the operative results thus obtained are the real surgical risks of operative treatment of ulcer.

My own figures are as follows:

Twenty-six private patients operated on for ulcer in the past six or seven years, with six deaths, two after exsection and gastro-enterostomy; four after gastro-enterostomy alone. I believe that all but one (on whom exsection was performed) were good surgical risks and were carefully selected cases. No patient on this list had hemorrhages or perforation. No death was due to faulty technic as far as I can see. There were two vicious circles requiring secondary operation, and one jejunal ulcer that required four ulcer treatments for its cure.

I would conclude, therefore, as to mortality percentages as follows: (1) mortality in uncomplicated gastro-enterostomy by a skilled surgeon, 2 to 3 per cent.; (2) by the average surgeon, 6 to 8 per cent.; (3) general operative mortality including exsections, not far from 10 to 15 per cent., when performed by good men.

It is extremely important for the physician in charge of an ulcer case, that requires surgical interference, to choose as his confrère an operator of known skill and experience in gastric surgery whose death-rate is increasingly low.

END-RESULTS OF MEDICAL TREATMENT

It is difficult to arrive at satisfactory conclusions by a study of the statistics available, because, as a rule, the patients are not followed long enough to determine whether or not the ulcer has actually healed. The relief, or even the total cessation, of symptoms should not bring an erroneous belief that the ulcer is healed, for in many of the patients, even in those who conscientiously carry out the instructions of their physician, symptoms of ulcer sooner or later reappear, and the relapse may be as serious as was the original attack.

The length of time of freedom from symptoms which must elapse after treatment before the patient can be declared cured is an arbitrary one, but it may be said that two years at least must elapse without symptoms before any conclusions can be drawn.

It is obviously more difficult to trace hospital patients than those seen in private practice, but when they can be followed, it will be found that relapses are much more frequent than in those whose mode of life and intelligence guard them from the obvious faults of living which militate against those in the lower walks of life. The longer the patients are followed, the greater is the number of medical failures that become evident. No value can be attached to the reports of cases that are not followed for at least two years. It may be said from a study of statistics that conform to scientific requirements, that, under medical treatment, about 80 per cent. of patients are apparently cured, and that in hospital practice one-half of these, and in private practice one-quarter of these, relapse, making a permanent cure in 40 to 45 per cent. of hospital cases and 60 to 65 per cent. of private cases.

Greenough and Joslin found that in the Massachusetts General Hospital, while 82 per cent. of patients with ulcer were discharged as "cured" or "relieved," only 40 per cent. remained well. Sears estimates the number of medical failures after five years at 50 per cent. Mumford and Howe estimate 80 per cent. of apparent cures, of which one-half relapse. Hewes, in fifty-one cases, found forty-eight patients apparently cured; in two years 63 per cent. of these remained well. Paterson, in seventy-two hospital patients discharged as cured, found that but nineteen remained well, seven were doubtful, forty were still suffering, five had undergone surgical treatment, and one had died.

In the remaining 20 per cent., the immediate result is not brilliant, a certain amount of distress still remaining, although as a rule the patients are benefited to a greater or less extent by their treatment. The number of those who show no improvement whatever is relatively small, probably not over 5 or 6 per cent. It is quite certain that many of these improved or unimproved cases are not ulcers at all.

In 1897 Von Leube, in a communication before the Thirteenth Surgical Congress, announced that, whereas the former mortality of ulcer had been as high as 13 per cent., the enforcement of the rigid treatment inaugurated by him had been promptly followed by a marked reduction in the death-rate. In 556 cases reported by him, 74.1 per cent. of the patients could be considered cured, 21.9 per cent. improved, 1.6 per cent. unimproved, and 2.4 per cent. had died.

In 1909 Von Leube[1] gave the total of his later results to date and they show a surprising improvement over previous records.

Of 627 patients treated in the previous eleven years in his clinic and in his private practice for ulcer, with and without hemorrhage, 566, or 90 per cent. were clinically cured, (76 per cent. within four weeks, 14 per cent. in a period longer than this); fifty-three, or 8.5 per cent., were improved; six, or 1 per cent., remained unimproved, and two patients, or 0.3 per cent., died as the result of hemorrhage.

Tabulating the ulcers that were attended by hemorrhage, he found that seventy-two patients, or 90 per cent., were clinically cured (66 per cent. within five weeks, 24 per cent. in a longer period of time than this). Five, or 6.25 per cent., improved, one, or 1.25 per cent., remained unimproved, while two patients, or 2.5 per cent., died.

These are astounding results. I make use of the term "clinically cured," however, because Von Leube states in his communication that he regards as "cured" those patients in whom the symptoms disappear for a period of three weeks, and in which ordinary hospital diet, not especially prescribed for gastric cases, but given to those patients whose digestion is good, is eaten without discomfort. He notes that occasionally an ulcer is only apparently cured, and, that after a longer or shorter time, pain, dyspepsia and hemorrhage may reappear; but in his experience such a relapse occurs only in very rare exceptions.

It is unfortunate that Von Leube has not followed up his cases for two years or more, and given us the end-results thus obtained, because as they stand at the present time they give us only the temporary result of treatment; further than this they mean nothing. My experience leads me to believe that under a rigid ulcer cure fully 90 per cent. of patients may be considered "cured" in the sense in which that term is used by Von Leube, but I am not so optimistic as to the after-results of treatment.

Of the patients I treated for ulcer by a rigid and thorough ulcer cure, and followed for over three years, 66.6 per cent. were clinically cured, 16.6 per cent. relapsed, leaving 50 per cent. permanently cured; 22.2 per cent. were improved, 5.5 per cent. were unimproved; 5.7 per cent. of the patients died (not, however, as the result of ulcer).

END-RESULTS OF SURGICAL TREATMENT

Owing to the fact that the great advances made in gastric surgery have been so recent, notwithstanding the large number of patients operated on, only a few can give a postoperative history of sufficiently long duration to be authoritative as to ultimate results. It must be conceded, however, that in no other field of operative work have more brilliant results been effected, both as regards degree of improvement and permanency of cure. Since the reports were written, however, under the excitement of their successes, it is possible that too much has been claimed by operators for surgery.

Deaver writes: "Surgery allows 95 to 98 per cent. of patients to recover." At the same time he published the table reproduced here of surgical end-results, in which the average of cure is but 86 per cent.

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[1] Deutsch. med. Wchnschr., June 3, 1909, No. 22.

END-RESULTS OF OPERATIONS FOR BENIGN DISEASES OF THE STOMACH AS SHOWN BY DEAVER

Operator	Patients Traced	Cured	Percentage
Mayo (1908)	234	189	80.7
Moynihan (1908)	247	211	85.42
Czerny (1902)	53	44	83.0
Robson	96	89	92.7
Deaver (1900-1907)	64	49	76.5
Deaver (1905-1907)	31	26	83.87
Paterson (collective statistics)	116	109	93.9
Helferich (1905)	56	41	73.3

In Deaver's[2] own patients who were traced, only 58 per cent. had no gastric symptoms after operation, 14 per cent. were markedly improved, 6 per cent. were unimproved, while 14 per cent. had died, either from the original gastric lesion (two probably from cancer) or from some late complication such as intestinal obstruction, or vicious circle indirectly caused by the stomach condition. If we include in the surgical statistics the results of operative treatment administered by surgeons of less experience and skill, the showing is certainly not so much in favor of surgical intervention as we have been led to suppose.

Bettmann and White found that of 126 patients who survived the operation (10 per cent. having died as an immediate result of the operation), and who were under observation for a year or more, only 64.3 per cent. remained well, 6.3 per cent. were much better, while 24.7 per cent. reported as little or not better.

Paterson, by tracing the history of 116 patients who had been operated on by gastro-enterostomy at periods varying from two to nineteen years, concludes that but 85 per cent. are permanently cured. I believe that the latter figure, or even a little less, will be nearer correct than the high estimates given; that 2 to 10 per cent. will die directly or indirectly from the operation, depending on the individual surgeon who operates, and that probably 15 per cent. will derive but little benefit from their treatment.

The surgeon is too apt to regard the patient with ulcer as cured as soon as the operation is over. Properly speaking, the cure has only just begun. Every patient operated on should have an after-cure more or less strict. The proper healing of the ulcer, the cure of multiple ulcers, the danger of fresh ulcers and a lessened risk of jejunal peptic ulcers, are the reasons why such an after-cure is imperative.

I would be more inclined to employ surgery as a routine were I more fully convinced that malignant degeneration of ulcer occurs as often as it is said to do by certain operators and pathologists.

It has been known for sixty years that in a certain number of ulcers, malignant changes occur, the older writers placing this frequency at 6 to 8 per cent. basing their conclusions on the result of post-mortem examinations. In the advanced cases of malignancy that come to autopsy it is often impossible to decide whether signs of previous ulceration are present, and it is therefore to the surgeon, who has the opportunity of examining the early stages of malignancy, that we must look for accurate data on this subject.

The statements are now made that about 70 per cent. of cancers of the stomach originate from ulcer. If this be so, it must give us pause and compel us to turn to surgery as a preventive of this dread disease in our chronic ulcers.

This pathologic statement as to pathology, however, is at variance with clinical observation. Were 70 per cent. of cancers preceded by a stage of chronic ulceration, a previous history of ulcer would be found in the great majority of the cases. Here physicians and surgeons divide.

In 150 cases of cancer, Osler found an ulcer history in 2.6 per cent, and in not a single instance could it be positively diagnosed. Fenwick obtained an ulcer history in but 3 per cent. of his cancer cases, Haberlin in 2.3 per cent., Eichhorst in but 2 per cent.

In 174 cases of cancer in my care in which the history is complete, 147 patients gave absolutely no previous history of any indigestion whatever; fourteen gave a history either of alcoholic excesses and morning vomiting, or of indefinite dyspepsia that was practically negligible; while only thirteen gave a history that might point toward gastric ulcer; so that in but 7 per cent. could such a surmise be entertained. A positive history of ulcer was obtained in but 3 per cent. of cases.

This immunity from previous history of indigestion in cancer was evidently the older surgical idea.

Robson in 1901 writes in his book on cancer: "It is, however, rare to elicit a history of very old-standing stomach disorder; the first evidences of local disease appear suddenly in persons of perfectly sound health and robust digestion." In 1907, six years later he writes: "In no less than 59.3 per cent. of cancer of the stomach on which I have performed gastro-enterostomy for the relief of symptoms, the disease having advanced too far for gastrectomy, the long history of painful dyspepsia suggests the possibility of ulcer preceding the onset of malignant disease." This is a pretty rapid and radical change of ideas!

If ulcer preexists in 70 per cent. of our cancer cases, how is it that we can obtain a clinical history of ulcer in but 3 to 4 per cent. of these cases? Is it that we do not know an ulcer history when we see one, or recognize one ulcer history to the surgeon's fifteen, or is the surgical estimate based on wrong premises and unsupported by clinical experience?

Furthermore, we all have watched patients with ulcer, many of them for years. How many become cancerous after months or years? In my experience the late development of cancer on an old previous ulcer is exceedingly rare. I cannot say that the statement that 70 per cent. of cancers arise from ulcer is wrong, but regard it as important to consider and to verify. I do not regard it as proved at the present time.

INDICATIONS FOR SURGICAL TREATMENT

During the past few years, the relative indications for medical and surgical treatment of ulcer have been fully and freely discussed, with the result that at the present time physicians and surgeons have come to think and act in perfect harmony with each other. There is no such thing as an exclusive medical treatment, nor can it be affirmed that ulcer is purely a surgical disease; but while some ulcers are to be treated medically, and others call imperatively for surgical treatment, the majority are grouped near the borderline.

Acute, uncomplicated ulcers are best treated medically. This is conceded by all surgeons, who often designate this form as "medical ulcer." Relief by medical treatment is usually prompt and lasting.

Chronic, uncomplicated ulcer should not be regarded as surgical until, after a rigid and systematic course of treatment, the symptoms persist or recur. The main indication for surgery is in the failure of medical treatment to give beneficial or lasting results. It must be emphasized that the treatment should be thorough, and continued for a sufficient length of time, as medical failures are more often due to half-hearted and insufficient treatment than to actual limitations of the medical art. No treatment can be considered efficient that does not include rest in bed for at least three weeks. In general terms, it may be said that ulcers which do not yield to two months' active treatment will probably prove resistant to surgical procedures. Some consideration must, however, be paid to outside conditions, such as the amount of time that can be given to treatment, or the probability of the patient taking sufficient care of himself during the convalescent period, to prevent relapse or recrudescence. In the case of a laboring man whose family is dependent on his daily wage for the necessities of existence, and who is apt, on leaving the hospital, to disregard all dietetic rules and conventions, it may be better to recommend surgical intervention earlier than would be advisable in the case of those whose intelligence and environment allow of a conscientious observance of the details of treatment.

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[2] Deaver and Ashhurst: Surgery of the Upper Abdomen, i, 108.

If, after a vigorous medical treatment, the symptoms persist, or, if in spite of every precaution, there should be relapses, indicating that the healing of the ulcer has not been complete, surgical treatment is indicated. The mortality rate and the percentage of cures are both on the side of surgery in these cases.

Exploration is demanded without loss of time in all cases in which there is a suspicion of malignancy.

Single large hemorrhages are best treated medically. If the bleeding is stopped by medical means, no harm is done, while the operation of opening the stomach and ligating the bleeding point, when the perforation occurs during a period of acute anemia, is extremely hazardous. Hemoglobin tests under 35 per cent. contra-indicate operation except in emergencies, in which great risks may be taken. On the other hand, hematemesis that ceases spontaneously is often accompanied by anemia even greater than this.

Recurring hemorrhages, if not relieved by a course of medical treatment, may properly be placed on the surgical list, especially if the continued loss of blood occasion a progressive anemia. In these cases operation should not be too long deferred, as there may be complicating malignancy present. Cases in which occult bleeding follows every attempt to place the patient on solid food, after a regular ulcer treatment, should invite surgical intervention.

Perforation, either acute, subacute or chronic, is a purely surgical complication. Acute perforations demand instant operation, as every hour which elapses until the aperture is closed diminishes the patient's chance of recovery. Immediate laparotomy is called for alike in those cases in which there is a slight amount of initial shock, such as are often encountered with duodenal perforations, and in those patients in whom initial shock is profound. It would be a fatal error in judgment to temporize in the one case until the indications for interference become more manifest, or to defer laparotomy on the other, in the hope of bringing the patient into a better physical condition to withstand an operation.

Pyloric obstruction, hour-glass contractions of the stomach or *persistent adhesions*, which interfere with the proper drainage of the stomach into the bowel, are to be treated surgically, although in the majority of instances, preliminary treatment by lavage and diet may so improve the general condition that the operation is performed with a minimum of risk.

Adhesions, whose presence is only to be surmised, and which do not interfere with the proper motility of the stomach, are best left untreated. An exception may be made in those perigastric adhesions, especially those between the lesser curvature of the stomach and the under surface of the liver, which are dragged on by physical exertions, or even during locomotion, and which give rise to such discomfort as to render it impossible for the patient to be up and about doing his work.

18 East Fifty-Second Street.

VERNAL CONJUNCTIVITIS AND EOSINOPHIL CELLS *

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In 1903 Herbert[1] discovered the fact that the conjunctival secretion in vernal catarrh is rich in eosinophil polymorphonuclear leukocytes, and called attention to the bearing of this fact in diagnosis. Several observers have confirmed this discovery, in that they found tissue affected with this disease rich in these cells; and Peters[2] confirmed it by finding the cells in the secretion. Axenfeld, in his exhaustive study of the pathology of vernal catarrh, emphasized the importance of these cells in diagnosis and reported their presence in eight cases in one year. LaGrange,[3] Gabrielides,[4] Blaauw[5] and Lafon[6] have lately recorded cases of this disease with eosinophil cells in the secretion.

In the spring of 1910, two typical cases of vernal catarrh came under my care in which the secretion was rich in eosinophil cells. These two cases attracted my attention to the possibility of the importance of these cells in diagnosis, and I began examining smears stained with Giemsa taken from all the cases of conjunctivitis seen in my clinic and in private practice. I continued this during the spring and summer, and I venture to publish briefly the results of this work because from it I am convinced that Herbert's discovery has received too little attention, and that we therefore continue to overlook a disease which is much more frequent than is commonly suspected.

My series of cases included all the ordinary forms, etiologically speaking, of conjunctivitis—conjunctivitis from the common bacteria, as pneumococcus, staphylococcus, gonococcus, in adult and new-born, diplobacillus of Morax-Axenfeld; several cases from chemical irritants accidentally applied, as lime and alcohol; numerous cases of acute and chronic trachoma, in two of which trachoma bodies were found; numerous cases of phlyctenular conjunctivitis; six cases of conjunctivitis accompanying measles; and, as is usual in any series of cases of conjunctivitis, there was a number of cases of unknown etiology and no bacterial finding.

In the smears from the cases of conjunctivitis of known cause, including in these the cases of measles, eosinophil cells were very rare, only an occasional one being found. In the cases of unknown etiology and no bacterial finding it developed early in the work that in a number of them the conjunctival secretion was rich in eosinophil cells. This finding led to a more careful clinical observation, when it was discovered that clinically those cases rich in eosinophil cells agreed in every point with descriptions of vernal catarrh found in the standard text-books.

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* From the Department of Ophthalmology, Northwestern University Medical School.

[1] Herbert: Preliminary Note on the Pathology and Diagnosis of Spring Catarrh, Brit. Med. Jour., 1903, ii, 735.

[2] Peters: Die Pathologie und Therapie der einfachen chronischen Konjunktivitisformen, Ztschr. f. Augenh., 1907, xviii, 415.

[3] LaGrange: Contribution a l'étude du catarrhe printanier, Arch. d'Opht., 1908, xxviii, 337.

[4] Gabrielides: Note sur la tarsoconjunctivite proliférant, Clin. Ophth., 1908, p. 158

[5] Blaauw: Conjunctivitis vernalis, Ztschr. f. Augenh., 1909, xxii, 317.

[6] Lafon: Examen cytologique et micro-chémique des sécrétions conjunctivales; Son utilisation en clinique, Ann. d'oculist., 1910, cxliii, 321.

Of the cases in which I was led to the diagnosis by the eosinophil cells in the secretion, there were ten; I also saw during the spring and summer three cases of vernal catarrh in which a proper diagnosis would have been made without attention to the presence of eosinophil cells, making a total of thirteen cases in a small clinic.

When it is realized that vernal catarrh is considered a rare disease, and that I recognized ten cases in a year directly as the result of Herbert's discovery, the importance of his observation in diagnosis of this disease is clear.

The experienced clinician will doubtless be surprised by the statement that thirteen cases of vernal catarrh were found in a small clinic in a year and when I found that I was seeing a case almost every week, and, indeed, one day saw two cases, I was troubled, fearing inaccuracy in my observations. However, in every case in which eosinophil cells were at all common, the objective and subjective symptoms agreed with those given in the standard text-books, and then the question came up as to the cause of the former failure in diagnosis.

I am strongly of the impression that the answer is simple and that we have not known the disease in spite of accurate, although ill-balanced descriptions of it. This is illustrated in that admirable text-book—that of Fuchs—under symptoms and course. The following passage occurs:

> The conjunctiva of the tarsus is covered with papillæ which are broad and flattened so as to make the conjunctiva appear like a pavement of cobblestones. Over the whole lies a delicate bluish-white film as if a thin layer of milk had been poured over the conjunctiva. The changes in the conjunctiva of the eyeball are still more striking. Growths arise from the limbus at the outer and inner side of the cornea under the form of brownish, uneven hard nodules of gelatinous appearance.

The above is found in his principal description of the disease. In a foot-note one finds in small print the following statement:

> The papillæ are often small or altogether absent, so that the bluish-white veil, which covers the conjunctiva of the tarsus, is the only evidence of the disease.

In the above description I believe I have relief from my fear of inaccuracy in observation, and the answer to the question regarding our former failure in diagnosis. We have heretofore made the diagnosis when papillæ existed and overlooked cases without papillæ. The cases with small papillæ or no papillæ at all are, I believe, the more frequent and it is in these cases that Herbert's observations will be of most service.

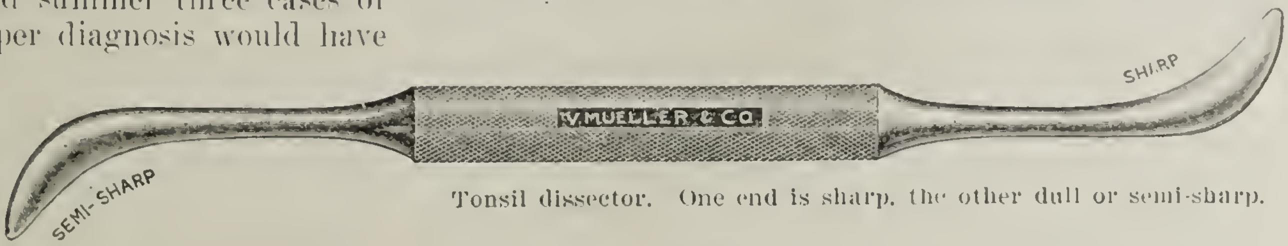
70 Madison Street.

Overfeeding in Breast-Fed Infants.—A nursing mother admits hunger as the only cause of an infant's tears. The amount of milk which she supplies depends on the demands of the infant. The child's capacity for food is limited, but the instinct to suck prevails each time the breast is offered. Hence among nurslings overfeeding is rife and alimentary disorders common.—W. J. Maloney, in the *Practitioner*.

NEW TONSIL DISSECTOR

JOSEPH B. GREENE, M.A., M.D.
ASHEVILLE, N. C.

My excuse for adding a new instrument to an already large list of tonsil instruments is its simplicity, and adaptability to the removal of the submerged tonsils, and likewise the more or less pedunculated gland. As the illustration shows, the instrument has one semi-sharp or dull extremity, while the other end is sharp. The dull, or semi-sharp end is for blunt dissection in cases in which the adhesions to the pillars are not strong and fibrous, and in which the plica triangularis is not present. It is especially suited for the removal of tonsils in young children.



Tonsil dissector. One end is sharp, the other dull or semi-sharp.

It causes a minimum amount of bleeding, thus shortening the time of operation. The sharp end of the same instrument will be found useful in the buried and somewhat fibrous tonsils, or when the plica triangularis is prominent—a condition which requires cutting before the tonsil can be separated from the pillars.

I use this instrument to free the tonsil from its attachment as a preliminary to the use of the wire snare. For those who do not use the wire snare, however, the gland can be entirely removed by this instrument with the aid of a suitable retractor.

REPORT OF THIRTEEN CASES OF HEMIPLEGIA FOLLOWING HEAD INJURY *

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Hemiplegia due to cranial injury is perhaps of more frequent occurrence than we have been led to believe, although this complication was present in only thirteen of the 614 cases of fracture of the skull admitted to the City Hospital during the past five years. In two other cases there was paralysis of one leg, and in one case the side of the patient's face, opposite to the scalp wound, was motionless. A brief report of the cases in point follows the history of my own case.

AUTHOR'S CASE

Case 1.—*History.*—G. P., colored, a laborer, aged 29, was admitted to the surgical department of the City Hospital, Oct. 18, 1910. Dr. Chaddock, visiting neurologist to the City Hospital, saw the patient with me. The patient was conscious and stated that two hours before admission he was struck on the right side of his head with a heavy hoe handle. On regaining consciousness one hour after the injury, he found that the left side of his body—that is, his arm and leg—was paralyzed.

Clinical Findings.—At the time of admission examination revealed a very large hematoma covering the greater portion of the right side of the patient's head. The pupils were equal and reacted to light and accommodation. Facial paralysis was absent; pain and tactile sense were absent in the left arm and leg; knee-jerks were present at time of admission, but fifteen minutes later the knee-jerk in the left leg had disappeared.

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* From the St. Louis City Hospital.

The left leg and arm were paralyzed; the Babinski, Gordon and Oppenheimer signs were absent on both sides. There was absence of hemorrhage from the ears or nose. The pulse was 60, respirations 18, temperature 98 F. Dr. Kissel incised the hematoma and found an extensive depressed fracture of the right parietal bone, and involving the occipital bone.

Operation.—Under ether anesthesia, the usual incision was made and the depressed fragments elevated. Brain tissue escaped. The opening in the dura was enlarged and a subdural clot removed. The greater portion of the gray matter in the right Rolandic area seemed to have been crushed and destroyed by the injury. The removal of the fragments of bone was followed by a hernia cerebri. Examination of the right middle meningeal artery showed same intact. Dr. Chaddock concurred in the opinion that a basal hemorrhage was present. A piece of rubber dam was placed between the exposed white matter and the scalp and the operation wound closed with interrupted sutures. Two small drains of rubber tissue were placed in the lower angle of the wound.

Convalescence.—On the day following the operation, the patient stated that there was a slight return of sensation in the left side of his body, but he was unable to localize. There was a hypersensitiveness in the left supraclavicular and shoulder regions. The drains were removed on the third day. A grumous substance escaped from the wound for several days after the operation; examination of the substance showed it to be brain-cells and blood-cells. Ten days after operation the rubber dam was removed. Later the wound discharged a grayish liquid which showed destroyed brain-cells and staphylococci. The hernia cerebri became gradually smaller until at the time of the patient's discharge December 8 Dr. Hardaway noted that it was not prominent.

Return of Function.—As early as the first day after operation the patient appreciated a beginning return of function in the involved leg and arm. On the sixth day Dr. Kissel found that there was a slight return of tactile sense in the left leg; on the tenth day the patient could move his left leg, and on the following day he could move the affected arm but could not move the hand or fingers. From this date the improvement was very noticeable at each daily visit. Fifteen days after operation the patient was permitted to sit in a chair. November 15 Dr. Simon made a notation that the patient could walk and that the left leg and arm were functionating. The patient requested his discharge December 8. His condition was very good.

ADDITIONAL CASES

Case 2.—Patient unconscious; pupils unequal; right dilated; both reacted; paralysis of left side of face; also left arm and leg; no marks of violence on body. Patient died within a few hours.

Case 3.—Patient unconscious; pupils equal and reacted; tongue deviated to the left; hemiplegia on left; hematoma over right parietal bone. Operation showed hemorrhage from right and left middle meningeal arteries. Three weeks after operation there was a slight return of function on left side of body; patient had not fully regained function in limbs at time of discharge.

Case 4.—Patient unconscious; laceration of left parietal region; pupils equal and reacted; spasmodic twitchings of chest and face; paralysis of right arm and leg; pulse 60, respiration 28, temperature 102 F. Operation revealed epidural hemorrhage. The patient died.

Case 5.—Patient unconscious; had fallen ten feet; laceration found in left temporal region; paralysis of right side of body; pulse 84, respirations 28, temperature 98.6 F. Operation revealed a depressed fracture of the greater portion of the left parietal bone. There was an epidural clot present. Patient died.

Case 6.—C. C., admitted May 12, 1908, unconscious; hematoma in the mid-occipital region; pupils unequal; right pupil dilated; hemorrhage from right ear; complete paralysis of both arms and legs. A linear fracture of occipital bone, going toward the base, was found. Operation revealed laceration of the cerebellum. The patient recovered.

Case 7.—J. C., unconscious; pupils equal and reacted; pulse 68, respiration 18, temperature not stated. A hematoma was found situated in the region of the right parietal eminence. Incision showed a linear fracture. The Babinski sign was present on the right side. Operation revealed a linear fracture of the right temporal bone with presence of an epidural clot. The patient recovered.

Case 8.—S. C.; unconscious; pulse 100, respiration 24, temperature 99 F.; pupils unequal; right pupil dilated; both pupils reacted; eyes deviated to the left. Hematoma of the vertex was found and incised, revealing a depressed fracture. Operation was performed. The fragments of bone had caused a laceration of the longitudinal sinus. The patient died.

Case 9.—W. W., aged 64, unconscious; pupils were unequal; reacted. Incision of hematoma in left parietal region showed linear fracture in region of left parietal eminence. The patient recovered without operation. The condition of the paralyzed side of the body at time of discharge was not stated.

Case 10.—N. U.; unconscious; hemorrhage from right ear; pupils were unequal; deep reflexes absent on both sides of body; paralysis of left side of body. A depressed fracture of frontal bone was found, associated with a linear fracture of the base. Patient was operated on and recovered. Condition of paralyzed side at time of discharge was not stated.

Case 11.—The patient was conscious. A laceration was found in the right supra-orbital region; pupils were unequal and reacted sluggishly; Babinski's sign was present on the left side; paralysis of left arm and leg. Operation showed a depressed fracture of the frontal bone, with presence of an epidural clot in the parietal region. The patient recovered.

Case 12.—Patient unconscious; pupils contracted and fixed. A hematoma situated in the left parietal region was incised and a depressed fracture found. There was a paralysis of the right side of the body. The patient died shortly after admittance.

Case 13.—M. G., unconscious; pupils equal and reacted; pulse 122, respirations 22, temperature 101; paralysis of right side of body. Patient talked incoherently; died within a few hours after admission.

COMMENT

It is surprising to what extent the brain may be crushed and compressed without producing focal signs or permanent paralysis. Hemiplegia following cranial injury is a very serious complication. Six of the thirteen patients died, although the mortality of the patients operated on was only 33⅓ per cent. Ransohoff's[1] mention that the prognosis of fracture of the skull is more favorable in the conscious patients is corroborated by the findings in six hundred cases studied. Only two of the hemiplegic patients were conscious at time of admission, and both recovered. On the contrary, however, the patient with a fracture may be admitted in a conscious condition and thirty minutes thereafter may become dazed and lapse into unconsciousness and die within ten minutes. This is especially true of the patients who are partially intoxicated.

In two of the thirteen cases the fracture and the paralysis were on the same side of the body. Four of the patients presented equal pupils that reacted to light. In four cases the pupils were unequal but both pupils reacted. It is interesting to note that only two of the patients presented a hemorrhage from the ear and both recovered. The development of paralysis following cerebellar laceration is worthy of mention. The treatment of hemiplegia following fracture of the skull is too well known to require comment. Early surgical intervention saves the most lives.

4826 Delmar Avenue.

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[1] Ann. Surg., June, 1910.

HYPERPLASTIC TUBERCULOSIS OF THE CECUM AND COLON

REPORT OF CASE

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Cases of hyperplastic tuberculosis of the cecum are still rare enough to be of interest; hence the following case is recorded.

Patient.—F. H., colored woman, aged 30, was admitted to the State Sanitarium Aug. 15, 1905; weight 121 pounds; height 5 feet 10 inches; pupils rather small but react normally; patella reflexes increased; pulse temporarily increased; some suppression of breath sounds over left apex; abdomen soft and lax; external genitals congested; laceration of the cervix and perineum. Mental diagnosis, dementia præcox. The patient was inclined to be seclusive and did not enter into voluntary conversation as a rule. She took no interest in her surroundings and was untidy, but not filthy. The family and personal history as obtained from the patient was not reliable. The following notes were made on physical condition from time to time.

Course of Disease.—Feb. 12, 1906: Chain of enlarged glands on left side of neck extending down behind the clavicle; expansion lags on left; no râles; no known cough or night sweats. Temperature 98.6 to 100.4 F. in axilla. Tuberculous adenitis and suspected pulmonary involvement.

Feb. 17, 1906: Diminished expansion; slight elevation of percussion note and harsh breath sounds over left apex; no râles; some enlargement of glands on both sides of neck and under chin; feet somewhat swollen; liver dulness increased downwards; urine showed trace of albumin; occasional hyaline cast; few pus cells.

Feb. 29, 1906: Irregular elevation of temperature; the patient did not cough during the daytime; some blood-stained sputum found in her room in the morning; temperature 101 F.; positive diagnosis of pulmonary tuberculosis made and patient removed to the tuberculosis ward. Weight, 88 pounds.

March 3, 1906: For the past several days temperature was 96.4 F. (axilla); pulse 88 to 100; respiration 14 to 18.

March 28, 1906: Some non-localized pain in abdomen; bowel movements normal; considerable amount of fluid in abdomen which was apparently partially encysted. The patient was confined to bed, but there was no edema of face, feet, or hands; pleuro-pericardial rub; faint systolic murmur heard at the aortic interspace.

June 8, 1906: There was considerable improvement in general condition of patient; abdomen rather flabby but apparently contained a small amount of fluid; glands in neck were not quite so large; some physical signs over left apex; no fever or cough.

From above date the patient presented no symptoms of active pulmonary lesion and the abdomen became apparently normal. Owing to urgent need of room on the tuberculosis ward the patient was removed to the regular wards on March 4, 1907. The glands were still somewhat enlarged, but the pulmonary lesion had been in state of arrest for many months. The abdomen was apparently normal. From the first month of treatment on the tuberculosis ward until the patient was removed one year later there was a gradual and marked increase in weight each month. At time of removal she weighed 172 pounds, a net gain of 84 pounds.

Jan. 15, 1908: The patient was put to bed one week since on account of dysentery; stools numbered five or six per day and contained blood and mucus. Emaciation was marked; slight cough and night sweats. Physical examination of the chest was negative.

Aug. 5, 1908: The patient put to bed about one month since on account of condition of bowels. The stools at first contained some blood and mucus. This quickly disappeared, but the number of movements continued from two to four daily and were watery in character. The liver dulness extended almost to the level of the umbilicus. On the right a tumor mass was felt. It was about 2½ inches above and slightly to the inner side of the anterior superior spine, its upper margin being on a level with the lower margin of the umbilicus. The mass was hard, somewhat irregular in outline, and only slightly tender. It could be moved upward, downward, and inward to the extent of about two inches each way. It was apparently a growth connected with the cecum. There were marked emaciation, cough, night sweats, and fever chiefly at night; temperature reaching 101. A few fine and moist râles were heard over the left apex. Diagnosis, recurrence of pulmonary tuberculosis; abdominal tumor; probably tuberculosis of cecum. The patient was removed to tuberculosis ward; weight, 85 pounds.

From the above date until June 20, 1909, there was a slight but steady gain in weight at which time the patient weighed 114 pounds. From June until the day of operation, Feb. 12, 1910, there was some fluctuation in weight, with a net loss of three pounds.

During this interval the patient was kept in bed the greater portion of the time. There was no diarrhea, the bowel movements being normally formed. The patient vomited only a few times, usually at night. She was given light diet in addition to milk. On one occasion the patient vomited dinner about ten minutes after its ingestion. The tumor became more tender and the patient often complained of pain in the region of the mass.

Operation.—Feb. 12, 1910, an operation was performed by Drs. Garrard and Cline. The following note was made by Dr. Garrard: "Mass in right side found to be very strongly adherent to the parietal peritoneum. The mass delivered with difficulty in the median line, the friable intestine being opened in doing so. Cecum with portion of ascending colon resected. The ileum and ascending colon united with Murphy button. Drainage with rubber tube. Operation lasted two hours and ten minutes. Patient removed from table with pulse 140. The walls of the excised intestine were greatly thickened. The opening in the intestine was about the size of an ordinary pencil."

Macroscopic Examination of Specimen.—Pathologic report by Dr. J. H. Hewitt: "The specimen consists of a cecum and a portion of the ascending colon, the whole being about 15 cm. in length. The wall of the intestine is markedly thickened, especially as to its mucosa and submucosal tissue. In the upper portion there is an indurated fibrous mass the size of a robin's egg."

Microscopic Examination.—"The mucous surface shows the tubules moderately thinned out and great increase in intertubular connective tissue and round-cell infiltration. The wall is swollen and edematous and more or less infiltrated with small round cells. In several places along the border-line between the submucosa and the circular muscular layer there are collections of epithelioid cells surrounded by a ring of small round cells. Along the border-line between the epithelioid and round cells, and in among the round cells are several giant-cells. The muscle layers are swollen and edematous and more or less infiltrated with round cells. The peritoneal coat is thickened. It shows collections of small round-cells and giant-cells. Diagnosis: Chronic typhlitis; interstitial tuberculous typhlitis; chronic adhesive tuberculous peritonitis."

Postoperative History.—Convalescence was protracted and tedious; pulse often reaching 150; temperature 101.4 F. February 13, it gradually declined until normal was reached on the 14th. February 20 pus was found to be present in the wound; but temperature did not go above 99.4 F. The button was removed from the rectum on March 11. On March 17 it was believed that a small abscess had formed in abdominal wall and a counter-incision under cocain was made. A fecal fistula resulted. The temperature again rose and reached 101.4 F. on March 18. From this date there was a gradual decline until normal was reached on March 20. There was only a very slight rise in the pulse-rate.

On May 20 the patient was again returned to the tuberculosis ward; weight 106 pounds. There were two fistulas present. The one following the second operation healed in a short time.

Jan. 4, 1910: The patient's weight was 140 pounds; glands in neck barely palpable; limitation of expansion over left apex;

friction sound heard at the sternum in the third right interspace, also heard in the axilla; both fistulas open; very slight discharge. Liver dulness extended three fingers' breadths below costal cartilage; there was a hard nodular mass about the size of a walnut in left iliac region, the abdomen was full, rather prominent; some tenderness over the region of the uterus.

Jan. 24, 1911: General nutrition was good; no subjective complaints; abdomen prominent; non-sensitive; the nodular mass in left side still present; both fistulas healed; bowels normal.

I believe that the initial lesion began almost four years before operation. Diarrhea was not present for several months prior to operation. Alternation of constipation with diarrhea appears to be the rule in such cases. Vomiting was infrequent, which appears to be rather remarkable when the degree of stenosis is considered. The colon was markedly thickened at the point of resection, and the probability of further stenosis is to be considered. Pain was not such a prominent feature as is usually the case. The patient's mental condition may account for this in part, however.

OBSCURE CASE OF TRAUMATIC SUBDURAL HEMORRHAGE WITHOUT FRACTURE

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In his article on "Pathology of Intracranial Hemorrhage" Spiller[1] says: "Subdural hemorrhage has been more frequent in my experience than epidural, and I have repeatedly seen a hemorrhage beneath the cerebral dura as a result of injuries to the head in cases where the skull was not fractured. This occurrence is important to remember, and sometimes the discovery of the subdural hemorrhage comes as a surprise to the operator."

DaCosta[2] says that subdural hemorrhage is usually due to depressed fracture and rupture of the middle meningeal artery, or of a number of small vessels.

According to Church and Peterson,[3] Cruveilhier asserts that in one-third of the cases of asphyxiated new-born, subdural hemorrhage is the main difficulty. The clots are commonly found over the convexity, and are, in surviving cases, a pregnant source of idiocy and cerebral palsy.

According to DaCosta,[2] "most cases of cerebral palsy seen in children are the result of subdural and subarachnoid hemorrhage at birth, and damage of the cortical motor area. The hemorrhage, in cases of birth palsy, is, as Cushing points out, usually venous and due to 'rupture of some of the delicate and poorly supported venous radicles of the cerebral cortex.' It may result from traumatism due to bone overlapping or forceps pressure during parturition, or may arise during asphyxia after birth."

In examining still-born infants and infants that died shortly after birth, Cushing[4] found that many of them died with cortical hemorrhage. In some cases the extravasations found were very large—even completely overlying the cerebral hemisphere, while in others they were found to be much smaller. In one case the clot was found in the cerebellar fossa. It was found that the vessels were most usually torn on only one side and were the unsupported radicles which enter the longitudinal sinus; hence the cortical leg center of one side is most apt to be seriously damaged. When, however, the vessels of both sides are torn, a bilateral cortical lesion results.

Cushing himself,[5] speaking of traumatic subdural hemorrhage in adults, says:

> Bleeding in the free space between the dura and arachnoid is possibly a more common consequence of injuries than the extradural form. It is a frequent complication of basal fractures, for, owing to the close attachment of the basal dura, these injuries almost always tear the membrane so that the bleeding from the fissured bone has free access to the subdural space. Similarly, fractures of the vault, accompanied by laceration of the dura, lead to extravasations over the hemisphere. The extravasation, however, may occur from an injury of some cortical or leptomeningeal vessel in cases of fracture with laceration of the brain, or, indeed, in the absence of any demonstrable cranial lesion.

He also points out that the usual type of such extravasations is a diffuse one, this being particularly so in its basal form. The blood spreads through the open subdural space, and as the arachnoid membrane overlying the basal cisterns is frequently torn by the injury, the bleeding extends over the brain stem and down along the cord, where the subarachnoid space is open, and not a closely confined meshwork as it is over the hemisphere. For this reason free red blood-corpuscles in the cerebrospinal fluid will often be found on lumbar puncture. Cushing adds, however, that, "although this diffuse form of bleeding is perhaps the most common, as well as the most critical type of subdural hemorrhage, one not uncommonly sees, particularly over the hemispheres, extravasations in this space, which have remained circumscribed owing to the rapid clotting of the blood." These subdural extravasations are usually of venous rather than of arterial origin.

The symptoms of a subdural hemorrhage, according to Cushing, differ but little from those associated with an acute increase of intracranial tension from any cause. "Although in the rarer cases of intracranial and superficial clot formation, there may be localizing signs pointing to the seat of the process, the symptoms are usually those of a generalized compression." The lesion, he continues, results from a serious cranial injury, and the clinical picture is one of cerebral contusion with compression. We find the patient unconscious, medullary symptoms almost always present, the blood-pressure high during the early stages, the pulse slow, the respiration labored, and, as stupor passes into coma, Cheyne-Stokes breathing sets in, and finally the paralytic stage of compression comes on.

It is on account of the free extravasation into the subdural space that most of the cases of basal fracture prove fatal. In some instances, however, the amount of extravasation may be so slight, that, although bloody fluid may be obtained on lumbar puncture, no really serious pressure symptoms are produced. A choked disk is said to be almost always present.

It must be remembered, however, that although the symptoms of subdural hemorrhage are identical with those of extradural, they are usually very rapid in onset and are accompanied by a more distinct drop in temperature and graver depression. No focal symptoms are produced unless the hemorrhage arises from or presses on the motor area, when convulsions, or later, paralysis, may ensue.

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[1] Spiller: Intracranial Hemorrhage, in Keen's Surgery, 1907, ii, 654.

[2] DaCosta: Modern Surgery, 1910, p. 805.

[3] Church and Peterson: Nervous and Mental Diseases, 1909, p. 75.

[4] Cushing: Intracranial Hemorrhage in the New-Born, Am. Jour. Med. Sc., October, 1905

[5] Cushing: Surgery of the Head, Keen's Surgery, 1907, iii, 206-209.

In brief, the main points in favor of a diagnosis of subdural rather than extradural hemorrhage are:

1. Subdural hemorrhage is the most common form of intracranial hemorrhage in the new-born.

2. It is frequently associated with depressed, and more especially, with basal fractures of the skull.

3. It is characterized by an absence of the periods of concussion and "free interval," and by the rapid onset of symptoms.

4. The symptoms are usually those of a generalized compression, with marked depression and unconsciousness, practically from the very first, and the almost invariable presence of medullary symptoms.

5. The presence of blood in the cerebrospinal fluid on lumbar puncture.

A case somewhat similar to mine is reported by Cushing. A patient was injured in a football scrimmage. There was primary concussion, followed by an actual "free interval," and the appearance of focal symptoms which pointed toward a local compression over the left lower central convolution. A diagnosis of extradural hemorrhage was, of course, made. Cushing's favorite intermusculotemporal operation was performed. No fracture of the base could be demonstrated, nor was there any extradural hemorrhage found; but there was a subdural lens-shaped clot analogous to an extradural hematoma. Removal of the clot led to prompt recovery. Cushing says that cases of this sort, however, are rare, and the surgeon is usually confronted with extensive basal extravasation.

The case of traumatic subdural hemorrhage here reported is one of more than usual interest because of the following points:

1. The occurrence of a primary injury which caused a simple incised wound of the scalp and probably resulted in nothing more than a momentary stunning.

2. The presence of a "free interval" of unusually long duration (*ten days*) from the original injury to the onset of the first symptoms of compression. This initial injury and the subsequent "free interval," are, it is to be noted, considered characteristic of extradural bleeding, but have here occurred in subdural hemorrhage.

3. The absence of any fracture of the skull.

4. The absence, except for dilated, immobile pupil on the side of the hemorrhage, of any definite focal symptoms which might have given a clue to the location of the hemorrhage, although as found post mortem, the hemorrhage was practically localized to the convex surface of the frontal lobe, with extension backward to the region of the occipital lobe.

5. The localization just described.

6. The finding at autopsy of the presence of almost completely fluid blood—which may be accountable for the last-mentioned condition.

7. The absence of macroscopic blood in the excessive basal cerebrospinal fluid.

Unfortunately a lumbar puncture was not performed, but this, as proved by post-mortem findings, would have been free from any blood.

REPORT OF CASE

History.—M. G., a white man, aged 37, for past five years has been a patient in the Government Hospital for the Insane, suffering from the katatonic form of dementia praecox. He would wander mischievously and annoyingly about the ward, picking away stupidly and mutely at the other patients.

Oct. 29, 1910, at 8:15 a. m., in a scuffle with a fellow-patient, our patient was forcibly shoved, and in falling, struck his head against the sharp edge of a heavy wooden settee, receiving a simple incised wound of the scalp about one inch long, just above the right temple. It did not require stitching and was apparently not associated with fracture. The area about the wound was shaved, the wound thoroughly cleansed, and a collodion dressing was applied. The patient did not seem stunned at the time of the injury and continued to be up and about in the ward as usual.

When he went to bed on the evening of November 7, he seemed to be in his usual physical condition. When taken out of bed for dressing on the morning of November 8 (ten days after the scalp wound was received), the patient seemed to be very weak and so was put back to bed by the attendant in charge. A little later he had an attack of vomiting; temperature was 97 F. by axilla, pulse 60, regular and full, respiration 14. At 8 a. m. he seemed to be very dull; his legs and arms jerked slightly and his breathing was labored. At 11 a. m. he was semiconscious, resistant, and held his arms rigid; knee-jerks were active, pupils normal. The patient passed urine and feces involuntarily. Intracranial hemorrhage was suspected. Hot soapsuds enema was ordered. At 12 a. m. temperature was 96.6 F. by axilla, respiration 24, pulse 60.

Patient grew more and more stuporous and gradually lapsed into deepening unconsciousness. At 4 p. m. he was absolutely unconscious; both pupils were fixed and failed to react to direct light; right pupil markedly dilated, tendon reflexes active, extremities limp, skin sensation lowered. Babinski reaction obtained now and then on both sides, but irregular in response. Respiration very slow (12), regular, quiet, but deep. Pulse down to 50 per minute; regular in rate and force; full volume; temperature by rectum, 96.2 F.; bed was wet from involuntary evacuation of urine. Patient could not be aroused. The entire scalp was shaved, but examination failed to reveal any signs of fracture. The scalp wound received ten days previously almost healed. A positive diagnosis of intracranial hemorrhage was made, but the exact site of the hemorrhage was not determined. Operation was proposed to the patient's wife, but she refused consent.

At 6:45 p. m. temperature by rectum was 97.6 F., pulse 48, full, regular, and strong, respiration 15, deep, quiet and regular. Examination at this hour showed lacrimation from right eye, signs of hemorrhage from nose on right side (clotted blood being found in right anterior nares), but no signs of fracture of nose, so far as could be detected; pupils still absolutely fixed, the right being considerably dilated, the left somewhat contracted. Ophthalmoscopic examination of right eye showed outline of disk distinct and sharply defined, with no hemorrhages. Skin reflexes were almost absent; elbow and knee-jerks increased on both sides; no ankle- or patellar clonus. The Babinski phenomenon now showed an even more marked, peculiar variability and irregularity, being present first on both sides, then more on one side than the other, and then vice versa, only to change again. Sensation was very much delayed. Very deep pin-pricks were required to elicit a response, and then only after an unusually long period. Contralateral adductor reflex could be obtained by stroking the skin on the inner side of the thigh on either side. There was a tendency on the part of the patient, to stiffen the extremities and rotate them inward, bringing the knees and elbows together. There was an intermittent tremor of the right hand, and a tendency to contract the quadriceps extensor. Kernig's sign was absent. The patient lay absolutely calm and perfectly unconscious; breathing not stertorous.

At 1 a. m. the patient's condition was unchanged, but after 2 a. m. he began to weaken; his pulse became feeble, respiration was down to 6, and death occurred at 3:40 a. m.—only twenty-two hours after the first symptoms were observed.

Necropsy.—The bladder was somewhat distended; the colon very much distended throughout. The spleen and kidneys were somewhat congested. The cardiovascular and respiratory systems seemed normal. There was a scalp wound about one inch long, one inch to right of middle line, on a line with the zygoma. This did not extend through the scalp for more than one-fourth its thickness. There was no fracture of the skull in any part, although after removing the brain, the dura was stripped and the base of the skull carefully examined.

Brain: On the right side, over the convex surface of the brain, there was a flat subdural hemorrhage. Both the dura and the pia-arachnoid were intact, but the pia-arachnoid was very much engorged. The bleeding vessels could not be found, but the blood was almost wholly fluid, with some slight, fresh soft clot, and it seemed to be mainly of venous rather than arterial origin. The blood did not extend to the base nor on to the mesial surface, being confined mainly to the convex surface of the frontal lobe, though extending backward in a thin layer, nearly to the occipital lobe. The surface of the frontal lobe, especially about its middle, was considerably depressed. This depression was so marked, that, as a result, the right ventricle was very much flattened, and contained but little cerebrospinal fluid, while there was an excess of fluid at the base, about the origin of the pons. This fluid was perfectly clear and contained no blood. There was no laceration of the brain surface, and, on sectional examination, no intracerebral injury was found.

ELECTRIC TREATMENT OF INTESTINAL OBSTRUCTION AND POSTOPERATIVE PARALYSIS OF THE BOWEL

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Intestinal obstruction and postoperative paralysis of the bowel are of such grave moment that a clinical note on this subject offering a new technic in its treatment has warrant for its publication. The method consists essentially in the employment of half-normal saline enemas in conjunction with a hollow rectal electrode connected with the galvanic current, followed later, if necessary, by faradization.

The conditions in which this treatment is useful are as follows:

1. Chronic constipation with impaction of feces.
2. Atony of the bowel.
3. Traumatic, localized and general peritonitis with intestinal stasis.
4. Intestinal torpor after shock.
5. Slight volvulus or kinks in the bowel after prolonged manipulation, and chilling of the bowel following laparotomies.
6. Intestinal paralysis after prolonged meteorism.
7. Intestinal paralysis following various forms of hernia.

The conditions in which the treatment is of doubtful or negative value are the following:

1. Intussusception.
2. Stricture of the bowel.
3. Adhesive bands about the intestines.
4. Malignant growths involving the bowel.
5. Tumors impinging on the lumen of the intestines.

In these cases surgery must be invoked, and the electric treatment can be subsequently employed for its stimulation on peristalsis.

TECHNIC

1. The nurse prepares the bed with rubber sheets and padding to prevent leakage to the mattress, and a moderately flat and long bed-pan is placed under the buttocks.

2. While the preparation is going on it has been my custom to advocate lavage of the stomach with a quart of weak saline solution (half-normal strength) at 105 F. so as to clear the stomach of mucus, bile or other debris, and check vomiting, which is usually present in these cases. Lavage also has a tendency to start downward peristalsis, especially if a small amount of liquid is left in the stomach for absorption.

3. Three or four quarts of one-half strength normal saline solution at a temperature of 105 to 110 F. is prepared and kept hot on a radiator or stove.

4. The rectal electrode, well lubricated, has attached to its distal end the rheophore connected with the negative pole of the galvanic battery and the central orifice of the electrode connects with a Davidson syringe. The electrode is introduced into the rectum as far as it will go and one quart of the fluid is slowly injected.

5. A large sponge or felt electrode, at least 4 by 6 inches, well moistened in sterile or mild antiseptic solution, is connected with the positive pole and placed over the right hypogastrium so as to cover the ascending colon, and an assistant makes firm and even pressure on it, and if necessary remoistens the electrode. This pole may be shifted to the transverse colon and in some cases to the descending colon, but in the latter case its sphere of action will be over but a small portion of the bowel.

6. The galvanic rheostat is slowly moved until 10 to 15 M.A. are registered; after three minutes of electrolysis with liberation of chlorin ions which tend to relax tissues, the pole is reversed and the pole-changer kept going for from five to ten minutes more, reversing every thirty seconds. This interruption of the current produces marked contraction of the whole musculature of the abdomen and intestines and usually produces peristalsis and a desire for evacuation. If this desire is strongly expressed, the electrode can be temporarily removed and the patient given a chance to evacuate feces or expel gas. Unless the evacuation has been eminently satisfactory, some more of the saline is again injected, and following the interrupted galvanic treatment, the attachment of the rheophores is made to the high-tension faradic coil and the current manipulated through the secondary coil so as to produce a gradually increasing, then diminishing, contractile effect. The faradic treatment is given as strongly as the patient can stand without much distress, and is continued for five minutes. The withdrawal of the electrode is then usually followed by expulsion of fluid, feces and gas.

7. After the electric treatment, the bed-pan is removed and the head of the bed elevated so that the patient is placed in an inclined position of from 25 to 45 degrees, so as to favor normal peristalsis. This is an important point in technic and should not be omitted. This position has been maintained in several cases for three days before recurring meteorism was checked.

8. Following the treatment, normal saline retention enemas, one quart at 105 to 110 F., are given every two hours until normal conditions supervene.

9. Repetition of the treatment is necessary in many cases. In one case which refused to respond, the sixth treatment, given after repeated failures during forty-eight hours, at last caused profuse evacuation. It is usual, when the condition is grave, to rest the patient for three hours before repeating the treatment. In chronic constipation or impaction a longer period (six to twelve hours) may be permitted to elapse before repeating the course of treatment.

I have been called to a large number of these patients when they were practically *in extremis*, and when all varieties of enemas, stupes and drugs had been tried. Even in such desperate straits the electric enema has, in a fair percentage of cases, proved successful.

It cannot be emphasized too strongly that the earlier the electric enema is given in all cases, the better the prospects for success. When meteorism develops and bowel movement is not produced by the usual enema and other remedies, every hour lost with the use of turpentine,. alum, asafetida and other enemas merely weakens the reactive power of the bowel and renders regeneration by means of the electric current more difficult.

The battery used in these cases consists of a twenty-four dry-cell apparatus with galvanic and faradic (high tension) attachments, rheostat and milammeter, and is readily portable to the bedside.

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BACILLUS AEROGENES CAPSULATUS INFECTIONS, WITH REPORT OF TEN CASES

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This infection is interesting because of the high death-rate and the frequency with which the condition is overlooked until too late for surgical interference. It is looked on as a rare condition, though it is more frequent than one would suppose. There have been three cases at the City Hospital since June 1, 1910, with three recoveries.

To Maissonneuve and Pirogoff is due the credit for the first clinical descriptions of the disease. Maissonneuve, writing in 1853, called the disease *gangrène foudroyante,* but it was not until 1891 that Dr. Welch discovered and described the organism. There has been much confusion as regards this organism and its pathologic processes, even the latest text-books giving little space to a clear description of this definite infection and its danger to life.

The most frequent sources from which the organisms may be obtained are the intestinal tracts of mammals and the soil, although Welch (1896) recovered it from a bullet in the head of the tibia.

The organism (*Bacillus aerogenes capsulatus*) normally grows in the absence of oxygen, although Lahey[1] demonstrated that the *B. a. c.* may grow on culture media in the presence of oxygen.

SYMPTOMS

There seem to be three principal types of the infection; namely, simple, fulminating, and mixed.

The incubation period, as nearly as could be ascertained in ten cases, was forty-eight hours. In one case it was twenty-one hours (Case 10). In the simple cases, there is slight rise in temperature and pulse, the patient appears seriously ill, and there is a dark, almost black, bloody discharge, which resembles a thin syrup. This discharge usually brings out a few small bubbles, and leaves us wondering what infection is present. *Pus is not present.*

The fulminating or malignant type depends on the severity, virulence and site of the infection, and not only affords the best opportunities for study of pathologic processes, but soon convinces one that something radical must be done and done quickly. In this type the patient is usually found with high temperature (103-104 F.) and rapid pulse (130-150), with rapid respiration (30-40 per minute), and appears critically ill. *B. a. c.* infection occurs most ofen after injuries in which tissues are pulpified and very dirty. About forty-eight hours afterward, when the wound is dressed, a dark, thin, syrupy, foul-smelling discharge escapes with gas bubbles.

The fulminating type on the leg may take on the appearance of an erysipelatous condition, though without raised borders, there being a dark or brownish discoloration. This was the condition in Case 7, plus a lymphangitis, which was at first deceptive. Blebs of variable sizes are frequently present and soon take on a blue or greenish appearance. When opened, the characteristic, foul-smelling fluid with its sweetish odor, becomes apparent. If an extremity is involved, it rapidly becomes gangrenous and distended with gas of a composition of hydrogen 64.3, carbon dioxid 27.6 and nitrogen 8.1 (burning with a pale blue flame). This was the clue to the diagnosis in Case 9, although the diagnosis was suspected from the early rise in temperature (first twenty-one hours) and the history of injury. Cultures will show the presence of organism, but with a clear clinical picture operation should be undertaken at once.

Pain was absent in all except Case 10. Here the patient's pain became very great, and as he was not furnished relief by morphin, after three attempts to get consent to operation had failed, he finally consented to amputation, which was done, and he recovered. (Blake and Lahey explain the absence of pain on the ground of the necrosing action of *B. a. c.* interfering with nerve conductivity, although the presence of gas and distention, as I believe, with its mechanical effect, must not be forgotten. A sort of anesthesia is produced.)

Delirium occurs late, after the general infection, and persists till death. In Case 4, delirium was so great that diagnosis of delirium tremens and infection was made.

Within seventy-two hours, toxemia is pronounced, and I agree with Blake and Lahey that recovery is not the rule after the third day.

Nausea and vomiting occur late, and, like delirium, are indicative of generalized infection.

The process extends chiefly by direct extension, as the gas separates and dissects between muscle and fascial planes and follows the lines of least resistance.

The lymph-glands are seldom enlarged and tender, and only when other organisms are present, as the streptococcus (Case 10). The rapidity with which the process ascends a limb probably accounts also in part for the frequency of non-involvement of lymph-glands.

Emphysema or crepitus was elicited in Cases 2, 3, 4, 5, 7, 8 and 9, and in one case gas escaped with a noise. In Case 1, a tympanitic note was elicited on percussion.

Fascia, tendons and ligaments resist infection strongly. Muscle, especially pulpified muscle, affords a flourishing site for the infection. At the wound site, the tissues are soft, friable and pulplike; while beyond, the tissues are pale and edematous, contain small amounts of gas, and are rapidly being converted into a pulpified state.

Mixed infections, whether streptococcus or staphylococcus, in which infection remains at the site of inoculation, are usually mild.

TREATMENT

Treatment is always operative unless there is a generalized infection.

In the presence of general infection, the free opening of the wound, with hydrogen peroxid as a dressing should be tried. If a leg or thigh is involved, spinal anesthesia may be used.

There are, however, two recognized methods of treatment—amputation and multiple incisions. Amputation is the operation of choice in all malignant cases, as it offers good chance for recovery. What one of us would care to treat such cases with multiple incisions and hydrogen peroxid in view of the fact that oxygen does not always kill the organisms (Lahey) and in these cases the organisms are far from the original site of the wound and hydrogen peroxid cannot reach them. Of course, in a simple case, multiple incision and hydrogen peroxid might be tried, and even oxygen carried into the wound with catheter. Under careful observation if amputation is performed when advance takes place, recovery may be expected.

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[1] Blake, J. B., and Lahey, F. H.: Infections Due to the Bacillus Aerogenes Capsulatus, The Journal A. M. A., May 21, 1910, p. 1671.

Of course, an occasional limb may be sacrificed with amputation, but what when we try multiple incisions and find later a dead patient?

In my series of cases, three patients recovered (all in cases of malignant type and developing within forty-eight hours) after amputation, one leg and two arms being sacrificed. In cases recovering under multiple incision and hydrogen peroxid treatment, might not there be some other gas-producing organism?

In this series of cases, Patient 3 was of necessity treated with multiple incisions, as the infection involved the trunk. The patient promptly died, as infection was general.

PROPHYLAXIS

Ordinary antiseptics, tincture of iodin, bichlorid, etc., have little or no effect on the organism, as I have seen cases develop after vigorous treatment with these antiseptics.

CASE REPORTS

Case 1.—H. H., a carpenter, aged 56 (No. 5776), was admitted Nov. 16, 1906. This patient was accidentally shot November 18 in a tent while on a hunting trip. He was treated by Drs. Taylor and Pickel of Festus, Mo., who forwarded him to St. Louis for treatment. The patient's condition when seen by them was as follows:

"The soft tissues were nearly all shot away just above the ankle. Both bones were badly shattered. The foot was connected with the leg only by a narrow strip of skin and some fragments of muscle. It was not dressed in any way except in the blanket that the patient was lying on. There was no dirt in the wound, more than would naturally get into it from the bedding, which was not very clean. There had been no attempt made to control hemorrhage; consequently he had lost about all that he was able to stand. He was in a state of considerable shock, so that only a trimming of the remaining shreds of tissue was performed, and bleeding points ligated. No attempt made to disinfect the wound, other than to apply a 2.5 per cent. solution of phenol (carbolic acid) and get him to the hospital as soon as possible.

The doctors at Festus were of the opinion that the infection came from the blanket in which his leg was wrapped.

When he arrived at the St. Louis City Hospital, it was found that he had a ragged amputation of the left leg four inches above ankle-joint, with much laceration of soft tissue and comminution of bones. The patient arrived at the hospital at 8:30 in the evening, having been injured about eleven in the morning of the same day. Hemorrhage had ceased when he arrived at the hospital. The leg was shaved and cleansed, put in a large saline pack without much effort to trim away the ragged tissues. Patient complained of weakness and thirst; pulse was almost imperceptible; temperature subnormal. Salt solution, by hypodermoclysis was given; external heat; patient placed in bed; antitetanic serum given; condition bad; pulse 120, respirations 24, temperature 97.2 F. Urinalysis revealed the presence of albumin and a great many hyaline and finely and coarsely granular casts.

Within twenty-four hours after the accident, amputation was performed in the middle third of the leg, the circular flap method being used. After being in the ward sixteen hours, a peculiar, stinking, sweetish odor was noticed about the patient, and on dressing the wound it was found to be discolored. Blood-culture was positive.

On the night of November 18 the patient was beginning to show symptoms of general infection, pulse 150, respiration 50, very shallow and mostly abdominal. The patient complained of pain in the abdomen and over the epigastric region. The abdomen was distended and soft, and over the left lower quadrant was a soft, fluctuating crepitus. The same condition was present over the left thigh, but in a more marked degree. The surgical wound with its dressing was not disturbed.

The patient at 3 o'clock in the afternoon complained of great difficulty in breathing. At 3:25 p. m. the patient was sinking rapidly, the heart failing to respond, although he was delirious and trying to get out of bed. The patient lost consciousness about 4 p. m., showing evidences of air-hunger, gasping for air. The heart-beat was not palpable; small, thready pulse. Patient died at 4:22 p. m., November 19, three days after admission.

This was a very virulent infection, traveling up the leg very rapidly. In a few hours, it had extended up as far as the neck, death following. Post-mortem findings were as follows:

Gangrenous emphysematous stump, universal emphysema of the subcutaneous tissues, emphysema of the heart, lungs, liver, kidneys and spleen, acute enlargement of the spleen, congestion and edema of the lungs, and a foamy condition of organs.

This case is interesting as showing another source of infection: that of a gunshot wound: it also shows that great loss of blood and pulpification of tissue influence an early appearance of the infection on account of the patient having practically no resistance. The case was an early, malignant type with general infection.

Case 2.—M. N., a laborer, aged 41 (No. 6642), entered Nov. 30, 1907, with a history of having been run over by a locomotive. As a result, both legs from a few inches below the knees to above the shoe-tops were pulpified. The wounds were dirty. An emergency trimming operation was performed. Pulse at this time was 106, respirations 24, temperature 99 F. Antiseptics used in first-aid treatment were bichlorid, tincture of iodin, and turpentine.

On the morning of December 3, patient developed a high temperature, rapid pulse and signs of severe shock. Bichlorid pack was applied at this time. On the morning of December 4, an offensive, characteristic sweetish odor was present. There was some emphysema of the left thigh. The left thigh at 3 p. m. was greatly distended and tympanitic on percussion. At 6 p. m., the left limb was tense with gas, the gas being found subcutaneously between the fascia and muscle and up in the left groin, and it extended in the midaxillary line nearly to the axilla. Numerous incisions were made, and the gas escaped with a noise. At this time, a bichlorid and turpentine dressing was applied, with a diagnosis of emphysematous gangrene. The patient died at 8:55 p. m., five days after admission, of a general *B. a. c.* infection (clinical).

The patient had become very delirious on the evening of December 3, and delirium persisted until death.

This case is interesting, as it shows the effect of a general infection and the rapidity with which the process advances when it has once started.

Case 3.—R. S. (permit No. 6701), schoolboy, aged 12, entered Dec. 2, 1907, at 4:40 p. m. The patient gave a history of falling off of a wagon three days previous to entrance, suffering a fracture of the tibia in the upper third, and a long, lacerated wound on the posterior surface of the calf of the left leg. The leg presented a sharply defined, bluish color extending from the ankle to the knee anteriorly and about 2 to 3 inches above the knee on the inner surface. The entire area was studded with blebs, from which a foul-smelling, greenish discharge was escaping. The wound had been closed on the outside by a physician. In the right groin was an area of discoloration 2 by 8 inches, and over the right great trochanter was an abrasion dressed with gauze covered over with collodion. Palpation of the left thigh and groin elicited distinct crepitation—emphysema. The patient died December 3, at 4:12 in the morning, four days after the injury. Delirium in this case appeared on the third day and lasted until the end.

This case shows the effect of sealing dirty wounds and of not observing such a case closely. The clinical diagnosis was made, but there was no report of a blood-culture.

CASE 4.—J. H., a packer, aged 51 (permit No. 5321), was admitted to the hospital Oct. 22, 1908, at 11:05 a. m. He entered the division suffering from an old, compound fracture of the radius and ulna, nervous and very delirious. The diagnosis at this time was delirium tremens and compound fracture of the radius and ulna.

The arm was dark-brown in color, emphysematous throughout, and a foul-smelling discharge was escaping, but no pus. The characteristic sweetish odor was present.

Later, *B. a. c.* infection was added to the diagnosis; blood-culture positive.

The patient died Oct. 22, 1908, at 12:50 p. m. Emergency treatment was given, but could not be extensive in view of the fact that he was suffering from generalized infection.

The comment which I would make on this case is that it brings out the point that the delirium and nervousness may be so great as to cause confusion as to whether or not the patient has delirium tremens.

CASE 5.—D. C., a carriage-worker, aged 56 (permit No. 2657), admitted July 3, 1909; entered the St. Louis City Hospital with a history of severe traumatism, and as a result had a laceration of the head and right shoulder; the right hand was also badly crushed, showing evidence of pulpification, the dirt of the street being ground into the extremity. Blood-culture was positive. The patient died July 7, 1909, at 1:20 p. m., with delirium, nausea, vomiting, nervousness and all the signs of a general infection.

Consent to amputation was not obtained until the second day. Amputation was performed at the lower third of the right forearm with circular incision; skin approximated with three sutures. Drainage. A reduction of the shoulder was performed at this time. The next day ecchymosis was present about the wound, stitches were removed and thorough drainage instituted. On the fourth day, the forearm was badly swollen, discolored, crepitation of the tissues, bacteriologic examination showing presence of the gas bacillus. Incisions were made in the gangrenous area and the arm placed in a saline bath, the patient thoroughly septic.

This was a case, evidently, in which the ecchymosis deceived the physician who was treating the case and in which a high amputation would probably have saved the life.

CASE 6.—J. C. (permit No. 3395), a trackman, aged 45, entered the hospital July 28, 1909, at 11 a. m., suffering from severe crushing injuries of both feet, produced by falling under a moving freight train. He also had a fracture at the middle of the left leg.

Twenty-four hours after entrance, the limb was amputated about seven inches below the knee-joint by the long posterior and short anterior flap method, with careful ligation of vessels and resection of nerves. The skin-flaps were approximated with interrupted silkworm-gut sutures, with provisions for free drainage. The patient was in bad condition at the time of operation, hypodermoclysis being necessary. Moist dressing was applied.

Within thirty-six hours after admission, the symptoms of sepsis (namely, delirium, nausea, and vomiting) appeared. The patient climbed out of bed, and it was necessary to restrain him. The following morning, signs of gas bacillus infection were very evident, the parts being dark, discolored, distended with gas, bubbles escaping, along with a black, bloody discharge. Blood-culture was positive. The antiseptics used in this case were mercury bichlorid, 1-2,000. The patient died July 30, 1909, at 9:40 p. m., nearly sixty hours after entrance.

CASE 7.—F. T. (permit No. 5626), a laborer, aged 20, entered the hospital, Oct. 4, 1909. He gave a history of being hurt in a street-car accident. He had a crushing injury of the left thigh, was in extreme shock, and his condition did not permit of immediate amputation.

Two days after admission, his general condition had improved somewhat, although sepsis was extreme. The leg was very dark, beginning to become gangrenous. It was distended and full of gas. The patient was unable to stand a general anesthetic and, accordingly, with a long, sharp, amputation knife, the calf muscles were severed at the point of fracture, about four inches below the knee-joint, vessels ligated and moist dressing applied. The patient died Oct. 8, 1909, four days after admission.

Like those in the previous cases, this patient died with all the evidences of a general infection, his case being one of those in which the patient could not have stood a high amputation.

CASE 8.—J. P. (permit No. 1868), aged 26, a driver, entered the hospital June 9, 1910, giving a history of being hurt in a runaway. The history of the accident as obtained later from the patient was that the street was an improved one and was very muddy. Examination revealed three lacerated wounds on the middle third of the right leg, with a compound, comminuted fracture of both bones of the left leg in the lower third, with numerous abrasions and contusions of the left foot. There were a few abrasions on the right leg.

Treatment at this time was directed to cleansing and shaving the limb, followed by an alcohol pack and iodin. The leg was placed on a Cabot splint and 1,500 units of tetanus antitoxin administered.

Some twenty-four hours after patient's admission, the temperature rose, pulse became very rapid and the patient complained of some pain. Examination at this time revealed a dark, spreading inflammation, not sharply circumscribed, and without elevated borders. There was bleb formation, and the leg presented signs of beginning gangrene. It was of a dusky color, or brownish hue, and in view of the fact that the patient's leg had been thoroughly rubbed in the dirty street, with the clinical signs as above, we believed that we were dealing with a gas bacillus infection. Cultures were taken, sent to the laboratory, and the following day were reported positive.

Without waiting for report from the laboratory, it was decided that, in order to give the patient a chance for his life, it would be necessary to do a high amputation at the junction of the lower and middle thirds of the thigh. Under a general ether anesthesia, the operation was performed by the circular cuff method. The wound was closed in layers overlapping the bone and two rubber tubes inserted for drainage. The patient left the table suffering from considerable shock. The wound was irrigated daily with hydrogen peroxid, and a hydrogen peroxid dressing applied. The process reached to the junction of the upper with the middle third of the leg, therefore it was necessary to go above the knee-joint.

The patient was discharged June 22, 1910, having made an uneventful recovery.

CASE 9.—W. B. (permit No. 5877), aged 60, a pipecutter, entered the hospital Oct. 20, 1910, giving a history of having been injured by an elevator. Examination showed the right hand almost entirely torn from the arm at the carpal joint. The skin was torn loose around the entire wrist. All the muscles, tendons and nerves were severed, along with most of the vessels on the anterior surface, only those tendons on the posterior surface being intact. The hand was cold and sensation was abolished. The wound was cleansed and skin flaps loosely approximated in the hope that there might be an establishment of circulation. Pulpification of the hand was great.

When first seen by me two days after admission to the hospital, when the hand was dressed, it was found that the tissues presented an appearance very much like that of a gas bacillus infection. The hand was becoming dark in color; there was a foul-smelling, sweetish odor, with a dark, bloody discharge, and a few gas bubbles. Two hours after this, amputation was performed, the hand beginning to crepitate. The anteroposterior flap method was carried out at the junction of the lower with the middle third of the arm. On the following morning, after the operation, the patient's temperature was normal and he was doing well. Healing occurred by first intention, patient being discharged November 21, after having remained in the hospital for three weeks preparatory to finding a home.

Case 10.—G. Y. (permit No. 7853), a laborer, aged 25, entered Dec. 31, 1910. The patient was suffering from a compound fracture of the forearm with laceration and crushing of forearm. There was considerable pulpification.

Temporary treatment was given, but in twenty-one hours gas with a gangrenous process appeared. The forearm was very dark in color and gave off a foul, sweetish odor. There were gas bubbles in the tissues, as shown by crepitation and also by the escape of bubbles. The patient had a high temperature, rapid pulse, was septic and complained of considerable pain.

The patient was informed of his condition on three occasions, it being necessary after thirty-six hours to bring the influence of his relatives to bear on him to obtain consent to operation. It was explained to him, at the time of operation, that the question of saving him was very doubtful on account of the delay.

Under general anesthesia, an anteroposterior flap at the junction of the upper and middle third was made in the usual way. Closure was with interrupted silkworm-gut sutures after irrigating the wound thoroughly with hydrogen peroxid. A rubber tube was inserted in each corner of the flap, and thereafter was daily irrigated with hydrogen peroxid and hydrogen peroxid dressing was applied.

Within twenty-four hours, the patient's temperature had dropped to normal, followed in thirty-eight hours by a rise due to an infection of the wound with a probable staphylococcus infection. All sutures were removed, and hydrogen peroxid and tincture of iodin were freely used. The wound, two weeks after amputation, was clean but required a repair amputation.

In this case, a gas-producing organism was found which in culture media produced gas, but an attempt to segregate it met with failure, although the clinical evidence was unmistakably that of a gas bacillus infection with some contamination with the staphylococcus.

CONCLUSIONS

Early interference, before seventy-two hours, preferably amputation in malignant cases involving extremities, in most cases will mean the saving of life.

Laborers and railroad men are prone to infection, as their wounds are often contaminated with soil.

Infection occurs most frequently from contamination with street dirt, followed by railroad dirt, then elevator dirt, and then intestinal tract discharges. The frequency of street soil infections, I believe, can be explained on ground of contamination with manure. There are two recorded cases in which infection occurred in ischiorectal abscesses, the rarity, it is thought, being due to the fact that these wounds usually are wide open and lined with a layer of granulation tissue, the granulation tissue preventing the free dissection of the gas and the oxygen probably preventing the *B. a. c.* infection.

All wounds contaminated with street or railway dirt should be observed for this infection and treated, if possible, in such a manner as to permit of easy inspection. Hence plaster casts and sealing of wounds should be avoided. Cultures should be made if there is a suspicion of *B. a. c.* infection, and the wound freely opened and treated with hydrogen peroxid or oxygen preparatory to amputation, if necessary. In Case 10, the amputation stump was irrigated through drainage tubes with hydrogen peroxid twice daily for the first two days, although at the time of operation the wound was flooded repeatedly with hydrogen peroxid.

Fall in temperature to normal would seem to indicate the eradication of *B. a. c.* infection, as in Cases 9 and 10.

The disease is only relatively common, as it has occurred at the city hospital on an average of once in about 1,250 surgical cases, and practically always in cases in which there was pulpification of tissues. Since *B. a. c.* infections do not develop in very many or most cases of soil and street contaminated wounds (though often found here), it would seem that pulpification of tissue and injured blood-supply favor *B. a. c.* infection, owing to weak or absent resistance. There is further evidence to this effect, as shown in reported cases with presence of gas bacillus on and in amputation stumps.

Brewer has found that diabetics are prone to infection, and experimentally the *B. a. c.* develop more easily and rapidly in the presence of sugar.

Early diagnosis by definite, clean-cut, clinical pictures, and prompt, radical treatment will materially reduce the death-rate.

Blood-cultures should be made in every case, but treatment should not wait.

I believe that the condition is often unrecognized, and trust that this report will stimulate an interest that will result in more frequent diagnoses of the infection.

AN IMPROVED APPARATUS FOR ESTIMATING THE PRESSURE IN THE CEREBROSPINAL SYSTEM

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Since the introduction by Quincke[1] of an apparatus for estimating the cerebrospinal pressure, there have been numerous criticisms of the mechanics of the instrument and several attempts have been made, either to modify his apparatus, or to introduce a new principle. As devised by Quincke, the apparatus consists of the ordinary puncture needle and trocar, to which is attached a long piece of rubber tubing leading to an S-shaped piece of bent glass. According to the height to which the latter has to be raised the pressure is estimated, the reading being taken from the level of the hilt of the needle to the level of the fluid in the glass tube; this is measured by an independent centimeter scale.

The imperfections in the use of this instrument are the following:

First, between the time when the trocar is withdrawn from the needle and the moment when the rubber tubing is attached to the hilt of the latter there must necessarily be an escape of fluid, even providing that the worker is rapid in his actions and the connections are all firm and watertight. This loss of fluid, which is inevitable, and which may vary from 1 to 5 c.c. when the pressure is high, affects the accuracy of the reading. Secondly, the length of the rubber tubing and its usual large caliber, causes it to act in part as a reservoir, a long loop of this tubing frequently hanging far below the level of the needle. The latter, therefore, often withdraws from the estimation as much as 5 c.c. of fluid. When the pressure is low this interferes materially with the attempt to read intraspinal pressure.

The advantage of the instrument is that it permits a reading to be made before and after withdrawing the fluid, and allows examination of the fluid without dilution with another second inert fluid such as might be used in a manometer.

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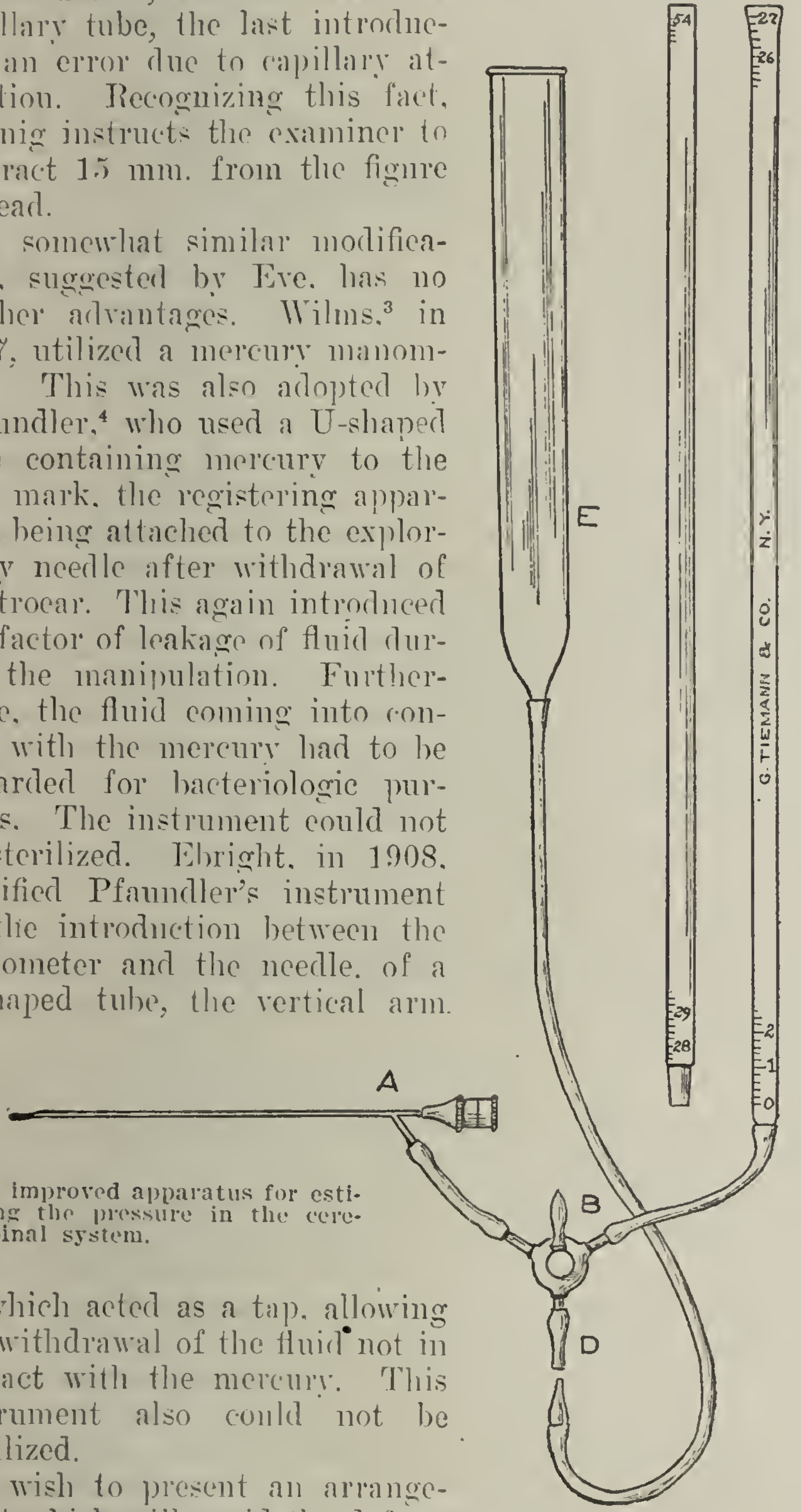
[1] Quincke: Technik der Lumbal Punction, 1902; Deutsch. Klin., 1906, vi, 351.

In 1897, Krönig[2] introduced a modification of the apparatus by inserting into the needle after withdrawing the mandrin, a short L-shaped glass tubing the upper arm of which acted as a scale on which to read the height to which the intraspinal pressure forced the fluid; the horizontal arm was employed to withdraw a specimen for examination or for therapeutic purposes. In addition, he incorporated in the needle a stop-cock, by means of which he could prevent the leakage of fluid while he was attaching his manometer. The disadvantages of this instrument are its rigidity, the complexity of the needle, and the use of a capillary tube, the last introducing an error due to capillary attraction. Recognizing this fact, Krönig instructs the examiner to subtract 15 mm. from the figure as read.

A somewhat similar modification, suggested by Eve, has no further advantages. Wilms,[3] in 1897, utilized a mercury manometer. This was also adopted by Pfaundler,[4] who used a U-shaped tube containing mercury to the zero mark, the registering apparatus being attached to the exploratory needle after withdrawal of the trocar. This again introduced the factor of leakage of fluid during the manipulation. Furthermore, the fluid coming into contact with the mercury had to be discarded for bacteriologic purposes. The instrument could not be sterilized. Ebright, in 1908, modified Pfaundler's instrument by the introduction between the manometer and the needle, of a T-shaped tube, the vertical arm of which acted as a tap, allowing the withdrawal of the fluid not in contact with the mercury. This instrument also could not be sterilized.



An improved apparatus for estimating the pressure in the cerebrospinal system.

I wish to present an arrangement which will avoid the defects of the Quincke tubing and its several modifications, prevent any leakage of fluid during manipulation, permit a minimum amount of the fluid withdrawn to register the pressure, and facilitate the withdrawal of all the fluid uncontaminated and in an unaltered condition. The principle which Quincke introduced, i. e., that the pressure should be estimated by the height to which the fluid is raised in a vertical tube, is utilized.

The apparatus consists of the following parts: (a) a needle, the hilt of which bears a terminal cap firmly screwed on; at about 2 cm. distant from the posterior end is a small branching arm, the lumen of which is the same as the lumen of the needle proper; (b) a three-way stop-cock made of metal; (c) a graduated piece of heavy glass tubing 30 cm. long with a lumen of 2 mm.; a second tubing of the same length and capacity is used, which has a tapering ground-glass lower end by which it may be fitted into the upper end of the first tube when the pressure is unusually high. The three-way stop-cock is interposed between the graduated glass tubing and the branch arm of the needle, connection being made on each side by a piece of rubber tubing 2 cm. long. The third arm of the stop-cock is used for the withdrawal of the specimen. A blunt trocar accompanies the instrument; if the needle is inserted in the canal without a flow of fluid resulting there is suspicion that the lumen may be blocked by tissue, the cap of the needle may be unscrewed and the trocar inserted to reestablish the patency of the needle. The trocar should only be used for this contingency.

The technic required for the manipulation is as follows:

First, the entire instrument is sterilized by boiling in water.

Second, the needle is attached to the three-way stop-cock, the latter being closed so as to prevent premature escape of fluid and the registering glass tube being disconnected temporarily.

Third, the operator holding the stop-cock in the palm of his hands, grasps needle and performs puncture according to his own way or preference for this maneuver.

Fourth, the point of the needle being felt to lie freely in the spinal canal, the registering glass is now attached to the second arm of the stop-cock by means of its connecting rubber tube; the handle of the stop-cock is turned to the first position, allowing the free escape of the spinal fluid into the registering apparatus.

Fifth, the pressure having been read, the handle of the stop-cock is turned to its second position, allowing the escape of the fluid from the registering tube into the collecting vessel; then turned into its third position allowing the further direct escape of spinal fluid into the collecting vessel. After the proper amount of fluid has been obtained the handle of the stop-cock is turned into its first position and the pressure again estimated. After the final pressure has been read, the needle is withdrawn from the spinal canal. The retained fluid is washed out with running water and the apparatus is resterilized.

A glass funnel and small-bore connecting rubber tubing about 20 inches long is furnished for injection of therapeutic serum or solutions when so desired. The tubing is attached to the third arm of the stop-cock (that used for withdrawing fluid) and the funnel lowered until cerebrospinal fluid replaces the air in the tubing. The injection fluid is then poured into the funnel, the latter raised, and the fluid allowed to enter the canal.

The instrument presents the following advantages:

First, there is no opportunity for accidental escape of fluid.

Second, the apparatus is compact and small, the entire capacity of the registering apparatus being only 60 minims.

Third, the instrument can be thoroughly sterilized.

Fourth, no foreign substance is used to indicate pressure. The registering part is made of heavy glass not easily broken; the stop-cock is of metal, simple and durable; the short rubber connecting parts can be easily replaced when the elasticity is exhausted.

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[2] Krönig: Deutsch. med. Wchnschr., 1897.
[3] Wilms: München. med. Wchnschr., 1897, p. 55
[4] Pfaundler: Beitr. z. klin. Med. und Chir., xi, 20.

For comparison of the readings with that of a mercury manometer it is necessary only to recall that dividing the result in millimeters by the factor 13.6 will give the equivalent pressure as estimated by a column of mercury.

The reading with this instrument should be comparable to those obtained with the Quincke apparatus. The same principle of physics applying to each.

In a very short series of about twenty-five cases the following readings were taken: Normal seemed to lie between 2 and 6 cm.; incipient tabes dorsalis 10 cm.; multiple sclerosis 17 cm.; suppurative meningitis, from 10 to 30 cm.; tuberculous meningitis, from 30 to 60 cm.

The same regulations that appertain to all lumbar punctures must be observed; it must be remembered that the position of the patient, whether sitting or prone, struggling or crying, is very important in their effects on the cerebrospinal pressure. But as these variations refer in general to all methods of lumbar puncture, it is not necessary to discuss them here.

75 East Eighty-First Street.

ANEURYSM OF THE EXTERNAL PLANTAR ARTERY *

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This case is reported because it is somewhat of a surgical curiosity. In looking up the literature, aneurysm of the external plantar artery is found to have been reported five times.

Masson[1] in 1868, Cutliffe[2] in 1872, Gross[3] in 1874, Johnson[4] in 1874, and Gangitano[5] in 1904 report each a case. There have also been reported a few cases of aneurysm of the dorsalis pedis and of the internal plantar artery. Although the plantar surface of the foot is subjected, perhaps, to more pressure than is any other part of the body, the arteries, by reason of the dense fascia and the arch of the foot, are no more exposed to traumatism than are other arteries of the extremities.

Patient.—C. L. A., a man aged 34, married, was first seen Aug. 6, 1910. He complained of continuous dull pains, worse on walking, in the sole of the right foot. The pain was so severe that he walked with great difficulty with the foot in the equinus position. The trouble had commenced six months before as a slight, aching pain, intermittent, later becoming continuous and increasing. At the time the patient consulted us he was unable to perform his duties, which were those of a traveling salesman. The patient's father died of chronic nephritis at 67; mother, two brothers and two sisters are living and well. His wife and two children are living and apparently healthy. His wife has had two miscarriages. There is no history of cardiac or malignant disease or of tuberculosis. The patient had measles, chicken-pox and typhoid fever in childhood, pneumonia at 18. Concussion of the brain at 31 disabled him for six months. He denied venereal infection.

Physical Examination.—The patient was a well-nourished man apparently aged 35 and weighing about 140 pounds. Aside from moderate arteriosclerosis and a somewhat accentuated aortic second sound, his physical condition except for the present trouble, was good. The arch of the right foot was almost gone, the foot being flat, and on the plantar surface directly beneath the instep, nearer the external side was a round, pulsating tumor 5 cm. in diameter and protruding 2 cm. beyond the surrounding surface. The pulsations were synchronous with the radial pulse and there was a well-marked bruit.

Operation.—Operation was performed at the Methodist Hospital, Aug. 8, 1910. The sac was exposed and found to be spherical in shape and 3 cm. in diameter. The artery on each side of the sac was ligated and the sac removed. The patient made a good recovery and was able to return to his work in four weeks.

1801 Cayuga Street—1616 Spruce Street.

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* Read before the Jefferson Clinical Society, Jan. 27, 1911.

[1] Masson: Mém. Soc. d. Sc. méd. de Lyons, 1868, vii, 26.

[2] Cutliffe: Indian Med. Journal, Calcutta, 1872, vii, 248

[3] Gross, S. D.: Philadelphia Med. Times, 1874, iv, 391.

[4] Johnson: Boston Med. and Surg. Jour., 1874, xc, 115

[5] Gangitano: Riforma medica, 1904, xx, 421.

Therapeutics

CARDIAC TONICS OF MINOR IMPORTANCE

ADONIDIN, CONVALLARIA, CACTUS GRANDIFLORUS, SPARTEIN, APOCYNUM CANNABINUM, BARIUM CHLORID

None of the above-named drugs can compare in efficiency or activity with digitalis and strophanthus. While most of them have been shown to have the ability to stimulate the heart to greater contractions, it has not been shown experimentally or clinically that they have any advantages over digitalis in small doses, and as compared with large doses of digitalis they are much inferior. If digitalis or strophanthus does not agree with a patient, and produces undesirable symptoms, the dose is probably too large or too frequent, and the substitution of a weaker drug is not the substitution of a better drug, but is a demonstration of the misuse of the digitalis or strophanthus. There is no good reason why any of these drugs should be official in the next Pharmacopeia.

A description of these drugs and their activities, and the conditions for which they have been used are as follows:

ADONIDINUM. ADONIDIN

Description.—Adonidinum, genitive adonidini, is an active glucosid obtained from *Adonis vernalis* or *Adonis autumnalis* (false hellebore), a plant native of Northern Europe and Asia. This glucosid was isolated, in 1882, by Cervello, of Strasburg, and is an amorphous, inodorous and very bitter substance, soluble in alcohol, very slightly soluble in water.

Local Action.—This drug has no special local action.

Systemic Action.—The action of adonidin has not been very carefully worked out except on the circulatory system. In very large doses it seems to be somewhat irritant to the gastro-intestinal mucous membranes, producing vomiting and diarrhea. Its action on the heart muscle and on the cardiac nerves is similar, though less powerful, to that of digitalis. After a first slight increase of cardiac action it slows the beat, prolongs the diastolic rest, and raises the blood-pressure by causing contraction of the arterioles. Poisonous doses, after the primary slowing of the heart, cause it to beat very rapidly, probably because of paralysis of the vagi. Later the blood-pressure falls and the heart action becomes very slow. The drug acts somewhat as a diuretic, probably on account of the increased blood-pressure.

Action of a Therapeutic Dose, or the Primary Physiologic Action.—It slows and strengthens the heart, raises the blood-pressure, and slightly increases the output of urine; in other words, it has a similar action to that of a physiologic dose of digitalis. The toxic symptoms are practically the same as in digitalis poisoning, and the treatment is the same as for poisoning by that drug.

Therapy.—Adonidin may be used as a substitute for digitalis whenever a cardiac tonic is indicated, but it is not so effectual in its action and cannot restore compensation as does digitalis. Adonidin has been used with bromids in epilepsy. There seems no more reason for its use in epilepsy than for the use of strophanthus. Any cardiac drug may be of marked value when the system is debilitated by bromids.

The contra-indications are the same as those for digitalis.

Administration.—Adonidinum is an expensive, nonofficial drug. The dose is from 0.01 to 0.02 gram (from $^1/_6$ to $^1/_3$ grain), best given in capsules as the solution is intensely bitter, administered every four or five hours. This drug acts much more quickly than digitalis, and hence could be used as a cardiac tonic in emergencies, but strophanthin is better. This drug probably has no cumulative action.

CONVALLARIA, U. S. P.: LILY OF THE VALLEY

Description.—*Convallaria*, genitive *convallariæ* (*Convallaria majalis*) is a native plant of the United States, Europe and Asia, and is also cultivated for its sweet-smelling flowers The parts official are the rhizome and the roots which should be collected in mid-summer and dried in the sun. It contains a bitter glucosid, convallamarin, in acrid purgative glucosid, convallarin, and a resin. These active principles were discovered by G. F. Walz and described in 1859. Convallamarin is the principle which acts on the heart, the convallarin acting only as a slight purgative.

Local Action.—This drug has no noticeable local action.

Systemic Action.—The principal action of convallaria, through its constituent convallamarin, is on the circulatory system, and the action on the heart is similar to that of digitalis, though this action is not so sure and not so decided. It raises the blood-pressure somewhat and often acts as a decided diuretic. Whether this diuretic action is due to the improved circulation or to stimulation of the kidneys has not been decided. In non-poisonous doses there is a slight laxative effect but no marked purgative action.

Action of a Therapeutic Dose or the Primary Physiologic Action.—This drug is of doubtful action on account of the varying strength of its official preparation, but the action of a therapeutic dose should be slightly to slow the heart and strengthen its muscular action, to raise the blood-pressure slightly, to act as a mild laxative but not to disturb the stomach or digestion, and to cause a marked increase in the amount of urine.

Toxic Symptoms.—These symptoms would be similar to the symptoms produced by poisonous doses of digitalis, and the treatment would be the same as in poisoning by the latter drug.

Therapy.—The therapeutic use of this drug first began, unprofessionally, in Russia, as a remedy in dropsy, and later investigations gave it a professional standing as an active drug in cardiac debility and as of special value in cardiac edema. Therapeutically, then, it may be tried as a substitute for digitalis or strophanthus when there is valvular disease, a dilated or irregular heart and a tendency to cardiac edema. Though some therapists find the drug of great value in these cases its action is often disappointing, probably from the varying strength of its preparations.

Contra-Indications.—The contra-indications are the same as those of digitalis, and much gastric or bowel irritation should preclude its use.

Official Preparation.—The only official preparation is: Extractum Convallariæ Fluidum, the beginning dose of which is 0.5 c.c. (8 minims).

Unofficial Preparations.—Convallamarin occurs as an amorphous powder, yellowish in color and of bitter taste, soluble in water and alcohol. The dose is 0.05 gram (¾ of a grain) four or five times in twenty-four hours. Hypodermatically the dose would be about 0.02 gram (⅓ of a grain). The drug in emergencies, however, is greatly inferior to strophanthin. Convallarin occurs as a yellowish, amorphous powder, of acrid taste, insoluble in water, soluble in alcohol. It has no action on the heart, but may act as a laxative. The dose is about 0.2 gram (3 grains).

Administration.—The dose of convallaria should be pushed to some slowing of the heart and noticeable increase in the urine unless purgation should occur. There seems to be no cumulative action from this drug.

This drug could well be deleted from the Pharmacopeia.

CACTUS: NIGHT-BLOOMING CEREUS

Description.—*Cactus*, genitive *cacti* (*Cactus grandiflorus*) is a native plant of tropical America, and is cultivated for its beautiful flowers. It is not official, and no active principle of the plant has been obtained. A fluidextract and a tincture have been used medicinally. These preparations have been made from the fresh stalks, which contain an acrid juice.

Local Action.—The expressed juice of this plant is irritant and can produce vesicles and pustules on the skin, and when taken in concentrated form it causes pain, vomiting, and diarrhea.

Systemic Action.—Rubini, in 1868, was perhaps the first to state that a tincture of this plant was of advantage in cardiac debility. This has been reiterated clinically at stated intervals ever since. It has been clinically stated that the drug would increase the strength of the cardiac contractions and regulate the rhythm. It has also been stated that it would raise the blood-pressure. It has been stated experimentally that it acts on the intracardiac ganglia, and also that it is a stimulant to the vasomotor center. On the other hand, repeated recent careful experimentations with the best preparations obtainable, and that could be made from the crude drug, and experiments with so-called active principles have shown absolutely no physiologic activity whatever, and no action on the heart or blood-vessels. Favorable reports of circulatory activity of this drug found experimentally have probably been based on preparations of other allied plants, or contaminations. The drug and its preparations are therefore pharmacologically inert, and should not receive official recognition.

Toxic Symptoms.—An over-dose of a concentrated preparation of cactus would undoubtedly cause vomiting and other symptoms of gastro-intestinal irritation, and the treatment would be that of a gastro-intestinal irritant.

Therapy.—There is no reason or excuse for expecting any action on the circulation or any other part of the body from preparations of this plant. Any results obtained from the administration of its preparations are due to the associated action of something else administered or done at the same time. If a strong alcoholic preparation is used, the results obtained may be attributed to the action of the alcohol. The results obtained from the administration of preparations of this plant are purely psychical, or show that the digitalis, which was given to the patient before the cactus was administered, was not indicated.

This is a truth that cannot be too frequently repeated. A weak and useless preparation is substituted for a strong and active one; the patient or his symptoms improve; the results are recorded as activities of the useless, inert preparation, when the improvement is really the removal of the active drug which he did not need.

Also, there is the never absent psychical effect on the patient of a change of drug or the use of something decidedly different or unusual.

It should be accepted as an axiom that a drug that has no action on animals has no action on man.

SPARTEINÆ SULPHAS, U. S. P.: SPARTEIN SULPHATE

Description.—Spartein is an alkaloid obtained from *Scoparius* (broom). It is a colorless, oily, unstable liquid of intensely bitter taste, alkaline reaction, and anilin-like odor. Its neutral sulphate is the only preparation official, and is like all sulphates of the alkaloids, bitter and soluble.

Action on the Circulatory System.—The evidence of investigators and clinicians in regard to the action of spartein is so conflicting that it must be concluded that the actual action and utility of this drug is not established. It seems to be pretty thoroughly proved that spartein is a depressant to the nervous system and in full doses weakens the heart. There is, if any, only a short-lived rise in blood-pressure from spartein and in full doses the blood-pressure is diminished. It is depressant to the heart muscle, and in large doses paralyzes the peripheral endings of the pneumogastric nerves allowing the heart to become more rapid. Small doses, by stimulating the pneumogastric nerve, can prolong the diastole of the heart, and in certain cases may quiet and steady an irregular heart.

Action of a Therapeutic Dose or the Primary Physiologic Action.—The ordinary action from therapeutic doses of this drug should slightly slow the heart, regulate its rhythm, prevent its nervous irritability, slightly diminish the pulse tension, and moderately increase the output of urine.

Toxic Symptoms.—This drug causes symptoms of depression and paralysis similar to that produced by conium, and the treatment of poisoning would be the same as for the latter drug.

Therapy.—This drug is not a substitute for digitalis and does not act as does digitalis. The indications for its use are irregularity and nervous irritability of the heart, especially when conjoined with general nervousness. Spartein has been used in asthma, and it has seemed of advantage in disturbed cardiac action when combined with arteriosclerosis and chronic interstitial nephritis. Nitroglycerin and iodids, however, are safer and act better. It is not a diuretic. It is the scopalin of the broom plant that is diuretic.

Contra-Indications.—These are muscular or fatty degeneration of the heart, low pulse tension, dilatation of the heart; or acute cardiac weakness should prohibit the use of this drug.

Administration.—The only official preparation is sparteinæ sulphas, and the beginning dose is 0.02 or 0.03 gram (⅓ or ½ grain) given every six or eight hours, in solution or in capsule. The action of the drug is rapid, occurring in from 20 to 40 minutes.

There seems no good therapeutic reason for recognizing this drug in the revised Pharmacopeia.

APOCYNUM, U. S. P.: CANADIAN HEMP

Description.—*Apocynum*, genitive *apocyni* (*Apocynum cannabinum*): The part official is the rhizome. This plant should not be confused with *Apocynum androsaemifolium*, as the latter drug has properties different from the official drug. Preparations are probably, however, often made from the wrong apocynum, consequently the results are different. A non-glucosidal, crystalline principle has been isolated named apocynin.

Local Action.—The drug has no external action, but is an irritant to mucous membranes and readily causes vomiting, purging, and severe gastro-intestinal irritation.

Systemic Action.—This drug has long been used in dropsical conditions, especially in cardiac edema. It has also been used in ascites, and in hepatic cirrhosis with consequent disturbance of the circulation and edema of the lower part of the body and lower extremities. Good preparations from true *Apocynum cannabinum* have been shown to raise the blood-pressure and stimulate the cardiac muscle to stronger contraction. The diuresis caused by apocynum is doubtless more or less due to the improved circulation, and the diuresis is similar to that caused by digitalis. The pulse is slowed by stimulation of the vagus nerves, such action being similar to that of digitalis. Whether it has a specific stimulating action on the kidneys, causing increased secretory and excretory activity besides that caused by improved circulation, has not been determined. While its action has been noted clinically to be satisfactory, it is so frequently irritant to the stomach that for this reason its utility is impaired.

Action of a Therapeutic Dose or the Primary Physiologic Action.—The action of this drug is uncertain and the dose is uncertain, depending on the activity of the preparation procured. The desired and expected action would be to slow the pulse, to strengthen the heart, to raise the blood-pressure, and to increase the output of urine. Undesirable action is to cause gastric irritation, nausea and vomiting.

Toxic Symptoms.—These would be the same as would be caused by a gastro-intestinal irritant. By administration by the mouth it has not been shown that this drug could seriously injure the heart. Large doses would doubtless too rapidly cause vomiting to allow systemic poisoning.

Therapy.—Apocynum has been repeatedly reported clinically to be of value in general anasarca and in ascites. If there is cardiac defect its action and efficiency certainly cannot be compared to that of digitalis. In cirrhosis of the liver it is an undetermined question whether it would be any more valuable than other diuretics. When the drug has been pushed it has been noted that some congestion of the kidneys has been caused. It would be a question, when such kidney congestion occurs, whether it is not due to other causes than the drug.

Contra-Indications.—The contra-indications are gastro-intestinal irritation, and especially a tendency to nausea and vomiting.

Official Preparation.—The only official preparation is Fluidextractum apocyni; dose 1 c.c. (15 minims). The powdered drug itself may be administered, if desired, in dose of 1 gram (15 grains). Administration of the crude drug, however, would be senseless, if a reliable fluidextract were available.

Unofficial Preparations.—Apocynin may be obtained both as the crystals and in an amorphous form. The crystals are white. The amorphous form occurs as a white or yellowish-white powder, and contains a resin. Both are soluble in alcohol. A tincture of apocynum may be obtained, the dose of which would be about 1 or 2 c.c. (15 to 30 minims).

Apocynum androsaemifolium (dogbane), sometimes called the wild or mild ipecac, has been used in chronic constipation, but it is irritant. The dose of the fluidextract is about 1 c.c. (15 minims).

Administration.—The best preparation is undoubtedly the fluidextract, but the activity of this drug and preparations, as above stated, is uncertain. The only excuse for its use is as a diuretic in dropsy. The drug has been used as an emetic, but such use is inexcusable. Other emetics are better and more certain.

It would be well to omit this drug from the Pharmacopeia unless it can be assured that the *Apocynum cannabinum* is the only apocynum used and that there can be some standard of activity. It may become a useful drug, but it cannot be depended on at present, and doubtful drugs should not be certified to in the revised Pharmacopeia.

BARII CHLORIDUM: BARIUM CHLORID

Description. — Barium chlorid occurs in colorless, translucent crystals which are very soluble in water and have a salty, bitter, and decidedly astringent taste.

Local Action.—The soluble salts of barium do not irritate the skin, but are decidedly irritant to mucous membranes and therefore will cause vomiting and purging in concentrated solutions.

Systemic Action.—Barium is one of the most poisonous of the alkaline earths. The salts are absorbed rather slowly from the stomach and intestine and after prolonged administration may be deposited and stored up in the bones. After absorption the chlorid of barium has a decided action on the circulatory system. It stimulates the cardiac muscle to more energetic contraction which becomes with poisonous doses a tetanic contraction, the heart stopping in systole. The blood-pressure is raised rapidly not only from the increased cardiac action, but principally from the contraction of the muscular coats of the arterioles. This action is largely local as dilatation of these vessels does not occur after the spinal cord is cut. The heart is slowed in its action, but whether this slowing is entirely due to the increased resistance offered by the contracted blood-vessels, or due also to stimulation of the pneumogastric nerves has not been decided.

In mammals, absorption of poisonous doses of the barium salts will cause tonic and clonic spasms, showing that this metal is decidedly irritant to the spinal cord and medulla oblongata. In fatal poisoning there is paralysis of the central nervous system. The pupils are sometimes dilated by the action of large doses. Barium increases the contractile power of the muscles enormously, resembling the action in this respect of veratrin. There seems to be no special action on the glands of the body, except that it can produce salivation, like some other metals, and the bronchial secretion may be increased.

Barium chlorid is excreted both in the urine and into the intestines.

Action of a Therapeutic Dose or the Primary Physiologic Action.—An active dose of barium chlorid produces a slight slowing of the heart, an increase in the strength of the cardiac contractions, and a decided increase in the arterial tension. Other symptoms or signs of physiologic action would seem to tend toward the action of too large a dose.

Toxic Symptoms.—Unless the solution is very dilute there will be the symptoms of gastro-intestinal irritation and erosion, which means thirst, vomiting, purging, pain, cardiac stimulation, soon followed by more or less symptoms of shock, with convulsions and dilated pupils, the latter probably due to stimulation of the sympathetic nerve. Before death the bladder also becomes very irritable. The final demise might be by coma or by sudden stoppage of the heart in systole. As little as 0.15 gram (2½ grains) can cause death.

Treatment of Poisoning.—The chemical antidote is any soluble sulphate, as magnesium or sodium sulphate, in large dose, this forming barium sulphate which is practically insoluble. The other treatment would be that for any other gastro-intestinal irritant, and some drug to quiet nervous irritation, as bromids and chloral. Nitroglycerin or aconite might be good treatment to overcome contraction of the blood-vessels and the irritations of the cardiac muscle.

Therapy.—Clinicians differ largely in their opinion of the value of barium chlorid in cardiac debility, but a sufficient number of satisfactory cases have been reported to indicate that barium chlorid may be of value when there is weakness of the ventricles from valvular disease, and in acute dilatation. It has been used to aid the circulation and better the local condition in varicose veins. Its power to stimulate the smooth muscle fiber has caused it to be used in paresis of the intestines and in paralyzed conditions of the bladder. Barium chlorid sometimes slows the heart and improves the circulation in Graves' thyroid disease.

Contra-Indications.—In conditions of high blood-pressure, or atheroma, or nervous irritability, or where there was acute inflammation of the brain or spinal cord this drug would be contra-indicated.

Administration.—Barii chloridum is not official. The dose is about 0.02 gram (⅓ of a grain), best given in tablets or in capsules, after meals.

There is no sufficient reason for recognizing this salt in the revised Pharmacopeia.

REMARKS

It can almost be guaranteed that there will be no increase in the number of deaths from arterial, cardiac, renal, and hepatic disease if the above drugs (adonidin, convallaria, cactus grandiflorus, spartein, apocynum cannabinum, and barium chlorid) are not recognized in the revised Pharmacopeia.

1. They are all inferior to digitalis and strophanthus which they are said to, and in some instances do, mimic pharmacologically and therapeutically.

2. They are much more uncertain in their action than digitalis and strophanthus.

3. Of all drugs to be officialized, inferior cardiac drugs should be the last. It is a dangerous thing to give standard and standing to a heart tonic that is unworthy, or to give the prescriber a sense of false security as to the therapeutic usefulness of a drug by the backing of fifty picked men, and such backing is the physician's interpretation of the Pharmacopeia.

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COMPRESSED-AIR ILLNESS AND ITS PREVENTION

In the evolution of industry, which more than anything else characterizes our present age, preventive medicine is assuming greater and greater importance; and in no special province is this truer than in the fields of engineering, where not only the problems of tropical sanitation, but the details of more ordinary undertakings, are being subjected to medical supervision. Embodied in a report to the governor of Illinois by a Commission on Occupational Diseases,[1] is a discussion by Bassoe of caisson disease, which well illustrates this phase of modern medicine. Although the occurrence of compressed-air disease has long been known, the increasing frequency of work that requires continued use of high air pressure makes this an important industrial disease, and Bassoe's report on its occurrence in Illinois, which includes a summary of our present knowledge, is well calculated to serve as a basis for its better control.

For a theoretical study of the peculiarities of caisson disease, we are chiefly indebted to work conducted under the auspices of the British admiralty by Boycott, Damant and Haldane,[2] who were able to demonstrate these practical points: first, that it is the nitrogen of atmospheric air alone that plays an important part in the production of the disease; second, that increased exposure to high pressure gives added risk up to about five hours for man, at which time saturation of the body with nitrogen is practically complete; third, that it is rare, if ever, that symptoms of caisson disease occur under an excess of pressure of 1.25 atmospheres, however long the exposure; fourth, that death is due nearly always either to pulmonary gas embolism, or to blockage of vessels in the spinal cord by gas. Since the excess gas in the tissues does injury solely by its sudden increase in volume on removal of pressure, and since the body can tolerate a sudden decrease in pressure of from 2.25 times normal to normal, they point out that it is safe to decompress from any stage whatever by successive reduction of one-half at a time, thus, by Boyle's law, keeping the volume of liberated gas within the limits of safety. This type of decompression they designate as the "stage" method, as contrasted to the more usual practice of a slow uniform rate of reduction.

That the adoption of such a precautionary measure would almost completely obviate danger in physically sound individuals is shown by the experience of the workers in the East River tunnel at New York, as reported by Japp.[3] Here it was found that by the use of stage decompression, associated with muscular exercise (walking), danger was practically eliminated for seasoned workers.

Such a record, where 330 men were employed for thirty-six days, stands in striking contrast to statistics gathered before the use of preventive steps. Thus, to cite a few American experiences only, there were 119 cases, with fourteen deaths, among 600 men employed on the St. Louis bridge, and on the construction of the first Hudson tunnel there were, before the introduction of a "medical lock," twelve deaths among the forty-five or fifty men employed. Careful search appears to show that the disease is much more frequent than imagined, as is shown by Bassoe's ability to collect 161 previously unreported cases in Illinois, where, aside from the St. Louis bridge cases just noted, he was able to find previous references to only three cases.

In regard to the necessity for special legislation to maintain proper safeguards, it has been urged that the common law principle of holding contractors and corporations responsible for preventable injury to employees should suffice. But that this does not do so, at present at least, is decisively shown by the frequency with which the disease occurs.

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[1] An editorial on other diseases mentioned in this report appeared in The Journal, March 25.

[2] Jour. of Hyg., 1908, viii, 342.

[3] Tr. Am. Soc. Civil Engineers, 1909, lxv, 1.

SEX INSTRUCTION IN THE SCHOOLS

At the recent annual conference of the American School Hygiene Association a paper was read by Dr. Charles W. Eliot, ex-president of Harvard University, on school instruction in hygiene.[1] Dr. Eliot devotes considerable space to the problem of education in sexual matters, coming to the conclusion that under present conditions it is desirable that such instruction should be given in the schools. The objection that the subject is an unclean one and unsuitable for such public discussion he answers by pointing to the disastrous results that have obtained in the past from allowing this objection to govern our policy. Another objection is that the subject is such a sacred one that it can properly be discussed with children by their parents only. To this Dr. Eliot replies that, while the instruction of children in this subject by parents is most desirable when possible, a great majority of parents possess neither the necessary knowledge nor the power of expression to instruct their children properly on this subject.

The general outline for such a scheme of teaching consists of a prolonged course of natural history, beginning early with botany and progressing to an elementary consideration of zoology, using every possible means of illustration, both indoors and out. Children should be thoroughly acquainted through such means with the principles of the various modes of transmitting life "before any sex emotions begin to stir in them." Later the course should include physiology and should teach something of the causes of disease, by no means omitting, though not unduly emphasizing, the venereal affections. One of the dangers to be avoided in such instruction, as we have remarked before,[2] is the placing of disproportionate stress on the negative side of the subject.

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[1] Survey, Feb 11, 1911, p. 803.

The plan outlined is not a new one, but the fact that it emanates from so distinguished an authority in educational matters entitles it to fresh consideration. No one competent to judge the question will attempt to refute Dr. Eliot's two fundamental propositions: the evils which result from the "world-old conspiracy of silence," and the unfitness—at least, the unreadiness— of a large proportion of parents to instruct their children in sex hygiene. To admit these two facts, however, will scarcely be, for many perplexed educators, to see the way clear to the introduction of the subject in the public schools. From the published abstract of Dr. Eliot's paper, we are unable to judge of the consideration which he gave to the not inconsiderable amount of pioneer work which must first be done. It may be that the practical difficulties which loom large to those working at the bottom of the educational structure dwindle in perspective when viewed from the top.

Parents who are unfit to give instruction to their children cannot therefore be regarded as negligible factors in the educational scheme. It would be rash to attempt to instruct children in the fundamental facts of life without first soberly and tactfully educating their parents, carefully avoiding undue shock to prejudice and unnecessary affront to custom. No one engaged in this task can afford to forget that at present the unvarying decent concealment or avoidance of certain subjects almost usurps the place of morality in the esteem of many people, both the overdainty and ultrarefined on the one hand and the densely ignorant on the other. It will not do for the school to disturb in the minds of children ideals still respected in their homes. The conflict of authority that is sure to result will be detrimental to the influence of both school and home; but the school will suffer most, and deservedly.

Here the cooperation of the family physician will be of the greatest value. The physician may not often have the opportunity of instructing children and young people; indeed, many physicians have no special aptitude for the task. The opportunity of enlightening the older members of a family, however, must often come to every general practitioner, and he has only to use it judiciously to accomplish much good, since on these matters advice which would not be tolerated from a layman will generally be received with respect from a physician.

The need for more widely diffused knowledge of this nature is so great that the experiment of introducing the subject in the public schools seems to be urgently demanded, though there is no need to forget that it is an experiment. It would be foolish to regard the difficulties in the way as insuperable; it would be equally unwise to minimize them. While so much of method remains to be worked out, it would not be prudent to demand work along this line from any educators except those best qualified by wisdom, experience and the confidence of the communities in which they labor. We hope that some of these may before long produce results that will justify others in following their lead.

THE LOCKED DOOR

Once more the drowsy conscience of the country has been shocked broad awake—for a moment—by horror. One hundred and forty-one human beings, most of them women and young girls, have met a frightful death through the indifference or greed—or both—which controlled their fates. What gives added poignancy to the ghastly tale is the fact that we knew it all before. The "fireproof building," packed with tinder and human fuel—the inadequate fire-escapes—the locked doors, piled high with dead—every detail of the tragedy has been rehearsed over and over again; the stage is set even now in hundreds of places for its repetition. It is said that the Asch building, where this fire broke out, is only one out of many in Greater New York where such a catastrophe might have occurred; that New York is not unique in this respect, scores of cities in this country can bear shamed and sorrowing witness.

It is not worth while to anticipate the dreary and well-nigh futile task of the authorities in "fixing the blame." We cannot, however, evade the task of pointing out at least one of the lessons which by now ought to be writ large in the memory of every conscientious citizen—the lesson of the locked door. It will be remembered, by the way, that the Triangle Shirtwaist Company (the establishment affected by the recent fire) was the concern in which the New York shirtwaist-makers' strike began, something over a year ago. This holocaust writes a grim commentary on the demands of the workers for better living conditions; the locked door fitly symbolizes the attitude of employers of this class.

To the public's demands to know whether the health and welfare of employees are endangered by lack of light and air, exposure to infection, excessive hours of work, unprotected and dangerous machinery, wages insufficient for a proper standard of living, such employers have but one answer, however they may phrase it: "This is a private business." It is the slam of a door and the turn of a key; it means that, in the estimation of the proprietors, a man's business is his castle. Laws regulating the hygienic conditions of industry are, from this point of view, an unjustifiable interference with private enterprise.

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[2] Sex and the Instruction of the Young, The Journal A. M. A., March 11, 1911, p. 746.

Our modern industrial organization permits a "captain of industry" to hold the lives of hundreds and thousands in the hollow of a callous and unsteady hand. Even barring out such spectacular calamities as the recent fire in the Triangle Shirtwaist Company's premises, the moral and physical well-being—the very existence—of those who earn their bread by their day's labor is more affected by the rules and conditions established by their employers than it is by the whole machinery of civil government outside. Can we permit such an *imperium in imperio*, ruled for private profit, to be carried on behind locked doors, figurative or literal?

In the present instance, doubtless, some little good will be accomplished if the guilty individuals receive punishment a tithe as prompt and exemplary as that meted out to the irresponsible wastrel who stabs his fellow in a drunken brawl; but this is scarcely to be expected. What is most to be desired is that we shall all realize our share in the joint responsibility for such disasters and the conditions that lead up to them. He who looks on unprotesting is guilty in that degree.

THE FETISH OF PRECEDENT

Inasmuch as the question of employers' liability for injury to workmen is in certain of its aspects a problem of preventive medicine, it is of interest to note the recent decision of a New York court declaring unconstitutional a law of that state providing for the compensation of workmen injured in the line of their duty.

The main feature of the act was that it required employers of labor in certain dangerous occupations, such as bridge-building, operation of elevators, work on scaffolds, work on electric wires, working with explosives, on railroads, tunnels, and work carried on under compressed air, to compensate their employees for any injury occurring during the course of the work, whether or not such injury occurred through the negligence of the workmen. The considerations which justify disregard of the employee's negligence are, first, the difficulty—the practical impossibility—of holding the employer to any responsibility if the employee must first be cleared of all blame, and, second, the fact that, in the main, the negligence of the employee is within the control of the employer. To the working man dependent on his daily labor, the more or less remote chance of losing his life does not for a moment balance the immediate certainty of losing his job. The most cruel injustice of the doctrine of contributory negligence lies in the opportunity it gives to the employer, while tacitly requiring the worker to take a risk, to evade all responsibility for its consequences because it is impossible to prove that the employee did not take this risk on his own initiative. As soon as it is made unprofitable to employ working men who are negligent of their own safety, such negligence will cease to be an appreciable factor in industrial accidents.

The New York law was modeled on the British workmen's compensation act of 1897, which has since been extended to cover every kind of occupational injury. This law has been upheld by the courts of Great Britain and has been found to work to the satisfaction of both employers and employees, in that country.

The New York court admits the strength of the economic and sociologic arguments adduced in support of the statute, but holds that "under our form of government courts must regard all economic, philosophic and moral theories, however attractive and desirable they may be, as subordinate to the primary question whether they can be molded into statutes without infringing on the letter or spirit of our written constitutions." The court points out that the law abrogates the "fellow servant" doctrine, and also the rule in regard to "contributory negligence," two venerated precedents that were eagerly seized on by the courts of this country almost as soon as they were enunciated, and have been worshipped and invoked ever since. It is admitted, indeed, that the legislature has the right to abolish both of them. The New York court, however, sweeps aside British precedent, sound common sense, the admitted power and expressed will of the legislature, and falls back on that other hallowed fetish frequently invoked by corporations and trusts when their special privileges and profits are threatened, the deprivation of property without due process of law, etc. No matter, therefore, under what stress of necessity a man engages in a hazardous employment, wherein often even the most elementary provisions for safety are disregarded by the employer—no matter how much it may cost the general public to care for an injured employee and his dependents—the court decides that the sacred right of property must not be invaded. As for the public, if it ever had any rights, these, evidently, have long since vanished, swallowed up in the tortuous mazes of legal precedent.

On the very heels of this decision comes an instance in the same state of the need and justice of such a law. The terrible fire in a factory in New York City wherein over a hundred lives were lost, and many persons injured, illustrates how the public pays for the indifference of employers to the safety of their people. In defiance of state laws and city ordinances the proprietors of this factory and the owner of the building had neglected to provide adequate exits or means of escape from their building, although it is asserted that the stock and machinery were heavily insured against fire loss. This fire has already cost the city of New York thousands of dollars for the care of the dead and injured, and the ultimate expense to the public, taking into account not only the killed and maimed, but those dependent on them, no reckoning can compute.

It is only too plain that, until it is made unprofitable for employers to despoil their laborers of life and strength and to throw the human refuse on the scrap-heap, to be disposed of at public expense, the inhuman and senseless waste will go on. The blood of the worker is part of the cost of production; but private industry will not pay that cost if it can be shifted to the general public.

To those who look ahead, the decision of the New York court is matter for regret because, but not solely because, it perpetuates an ancient wrong. It shows a failure of the courts to understand the age in which they are living. "What we know as men," said the Illinois Supreme Court not long ago, "we cannot profess to be ignorant of as judges." We commend this fine saying to the consideration of courts elsewhere. Too often the courts have seemed entirely to ignore, either as men or as judges, facts which are patent to the man on the street; too often they have seemed to seek precedents to justify setting at naught the will of the people, expressed through the legislatures. It is not radicals, but conservatives, who have most reason to regret this, for it presages a day of reckoning in which precedents shall go for very little.

Current Comment

HYGIENE IN THE ARMY ON THE BORDER

We recently commented on the mobilization of a considerable military force in Texas for maneuver purposes, and suggested that this would give an opportunity to the Medical Department of the Army to show what progress had been made since 1898 in army sanitation and hygiene. Though the facts were not then at hand, it was suggested that undoubtedly vast improvement had been made in this respect. A correspondent in a New York daily paper has raised the same question and inquired what was being done in sanitary matters to prevent a repetition of the experiences of the army in 1898. Under the authority of the War Department, a reply was made to this inquiry, setting forth what had been done in preparing for the maneuvers in Texas. It was stated that at the time of issuing the order for the mobilization of the army the Army Medical School was ready to supply, for inoculating the troops in the field, an antityphoid serum which had been previously tested by 20,000 inoculations in the regular army, and had proved its efficiency. The inoculations are now being applied to the entire force in the field. It is asserted by the War Department that this is a feat of preventive medicine which for magnitude and promptness of execution is unique in military history. Among other measures, a carefully tested system of the disposal of wastes has been put into operation, which will prevent camp epidemics and defeat the dangerous activities of the common fly. Sanitary squads of hospital corps men, under competent medical supervision, have been provided to secure cleanliness of the camps. Trained sanitary inspectors and field laboratories are now provided and the sanitary personnel, while somewhat short in numbers, is expected to be filled up in case of necessity from the Medical Reserve Corps and by the enlistment of Hospital Corps volunteers. The plans for temporary hospitals are drawn and specifications are printed and ready for the builder. The reorganized Red Cross, with its enrolled trained nurses, also stands behind the reorganized medical service. As illustrating the preparedness of the department for service, it is said that the hospital equipment and medical supplies for the volunteered force left the field depots in Washington and St. Louis while the troops were being entrained and arrived in San Antonio at practically the same time as the troops. It is satisfactory to realize that ten times the force could have been supplied and equipped with equal promptness. Although the Army has been in the past, and even now is, more or less handicapped by the reluctance of Congress to provide for a sufficient medical personnel and equipment, yet present conditions indicate that the Medical Department has evolved an efficient organization and is prepared to cope with actual war conditions, according to modern ideas, in a highly efficient manner. The experience in Texas will no doubt prove that our medical forces and organization are equal to those of any other nation.

MAIL-ORDER MEDICAL SPECIALISTS

In one of his articles on quackery, Mr. Samuel Hopkins Adams likened the mail-order medical faker to a man who would offer to mend chimneys by mail. The comparison is a homely one, but apt. Diagnosing and prescribing by mail, as carried on by the typical medical mail-order house, is a fraud *per se*. As a corollary of this axiom, it follows that any person who offers, for monetary or other consideration, to prescribe or treat on the mail-order plan is a swindler and a cheat. Yet, there are in this country hundreds, possibly thousands, of concerns that are doing a flourishing business in this line of work. A few of these THE JOURNAL has exposed, and a few more it expects to expose. But, in the very nature of the case, those which we are able to investigate are but a drop in the bucket of quackery. In the "Propaganda for Reform" department of this issue there is an article dealing with a mail-order medical fake calling itself the Dr. Bertha C. Day Company. Physicians will find very little in this article with which they are not already familiar, but they will find a great deal with which their patients are unfamiliar. Few physicians realize the degree of ignorance that exists among the public generally, regarding mail-order medical quacks. Because the fraud that characterizes these concerns is so perfectly evident to the physician, he is unable to comprehend how it is possible for presumably intelligent laymen to be misled by the specious promises of the mail-order quack. The fortunes that have been, and are being, made by the unscrupulous individuals who conduct such concerns is in itself sufficient to prove that the public is still easily fooled. The purpose of articles, such as that which appears in this issue, is to enable physicians to place in the hands of their patients such information as will convince the most gullible of the fraud that is inherent to quackery. The Bertha C. Day article, together with a number of similar articles, will be reprinted in pamphlet form and sold at a merely nominal price. We know of few things on which the public needs enlightenment more than the subjects of quackery and the nostrum evil; we know of no better way of bringing about this enlightenment than by the wide dissemination of articles such as these. It is to be hoped that physicians will realize their responsibilities and opportunities in this matter.

THE RISKS THAT PHYSICIANS RUN

During the past week three deaths have been reported of resident physicians in hospitals, from diseases contracted from patients whom they were attending. Two of these deaths were from cerebrospinal meningitis brought to New York City by passengers from Greece; the third—in Chicago—was from scarlet fever. The records of the dead in the medical profession are full of similar instances, not only in cases of young interns, but of busy family practitioners, who have faced death fearlessly in their professional work and have gone to death as fearlessly. In exceptional instances, as in those just mentioned, the work which brought such men to their death has been done in the public eye, and they have consequently received the martyr's meed of lament and eulogy. Seldom or never has the spectacular element been a motive for the deed. Although it is impossible for the world to pay fitting individual tribute to all such heroes, we may regard the honors paid to a few as given to representatives of a heroic class. All have done their duty and deserve the same honors that are paid to soldiers who die in line of duty.

A SAD SEQUEL TO CONSCIENTIOUS WORK

In contrast to the situation referred to above, the physician may find that his duty brings him into direct conflict with the wishes of the public. He may be called on to exert considerable strength of character in order not to fail in any respect in his duty. Especially is this so when not only his own pleasure and comfort are concerned, but the happiness and even the lives of his family. Such a case was recently described[1] in these columns. The report of a case of typhoid by Dr. Franz, an Austrian district physician, caused a change of plans by the authorities so that military maneuvers were not held, and thus the villagers were deprived of pleasure and profit. A boycott and persecution followed. The physician could not obtain a nurse for his wife during her confinement. No one in the village would sell him food; he had to get meat and vegetables by mail.[2] His windows were broken about once a week. The ordeal was so severe and the resultant anxieties so wearing as ultimately to bring on the physician's death. The government has taken the matter in hand most actively and will severely punish the guilty persons and enforce the payment of money damages to the family of the dead physician. As detailed by our Vienna correspondent, the case is an extreme one, but it merely illustrates the position in which a physician may be placed when the demands of public health run counter to the temporary desires of the community. The process of educating the public all over our own country on the subject of public health—what it means and what it requires—is gradually going on. It requires time; it requires patience; it requires far-sight, but no one can deny that advance is being made. The period on which we have entered has been called the "Public Health Era" and physicians of to-day are most fortunate in the opportunities they have in not only witnessing it, but in being active factors.

PRELIMINARY EDUCATION SHOULD ACTUALLY BE PRELIMINARY

At the recent meeting of the Association of American Medical Colleges an important step in advance was taken in regard to its requirement of preliminary education. An amendment to the constitution was adopted providing that after Jan. 1, 1912, all colleges holding membership in the association shall require of every student admitted at least a completed four-year high-school course or its equivalent, no "conditions" to be permitted. Heretofore, students might be admitted conditioned in as many as six points or three units of high-school work. Since the entire four-year high-school course consists of only thirty points, or fifteen units, therefore, the constitution permitted the colleges to accept students conditioned in 80 per cent. of a year's work in entrance subjects, which, according to another clause of the constitution, were to be removed before the student began work "in the second year of his medical course." Not only was a student thus conditioned allowed to begin the difficult study of medicine without the necessary preliminary education, but he was given the Herculean task of completing nearly two years of work in one. The instance is exceedingly rare in which a student can honestly and satisfactorily make up three units of entrance conditions and at the same time obtain satisfactory grades in the first-year studies of the modern medical course, and the better colleges, recognizing that fact, have refused to admit students so heavily conditioned. In only too many of the institutions, however, such conditions are never removed or else easy make-shift methods are provided, the whole arrangement being used by many colleges as a pretense of living up to a fixed standard. By such institutions, any fixed requirement will be stretched to the farthest limit permitted by the association. Any entrance condition, the removal of which is actually required by the college, is an added handicap to the student whose burdens in the modern medical course are already becoming too heavy. This is the chief reason why a better preliminary education is necessary. To be of any practical value, however, such education must be completed before the student is admitted to the medical college. In other words, preliminary education should *be* preliminary. The amendment adopted by the association is therefore an important step in advance.

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[1] The Journal A. M. A., Feb. 4, 1911, p. 362.

[2] Note the convenience of the parcels post. There is one bright side to this picture. The doctor could get meat and vegetables by mail! In the United States—thanks to the express companies and their control of our legislative bodies—the parcels post is too limited in its possibilities; but that is another story.

PROPORTION OF PHYSICIANS TO POPULATION IN THE UNITED STATES

At a series of conferences on medical education and medical legislation, recently held in Chicago, someone made the statement that the number of physicians legally licensed to practice medicine in the United States was 120,000, making approximately one physician for every 800 people. This statement has been the basis of various newspaper comments all over the country, and so the error will be passed on till someone guesses some other number and makes the guess public. The number of physicians in the United States is variously given by various individuals—sometimes it is as low as 100,000, at others as high as 160,000. There are, at present, between 139,000 and 140,000 individuals, practically 140,000, who are licensed practicing physicians in the United States, or approximately one physician for every 650 people. But it should be remembered by those who make comments on this subject that the above figures do not include the "vitapaths," "naturopaths," "osteopaths," "panpaths," "chiropractics," "mechanotherapists," Eddyites, "magnetic healers," etc., who, whether they be said to "practice medicine" or not, are making diagnoses and are professing to treat human ailments. The number of these in practice we would not dare to estimate. Especially must the followers of these cults be considered when we are comparing the proportion of physicians to population in this country with that of some other countries where these cults do not exist.

PROGRESSIVE PREVENTION OF EPIDEMICS

The efficient handling of the cases of meningitis coming to New York from Greece within the past two or three weeks speaks well for the quarantine service at that port. All cases seem to have been promptly recognized and isolated, preventing the spread of the disease. The intensive study of this disease, which culminated in the Flexner serum, has given such an accurate knowledge of this infection that, except in communities poorly equipped with health and quarantine organizations, where the disease may gain a substantial foothold, danger of serious or prolonged epidemics is very nearly *nil*. Almost or quite as good results are assured in handling the still more deadly infections, cholera and plague; and poliomyelitis will no doubt soon be equally controllable through advance in scientific knowledge. It is a source of extreme gratification that meningitis and the other devastating infections have so far yielded to the direct attacks of science.

Medical News

CALIFORNIA

Personal.—Dr. Daniel B. Northrup, health officer of San Diego County, is reported to be ill with septicemia.——Dr. Edward R. Wagner, San Jose, has returned after six months in Europe.

Segregation Experiment.—The hospital which is to be operated in connection with the proposed plan for the segregation of prostitutes in San Francisco, opened March 21, at 684 Commercial Street, under the supervision of Dr. William F. McNutt, health officer of the city.

San Joaquin Physicians Meet.—The thirty-first semiannual meeting of the San Joaquin Valley Medical Society was held in Fresno, March 14. The following officers were elected: president, Dr. Walter E. Lilley, Merced; vice-presidents, Drs. George H. Aiken, Fresno, and Charles O. Mitchell, Laton.

Pasadena Entertainment Fund.—At a meeting of the executive committee of the Los Angeles Convention League it was announced that the physicians of Pasadena had raised a fund of $3,000 for the entertainment of delegates to the American Medical Association meeting, and that Adolphus Busch would give a barbecue on the grounds of his Pasadena home to the visitors at a cost of $10,000.

IDAHO

Personal.—Dr. Francis H. Poole, Pocatello, has been appointed superintendent of the Idaho State Insane Asylum, Blackfoot, vice Dr. Clayton A. Hoover, who will locate for practice in Pocatello.——Dr. Frank L. Barrows, Moscow, has started for Europe, via Philadelphia, where he will spend three months.——The Idaho supreme court is said to have decided that the State Board of Medical Examiners must issue a license to practice medicine to Dr. Emanuel Vadney, who has practiced for thirteen years in Morrow.

ILLINOIS

Personal.—Dr. Frank H. Jenks, assistant superintendent of the Elgin State Hospital since 1897, has resigned. Dr. Jenks has purchased the Ransom Sanitarium at Rockford and will assume charge May 1.——Dr. Lester C. Diddy, Oswego, who has been seriously ill at St. Charles Hospital, is improving.——Dr. Clarence T. Roome has been appointed medical inspector of schools of Evanston.——Dr. Benjamin Gleeson and family, Danville, sailed for Europe, March 31.

Legislative Progress.—The osteopathic bill, House Bill No. 380, has been killed in judiciary committee of the house; the optometry bill, Senate Bill No. 140, is still in senate committee on sanitary-district affairs; and optometry bill, House Bill No. 121, is still in house committee on judiciary. These two bills, which are practically identical, should be defeated, as their enactment would be detrimental to the interest of the lives and health of the people of Illinois. For this reason they are opposed by the State Board of Health.

State Board Convictions in Chicago.—The following convictions for violation of the Medical Practice Act have been reported by the State Board of Health: V. Potenza, an old offender, fined $200 and costs.——Mrs. A. Kohler, a fortune teller who gave medicine, $100 and costs.——W. E. Krause, a "chiropractor" who claims to be a physical culturist, $100.——Mrs. Herbert Gray, who exploits the "Novita Remedies," $100 and costs.——Rosina Bisesi, a midwife, $100 and costs, and C. J. Ostberg, a "chiropractor," convicted. McCormick, of the so-called McCormick Medical College, and a "Dr. Worth" testified. McCormick was asked whether his school was recognized by the State Board of Health. He said that it was not, nor did he ever want any recognition. Worth represented himself as an osteopathic physician who said he did not have a license from the State Board of Health nor did he care anything for the board. Ostberg appears to have been misled by McCormick.

Chicago

Personal.—Dr. Samuel J. Walker, who was operated on for appendicitis, March 23, is reported to be making satisfactory progress toward recovery.——Dr. H. Wernicke Gentles left Chicago, March 27, for a visit to Scotland.

Woman's Club to Manage Hospital.—The difficulties which have surrounded the management of Mary Thompson Hospital are to be shouldered by a committee of eight members of the Chicago Woman's Club, to be appointed by the president. These women are to act on the board of the hospital and will officially represent the active interest which the club is taking in the institution.

Additional Gift to Medical School.—At a meeting of the trustees of Northwestern University, March 23, it was announced that James H. Patten had added $50,000 to his gift of $200,000 for the establishment of a department of research on infectious diseases, at the medical department of the university. Everything will be ready in the fall for the opening of the laboratory and the start of research work.

To Celebrate Foundation Day.—Northwestern University will celebrate the twenty-fifth anniversary of the founding of the School of Pharmacy, April 12 and 13. In conjunction with the celebration, the faculty, alumni and students of the school have planned special exercises in honor of the dean, Oscar Oldberg, who will have completed twenty-five years of service at that time, and expects to retire from active duty because of ill health.

INDIANA

Medical Students in Accident.—Harry H. McCoy and Claude Niedhamer, students of the Indiana University College of Medicine, were struck by an interurban car near Indianapolis, March 24. McCoy was killed and Niedhamer was seriously injured.

Antituberculosis Society Organized.—The White Plague Warfare Recruits, with headquarters at Frankfort, has been incorporated. The organization has no capital stock, but its object is to fight tuberculosis, and it plans to buy property, build fresh-air camps and conduct warfare against white plague.

Personal.—Dr. George J. Studer, who has been seriously ill at the Lutheran Hospital, Fort Wayne, is reported to be considerably improved.——Dr. Eduard J. McOscar, Fort Wayne, has returned from a five weeks' trip to Central America and Panama.——Dr. and Mrs. George W. Combs, Indianapolis, left for Europe, March 23.

IOWA

Personal.—Dr. David T. Martin, Pomeroy, who was seriously injured in a runaway accident, is a patient in Mercy Hospital, Fort Dodge.——Dr. George P. Hanawalt, Des Moines, who has been seriously ill with asthma, is reported to be convalescent.——Dr. John C. Lewis, Ridgeway, is said to have sold his practice and is about to retire.——Dr. Gershom H. Hill has been elected president of the Associated Charities of Des Moines.

Faculty Changes.—Rudolph Flebbe, Ph.D., a graduate of pharmacy of the University of Leipsic, and later assistant in the government agricultural research station, has been secured as head of the clinical laboratory, of the pathologic department of Drake University Medical College, with the title of instructor in pathology. His time will be devoted almost entirely to individual research and the supervision of research work of special workers in his laboratory.——Dr. Hubertus J. M. Hoeve, for several years instructor in anatomy in the Medical Department of Drake University, will, it is said, sever his connection with that institution at the end of the winter semester.

MARYLAND

Portrait Presented.—The friends of Dr. Charles M. Ellis, Elkton, have had painted a portrait of him, which will be presented to the Medical and Chirurgical Faculty of Maryland, of which he was once president.

New Hospital.—The trustees of Havre-de-Grace Hospital take possession of the Baker property, April 1. Articles of incorporation have been filed and the first instalment of the purchase price is ready. Work on the building will soon commence.

Baltimore

Must Give Up Private Practice.—It is announced that the members of the medical and surgical staff of Johns Hopkins Hospital will be required to give up private practice and devote themselves exclusively to the work of the hospital.

Personal.—Dr. Ernest H. Gaither sailed for Germany, March 25.——Dr. James M. H. Rowland is suffering from an infection of the right hand.——It is announced that Dr. Alexius W. McGlannan has resigned as chief surgeon of the Maryland National Guard.

Department of School Hygiene.—Baltimore is to have a department of school hygiene in connection with the Department of Health. The plan originated with Dr. John M. T. Finney. Most of the diseases and mental weaknesses found among school children are believed to be due to unsanitary conditions in the schools.

Pasteur Institute Report.—During the last year 123 persons were treated at the Pasteur Institute, 20 in wards, and 103 at their homes. There were 53 persons bitten by animals demonstrated to be rabid by cerebral inoculation of rabbits. Wounds were inflicted by dogs in 113 cases, cats in 7, horses in 2 and by a calf in 1. One death occurred.

MASSACHUSETTS

Awarded Medal for Bravery.—Dr. Francis E. Park, Stoneham, has been awarded a medal for bravery by the Massachusetts Humane Society for the rescue of a laborer in a sewer overcome by fumes from a tannery.

College Building Enlarged.—Tufts College Medical School, Boston, has enlarged and remodeled its college building at an expense of approximately $50,000. A fourth floor has been added to the entire building and several important changes have been made on the other floors.

Personal.—Dr. William M. Gay has been appointed port physician of Boston.——Dr. Francis X. Crawford succeeds Dr. Gay as assistant port physician.——Dr. Bertha F. C. Frommell, Fairhaven, has been elected a member of the board of health of New Bedford.——Dr. Charles A. Reese has been elected a member of the board of health of Wellesley Hills.——Dr. Paul Carson, formerly port physician of Boston, has been transferred to the division of school hygiene.——Dr. Simeon B. Wolbach, assistant professor of bacteriology in Harvard Medical School, has started for West Africa, to study sleeping-sickness.——Dr. Samuel H. Durgin has been reappointed chairman of the Boston Board of Health.——Dr. Richard Collins has been appointed a member of the Waltham Board of Health.——Dr. Frederick F. Andrews has been reelected a member of the Revere Board of Health.

MINNESOTA

State Health Department Bulletin.—The health department announces that it will issue in a few days, the first number of a monthly bulletin in pamphlet form, which will contain all statistics pertaining to the department.

A New Antituberculosis Association.—An antituberculosis association has been organized in Crookston, with Dr. Thomas Spence as a member of the board of directors, and Dr. Halvor Holte as chairman of the finance committee.

Physicians' Building.—Plans have been made for the erection on the Stewart Homestead, Hennepin Avenue and Fourth Street, Minneapolis, of a ten-story reenforced concrete building for physicians and dentists, to cost about $700,000.

Unlicensed Doctor Fined.—Henry Wuerzinger, Minneapolis, is said to have been found guilty, March 2, of practicing medicine without a license and fined $50. This action is said to be the result of internal strife in the Minnesota Association of Naturopaths, which made the complaint, and of which the defendant formerly was president.

Personal.—Dr. Paul B. Cook has been appointed first assistant to the commissioner of health of St. Paul, vice Dr. John M. Armstrong.——Dr. Gustav A. Rentz, formerly health commissioner of St. Paul, leaves this month for Europe.——Dr. Gustaf A. Magnusson, Aitkin, has been appointed instructor in bacteriology and pathology at the State University.

Physicians' Wives Meet.—The Woman's Auxiliary of Hennepin County Medical Association held its annual meeting in Minneapolis, March 13, and elected the following officers: president, Mrs. William J. Byrnes; vice-presidents, Mrs. Charles A. Donaldson and Mrs. Thomas F. Quinby; recording secretary, Mrs. J. Frank Corbett; corresponding secretary, Mrs. Ernest Z. Wanous, and treasurer, Mrs. Charles H. Hunter, all of Minneapolis.

Election.—At the annual meeting of Washington County Medical Society, held in Stillwater, March 14, the following officers were elected: president, Dr. Edgar O'B. Freligh, Stillwater; vice-presidents, Drs. James Haines, Stillwater, and Frederick A. Stevens, Lake Elmo; secretary-treasurer, Dr. Wade R. Humphrey, Stillwater; censor, Dr. Burton J. Merrill, Stillwater, and delegate to the state association, Dr. Ernest E. Wells, Stillwater.

NEW YORK

Eyeglasses for Pupils.—Assemblyman Levy has introduced a measure which would require the Board of Education of New York City to furnish eyeglasses or spectacles to pupils in the public schools. This it is estimated would require the Board of Estimate and Apportionment to appropriate $15,000 annually for this purpose.

The Insane.—There are now in this state 32,657 insane persons in hospitals, or about 1 to every 200 of the adult population. In 1890 the number of insane in hospitals and almshouses in this state was 16,006; this shows an increase of 104 per cent. The cost of caring for insane persons in the state hospitals last year was $5,659,942.76. The average cost for additional buildings for the insane would be about $1,000,000 if all were properly housed. During the past ten years the state has spent for the care of the insane $54,018,361. About one-sixth of the total expenditure of the state is for the insane. It equals an annual tax of 70 cents on every man, woman and child in the state.

New York City

Increased Capacity at Beth Israel Hospital.—By the opening of a new ward, at a cost of over $10,000, the capacity of this institution has been increased to 140.

Personal.—The board of trustees of Bellevue and Allied Hospitals has appointed Dr. George O'Hanlon general medical superintendent, vice Dr. Winford H. Smith.

Hospital May Sell Buildings.—The directors of St. Andrew's Convalescent Hospital have received permission to sell the buildings of that institution for $27,000. It is the intention of the officials to move to new buildings on East Seventeenth Street.

Give Fund for Training School.—Mr. and Mrs. William Church Osborn, New York City, have presented a building costing $250,000 to be used as a club home and registry for nurses, the building to be known as Osborn Hall in memory of the late Mrs. William H. Osborn, to the Bellevue Training School for Nurses.

New Dispensary in Brooklyn.—The New Utrecht Aid Society has been formed with the object of opening a dispensary for the poor in the Parkville, Kensington, Windsor Terrace, and Borough Park sections of Brooklyn. The dispensary will be non-sectarian. The staff includes Drs. H. M. Calvin, John J. Masterson, M. B. Gordon, O. C. Stackhouse, J. J. Rosenthal, Edmund G. Silverman and Morgan T. McSheehy.

Health Bulletins.—The latest bulletins of the Department of Health of New York City urge parents to have children promptly vaccinated; advise parents who intend obtaining employment certificates for their children to secure the requisite evidence of age in the shape of birth certificate as early as possible; and decry the danger of the spread of cerebrospinal meningitis in the city, and call attention to the methods pursued by the board of health in guarding against a possible invasion of this disease.

Reduction of Infant Mortality.—The Committee on the Reduction of Infant Mortality of the New York Milk Commission is endeavoring to raise $200,000 to establish sixty milk depots; nearly $40,000 has already been raised. These depots will be conducted along the lines of those of the department of health. The committee states that there are born annually 65,000 babies in Manhattan; of these 12,000 need the aid of milk depots, 4,000 already receive it, and the remaining 8,000 the committee proposes to save. There are probably 16,000 poor babies in Manhattan under 1 year old who succumb to disease every year; probably half of this number could be saved with proper care and nourishment, such as could be given with the aid of milk depots.

The Need of Medical Missionaries.—On March 11, a mass meeting of medical students, hospital interns, and other practitioners was held at the Academy of Medicine to lay before the medical profession the demand for modern practitioners in unchristianized and uncivilized countries. Dr. William M. Polk, president of the academy, was in the chair, and in his introductory remarks, spoke on "The Medical Pioneer." He then introduced Sir Wilfred T. Grenfell of Labrador, who made an earnest appeal for men to devote their lives to the practice of medicine in foreign lands. He then showed by lantern slides the development of his own work in Labrador and Newfoundland. There were about 400 medical students and physicians at the meeting, which was promoted and held under the auspices of the Student's Club, the Intercollegiate Branch of the Young Men's Christian Association of New York City. There are already fifteen students in the medical schools in New York City who plan to go as medical missionaries to foreign lands.

PENNSYLVANIA

Clinical Society Election.—The annual meeting of North Penn Clinical Society was held in Sellarsville, March 15. Dr. James I. Cawley, Springtown, was elected president; Dr. J. Warren Bauman, Lansdale, vice-president; Dr. Walter H. Brown, Richlandtown, secretary, and Dr. John J. Ott, Pleasant Valley, treasurer.

Woman's Medical College.—A modern well-equipped clinical amphitheater has been erected recently for the Woman's Medical College of Pennsylvania at a cost of about $22,500, and is now in use. The building includes a complete sterilizing plant, anesthetizing and recovery rooms, dressing rooms for surgeons and assistants, and waiting rooms for patients.——Beginning with the session of 1911 and 1912, entrance conditions at the college will be reduced from six to four points. Inorganic chemistry will not be accepted as an entrance condition but will be required in every case. This subdivision of chemistry will no longer be part of the work of the first year.

Personal.—Dr. Samuel G. Dixon, Commissioner of the State Department of Health, has appointed Dr. T. Ben Johnson, of Towanda, to succeed the late Dr. Skiles M. Woodburn as county medical inspector of Bradford County and chief of the state department of health tuberculosis dispensary in Towanda.——Dr. John A. Bouse, special state medical inspector, is dangerously ill at his home in Harrisburg, with valvular heart disease. Dr. Bouse had charge of the state health's department tuberculosis exhibition and superintended its presentation in the various cities throughout the state.——Dr. Colley Johnson Miller, Brownville, is seriously ill in St. Francis' Hospital, Pittsburg, as the result of an attempt at suicide, made March 20, while he was mentally irresponsible.——Dr. John B. Carrell, Hatsboro, sailed for Europe, March 23.——Dr. Cyrus L. Stevens, Athens, has been elected secretary of the Bradford County Medical Society, vice Dr. Skiles M. Woodburn, Towanda, deceased.

Philadelphia

President Guest of Medical Club.—President Taft has accepted the invitation of the Medical Club of Philadelphia to be its guest on the evening of April 21.

Gifts to Hospitals.—The will of the late Ellis H. Yarnall contains a contingent bequest of $200,000 to the Episcopal Hospital.——Under the will of Catherine Boyle, St. Mary's Hospital receives $5,076.67.

Personal.—Dr. E. Avery Newton, formerly of Philadelphia but now of Bad Nauheim, Germany, is taking a trip round the world.——Dr. W. E. Keplar has been appointed assistant medical inspector of the bureau of health.

Hospital Staff Election.—The Samaritan Hospital Staff has chosen the following officers: president, Dr. Jesse O. Arnold; secretary, Dr. Charles S. Barnes, and Chairman of the executive committee, Dr. Daniel J. Donnelly.

Weir Mitchell Lecture.—The second of the Weir Mitchell lectures of the College of Physicians, was delivered March 30, by Dr. Edmund B. Wilson, professor of zoology in Columbia University, on the "Cellular Basis of Heredity."

University Publication Discontinued.—The *Medical Bulletin of the University of Pennsylvania* ceased publication March 20 after an existence of twenty-three years. The bulletin was a monthly magazine which circulated largely among the medical alumni of the university, especially those living in Philadelphia.

Case of Beriberi.—A Norwegian vessel, which arrived at Marcus Hook Quarantine Station, March 23, was found to have a case of beriberi aboard. The sailor had been suffering for several weeks and no special effort at isolation had been made. He was sent to Marcus Hook Hospital and the other members of the crew were given a thorough examination.

German Hospital Addition.—On March 18, the cornerstone of the new $100,000 addition to the German Hospital was laid by Herman Hessenbruch, president of the institution. When finished the building will be used as a maternity hospital and nurses' home, will be a five-story granite and brick construction, fire-proof throughout, equipped with elevators and other modern conveniences and will accommodate sixty nurses.

Elections.—At the last meeting of the Philadelphia Neurological Society the following officers were elected to serve for 1911: president, Dr. Alfred R. Allen; vice-presidents, Drs. John H. W. Rhein and Samuel D. Ingham; secretary, Dr. George E. Price; treasurer, Dr. S. DeWitt Ludlum; councilors, Drs. James H. Lloyd, H. H. Donaldson and Francis X. Dercum.——The officers of the Medicolegal Society for 1911 are: president, Dr. Lambert Ott; first vice-president, Clarence Loeb, Esq.; second vice-president, Dr. William D. Robinson; secretary, Dr. William T. Hamilton; treasurer, Dr. George M. D. Peltz; censors, Dr. Francis J. Kelly, James H. Wolfe, Esq., and Dr. Louis D. Bauer.

To Begin Work on Phipps Institute.—As soon as the contract can be made, the University will begin the erection of the Phipps Institute for the study and treatment of tuberculosis, which will be located at the northeast corner of Seventh and Lombard Streets. Plans for the building were filed with the Bureau of Building Inspection by the architect on March 16. The lot which the building will occupy extends from Lombard Street to Seventh Street, directly opposite Starr Garden Park. The building will be a five-story and basement fire-proof and brick structure with a frontage of 147 feet on Seventh Street from Addison to Lombard and a depth of 132 feet on Lombard Street. The main entrance will be on Seventh Street. The Lombard Street front will be built with two wings with a sunken garden between, the whole surrounded by iron railings. In the basement of the building will be a library, lecture hall, lavatories, mechanical rooms, etc. The second floor will have a large laboratory for experimental work and the third, fourth and fifth floors will be mainly devoted to large open-air wards. The accommodations will be such that treatment can be given to several indoor and outdoor patients. The cost of the building will be about $300,000.

Plans for New City Institutions.—On March 18, the mayor approved an ordinance, appropriating to his department $150,000 for the purchase of land that might be needed for public improvements. The mayor proposes using $135,000 to buy the Alexander Brown tract of wooded land, comprising 135 acres, adjoining the Torresdale Filtration Plant, for the purpose of building thereon an institution for the care of the feeble-minded and a home for indigent women. Instead of erecting one great building for the feeble-minded, the plans call for the erection of separate cottages with a central heat, light and power plant. The city already owns 55 acres of ground adjoining the house of correction, at Holmesburg, where it is proposed to build a home for indigent men. The city also owns the Byberry tract of 800 acres of unimproved land. This is to be the site of the Philadelphia Hospital for the Insane. The state will cooperate with the city in its establishment, for which appropriation bills are now pending in the legislature. This divorce of the almshouse and feeble-minded department from the Philadelphia General Hospital will give wider scope and development to that institution. It is proposed to furnish heat, light and power for the Holmesdale and Torresdale institutions from the power plants operated in connection with the house of correction and the Torresdale low-lift pumping station. There is nearly $800,000 already available for the establishment of these homes for the indigent and with the balance of $150,000 for the acquirement of land, municipal improvements can begin at once.

SOUTH CAROLINA

Meeting of State Society.—The annual convention of the South Carolina Medical Association will be held in Charleston, April 19-21.

Personal.—Dr. G. DeFoix Wilson, Spartanburg, charged with violating the health ordinance of the city by failure to report cases of small-pox, was exonerated when the case was tried. ——Dr. Isadore Schayer, Laurens, has been designated to inspect the property and personnel of the national guard of the state.

Penitentiary Health Conditions.—The senate has adopted the report of the medical affairs committee, with the recommendation that the State Board of Health be requested at once to make a thorough investigation, and to make such recommendations for the removal of the cause of complaint, if any such cause be found, as in their judgment will best preserve the health of the convicts confined in the state penitentiary.

County Physicians Elect.—At the annual meeting of the Laurens County Medical Society, held in Laurens, the following officers were elected: president, Dr. Thomas L. W. Bailey, Clinton; secretary-treasurer, Dr. Jesse H. Teague, Laurens; delegates to the state medical association, Drs. W. Dorroh Ferguson and Rolfe E. Hughes, Laurens, and alternates, Drs. Thomas L. W. Bailey, Clinton, and Jesse H. Teague, Laurens. ——Sumter County Medical Society, at its meeting in Sumter, elected Dr. H. Ashley Mood, president; Dr. William E. Mills, vice-president; Dr. Edwin R. Wilson, secretary-treasurer; and Dr. Charles J. Lemmon, delegate to the state medical association, all of Sumter.

SOUTH DAKOTA

New Hospital.—Physicians of Yankton and vicinity met at Sacred Heart Hospital, February 28, to inspect designs for the new hospital to be erected on Mount Marty. The building will have a frontage of 220 feet with wings of 80 feet, will be five stories in height, and estimated to cost about $250,000.

Society Charter Revoked.—On the recommendation of the councilors, the house of delegates of the South Dakota State Medical Association, February 21, revoked the charter of the Hot Springs (Tenth District) Medical Society on account of unprofessional conduct on the part of some of the members. The society had failed to take action, after being requested to do so

WISCONSIN

Home for Feeble-Minded.—A bill introduced in the legislature by Senator Hoyt provides for an appropriation of $150,000 for the purpose of securing a site of not to exceed 1,000 acres, near Milwaukee, for a state home for the feeble-minded.

Unlicensed Practitioner Convicted.—Rev. J. P. A. Nordin, head of Nordin Institute for Dependent and Deformed Children, Milwaukee, is said to have been found guilty of practicing medicine without a license, and fined $50 and costs.

One Institution for Tuberculosis.—At a recent meeting of the Milwaukee County Medical Society, a resolution introduced by Dr. Gilbert E. Seaman, approving the idea of the city to incorporate all institutions dealing in any way with the tuberculosis problem under one general head, was adopted.

Fraternity Election.—The Kappa Chapter of the Alpha Kappa Kappa Fraternity held its annual election in Milwaukee, March 17. Dr. Daniel Hopkinson, Milwaukee, was reelected president; V. Brumbaugh, vice-president; P. Braman, recording secretary; W. Schnell, corresponding secretary, and P. R. Noe, treasurer.

Election.—At the annual meeting of the Outagamie County Medical Society, held in Appleton, March 7, Dr. Victor F. Marshall, Appleton, was elected president; Dr. John J. Laird, Black Creek, vice-president; Dr. Frank P. Dohearty, Appleton, secretary-treasurer, and alternate-delegate to the state society; Dr. Gerald C. Maes, Kimberly, censor; and Dr. Charles D. Boyd, Kaukauna, delegate to the state society.

Directors of Antituberculosis Association Meet.—At a meeting of the directors of the Wisconsin Antituberculosis Association, a new constitution and by-laws was adopted, and a new board of directors was elected, which in turn elected the following officers: president, Dr. Mazyck P. Ravenel, Madison; vice-presidents, Prof. Louis E. Reber, Madison; and Dr. Gustave Windesheim, Kenosha; secretary, Dr. Clarence A. Baer, Milwaukee; treasurer, John H. Kopmeier, Milwaukee; and executive committee, the president, first vice-president, secretary, treasurer, and Dr. John W. Coon, Wales. It was reported that $27,313.94 had been realized from the sale of Red Cross seals during the Christmas vacation.

GENERAL NEWS

The Study of Narcotics.—The American Society for the Study of Alcohol and Other Narcotics will hold its fortieth annual meeting in Baltimore, April 19 and 20. Historic addresses and scientific papers on laboratory and clinical research work on alcohol, inebriety and narcotics will be presented. Dr. Thomas D. Crothers, Hartford, Conn., is secretary.

Service Schools Close.—The commencement exercises of the United States Navy Medical School were held, March 23, in Washington, when a class of thirteen was graduated.——The Army Medical School, Washington, has been closed two months in advance of the usual period in order that the service of the graduates may be utilized in the maneuvers on the Mexican frontier.

Missouri Valley Meeting.—The twenty-third semiannual meeting of the Medical Society of the Missouri Valley was held in St. Joseph, March 16 and 17, under the presidency of Dr. Donald Macrae, Council Bluffs, Ia. On the first evening Dr. Henrich Stern, New York City, delivered the oration in medicine on "Decay of Nations." Dr. Oliver C. Gebhart, St. Joseph, was elected treasurer to succeed Dr. Thomas B. Lacey, Jr., Council Bluffs, resigned. A report of the scientific proceedings will appear in The Journal.

A Disclaimer.—The following members of the faculty of the University of Liverpool desire to disclaim any credit or responsibility attached to statements made or conclusions drawn in a book by Mr. H. C. Ross and Dr. J. W. Cropper, just published by Messrs. John Murray and Sons, entitled "Induced Cell Division and Cancer:" R. J. Gibson, professor of botany; W. A. Herdman, professor of zoology; B. Moore, professor of biochemistry; Dr. S. C. Sherrington, professor of physiology and J. Reynolds Green, lecturer on vegetable chemistry. These gentlemen state that they have had no opportunity of seeing the work either in manuscript or in proof.

Gastro-Enterologic Program.—The preliminary program for the fourteenth annual meeting of the American Gastro-Enterological Association, which is to be held in Philadelphia, April 18-20, contains a number of interesting titles, among which are the following: "The Relation of Symptoms to Pathologic Findings in Cancer and Ulcer of the Stomach," by Dr. Joseph Colb Bloodgood, Baltimore; "Operative Treatment of Impermeable Cardiospasm," by Dr. Willy Meyer, New York City;

he Gastric Weak Line in Wounds of the Abdominal Wall," Dr. Robert T. Morris, New York City; "Study of Anthrometry of Enteroptosis," by Dr. John C. Hemmeter, Baltiore; "The Cammidge Reaction in Tuberculous Cases," by Dr. arles D. Spivak, Denver; and "Duodenal Ulcer," by Drs. wis Brinton, Philadelphia; James T. Pilcher, Brooklyn; hn A. Lichty, Pittsburg, and A. L. Benedict, Buffalo.

Control of Bovine Tuberculosis.—The meeting of the International Commission on the Control of Bovine Tuberculosis s held in Buffalo, February 27, at which it was decided that e first task of the commission should be the preparation material for a small pamphlet on the subject of bovine berculosis for the general public, especially stock owners, d embodying full statements of available information on the bject so far as it concerns stock owners in a practical way, d so far as such information is acceptable to the commison. The committee entrusted with the preparation of the mphlet consists of Dr. Veranus A. Moore, Cornell Univery; Dr. John R. Mohler, Federal Bureau of Animal Industry; J. Ferguson, representing the American packers; Dr. Myron Reynolds, St. Paul, Minn., representing the American veterrians; and Dr. F. Torrance, Manitoba, representing the nadian veterinarians. The next meeting of the commission ll be held in Toronto in August.

CANADA

New Bacteriologic Laboratory.—Plans for the new bactelogic laboratory in the city hall, Toronto, were passed by e board of control, March 22, and an appropriation of $9,000 s made to cover the cost of construction.

Bequests to Hospitals.—By the will of the late Charles rd, Montreal, $10,000 is bequeathed to the Montreal General spital; $5,000 to the Protestant Hospital for the Insane; ,500 to the Western Hospital, and $2,000 to the Alexandria spital.

Personal.—Dr. Helen MacMurchy, Toronto, for the last six ars editor of the *Canadian Nurse*, has resigned from that sition.——Dr. John Gaven, Toronto, has returned from orida.——Dr. George R. McDonagh, Toronto, returns from rbadoes this month.——Dr. Thomas G. Roddick has been cted president of Alexandria Hospital, Montreal.

Hospital Notes.—Western Hospital, Montreal, admitted 1,291 tients in 1910, and treated 1,358. In the outpatient department 12,878 patients were treated.——The Royal Victoria spital, Montreal, admitted 4,309 patients during the year d cared for 4,532 in the outpatient department; 297 deaths curred during 1910.——Alexandria Hospital, Montreal, eated 820 patients during the year with a mortality of 47.

The War Against Tuberculosis.—At the meeting of the innipeg Antituberculosis Society, March 14, the superinndent of the Ninette Sanatorium, reported that Winnipeg s the best record for tuberculosis cases. The secretary ported that addresses had been given on 22 occasions before nics, societies, etc., and before 65 classes in Winnipeg public hools, and that in the same time 2,500 visits had been paid 202 patients suffering from tuberculosis, of whom 48 died.

LONDON LETTER

(*From Our Regular Correspondent*)

LONDON, March 18, 1911.

Plague and Its Spread

Mr. James Cantlie, of the London School of Tropical Medine, who has spent many years in the East where he helped found a medical college for the Chinese, is well known as authority on plague, and during recent years has been arged with the examination of every person in London sused of plague, recently delivered a lecture on "Plague and s Spread" before the Royal Society of Arts. The prevalence plague in the world in epidemic form since 1894 was, he id, a matter of supreme interest to every nation. The queson arose: has the virulence of the malady spent itself and ay we look forward to abatement of the pandemic? The story of previous epidemics did not engender a hopeful swer; indeed the opposite obtained, for all previous outeaks indicated the long continuance of plague in every comunity in which it had gained a hold. There were three ages of plague: (1) *pestis minor*, which was carried only insects from diseased animals, always local, a household tbreak in fact, in which the pseudoplague bacillus is found man; (2) bubonic plague, carried from man to man by sects; (3) pneumonic plague passing from man to man without the intervention of insects. Time was required for one plague type to change into another more virulent, until at last plague no longer required an animal host but became wholly a disease of man. An important point in the epidemiology of plague was that animals, chiefly rodents—the rat in many places, the marmot in north China and the squirrel in the United States—might suffer for years without infecting man, except in a sporadic way. In north China this had been proved to be the case and in any country where rodents were infected this might be expected.

Precautions in London Against Rat Plague

The following regulations "for the prevention of an outbreak of plague among rats at the docks" have been adopted: All ropes and mooring tackle shall be fitted with such effective guards as will prevent access of rats from the vessel to the shore. For breach of this regulation the penalty is one not exceeding $25. 2. All possible means shall be adopted for catching and destroying rats during the stay of any vessel in dock. All empty cases and barrels shall be examined before being landed to ensure that no rats are contained therein. Any rats caught on board the vessel shall be killed and then placed in bucket of strong disinfecting solution and burnt in the ship's furnace. The same penalty is enforced for breach of this regulation. 3. When the discharge of cargo or the landing or embarking of passengers is not proceeding only one gangway shall be permitted between the vessel and the shore. The end near the vessel shall be whitened for a length of 10 feet. The same penalty is enforced for breach of this.

The Small-Pox Epidemic in London

The number of cases of small-pox which have occurred in London in the present outbreak now numbers fifty-eight. The London County Council has resolved that for a period of three months chicken-pox shall be a reportable disease, experience having proved that slight cases of small-pox are sometimes mistaken for chicken-pox.

The New House of the Royal Society of Medicine

In the heart of medical London a handsome building is being erected which will provide ample accommodation for the Royal Society of Medicine for many years, even if the membership of the society continues to increase in the manner expected. The area of ground is nearly 10,000 square feet. The building will consist of basement, ground floor and three upper floors. On the ground floor will be a spacious vestibule and two halls—one capable of holding about 500 and the other 150 persons and patients' rooms for each sex. The whole of the first floor will be occupied by the library, and the offices of the secretary, editor and clerks. The library will be 110 feet long, 28 feet wide and 19 feet high. The periodical room will be an annex. There will be a gallery all round and a mezzanine room with additional tables for readers. On the third floor will be a museum, a room equipped for the examination of specimens and histologic work, a smoking room, and a tea and conversation room. The cost will be $150,000, of which $60,000 has been promised or collected.

PARIS LETTER

(*From Our Regular Correspondent*)

PARIS, March 17, 1911.

Dedication of the Monument to Professor Cornil

March 5, at the Ecole pratique of the Faculté de médecine the monument in honor of Professor Victor Cornil was dedicated. The ceremony was presided over by M. Fallières, the president of the republic, and a great number of professors and political notables were present, Cornil having been a deputy and senator. Among the addresses given was one by Professor Landouzy, who mentioned that Cornil was the real founder of pathologic histology in France.

The monument is the work of Dr. Paul Richer, who is a member of the Académie de médecine and the Académie des beaux-arts. The design is an architectural one, with a laurel-decorated summit surmounted by the bust of Cornil. The center is occupied by a bas-relief representing Cornil's pathologic-anatomic laboratory, with flasks of reagents and microscopes on tables, and a body stretched on a slab ready for the autopsy. An allegorical figure of Truth, seated by one of the angles of the base in a grave and meditative pose, holding a palm-leaf, seems to glorify the fruitful labor of the master who has found in the analysis of diseased organs the true causes of death. The bust is in marble, the architecture in stone, and the bas-relief and the allegorical figure in bronze;

the base bears the inscription *A Victor Cornil, ses élèves, ses amis.* "To Victor Cornil from his pupils and friends;" on the posterior face of the monument is the inscription: *Victor Cornil, 1837-1908; professeur d'anatomie pathologique à la Faculté de médecine de Paris, 1882-1907.*

Salvarsan and Advertising

As was to have been expected, the discussions about Ehrlich's discovery, even (not to say especially) in non-medical circles, have given an opening to all kinds of charlatans to make use of the famous German scientist's name for their advertisements. For some time supposedly scientific articles on salvarsan have been appearing in the lay press. They state that "all syphilities without exception are amenable to 606," that "606 is the veritable vaccine of syphilis," etc. Finally, comes the declaration that to obtain the maximum efficacy it is necessary to send to some "serotherapeutic institute" or "laboratory of biology." It is unnecessary to say that these are institutes and laboratories only in name.

Personal

On March 7 the Académie de médecine elected a member in the section of anatomy and physiology to replace Professor Farabeuf, who died last August. The new member is Dr. Prenant, who was, three years ago, chosen to be professor of histology of the Faculté de médecine de Paris and who was previously professor at the Faculté de médecine de Nancy.

In the session of March 14 the Académie de médecine elected two national correspondents in the section of medical pathology. These were Dr. Lannois, adjunct clinical professor of laryngology, otology and rhinology at the Faculté de médecine de Lyon, and Dr. Maurel, professor of experimental pathology at the Faculté de médecine de Toulouse.

On March 13 the Académie des sciences elected Professor Pawlow of St. Petersburg as correspondent in the section of medicine and surgery.

Professional Responsibility of Surgeons and Physicians

At a meeting of the Association de l'internat des hôpitaux de Paris on March 17 this timely question was treated from the legal point of view by M. Colin, professor at the Faculté de droit de Paris. In general, M. Colin mentioned that two conditions were necessary to make the surgeon responsible: the first was material or moral harm to the patient; the second was fault on the part of the surgeon, which might be either medical or non-medical. The latter would be within the competence of the ordinary judge. But how and by whom should serious medical fault be judged? M. Colin believes that an expert alone can appreciate a medical fault, and that his rôle is not always easy. One runs the risk of stifling all initiative and arresting progress by condemning a new treatment or an audacious procedure. M. Colin mentioned the reply of Velpeau in regard to the first accidents due to chloroform: "It is not the surgeons who have need of chloroform; it is the patients." After reviewing the jurisprudence on this subject, which is not well defined, M. Colin advised physicians and surgeons to form associations for mutual insurance as the only means of defending themselves, for they are now often the prey of blackmailers.

BERLIN LETTER

(*From Our Regular Correspondent*)

Berlin, March 10, 1911.

Death of van 't Hoff

A few days ago in a suburb of Berlin, there died at the age of 59, from a lung disease of some years' standing, the renowned chemist and honorary professor in the Berlin university, J. H. van 't Hoff. [See editorial, March 18, page 818.] He was born in Rotterdam in 1852 and studied in Leyden, Bonn, Paris and Utrecht, devoting himself to the natural sciences; he was appointed privat-docent at the latter university in 1876, and in 1888 became the founder and chief of the laboratory for physical chemistry. In 1896 he accepted a call to Berlin as regular honorary professor. His work was epoch making in the development of physical chemistry. The most important of his scientific works are his new thory of solution in which the identity of the gas pressure and the osmotic pressure was demonstrated and a new method of measuring the molecular weight was discovered, and his investigations of the spatial relations of the atoms, with which he laid the foundations of stereochemistry. Also for medicine his work on osmosis has been most fruitful in advancing our understanding of the processes of metabolism. Van 't Hoff was a member of the academy of sciences, and most of the academies of the world, knight of the order "pour le mérite" and reci ent of one of the Nobel prizes.

Bill Against Quackery

The committee of the Reichstag appointed to consider t bill for restriction of unqualified practice of medicine, c trary to expectation is deciding on considerable concessi which weaken the original draft of the bill. In fact, the c servatives and the representatives of the center are incli to support all kinds of quackery, and especially the form mystical treatment (cure by prayer, by laying on of han rubbing, magnetism and the like), and express views t often unintentionally have a ludicrous effect and show t scientific ideas are not very widespread even among inte gent people. One member belonging to the center group sta that he had lately come to question whether magnetism mi not actually prove a curative agent. As evidence, he brou a long letter from a young lawyer in which the author ave that by means of therapeutic magnetism he had been ena to pass his examination for the bar, and that he had also b cured of a nervous affection, so that he was able to mar Another assured the committee that a person in high posit has recommended as a remedy against epilepsy the pulveri feces of a still virgin billy goat. Hence it is not strange t the original bill is weakened and that magnetism has b separated from the class of forbidden mystic curative me ures. Meanwhile, one may cherish the hope that the essent part of the bill will be accepted, and that some good will secured for the public health so far as it suffers from quack

A University at Frankfort

For many years those interested at Frankfort-on-M have been endeavoring to expand the present medical and ot institutions into a university. On the part of the governm there is no great tendency to increase the number of versities, and it must be admitted that Frankfort does possess favorable conditions for a new foundation. The versity of Marburg and that of Giessen are situated in near vicinity and would surely be injured by the new univ sity. In large cities overcrowding of the lecture halls s manifests itself, so that instruction suffers, and this co tion would very probably soon be the rule at Frankfort. be sure, the consent of the government may be facilitated the circumstance that Frankfort would furnish the means founding and supporting the university institutions. T would not need to be much increased, at any rate in the m ical field, as the most necessary teaching places for this fac are already provided in the municipal hospitals, in the "Ge Speyer house," in the institute for experimental therapy, the Edinger Institute, etc. The proposition submitted by city government has only three university departments view: law, philosophy and medicine.

New Bill on Cremation in Prussia

As I mentioned in a previous letter, the opposition religious circles to the legal permission for cremation Prussia is to be disregarded by the government, and a for its legalization has been very lately introduced into pa ment. According to the bill, cremation will be permitted in establishments licensed by the national police. The mission may be revoked if the arrangements do not corresp to technical requirements, or if a suitable room for the re tion of corpses is not provided, or if there are objections the part of the police. The cremation can take place when the following conditions have been complied with: official death certificate, an official medical certificate of cause of death, proof that the deceased has ordered the mation of his body, and a certificate of the local p authorities at the place of death that there are no object to cremation, and especially that there is no suspicion the death was due to crime. The order is effective only if deceased was 16 years of age, and it cannot be made b repesentative. A necropsy is to be held if one of the atten physicians considers it necessary in order to establish cause of death. Penalties are provided for the transgres of this and other provisions. In the prologue of the bill pointed out that the objections to cremation from the st point of justice, and especially of criminal law, are no lo of great importance in the present state of medical or c ical science, while the interests of religion will not be m rially affected by the sanction of cremation. The bill undoubtedly be strongly opposed by the numerous orth representatives in the Prussian parliament, who are espec among the conservatives and the center, but it is to be h that the measure will finally be passed.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, March 13, 1911.

High Morbidity and Mortality in Vienna

The health report for the first part of the year 1911 con- ins unpleasant news for the inhabitants of this city. The ercentage of diseases and deaths has not been so bad for iore than twenty years. The present epidemic of influenza . responsible for these conditions. The last epidemic was in 889, when the mortality was 16 per cent. Since then we have ad only occasional outbreaks. This winter, however, there ere more than 19,000 persons laid up at the same time—at ast so many have been reported by the physicians. Apart om influenza, other epidemic diseases were also prevalent uring January and February, although they were all of a iild type. The doctors practicing among that part of the pop- lation which is entitled to free medical aid, have reported 35 cases of scarlet fever, 202 of diphtheria, fourteen cases f typhoid fever, 113 of erysipelas, 519 of measles, 160 of per- issis, 335 of varicella, and 227 of parotitis. There were 851 ises of fresh infections of tuberculosis and scrofulosis ported, while 1,214 persons of this class suffered from fresh isease of the alimentary canal. There died in this month of anuary 3,493 persons, against 2,915 in December last, and .790 in January last. The increase of deaths was due to ifluenza, as manifested by the numerous deaths caused by iseases of respiratory organs; 437 more than last year at the orresponding time. The distribution of deaths among the two xes was equal. The report for the first week of March, how- ver, shows that a marked and definite improvement, conse- uent on the improved weather, has taken place already.

Protection of Sick Children in Hungary

The present condition of the sanitary and charitable institu- ons for diseased children is far from satisfactory. The com- irison with other countries shows how backward Hungary is i this respect. There are only ten children's hospitals, with 50 beds, at the disposal of the physicians, for a population of).000,000! There is not a single sanatorium for tuberculous iildren, while there are forty such institutions in Germany. nly 100 cripples in Hungary against 3,000 in Germany are ired for in special houses, where they learn to work and earn irt of their living. Even worse conditions prevail as regards eaf mutes and blind children; although there are more than .000 such individuals in the kingdom, only a few hundred are oked after in a regular way. Equally bad are the provisions or idiotic and mentally defective children. Merely four small omes and now and then a class on nursing of such patients present the entire social care of the state for its defective ffspring.

Foot-and-Mouth Disease in Austria

During this last autumn and winter foot-and-mouth disease as prevalent among the cattle in Austria, and a large per- ntage of the animals had to be killed. Naturally, the qual- y and quantity of the milk-supply for the capital was verely handicapped by these conditions, and the supply of ieat, too, was restricted. The health authorities took in time ie necessary precautions to prevent a spread of the infection human beings. But in spite of all care, sporadic cases ppeared, and even yet a case is reported now and then. As a ile, the patients are affected only in a mild degree, while the nimals suffer severely. The mode of transmission to the per- ons could not be ascertained, but it is safe to assume that iilk and butter are responsible for it. It may be mentioned, y the way, that the first authentic case of this disease this ear was in the wife of a medical man. Adults chiefly were e victims this time, and no fatal case was reported.

Marriages

JAMES H. GOAD, M.D., Ellston, Ia., to Miss Rosa Watts of oss, Ind., March 16.

GLENN WHEELER, M.D., and ANNA MARIE REGAN, M.D., both f Portland, Ore., March 15.

BENJAMIN SPAFFORD BARNES, M.D., Shenandoah, Ia., to Miss ansy Mincer of Hamburg, Ia., March 9.

BOYD T. WILLIAMS, M.D., to Mrs. Virginia Bradley, both of udson, Wis., at St. Paul, Minn., March 11.

Deaths

William Palmer Peirce, M.D. New York University, New York City, 1852; formerly a member of the American Medical Association, and National Association of Railway Surgeons; vice-president of the Illinois State Medical Association in 1875; surgeon of the Eighty-Eighth Illinois Volunteer Infantry, and later chief surgeon of the First Brigade and Second Division, Fourth Army Corps during the Civil War; a member of the Illinois House of Representatives in 1869, and of the State Senate in 1872; mayor of Hoopeston in 1889 and 1890; local surgeon of the Lake Erie and Western Railway, and a member of the local board of pension examining surgeons; died at his home in Hoopeston, February 20, from diabetes, aged 79.

James Milton Peck, M.D. Vanderbilt University, Nashville, Tenn., 1882; of Arlington, Ky.; a member of the American Medical Association; and formerly president of the Carlisle County and Southwestern Kentucky medical societies; and vice-president of the Kentucky State Medical Association; health officer and referee for Carlisle County; died in Riverside Hospital, Paducah, March 14, from abscess of the liver and general sepsis, following an operation for appendicitis, three months before, aged 53.

Edward Fiske Ashley, M.D. Yale University, 1900; a member of the American Medical Association; bacteriologist of the Quarantine Hospital and assistant to the health officer of the port of New York; contracted cerebrospinal meningitis while making autopsies on the infected steerage passengers of the steamers *Patras* and *Martha Washington*, and died from the disease, at Swinburne Hospital, New York Harbor, March 21, aged 34.

Benjamin Anthony Plant, M.D. University of California, San Francisco, 1886; formerly an official of the health department of San Francisco; surgeon of the Pacific Mail Steamship Company for two years; and for a like period resident physician at the state penitentiary, Folsom; division surgeon of the Southern Pacific System; died at his home in Santa Cruz, February 16, from bronchopneumonia, aged 45.

Isaiah Baker Bolton, M.D. Hahnemann Medical College, Philadelphia, 1873; a veteran of the Civil War; formerly chairman of the board of health and city physician of Newburyport, Mass.; died at his home in Los Angeles, Cal., January 11, from septicemia, due to pyothorax, following a pleurisy with effusion nine years before, aged 66.

William Witry Jungels, M.D. Dearborn Medical College, Chicago, 1905; formerly a member of the American Medical Association; and an ambulance surgeon of Chicago; who moved to Dubuque, Ia., six months ago; died in an ambulance in that city, while being taken to Mercy Hospital, March 13, from nephritis, aged 33.

Charles Avery Hart, M.D. Western Pennsylvania Medical College, Pittsburg, 1899; a member of the Butler County (Pa.) Medical Society; died suddenly in Butler, March 14, from heart disease, aged 33. Butler County Medical Society, at its meeting, March 14, adopted resolutions of sympathy and regret.

Thomas Kerr McKee, M.D. Medico-Chirurgical College of Philadelphia, 1895; of Grove City, Pa.; a member of the Medical Society of the State of Pennsylvania; for two years a practitioner of Tulsa, I. T.; died in the West Penn Hospital, Pittsburg, Pa., February 5, from acute nephritis, aged 52.

Henry A. Rodebaugh, M.D. Starling Medical College, Columbus, O., 1875; of Columbus; a member of the American Medical Association; and formerly medical director of sanatoria at Marysville and Columbus; died in the Lawrence Hospital in that city, March 17, from disease of the kideny, aged 55.

Raymond W. Brown, M.D. University of Pennsylvania, Philadelphia, 1909; intern in the Hudson Street Hospital, New York City; died, March 24, from cerebrospinal meningitis, contracted, it is believed, while combating the disease recently brought to New York City on a Greek steamer, aged 25.

Robert David Craighead, M.D. Indiana Medical College, Indianapolis, 1871; for fourteen years house physician at Dr. Strong's Sanitarium, Saratoga Springs, N. Y.; and afterward one of the proprietors of Craig Hall, Atlantic City, N. J.; died in that city, March 11, from pneumonia, aged 63.

John B. Richmond, M.D. Jefferson Medical College, 1852; surgeon of the Twenty-Seventh New Jersey Volunteer Infantry during the Civil War; and afterward president of the Hibernian Fire Insurance Company; died at his home in Newark, N. J., March 12, from heart disease, aged 81.

Charles Howard Bradley, M.D. Harvard Medical School, 1882; a member of the American Medical Association; formerly president of the Las Vegas (N. Mex.) Medical Society; for fifteen years a resident of Las Vegas; died at his home, March 3, from pneumonia, aged 52.

Nathan A. Foster (license, Missouri, 1883); for more than fifty years a practitioner of Ralls county; who was tendered a banquet by the Ralls County Medical Society, of which he was the oldest member, a few months ago; died at his home in Center, March 10, aged 84.

Charles Salter Wheeler, M.D. University of Vermont, Burlington, 1879; a member of the American Medical Association, and for several years a member of the state pension board; died at his home in Flushing, Mich., March 10, from cirrhosis of the liver, aged 54.

Raymund H. Phillimore, M.D. McGill University, Montreal, 1893; a district physician of Montreal; medical inspector of schools; and surgeon-lieutenant-colonel Seventh Hussars Canadian Militia; died recently in Montreal, from cancer of the throat, aged 53.

Peter J. Roebuck, M.D. University of Pennsylvania, Philadelphia, 1860; a member of the American Medical Association; for two years state senator; president of the Farmers National Bank of Lititz, Pa., died at his home, March 9, from pneumonia, aged 73.

Charles Wheeler McConnell, M.D. University of Pennsylvania, Philadelphia, 1897; a member of the American Medical Association, and pathologist to Altoona Hospital; died at his home in that city, March 12, from cirrhosis of the liver, aged 40.

James Milton Foster, M.D. Berkshire Medical College, Pittsfield, Mass, 1852; for nearly half a century a practitioner of Wilbraham, Mass.; a member of the school committee for several years; died at his home, March 17, from heart disease, aged 82.

J. W. Bennett, M.D. Hospital Medical College, Eclectic, Atlanta, 1910; of Augusta, Ga., was thrown from his buggy, March 13, in a runaway accident, at North Augusta, and died a few minutes later in the Margaret Wright Hospital, Augusta, aged 46.

Frederick Clinton Taylor, M.D. Cleveland College of Physicians and Surgeons, 1891; of Cleveland; a member of the American Medical Association, and a member of the staff of the Lutheran Hospital; died in Biloxi, Miss., March 9, aged 41.

Thomas Jefferson Kelley, M.D. Medical College of Georgia, Augusta, 1881; Bellevue Hospital Medical College, 1884; of Tennille, Ga., in a quarrel over the disciplining of his son, by a school teacher, March 10, was shot and instantly killed, aged 50.

Joshua Way, M.D. George Washington University, Washington, D. C., 1859; for many years a practitioner in Monroe and Bellevue Counties, O.; died at the home of this daughter in Woodsfield, March 9, from carcinoma of the liver, aged 73.

John Bryan Ward Nowlin, M.D. Jefferson Medical College, 1857; surgeon in the Confederate army during the Civil War; for forty years a practitioner of Nashville, Tenn.; died at his home in that city, March 3, from influenza, aged 74.

Alexander Fekete, M.D. Washington University, St. Louis, 1854; assistant surgeon and surgeon of the Fifth Missouri Cavalry during the Civil War; postmaster of East St. Louis, in 1889; died at his home, February 28, aged 83.

John Henry Hieber, M.D. Cincinnati College of Medicine and Surgery, 1871; a hospital steward of volunteers during the Civil War; died at his home in Pittsburg, Pa., March 11; from enlargement of the liver and spleen, aged 67.

Cortland Butler Rockwell, M.D. Chicago Homeopathic Medical College, 1883; of Chicago; who served in the Navy during the Civil War; died in a sanitarium in Kenosha, Wis., March 16, from valvular heart disease, aged 69.

John Henry Sackrider, University of Buffalo, N. Y., 1878; a member of the Medical Society of the State of New York, and health officer of East Randolph; died at his home in that place, March 12, from neuritis, aged 63.

Maurice Munker, M.D. College of Physicians and Surgeons, New York City, 1907; of New York City, died at the home of his parents in Steubenville, O., March 4, from septicemia due to an operation wound, aged 27.

Jones B. Hargrove, M.D. University of Alabama, Mobile, 1885; of Natchitoches; while en route to a sanitarium in Shreveport, died on a Louisville and Arkansas train, March 10, from malarial fever, aged 46.

Harry Burton Kuhns, M.D. Western Pennsylvania Medica College, Pittsburg, 1896; a member of the Medical Society o the State of Pennsylvania; died at his home in Neale, Marc 5, from tuberculosis, aged 45.

Hosias Schiemann, M.D. Universities of Kasan and Dorpat Russia, 1889; of New York City; died in Mount Sinai Hospital, March 10, from myocarditis following a compound fracture of the femur, aged 45.

Stephen A. Ireland, M.D. Starling Medical College, Columbus O., 1884; a member of the American Medical Association; die at his home in Washington Court House, O., January 25 from pneumonia, aged 62.

Robert Silvester Kelso, M.D. Rush Medical College, 1864 a member of the American Medical Association; a veteran o the Civil War; died at his home in Joplin, Mo., March 12 from influenza, aged 76.

Alexander R. Gray, M.D. Jefferson Medical College, 1855; surgeon of volunteers during the Civil War; died in his roo in the Jenkintown House, Jenkintown, Pa., March 12, fro heart disease, aged 78.

Frank A. Van Sickle, M.D. Detroit (Mich.) College of Med icine, 1892; a member of the American Medical Association died at his home in South Frankfort, Mich., March 10, fro septicemia, aged 46.

Laura Cowgill Bates, M.D. Northwestern Universit Woman's Medical School, Chicago, 1885; formerly of Chicago died at her home in Pasadena, Cal., March 15, from cerebr hemorrhage, aged 62.

John L. Witt, M.D. St. Louis College of Physicians an Surgeons, 1890; (license, Iowa, 1886); for many years practitioner of Logan, Ia.; died in a hospital in St. Loui March 3, aged 56.

Columbus V. Massey, M.D. American Medical College, Ecle tic, St. Louis, 1878; a member of the American Medical Ass ciation; died at his home in Chicago, March 20, from hea disease, aged 62.

Harrison Andrew Lyding, M.D. Rush Medical College, 191 of Chicago; an intern in Michael Reese Hospital; died in th institution, March 20, from scarlet fever contracted from patient, aged 23.

Edwin Samuel Howe, M.D. University of Vermont, Burlin ton, 1880; formerly supervisor of Blackbrook, N. Y.; died his home in Au Sable Forks, N. Y., March 4, from hea disease, aged 55.

Lee R. Ashley, M.D. University Medical College of Kans City, Mo., 1897; a member of the Kansas Medical Societ died at his home in Pleasanton, February 8, from typho fever, aged 38.

Joel Allen (license, years of practice, Illinois, 1877); surge of the Seventy-Seventh Illinois Volunteer Infantry during t Civil War; died at his home in Pontiac, March 9, from infl enza, aged 83.

Arthur John Perry Howe, M.D. Long Island College Hospit Brooklyn, 1909; house physician of St. Mary's Hospital, Hol ken, died at his home in Brooklyn, March 18, from heart d ease, aged 27.

John V. Baird, M.D. Eclectic Medical Institute, Cincinna 1892; for two terms a member of the Indiana legislature; di at his home in Albany, March 12, from cerebral hemorrha aged 60.

Ernest McCue Thrift, M.D. University College of Medici Richmond, 1898; a member of the Medical Society of Virgin died at his home in Madison, March 6, from pneumon aged 37.

Joseph L. Brown (license, Washington); a pioneer pr titioner of Tumwater where he located in 1879; died at t home of his daughter at Black Lake, Olympia, Oct. 5, 19 aged 82.

S. Albert Fishblate, M.D. Eclectic Medical College of City of New York, 1879; of Pittsburg; died at the home of sister in that city, February 23, from locomotor ata aged 55.

William Thomas Masterson, M.D. Louisville (Ky.) Medi College, 1890; of Birmingham, Ala.; died at the home of sister in Oakman, Ala., March 17, from cerebral hemorrha aged 55.

John W. Nelms, M.D. Southern Medical College, Atla 1889; for twelve years sheriff of Fulton County, Ga.; died s denly at his home in Atlanta, February 28, from heart ease.

Edwin Franklin Burkert, M.D. Medical College of Ohio, Cincinnati, 1884; of Dayton, O.; died in the Dayton State Hospital, Sept. 21, 1910, from acute confusional insanity, aged 53.

Daniel C. Badgeley (license, years of practice, West Virginia); a practitioner of Simpson for more than a quarter of a century; died at his home, March 5, from cancer, aged 80.

Brewerton Munro Lebby, M.D. Medical College of the State of South Carolina, Charleston, 1860; died at his home in Sumter, S. C., Sept. 4, 1910, from laryngitis, aged 77.

Flinn Browning B. Ilderton, M.D. Medical College of the State of South Carolina, Charleston, 1881; died at his home in Summerville, S. C., Dec. 13, 1910, from pneumonia, aged 56.

Samuel Hamilton Frazer, M.D. Eclectic Medical College of the City of New York, 1879; formerly of Newark, N. J.; died in Saratoga Springs, N. Y., February 24, aged 67.

Samuel Mauffette, M.D. Laval University, Montreal, 1903, of Montreal, died in the Hôtel Dieu, Montreal, in October, 1910, from the effects of gunshot injury, aged 32.

Charles Sedgewick Rounsevel, M.D. Hahnemann Medical College, Philadelphia, 1882; died at his home in Nashua, N. H., Nov. 7, 1910, after a surgical operation, aged 71.

Emily Pardee-Disbrow, M.D. New York Medical College and Hospital for Women, New York City, 1875; died at her home in South Norwalk, Conn., Nov. 30, 1910, aged 67.

David W. Jones, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1870; of Hagerstown, Md.; died at the Bellevue Home, in that city, March 4, aged 84.

Martin H. Cassell, M.D. Jefferson Medical College, 1868; a veteran of the Civil War; died in his apartments in Davenport, Ia., March 18, from heart disease, aged 65.

Millard F. Brown, M.D. Indiana Medical College, Indianapolis, 1873; an early resident of the town of Lenox, Ia.; died at his home in that city, March 2, aged 61.

John Wesley Filkins, M.D. Northwestern University Medical School, Chicago, 1866; of Seattle, Wash.; died in the Pasadena (Cal.) Hospital, March 7, aged 62.

Foster Fish Robinson, M.D. Kentucky School of Medicine, Louisville, 1877; died at his home in St. Louis, January 10, from valvular heart disease, aged 58.

B. Blastus Robison, M.D. Tulane University, New Orleans, 1892; died at his home in Godley, Tex., June 4, 1910, from cancer of the stomach, aged 45.

George Adelbert Walters, M.D. Rush Medical College, 1895; died at his home in Wesley, Ia., March 14, from diabetes complicated by pneumonia, aged 40.

Linn Henry Corey, M.D. University of Vermont, Burlington, 1905; died at his home in Woodstock, Vt., Nov. 27, 1910, from intestinal tuberculosis, aged 32.

Orpha Desiah Baldwin Bruce, M.D. Boston University School of Medicine, 1885; died at her home in Tampa, Fla., Dec. 10, 1910, from anemia, aged 59.

Reuben C. Hoover, M.D. Pennsylvania Medical College, Gettysburg, 1843; died at his home in Osborn, O., March 19, from cancer of the face, aged 89.

George W. Andrews, M.D. Western Reserve University, Cleveland, 1875; died at his home in Ramsey, Ill., March 10, from pneumonia, aged 59.

Maurice John Wiltse, M.D. University of Vermont, Burlington, 1898; died at his home in Burlington, March 2, from locomotor ataxia, aged 46.

John William Barry, M.D. Eclectic Medical Institute, Cincinnati, 1879; died at his home in Springfield, O., Nov. 3, 1910, from nephritis, aged 64.

John O'Ferrall, M.D. Cincinnati College of Medicine and Surgery, 1863; died at his home in Danville, Ill., March 7, from nephritis, aged 74.

Francis Sterling Mudd, M.D. Tulane University, New Orleans, 1883; died at his home in Lafayette, La., Oct. 29, 1910, aged 81.

Frederick W. Dantzler, M.D. South Carolina; died at his home near Holly Hill, June 15, 1910, from cirrhosis of the liver, aged 64.

Joseph T. Miller, M.D. Jefferson Medical College, 1871; died at his home in Hartford, Ky., March 11, from pneumonia, aged 71.

Lonzo F. Brown, M.D. Medical College of Indiana, Indianapolis, 1879; of Alamo; died in Indianapolis in November, 1910, aged 58.

Association News

THE LOS ANGELES SESSION

Mountain and Seaside Hotel Accommodations Available

Dr. H. Bert Ellis, Chairman of the Committee on Arrangements, writes that, in addition to the hotel accommodations already announced for the Los Angeles session, those who may desire to stay either at the seashore or near the mountains will be given special rates at the Hotel Maryland at Pasadena, and the Hotel Virginia at Long Beach.

The Maryland is situated in Pasadena, 9 miles from Los Angeles. It is a first-class, homelike place and special rates have been made which include transportation, both ways, via the electric lines, between Pasadena and Los Angeles. Trains run every ten minutes.

The Hotel Virginia is a fire-proof, first-class, modern hotel, directly on the beach at Long Beach, and is reached from Los Angeles via the Pacific Electric Lines by trains every twenty minutes. The run takes forty minutes.

Members and their families and friends will find either of these cities very delightful places to stay during the meeting, and with the excellent train service no inconvenience will be experienced in reaching the meetings. Accommodations should be arranged for in advance.

THE SCIENTIFIC EXHIBIT

The Outlook for this Important Feature at the Los Angeles Meeting

The remoteness of the meeting place has been in no sense discouraging to the prospect for the Scientific Exhibit, at the coming session of the Association. In this as in other phases of the prospective meeting, the western men are alert to their obligations, having already assured liberal contributions. Dr. Stanley P. Black, Los Angeles, and Dr. William Ophuls, San Francisco, are looking after prospective exhibits from the coast region. The middle west has also promised commendable patronage. Dr. William A. Evans, Chairman of the Section on Preventive Medicine and Public Health, is seeking to do what we have striven at different times to persuade chairmen of sections to undertake, viz.: to coordinate the work of the sections with that of the exhibit. They should supplement each other.

A common fallacy in the minds of those who might exhibit, is the impression that only large collections are desired. The small research exhibit to which the gold medal was awarded last year, was offered at a late hour, with a modest apology and request that it be given a little corner somewhere. Institution and society collections must necessarily occupy the most prominent place in the Scientific Exhibit, but the small individual exhibit is also important. The committee is very anxious to encourage the latter.

Certificates of honor will be given to a few of the exhibits having superior merit. Medals and cash awards will be offered as detailed below.

1. Gold medal for best research exhibit dealing with any problem in the fundamental medical sciences.
2. Gold medal for the best exhibit on the basis of general excellence, from the standpoints of care in preparation, completeness and instructiveness.
3. Cash award of $100 for the best series of not less than six original cartoons dealing with any or all of the following health problems.
    - (a) Insects in the causation of disease.
    - (b) Beneficent effects of vivisection.
    - (c) Pure food, and adulterated or contaminated foods.

The Committee on Scientific Exhibit reserves the right to purchase any of the cartoons offered in competition, at the rate of $10 each.

Those cartoons on which the award is made, become the property of the Scientific Exhibit. Other cartoons will be returned, if so desired, to the artists submitting them.

Frank B. Wynn, M.D., Indianapolis.
Director of the Scientific Exhibit, American Medical Assn.

The Committee on a National Department of Health

President Welch has appointed the following as the Committee on a National Department of Health:

Dr. Herman M. Biggs, New York City.
Dr. S. G. Dixon, Harrisburg, Pa.
Dr. W. A. Evans, Chicago.
Dr. J. N. Hurty, Indianapolis.
Dr. J. N. McCormack, Bowling Green, Ky.
Dr. H. P. Walcott, Cambridge, Mass.
Dr. William C. Woodward, Washington, D. C.

Dr. Welch, by action of the House of Delegates, is also a member of the committee.

A preliminary meeting of the committee was held at New York on March 25, and an organization effected by electing Dr. Welch, chairman, and Dr. Woodward, secretary. After the discussion of some preliminary matters, the committee adjourned to meet in the building of the New York City Health Department, at 10:30 a. m., Saturday, April 1.

"The Propaganda for Reform"

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION.

DR. BERTHA C. DAY

A Mail-Order Medical Faker Specializing on the Diseases of Women

A study of the multitude of mail-order medical fakes makes plain one fact: Few of such concerns are owned by the renegade physicians whose names adorn the stationery of the companies. Most companies of this kind are organized and capitalized by shrewd—and often unscrupulous—business men. These companies are run solely and only for profit; the health or well-being of the victim who seeks their aid is a matter of indifference. It is not the state of the patient's health that concerns these harpies, but the condition of his pocketbook; it is not his sufferings they seek to relieve him of, but his money. The business is a commercial one; pills and tablets bought by the million from pharmaceutical houses; form letters skilfully designed to imitate either hand-writing or typewriting; testimonials; lists of names of "easy marks" purchased from letter brokers; unscrupulous physicians whose incompetency has made them failures in the honorable practice of medicine and who are willing to sell their birthright of professional honor for a miserable mess of pottage—these are the stock in trade of mail-order medical fakers.

In Fort Wayne, Ind., there are two mail-order medical concerns said to be doing a large and profitable business, and to be owned and operated by one William C. Griffin, a dealer in teas, coffees, etc. These are the J. W. Kidd Co., which "treats" anything from consumption to corns and the Dr. Bertha C. Day Co., which makes a "specialty" of "diseases of women." There is another "diseases of women" mail-order fake in the same town run by a Dr. Luella McKinley Derbyshire. It is said that the Derbyshire concern used to be owned by Griffin, but was purchased by Dr. Derbyshire about 1903. From a business standpoint, it seems rather unkind for Griffin to sell out a "female specialist" mail-order business and later start a competitive house. In 1906, Dr. Derbyshire was arraigned in the Federal courts on the charge of sending obscene matter, in the form of consultation blanks, through the mails. Her defense was, according to the papers, that the blanks were the same as those which had been used by Griffin for some years before she purchased the business from him, and that she "understood that a competent lawyer had gone over the blanks and found that there was nothing unmailable in them." Dr. Derbyshire's methods of doing business are practically identical with those of Dr. Day, and her diagnoses are just as fraudulent and worthless. In a later article, we may give some space to the Derbyshire concern and also to the Kidd branch of Griffin's quackery.

DR. BERTHA C. DAY COMPANY

Dr. Bertha C. Day is the stool-pigeon for Wm. M. Griffin in operating a mail-order medical treatment for the "diseases of women." The Bertha C. Day concern advertises in those cheap and nasty magazines that are the sheet-anchor of the advertising medical faker; it also has an occasional advertisement in the less particular newspapers (Fig. 1). Bertha C. Day advertises that she is "a woman—a wife—a mother—a successful physician—a specialist on diseases of women." She puts great stress on her "long and varied experience." In a booklet entitled, "Diseases of Women and The Home Medica Guide" (Fig. 2), which she sends to those who answer the advertisement and which she claims to have written, we read

> "Her *vast experience* as a physician is only one of the qualifica tions she possesses . . ."
>
> "Her training and *vast experience* as a physician enables her t do more for suffering women than any woman can who is not physician . . ."
>
> "During *several years* of active life *as a general practitione* she acquired a vast amount of valuable experience that very fe ever possess . . ." [Italics ours.—ED.]

These quotations—from a book written in 1909—naturall give the reader the impression that Dr. Bertha C. Day ha been in practice for several years. As a matter of fact, Di Day graduated from the Detroit Homeopathic College in 190 and was licensed to practice in 1908! This would indicat that however "varied" her experience may have been, it coul scarcely, with truth, be called long. As the "Bertha C. Da Company" was chartered in 1908—the year that Bertha C Day received her license to practice medicine—her "vast exper ience" has evidently been confined to treating people she ha never seen, by means of tablets bought in million lots and pre scribed on diagnoses that are both worthless and fraudulen

THE METHODS EMPLOYED

An individual, whom we may call Mrs. X, seeing one o Bertha C. Day's advertisements, wrote for particulars abo the methods of "treatment." By return mail she received form letter in which the date and her name were filled in b means of a typewriter. The letter stated among other things

> "Before preparing the treatment for you, however, it will necessary for me to have a more thorough understanding of yo case. I am, therefore, inclosing herewith a Symptom Blank, whi I will be pleased to have you fill out and return to me."

The "Symptom Blank" consisted of a number of questio to be answered. There was also a list of diseases and sym toms, and the patient was instructed to "draw a line und any of the following diseases or symptoms you have." Accor ingly, Mrs. X underscored the following:

"LEUCORRHEA"
"CONSTIPATION"
"PAINFUL PERIODS"
"FEMALE TROUBLE"

On sending this in to Dr. Day, form letter No. 2 came bac containing among many other things, the statement:

> "A careful diagnosis of your case shows you have *Vaginitis, C stipation, Painful Menstruation* and *Female Weakness.*"

The words we have put in italics had been filled in by mea of a typewriter, having the same style and size of type a the same color ink as that used in printing the rest of t letter. How much skill and "vast experience" was necessa to make such a diagnosis from the symptom blank? T facts are, the "careful diagnosis" showed that Mrs. X w suffering from the very complaints that she had told Dr. D she was suffering from. In other words, Mrs. X diagnos her own case. In the same form letter Mrs. X was told:

> "I have mailed you a copy of my book, 'Diseases of Women a Home Medical Guide.' Be sure to read the description of y condition on Pages *86, 32, 58, 27 and 25-47.*"

THE FREE AND SPECIAL TREATMENTS

Here again, the figures we are italicizing were the only p of the paragraph that had been typewritten; the rest w printed. The same mail that brought this letter also broug a "free trial treatment," supposed to last three days and a a "special treatment" for which she had not asked. Mrs. was told:

"Your case seems to be of long standing and you really should have the complete Course of Treatment at once, if you are to be completely cured. As I want to do everything possible for you, I have prepared a 'Special' course of treatment for you and am sending it, postage paid, in the same package with the free remedies."

The free treatment consisted of:

Six purple, triangular, coated tablets marked "C."
Three red, triangular, coated tablets marked "D."
Three pink, circular, coated tablets marked "45."
Two large, white, oval, uncoated tablets for vaginal use marked "31."
One large, soft, cylindrical, vaginal suppository marked "30."

The "special treatment" received by Mrs. X consisted of six different kinds of tablets each labeled with a letter or number, prefixed with the words "Dr. Day's Private Formula:"

"No. A :" fifteen red, triangular, coated tablets.
"No. B :" fifteen lavender-colored, triangular, coated tablets.
"No. 45 :" fifteen pink, circular, coated tablets.
"No. 58 :" fifteen brown, circular, uncoated tablets.
"No. 14 :" thirty-two, lavender-colored, circular, coated tablets.
"No. 31 :" fifteen large, white, oval, uncoated tablets for vaginal use.

The probable composition of these variegated and multi-shaped tablets was determined in the following manner: In addition to her usual advertisements, Dr. Bertha C. Day also advertises that she will send "free prescriptions" to those who will fill out and send her the blanks that accompany such advertisements. One such blank was filled out and sent in by another person giving the same symptoms as those Mrs. X was supposed to be suffering from. In reply, there were received a letter and five printed prescriptions (see also Fig. 3); each of these was numbered or lettered the same as the tablets sent to Mrs. X, except that there was no prescription for "No. 31"—the tablets for vaginal use. Incidentally, at the same time that the "free prescription" was received the express company brought a package of tablets from Dr. Day, C.O.D., $2.50. But of this more later. According to these prescriptions, the tablets "A," "B," "45," "58" and "14" have the following composition:

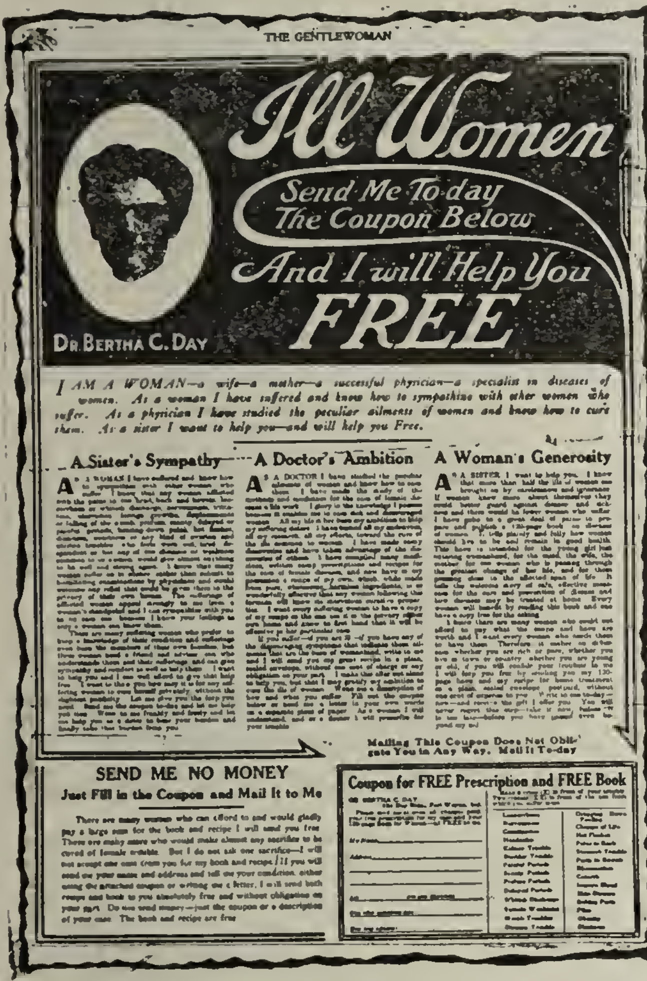

THE GENTLEWOMAN
Ill Women
Send Me To-day The Coupon Below
And I will Help You
FREE
DR. BERTHA C. DAY
I AM A WOMAN—a wife—a mother—a successful physician—a specialist in diseases of women. As a woman I have suffered and know how to sympathize with other women who suffer. As a physician I have studied the peculiar ailments of women and know how to cure them. As a sister I want to help you—and will help you Free.
A Sister's Sympathy
A Doctor's Ambition
A Woman's Generosity
Mailing This Coupon Does Not Obligate You in Any Way. Mail It To-day
SEND ME NO MONEY
Just Fill in the Coupon and Mail It to Me
Coupon for FREE Prescription and FREE Book

Fig. 1.—Photographic reproduction (much reduced) of a typical advertisement of Dr. Bertha C. Day. Note the coupon in the lower right-hand corner by means of which Dr. Day pretends to be able to diagnose a woman's ailments. The size of the original advertisement, which appeared in *The Gentlewoman*, was about 10 by 14 inches.

"A"

℞.

Ext. Gentian	7½	grains.
Strychnin Sulphate	¼	grain.
Ext. Quassia	7½	grains.
Bicarb. Soda	45	grains.

"B"

℞.

Strychnin Sulphate	¼	grain.
Ext. Rhubarb	15	grains.
Ext. Cascara Sagrada	15	grains.
Bicarb. Soda	30	grains.

"45"

℞.

Cascarin	4	grains.
Aloin	4	grains.
Podophyllin	2½	grains.
Ext. Belladonna Leaves	2	grains.
Strychnin Sulphate	¼	grain.
Oleoresin of Ginger	2	grains.

"58"

℞.

Strychnin Sulphate	1/6	grain.
Powdered Ipecac	1/2	grain.
Oleoresin of capsicum	1/12	grain.

"14"

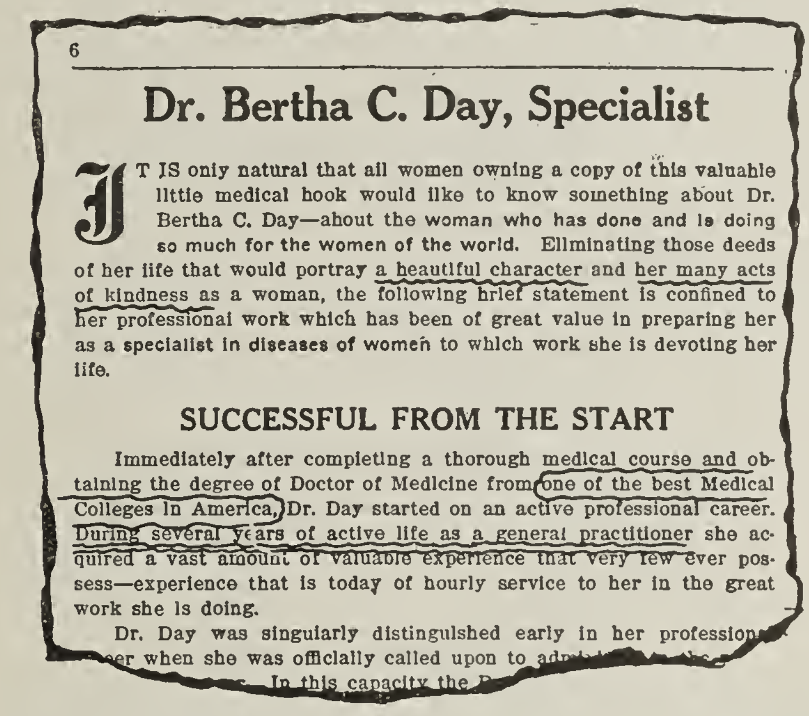
℞.

Ext. Black Haw	30	grains.
Ext. Jamaica Dogwood	15	grains.
Powdered Ginger	½	grain.
Fluidextract of Pulsatilla	30	m.
Fluidextract Gelsemium	3½	m.

As has been said there was no prescription for "No. 31," but printed on the box that contained these vaginal tablets was the statement:

"Each contains 3 grains of acetanilid and ½ grain (¼ gr.?) powdered opium."

As this information was put on the box, apparently as an afterthought, by means of a rubber stamp, the lettering was so illegible that it was impossible to say whether the tablets were stated to contain ¼ or ½ grain of opium.



6

Dr. Bertha C. Day, Specialist

IT IS only natural that all women owning a copy of this valuable little medical book would like to know something about Dr. Bertha C. Day—about the woman who has done and is doing so much for the women of the world. Eliminating those deeds of her life that would portray a beautiful character and her many acts of kindness as a woman, the following brief statement is confined to her professional work which has been of great value in preparing her as a specialist in diseases of women to which work she is devoting her life.

SUCCESSFUL FROM THE START

Immediately after completing a thorough medical course and obtaining the degree of Doctor of Medicine from one of the best Medical Colleges in America, Dr. Day started on an active professional career. During several years of active life as a general practitioner she acquired a vast amount of valuable experience that very few ever possess—experience that is today of hourly service to her in the great work she is doing.

Dr. Day was singularly distinguished early in her profession

er when she was officially called upon to ad

In this capacity the

Fig. 2.—Photographic reproduction (reduced) of part of a page from the booklet, "Diseases of Women," "written and published by Dr. Bertha C. Day." Note the modesty of Dr. Day's self-delineation: "beautiful character," "acts of kindness," etc. Note, also, reference to "one of the best medical colleges in America." In the Carnegie report on medical education the following statement is made regarding this college: "*Laboratory Facilities:* These are wretched . . . The teaching rooms are bare except for the chairs and tables; the building is poorly kept." The same college is also grouped by the Council on Medical Education of the American Medical Association in "Class C," that is, "Medical colleges which would require a complete reorganization to make them acceptable." Note, too, the reference to the "several years of active life as a general practitioner." These words were written in 1909; Dr. Day became legally entitled to practice medicine in October, 1908! Years of experience, indeed!

With the letter, notifying Mrs. X that the "special" and "free treatment" were being sent, was a page of directions for taking the medicines. The directions were printed in imitation typewriting and the "private formula" letters "A," "B," "C," "D," etc., have been filled in by means of a typewriter. The designation "No. 45," was printed instead of typewritten so that it is probable that whatever ails the patient, "Dr. Day's Private Formula No. 45" is always sent.

THE SLIDING SCALE OF PRICES

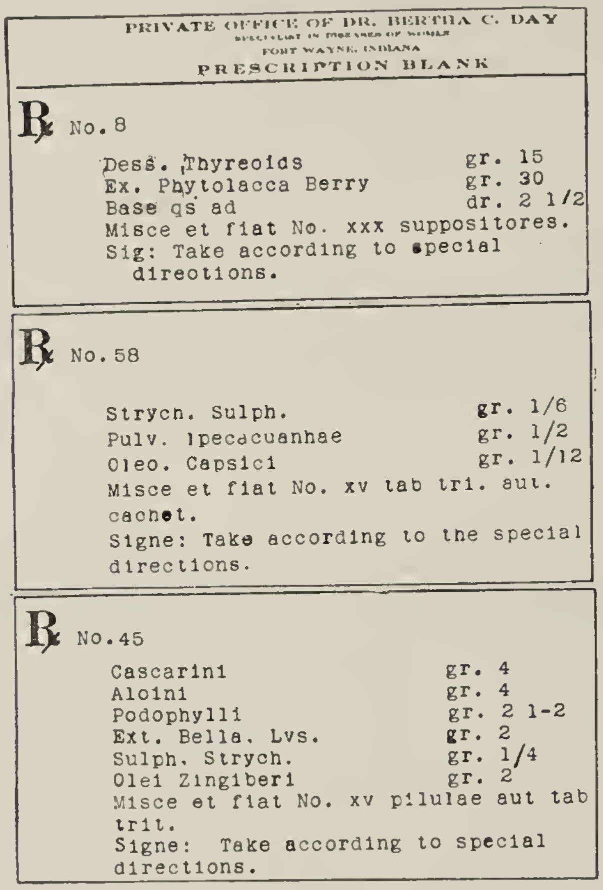
The price Mrs. X was asked for the "special treatment," was $2.00 and, as she did not send the money, Dr. Day, consistently following the methods of mail-order fakers, sent a series of follow-up letters. The general object of these letters is, apparently, gradually to lessen the amount asked for the "special treatment." It was evident, however, from some of the letters sent to Mrs. X that the mailing clerks who send out these heart-to-heart "personal" talks from Dr. Day, are careless in selecting the right form-letter. In Mrs. X's case the first price asked, as has been already stated, was $2.00. In Dr. Day's third letter she says:

> "As I made you a reduced price of $3.00, I hope you can remit the amount soon."

Evidently the mailing force at Dr. Day's establishment got this $2.00 patient confused with a $3.00 patient. Form letter No. 4 is one of those frankly, confidential epistles that the mail-order fraternity get printed by the hundred-thousand and sign with a rubber stamp. The amount of the bill is not mentioned in this letter, it is merely an earnest request to send the money. The next form letter, No. 5, commences:

> "I am busy with my patients this morning, but I feel I must take time to write you a note . . ."

Then follows the usual farrago of sentimental nonsense about being " a woman and a mother," and having a "sympathetic feeling" for the patient and Dr. Day once more urges Mrs. X to send the money.



PRIVATE OFFICE OF DR. BERTHA C. DAY
SPECIALIST IN DISEASES OF WOMEN
FORT WAYNE, INDIANA
PRESCRIPTION BLANK

℞ No. 8

Dess. Thyreoids	gr. 15
Ex. Phytolacca Berry	gr. 30
Base qs ad	dr. 2 1/2

Misce et fiat No. xxx suppositores.
Sig: Take according to special directions.

℞ No. 58

Strych. Sulph.	gr. 1/6
Pulv. Ipecacuanhae	gr. 1/2
Oleo. Capsici	gr. 1/12

Misce et fiat No. xv tab tri. aut. cachet.
Signe: Take according to the special directions.

℞ No. 45

Cascarini	gr. 4
Aloini	gr. 4
Podophylli	gr. 2 1-2
Ext. Bella. Lvs.	gr. 2
Sulph. Strych.	gr. 1/4
Olei Zingiberi	gr. 2

Misce et fiat No. xv pilulae aut tab trit.
Signe: Take according to special directions.

Fig. 3.—Photographic reproduction (reduced) of three prescriptions printed in imitation typewriting and sent by Dr. Bertha C. Day to a person supposed to be suffering from obesity. Notice that prescription No. 8 directs that the drugs be compounded *in the form of a suppository*, yet the directions sent by Dr. Day state that they must be "prepared *in tablet form*," one tablet to be taken before breakfast and one after dinner!

> "Something must be done at once—we must come to an understanding. Your health is being neglected . . ."

Thus commences form letter No. 6, and something *is* done: Dr. Bertha comes down to $1.00.

> "Send me a $1.00 bill and the special fifteen-day treatment is yours."

This $1.00, the patient is told, "will pay in full for the $3.00 course . . ."—which was originally offered in the first letter for $2.00. As a slight reward for giving the "cut rate" for her tablets of many colors Dr. Day asks that the patient will send in a number of names and addresses of "others who need treatment." Presumably, this is a cheaper way of getting a mailing list, than by purchasing the names of a letter broker.

According to the opening sentence in form-letter No. 7:

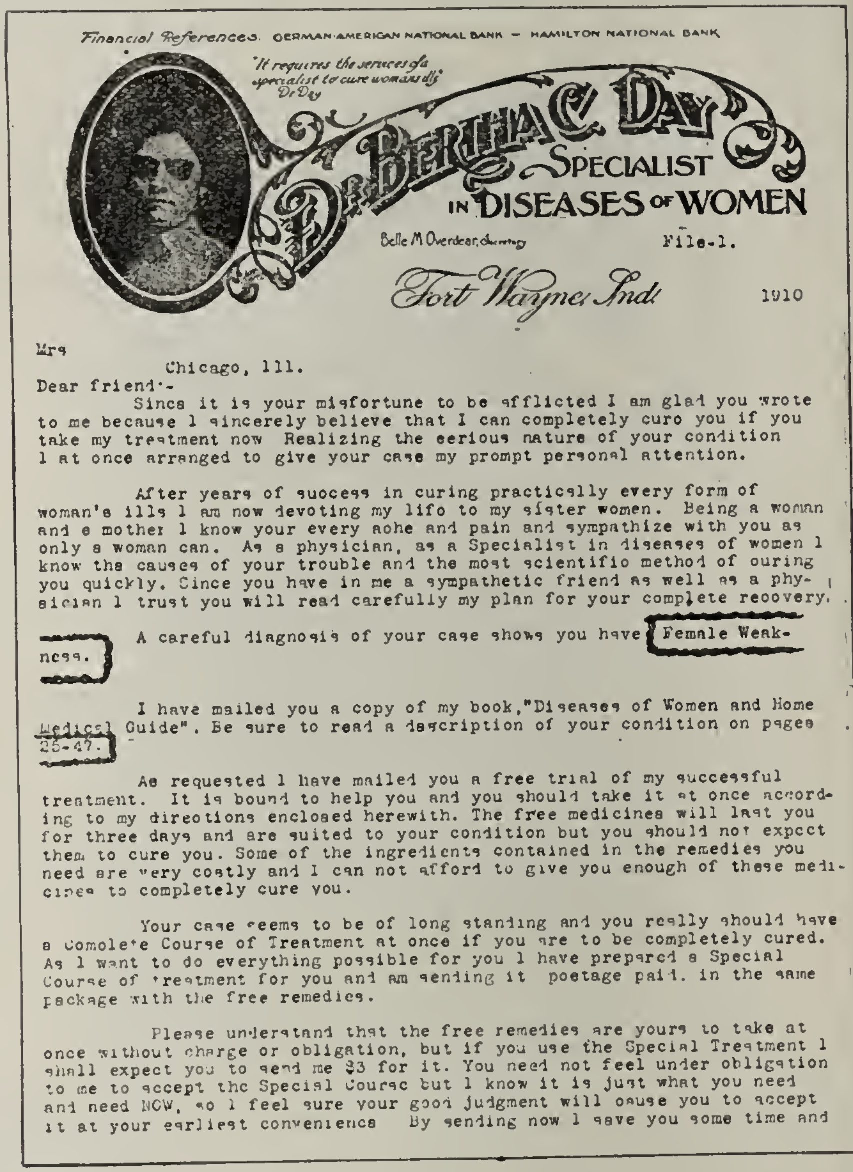
> "This is the MOST IMPORTANT letter I have ever written to you . . . NOW LISTEN: if you can't see your way clear to accept the Special Treatment on the low terms I quoted you, simply send $1.50 and start using the remedies."

From this series of follow-up letters, which is but one of several series of a similar nature that we have on file, it will be seen that the price for this special treatment starts at $2.00, rises to $3.00, falls to $1.00 and closes at $1.50. To those who are familiar with the "ways that are dark and tricks that are vain" of mail-order medical concerns, this fluctuation in the market price of the "special treatment" merely means that the form-letters have been carelessly mailed. To the unsuspecting females who think that these letters are confidential personal communications to them, and to them alone, the variations in price must be disconcerting.

TWO OTHER DIAGNOSES

The following brief note was sent by another individual, whom we may call Mrs. Y, to Dr. Bertha C. Day:

> "Dear Doctor:—Will you please write and tell me about your cure for female trouble?"



Financial References. GERMAN-AMERICAN NATIONAL BANK — HAMILTON NATIONAL BANK

"It requires the services of a specialist to cure woman's ills"
Dr Day

DR. BERTHA C. DAY
SPECIALIST
IN DISEASES OF WOMEN

Belle M Overdear, chemist
File-1.

Fort Wayne, Ind. 1910

Mrs
Chicago, Ill.

Dear friend:-

Since it is your misfortune to be afflicted I am glad you wrote to me because I sincerely believe that I can completely curo you if you take my treatment now Realizing the eerious nature of your condition I at once arranged to give your case my prompt personal attention.

After years of success in curing practically every form of woman's ills I am now devoting my life to my sister women. Being a woman and a mother I know your every ache and pain and sympathize with you as only a woman can. As a physician, as a Specialist in diseases of women I know the causes of your trouble and the most scientific method of curing you quickly. Since you have in me a sympathetic friend as well as a physician I trust you will read carefully my plan for your complete recovery.

A careful diagnosis of your case shows you have Female Weakness.

I have mailed you a copy of my book, "Diseases of Women and Home Medical Guide". Be sure to read a description of your condition on pages 25-47.

As requested I have mailed you a free trial of my successful treatment. It is bound to help you and you should take it at once according to my directions enclosed herewith. The free medicines will last you for three days and are suited to your condition but you should not expect them to cure you. Some of the ingredients contained in the remedies you need are very costly and I can not afford to give you enough of these medicines to completely cure you.

Your case seems to be of long standing and you really should have a Complete Course of Treatment at once if you are to be completely cured. As I want to do everything possible for you I have prepared a Special Course of Treatment for you and am sending it postage paid. in the same package with the free remedies.

Please understand that the free remedies are yours to take at once without charge or obligation, but if you use the Special Treatment I shall expect you to send me $3 for it. You need not feel under obligation to me to accept the Special Course but I know it is just what you need and need NOW, so I feel sure your good judgment will cause you to accept it at your earliest convenience By sending now I save you some time and

Fig. 4.—Photographic reproduction (reduced) of one page of a two-page letter sent by Dr. Day in answer to a brief note, asking for particulars about her "cure for female trouble." Practically all of this letter was printed; the name and address and "diagnosis" only, being filled in by means of a typewriter. The words and figures in paragraphs three and four, around which heavy lines have been drawn, were the words that were filled in on the typewriter.

This is all that was written, yet the information was sufficient for the diagnostic powers of Dr. Day, who wrote back:

> "A careful diagnosis of your case shows you have *Female Weakness.*" (See Fig. 4.)

Here again the words we have italicized were filled in by means of a typewriter; the rest of the letter was printed in imitation typewriting. The regulation "free treatment" was also sent to Mrs. Y, together with a "special treatment." The price asked for the "special treatment" in this case was $3.00. It seems, then, that when Dr. Day puts up a "special treatment" for "female weakness, vaginitis, constipation and painful menstruation" she can do it for $2.00; when, however, she makes a "special treatment" for "female weakness" alone, it costs $3.00. The principle on which this business is run, apparently, is that the less you have the matter with you, the more it costs to cure you.

The series of follow-up letters sent to Mrs. Y also shows as much lack of care in picking out the correct form-letter as did the series sent to Mrs. X. As Mrs. Y did not send the $3.00 asked for, form letter No. 2 came in due time, stating:

> "As I made you a reduced price of $2.00, I hope you can remit the amount soon."

Here, apparently, is the form-letter that should have been sent to Mrs. X, who really was offered the treatment in the first letter for $2.00.

A DIAGNOSIS OF RHEUMATISM

Still another letter was written as follows:

> "Dear Doctor:—Will you please write and tell me if you can do anything for rheumatism?"

By return mail came the stock diagnosis letter with the statement:

> "A careful diagnosis of your case shows you have *rheumatism, and associated conditions.*"

A subsequent mail brought the inevitable "free treatment" and the accompanying "special treatment." Here again the carelessness of the detail work done in the Bertha C. Day office was apparent. In addition to the box of variegated pills that composed the "special treatment," there was sent a collapsible metal tube filled with an ointment smelling strongly of phenol (carbolic acid). This was marked "Dr. Day's Private Formula No. 26." The sheet of directions made no reference to Formula No. 26, but it did contain a statement regarding a "Formula No. 48." No preparation having the latter number was sent. The directions pasted on the tube of ointment read:

> "Unscrew cap of tube, then screw nozzle in its place. Each evening wash the parts with soap and water. Insert nozzle into the rectum, forcing a small portion of the ointment out of the tube by pressing the lower end."

No nozzle accompanied the package and had it done so, it would be a little difficult to see how a person was going to be cured of rheumatism by injecting a carbolic acid ointment into the rectum. The facts were, of course, that the mailing force at Griffin's establishment had confused a "treatment" for "piles" with a "treatment" for "rheumatism." It is interesting to speculate what may have happened to the poor sufferer from piles who received the rheumatism treatment with directions to inject it into the rectum.

ANOTHER DIAGNOSIS AND A MODIFIED METHOD OF TREATMENT

As has already been shown, Mr. Griffin sometimes modifies his method of doing business. An advertisement appears in which Dr. Day offers to send "Priceless Prescriptions for the Cure of Female Diseases Free to Any Woman." Part of the advertisement is a coupon (Fig. 1) containing a list of diseases and symptoms and the patient is asked:

> "Make a cross (X) in front of your trouble. Two crosses (XX) in front of the one from which you suffer most."

One of these coupons was sent in to the company with the word "obesity" marked. By return mail came one of Dr. Day's famous diagnosis letters, stating among other things:

> "A careful diagnosis of your case shows that you have *Obesity and associated conditions.*"

"Obesity and associated conditions" were the four words in the whole letter that were filled in by means of a typewriter; the balance of the letter, with the exception of the name and address of the patient, was printed in the usual imitation of typewriting. With this letter three prescriptions were sent. These prescriptions, printed in imitation typewriting on prescription blanks headed, "Private Office of Dr. Bertha C. Day," were an atrocious mixture of incorrect Latin and poor English, as may be seen by the photographic reproductions (Fig. 3).

After reading all that accompanied the prescriptions the cloven hoof became evident:

> "There are so many reasons why I am afraid you will not be able to get these prescriptions filled properly and at the right price, that I have decided . . . to supply you with the medicines you need direct from my office . . .
>
> "In order that you may begin treatment at once, to save you the trouble of ordering from me or of trying to have the various prescriptions filled, I have decided to send you the Special Treatment you need by Express, prepaid. I have paid the express charges so that all you have to pay the Express Co. is the reduced price of $2.50 which I am making to you."

Dr. Day then says that the patient is under no obligation to accept the package, but, as a physician, she feels it her duty to send the medicines at once. Furthermore, the $2.50 "also entitles you to my professional advice."

The victim, in this case, did not bite and received the usual series of follow-up letters urging her to take the package from the express company and to remit the money. Finally the patient wrote that she had not taken the packages from the express office because she could get the prescriptions filled at the drug store so much cheaper. Back came a letter, stating that this course was "perfectly satisfactory" to Dr. Day. How very unsatisfactory it was to Mr. Griffin's company is evident from the following paragraph:

> "I wish to warn you against trusting this work to a careless and unprincipled druggist who might substitute drugs similar but inferior to those called for in the prescription."

Further:

> "Be sure that all the medicines to be used internally *are prepared in tablet form.* This is very important." [Italics ours.—ED.]

Not content with vilifying the druggist and accusing him of substitution and lack of principle, those fakers are bound to make the patient dissatisfied with the druggist's work however honestly done. The main prescription of the three given above calls for desiccated thyroid and phytolacca berry compounded *in the form of a suppository.* Yet these humbugs have the effrontery to insist that the patient be sure that the medicine "be prepared *in tablet form.*"

CONCLUSION

So much for the methods of the Bertha C. Day mail-order medical fake. The dishonesty of the claims, the fraudulence of the methods and the general way in which the business is conducted, are all typical of those concerns which make a business of capitalizing suffering and defrauding the sick. Could that vast army of women whose gullibility permits these frauds to flourish but learn the hollow pretense on which such businesses are founded, the mail-order medical fake would cease to exist.

There are doubtless hundreds of thousands of men and women who really believe that the skilfully printed letters sent to them by mail-order quacks are special, personal and private communications. They doubtless believe too, that the "diagnoses" which these fakers furnish have actual value. They probably believe, also, that the pills of many shapes and colors that are sent out by these concerns have some peculiar potency and value not possessed by the drugs prescribed by the family physician. They must believe all these things or the mail-order medical business would not be profitable.

Did the victims of these sharks really know that the letters are printed by the hundreds of thousands and are "filled in" by girls who have no more medical knowledge than the average school-girl would have; did they know that the "diagnoses" are always worthless and sometimes dangerous; did they know that the medicines furnished are often the cheapest of cheap drugs bought in enormous quantities from the least reputable of drug houses; did they know, too, that after they had been bled to the point where they are unwilling to part with any more money, their letters would be sold to other vampires in the same business—did they know all these things, the firms that pretend to cure diseases about which they know nothing, with drugs about which they know less, in patients they have never seen, would soon be forced into some more respectable, if less profitable, line of business.

An Unscientific Prescription

To the Editor:—There have recently been published in the department of THE JOURNAL devoted to the "Propaganda for Reform," some excellent examples of shot-gun prescriptions, accompanied by terse and appropriate criticisms.

Below, I offer an exact copy of a prescription which a patient was given by a physician practicing at a mountain resort where she visited last summer. She affirmed that it did her much good, showed it to me for its educational value, would not part with it for anything, but permitted me to take a copy. I might add that her complaint was of a slight indigestion, and that besides these wonderful powders, she was ordered a daily enema consisting of 1 dram of turpentine in 2 quarts of water, and a diet consisting of milk and weak tea to be continued two weeks. She of course credited the powders with being the curative agent.

℞

P. Ex. Nucis Vom.	gr. 1/10
P. Ex. Casc. Sag.	gr. iii
Salol	gr. i
Pancreatin	gr. ii
Charcoal	gr. v
Pepsini Puri	gr. iv
Sod. Bicarb.	gr. x

D. T. D. Pulv. No. xvi.
Sig. One t.i.d. p.c.

I offer this in the hope that it may serve as a text for some further remarks on "prescription writing."

M. Schulman, New York.

Comment: The above prescription is not one to be recommended because it is an attempt to meet too many indications in the same formula. It is evident that the writer wished to give a tonic, a laxative, an intestinal antiseptic and a digestive agent. In order to meet all possible emergencies, he has introduced two digestives, one active in acid and the other in alkali. Of course, only one of these can be efficient, and as clinical experience shows that pepsin is secreted whenever acid is present, the pepsin in the prescription is superfluous. Furthermore, the prescription is an example of polypharmacy, and is to be criticized on this account, although it is not so bad in this regard. Such a combination would have a tendency to correct hyperchlorhydria, flatulence and constipation, and possibly it was given for such a purpose.

As we have frequently mentioned the desirability of making the language of a prescription correct and consistent, avoiding a hodgepodge of Latin and English, we need only add that the prescription given above has not been edited.

Correspondence

Physicians—The Supply and Demand

To the Editor:—We read now and then of the oversupply of medical practitioners in Great Britain, France, Germany and the United States. Is not this condition due to the congestion of favored localities and not to the demands of the world?

The relation of the medical profession to the movements for the spread of civilization and the development of backward regions of the earth has never been properly realized. There are as yet very few physicians appointed by civilized governments as functionaries, consuls and consular agents, but wherever they have been given official positions they have made good in an exemplary manner.

Countries imperfectly developed would benefit greatly by appointment of men with a medical training as officials in their remote districts. These men would enter fully into the life of the people, carry out sanitary regulations, keep accurate vital statistics, and would furnish reports on climates, soils, ethnology, geology and biology that would be of value to the government employing them and to the whole world.

Men of no other class are so well adapted for this work; their professional services and humane principles would insure the confidence of those placed under their supervision.

China affords an extensive field for physicians, and the great success of medical missionaries there and in India and Turkey shows that the harvest is plentiful even if the proper laborers be few. The United States furnishes a wide scope for medical men, not only in Alaska and the island possessions, but also as consular agents in South and Central America, in the Balkans, Asiatic Turkey, Persia and other unadvanced countries. The great success of Dr. Grenfell in Labrador shows what even one medical man can do, and what no one but a medical man could have accomplished.

William P. Whery, M.D., Fort Wayne, Ind.

What About the Medical Profession in This Country?

To the Editor:—Mr. Pritchett's article in The Journal, February 25, on criticisms of the Flexner report recalls some reflections I made at the time of reading the report. On pages 13 and 14 of the report the question of ratio of physicians to population in Europe and this country is discussed and the conclusions are based on the supposition that the same ratio of physicians to population would be sufficient for this country. Mr. Flexner's reasoning may be logical but I submit that his major premise, to wit, that this country can be served by the same ratio of physicians to population here as in Europe, is wide of the mark.

Medical attendance in European countries is a luxury, usually possible only to the better classes, at least until very recently when, for economic reasons, the state has brought it within reach of the workers in large industries to keep the latter going. The barbarous system of midwifery is still in existence among all but the highest strata of society—and the paupers at maternities. Just now, the Russian sanitarians are finding out that puerperal sepsis is as prevalent in midwife practice outside of institutions as before antiseptic days. It is beneath the dignity of a physician of continental Europe to attend an ordinary case of confinement, and it is beyond the ability of the ordinary industrial family to pay for such service.

In this country, conditions are entirely different. Our sense of humanity dictates that, in any case of confinement needing any attention beyond the good offices of the neighbor or relative female friend, the woman should have the assistance of a physician. Every American, or Americanized parturient demands it—it is a humane necessity to our women, a luxury to their European sisters. So far all industrial classes of our population outside of the slum districts and half civilized foreign quarters have been able to get this service and pay for it. And so with ordinary cases of sickness; here the masses send for the physician and are able to pay him, while among the masses in Europe the physician is not called except in extreme emergencies and the patient usually recovers or dies and no more is thought of it, except that it is an act of God.

I am not overstating it when I say that our higher standard of living demands at least twice as large a ratio of physicians to population as does Europe. The public is now demanding and paying for the services of twice as large a ratio of physicians. I am now speaking of conditions as I know them to exist in the northwest. There is no overcrowding of physicians in the northwest outside of the large cities; in fact, there are any number of good openings for men who are competent to do general practice and willing to drive out 10 or 15 miles in the country at night, any time of the year, for a reasonable fee. Now, understand, I say competent and willing to do general practice in small towns and rural districts.

I believe Mr. Flexner mentions one Johns Hopkins' graduate who settled in a rural district, and I know of a few others who could write B.A., M.A. and M.D. after their names who have settled in rural districts, but these are exceptions that prove the rule that the man who has the time and the money to spend ten of the best years of his life to acquire a medical education does not settle in small towns to engage in general practice. The demand now existing for a competent general practitioner cannot be filled from the high-class medical graduate—for obvious reasons, psychologic, social and commercial.

Mr. Flexner has done a valuable service to the medical profession of this country by fearlessly spotting the commercial diploma mills. But his constructive medical education program will not meet the needs of this country. We have, for instance, one good medical school in Minnesota, but the records of admission to practice here show that it is wholly inadequate to the needs of the state. Happily, Chicago is near by and can help us out, and our legislature has opened the door to the osteopath to supply any possible shortage of doctors. Mr. Flexner's Prussian idea of one doctor to every 2,000 population does not work in this country where a popular legislature and not the Kaiser's Kultus-Minister has the say in this matter.

Of late years the medical education theorist—Flexner is the type—has been raising the requirement for medical licensure to correspond with intramural conceptions. On the other hand, the public through the legislatures has been creating osteopaths and the like, to supply themselves with medical service outside of the regular profession; these two processes go on *pari passu*. The higher the professional requirement beyond a certain point—already passed in some states—the wider the doors for irregular "paths" and quackery are opened. It takes no prophet to see that if the medical theorist keeps forcing his hobby we shall soon have several legal medical professions in this country. How would it be if the general practitioner, the one who knows the needs of the people he is serving, were given a hearing on this question?

Christian Johnson, M.D., Willmar, Minn.

[Comment:—Our correspondent apparently misunderstands the argument. Mr. Flexner did not intend to imply that the Prussian ratio was applicable to this country. In the report referred to, at the bottom of page 16 and the top of page 17, it is distinctly stated: "We are not now arguing that a ratio of 1 :1500 is correct . . . Our contention is simply that, starting with our present overcrowded condition, production henceforth at the ratio of one physician to every *increase* of 1,500 in population will prevent a shortage, for the next generation at least." And in order to avoid any possible misunderstanding, the word "increase" in the report is in italics. As to the reluctance of well-trained physicians to locate in small towns, the same is apparently true of graduates of low grade colleges. Regarding such localities, Mr. Flexner says, (p. 15) "A century of reckless overproduction of cheap doctors . . . has not forced doctors into these hopeless spots." Furthermore, Mr. Flexner makes the suggestion on page 16 that, as a last resort, possibly the best way to get good men to go to unpromising locations is for "the several states to salary district physicians in thinly settled or remote regions."—Ed.]

The Plague in China

[Dr. Hiram Woods of Baltimore sends the following extract from a letter from a missionary in Paoting-Fu, China, who is supported by the First Presbyterian church of Baltimore.]

Feb. 5, 1911: We are in the midst of a siege of plague. This plague started in Harbin, Manchuria, late in November, or early in December, last year. The Chinese were very slow to take hold of it, and so it got a big start. Then other nations (Russia and Japan) said something must be done or they must interfere to stop its ravages. China, fearing lest these nations should get a greater foothold than they now have, asked for volunteers in our Union Medical College in Peking. Four men came forward to help. The Chinese also used the medical staff and the students in their two medical colleges in Tientsin. A professor from one of these colleges, Dr. Mesny, a Frenchman, went up, took plague and died, as did also one of his students.

The Chinese have been doing what they can to stop it in the original focus and in other places whence it has spread, but up to the present very little progress has been made in checking the epidemic. The medical missionary force has taken a leading part in the work everywhere, and one physician has died in Mukden, Dr. Johnson of the Scotch Presbyterian Mission. He seems to have taken every precaution, wore a respirator and covered himself well. He was a young man, very careful and conscientious, but his work of disinfection and segregation took him into crowded places.

This epidemic is not the bubonic form of plague but the pneumonic. It has been found that the greatest danger is air-borne infection; respirators are very necessary, therefore, when one comes in contact with infected individuals. Rats have been examined and no infection found in them. The government was very slow in stopping the trains, and the diesase was carried into China proper, and now it is present at many places in this province and in Shantung. Many workmen from these two provinces work in Manchuria, and when the plague broke out there they left for home. If the government had stopped the train service early, it could have prevented spread of the disease south of the government wall.

An individual only lives about two or three days, at most six, after taking the disease. There has not been a recovery in an authenticated case. A family came from Harbin to their home about 12 miles from here, and after arriving at home almost all the members were taken ill and died; other families were then taken ill. In all thirty-six persons have died in that small village. Two army physicians have gone down there to see what can be done in the way of isolating the families who have had plague and burning the houses and contents.

The officials have asked me to take charge of the sanitation of the city here and we have organized a plague prevention league. We meet every day and discuss measures by which we can prevent the plague from entering the city. Up to the present, we have had no authentic cases. Dr. Dilley of our mission in Peking, has kindly come to my assistance. He has taken charge of the hospital which we have prepared hurriedly for "suspects" and also takes the examinations of trains. We have been examining all passengers on the south-bound trains in order, if possible, not to allow the disease to spread further. We have heard of another place, 35 miles south of this city, where thirty persons have died in four villages. These villages will be examined and restrictive measures put on the migration of people. We are trying to instruct the entire police force here by daily lectures, lasting for an hour, so that if the disease should break out we will have some intelligent men to cope with it, who will know how to take a man to the hospital or a corpse to the cemetery without infecting themselves; and another batch to follow them in disinfecting houses. We are having all inns inspected twice every day so as to discover sick persons early and get them off to the "suspects" camp. We have three native doctors to help us; we ought to have fifty to do the work that should be done here to stop the ravages of plague if it gets into this city.

I have turned over my entire hospital force to the government service in this time of need, and I hope that this work with the officials may give us the opportunity to show them that we are not simply a cranky religious sect, but men who love our fellow men and serve our God, who is worthy of being their God and Savior.

I do not know when we will ever be able to do medical work, that is, to open our hospital here. Of course, if we got plague into it, we would be in a bad way, for it is said that burning is the only safe way to disinfect a building. I am afraid North China is in for a serious time for many years, and that our mission work will suffer much for this. It will be almost impossible to go to the country to work, as one would be constantly running into plague, and if this virulent form persists it means sure death to any one who takes the disease; as I have said, no one recovers. One can hardly dare to imagine the future of poor China for the next few months. The heat may stop the disease in a few months or so, or it may appear in bubonic form, when the flea season comes, and kill half the population; no one can tell. I wish America would show her friendship for this needy land now, and send out fifty sanitary engineers to cope with this awful pest, and thus save millions of lives that are worth saving. Can't you stir up President Taft or some big man to do this?"

Charles Lewis, M.D., Paoting-Fu, China.
Physician in Charge, The Taylor Memorial Hospital.

The Secret Commission Evil

To the Editor:—I have read with great interest the article and editorial on "The Secret Commission Evil," in The Journal, March 11. I am glad to see the Association take such a position, as here in Kansas, commission-giving is practiced to an appalling extent. I have been offered a commission from the owner of a private hospital on the hospital fees of any patients I might send. A dentist friend of mine tells me he has been approached by a physician with a suggestion that he give a commission on patients that he might send to him, and that this was not an uncommon practice. In Topeka, the ruling commission is 40 per cent, but one man has advanced it to 75 per cent.

In the last session of the legislature, the medical department of the university was interested in some bills which were introduced by a physician. A good friend of the institution told me that I had made a mistake in having a physician introduce any bills, as it always created a suspicion of graft and crookedness, and the members were very slow to accept it on that account.

I hardly know whether we can control this evil in Kansas or not. I have on file a letter, in reference to a statement that I made in regard to this thing, from a general practitioner which reads as follows: "I am surprised at the enclosed clipping. How many of the best surgeons in the state can you name who will not 'split the bill?' I do not know a surgeon in the state who would hog the whole thing."

I am afraid that this represents the feeling of a large percentage of physicians over the state. However, any help that you can give us in combating this evil will be greatly appreciated by at least some of us.

Mervin T. Sudler, M.D., Lawrence, Kans.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

JOURNALS ON SEXUAL PHENOMENA

To the Editor:—Please publish in your Department of Queries and Minor Notes the names of journals published in English or other language devoted to the study of sexual phenomena in any of their scientific aspects.

Joseph H. Toomey, M.D., Chelsea, Mass.

Answer.—So far as we know, the only journals devoted specifically to sexual phenomenon which are still being published are the following:

Die neue Generation, monthly official organ of the Bund für Mutterschutz, edited by Helene Stöcker, Berlin, Germany.

Sexual-Probleme, monthly, published by J. D. Sauerlanders, Frankfort on the Main, Germany.

Several others (chiefly German) have been discontinued. The transactions of several societies interested in the subject are published periodically. The transactions of the third congress of the Deutsche Gesellschaft zur Bekämpfung der Geschlechtskrankheiten are published under the title of "Sexualpädagogik."

SANITATION AND CIVILIZATION

To the Editor:—What evidence have we that our sanitary and other measures (in the broadest sense) are of ultimate value as opposed to the fatalistic neglect of such measures among Oriental nations? For example, if we reduce the number of deaths from tuberculosis, or from all infectious diseases, may not other diseases —existing or to be developed—restore a balance in this phase of evolution?

I have in mind a comparison, in a broad way, of the span of life and the mortality (per 100,000) among savage and civilized races through a period of centuries rather than years, as well as the span of life and mortality of civilized races compared with those of former times.

I have in mind also the immunity gradually acquired to diseases such as syphilis and measles (as in South Sea Islands), where such devastation occurred. I am thinking also of the law "a rise in birth-rate entails a rise in death-rate, and *vice versa*," and in a larger way "of life on a basis subsistence," according to Malthus.

H. B. Forbes, Ogden, Utah.

Answer.—A full discussion of the subject proposed by our correspondent would consume more space than would be profitable for The Journal to devote to it. The data as to mortality in uncivilized or partly civilized countries are not sufficiently accurate to afford a safe basis for comparison. Of course, the early infant mortality in uncivilized countries tends to the survival of strong individuals as the weak die out. This is, however, a loss, for many such individuals who are weakly in childhood grow up under favorable circumstances to become vigorous adults of great value to the state. It is amply demonstrated that civilized communities tend to increase in population to a greater extent than savage tribes, and this is largely due to hygienic progress and sanitary laws. The fact that the Indians in this country are dying out shows the operation of insanitary conditions in spite of long habituation which ought to have brought immunity and prolonged life if the theory under discussion were true. See also abstract of Prinzing's paper on this subject in the Berlin Letter, March 4, 1911, p. 682.

ETIQUETTE OF CALLS BY NEWCOMER

To the Editor:—Please give the ethics of calling for doctors locating in new territory. Should the newcomer call first on resident practitioners? Is the old custom reversed?

E. R. Barney, Wattsburg, Pa.

Answer.—Several years ago The Journal answered this question, but because of the time that has elapsed, we repeat: "It is an accepted custom for young physicians and newcomers to call on the older physicians and those of longer residence in the locality. It is a mark of courtesy and respect due from one locating in a new place. He thus announces his arrival and his desire to be recognized in professional circles and friendships." Some correspondence followed this "answer," which made it evident that this custom is sometimes confused with that which governs social relations when a family moves into a new locality.

THYROID IN HEMOPHILIA

To the Editor:—In reply to the communication of Dr. N. C. Miller in The Journal of March 18, I would like to recommend thyroid extract for his cases of hemophilia. In the *Annals of Surgery*, May, 1907, I published an account of a case cured by this drug after I had exhausted all the ordinary methods of treatment. I always give thyroid extract in cases in which I suspect a tendency to bleed or in which any such tendency is shown. Also, in cases of disturbed metabolism when the tissues are indolent thyroid gives good results.

J. Torrance Rugh, Philadelphia.

REMOVAL OF ADHESIVE PLASTER

To the Editor:—A little lard or hydrated wool fat (lanolin) rubbed into adhesive plaster will loosen it in a very few minutes and is much less unpleasant than gasoline or any other substance I have seen recommended in the recent discussion of this subject [Jan. 28, Feb. 25, and March 4, 1911]. Also, it can usually be found in every house. H. R. Coston, Birmingham, Ala.

The Public Service

Medical Department, U. S. Army

Changes for the week ended March 25, 1911.

Love, Joseph W., M.R.C., March 17, ordered to proceed from Fort Preble, Maine, to Fort Banks, Mass., for duty at that post.

Newton, Ralph W., March 17, ordered to proceed, about April 15, 1911, from Fort Revere, Mass., to Fort Andrews, Mass., for duty at that post.

Brooke, John D., and Hull, Alva R., cont. surgeons, March 11, entered into for duty as cont. surgeons, U. S Army.

Eyster, George L., March 20, entered into for duty as cont. surgeon, U. S. Army.

The following named officers of the M. R. C. will proceed to San Diego, Cal., and report in person to the commanding general of the maneuver camp at that place for duty: First Lieutenants Alleyne von Schrader, William T. Cade, Jr., Herbert H. Sharpe, James F. Johnson, Bert R. Huntington, Harry G. Ford, Paul W. Gibson, Francis X. Strong and Robert C. McDonald.

The following named officers of the Medical Reserve Corps will proceed to San Antonio, Texas, and report to the commanding general, the maneuver division, for duty: First Lieutenants George E. Pariseau, Lauren S. Eckels, Lloyd A. Kefauver, John S. Coulter, Thomas J. Flynn, Frederick H. Foucar, Joseph L. Siner, John R. McKnight, Eugene G. Northington, Samuel S. Creighton, Robert H. Cantt, Edward C. Register, William Denton, George C. Divins, Howard Clarke, Clemens W. McMillan, Sanford W. French, Joseph O. Walkup, Horace M. Roberson, Leonard S. Hughes, Charles E. McBrayer, George B. Lake, Fred R. Burnside, Albert P. Clark, Daniel F. Maguire, Raymond W. Mills, Henry C. Maddux, Jay D. Whitham, Leo C. Mudd, Josiah H. Holland, John M. Willis, John J. Reddy, James L. Robinson, Henry C. Michie, Jr., Frank N. Chilton, Henry P. Carter, Harley J. Hallett.

Schreimer, E. R., major, March 16, reports arrival at Douglas, Ariz., with headquarters 3d Squadron and Troops I and K, 1st Cavalry.

Wolven, Homer F., D.S., March 12, returned to Vancouver Barracks, Wash., from temporary duty at Boise Barracks, Idaho.

Lynch, Charles, March 20, detailed to take charge first aid department of American National Red Cross.

Brown, Ira C., M.R.C., March 18, ordered from Fort Lawton, Wash., to Fort Douglas, Utah, for temporary duty.

Craft, Edgar D., M.R.C., March 21, relieved from duty at the Army Medical School in this city and ordered to Walter Reed General Hospital, Takoma Park, D. C., for duty.

Hemans, H. W., M.R.C., March 14, ordered to proceed from Fort Wayne to Fort Brady, Mich., for temporary duty.

Griffis, Frank C., M.R.C., March 20, ordered to proceed from Fort D. A. Russell, Wyo., to Fort Robinson, Neb., for temporary duty.

Medical Corps, U. S. Navy

Changes during the week ended March 25, 1911.

Farenholt, A., surgeon, detached from the naval hospital, Puget Sound, Wash., and ordered to the marine recruiting station, San Francisco.

Smith, W. B., P. A. surgeon, detached from the marine recruiting station, San Francisco, and ordered to the Naval Medical School, Washington, D. C., for instruction.

McCormick, A. M. D., medical inspector, commissioned medical inspector from Feb. 8, 1911.

Fiske, C. N., surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Georgia*.

Webb, U. R., surgeon, commissioned surgeon from Jan. 7, 1911.

Oman, C. M., surgeon, commissioned surgeon from Feb. 8, 1911.

Bachman, R. A., surgeon, commissioned surgeon from Feb. 27, 1911.

Sutton, D. G., P. A. surgeon, commissioned passed assistant surgeon from Nov. 29, 1910.

Sheehan, R. F., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *Minnesota*.

Eaton, W. E., asst.-surgeon, detached from the Naval Medical School, Washington, D. C., and ordered to the *North Dakota*.

Ledbetter, R. E., surgeon, detached from the naval station, Cavite, P. I., and ordered home to await orders.

Peck, A. E., surgeon, detached from the naval hospital, Canacao, P. I., and ordered to the naval station, Cavite, P. I.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 22, 1911.

Cofer, L. E., asst. surgeon-general, detailed to deliver a lecture at Cornell University on "National Quarantine Measures," March 21, 1911.

Woodward, R. M., surgeon, directed to proceed to Cleveland, Ohio; Buffalo, N. Y., and Pittsburg, Pa., on special temporary duty, March 7, 1911.

Wertenbaker, C. P., surgeon, directed to proceed to Cape Charles quarantine on special temporary duty, March 17, 1911.

King, W. W., P. A. surgeon, granted three weeks' leave of absence from April 7, 1911.

Chapin, C. W., asst. surgeon, granted twenty-one days' leave of absence from March 1, 1911, on account of sickness.

Hasseltine, H. W., asst. surgeon, directed to proceed to San Francisco and report to the medical officer in command for duty and assignment to quarters.

Leake, J. P., asst. surgeon, directed to proceed to Arundel Cove, South Baltimore, Md., and report to the commanding officer of the Revenue Cutter *Algonquin* for duty.

Stevenson, J. W., A. A. surgeon, granted nine days' leave of absence from March 23, 1911.

Cumming, Hugh S., P. A. surgeon, commissioned a surgeon (recess), to rank as such from March 15, 1911.

Cofer, L. E., P. A. surgeon, commissioned a surgeon (recess), to rank as such from March 15, 1911.

Boards of medical officers were convened to meet on April 3, 1911, for the physical examination of candidates for appointment as cadet engineer in the Revenue-Cutter Service, as follows:

Baltimore.—Surgeon W. P. McIntosh, chairman; Passed Assistant Surgeon Dunlop Moore, recorder.

Detroit.—Surgeon R. M. Woodward, chairman; Passed Assistant Surgeon M. J. White, recorder.

Boston.—Surgeon L. L. Williams, chairman; Passed Assistant Surgeon G. L. Collins, recorder.

New York.—Surgeon H. W. Austin, chairman; Passed Assistant Surgeon W. A. Korn, recorder.

Philadelphia.—Surgeon W. C. Stimpson, chairman; Surgeon J. H. Oakley, recorder.

Seattle.—Passed Assistant Surgeon B. J. Lloyd, chairman; Acting Assistant Surgeon F. R. Underwood, recorder.

Milwaukee.—Surgeon J. O. Cobb, chairman; ...., recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

Newspaper Editorials on Medical Subjects

The growing interest of laymen in public health and medical questions is shown by the increasing amount of newspaper space devoted to the discussion of such subjects. We quote from a few recent editorial utterances:

Under the title of "Sectarian Legislation," the Milwaukee *Free Press* discusses, in a strong editorial, the relation of the state to the practice of medicine. Commenting on the protest made by "Christian Scientists" against the bill introduced in the Wisconsin legislature providing for the medical examination of school schildren, the *Free Press* says:

> "The protest . . . foreshadows a difference of opinion certain to become acute whenever sects become numerous enough to have an influential voice in the framing of our laws. Those who would be the last to interfere with another's religious belief will find themselves constrained to protest against regulating society in general in accordance with the Christian Scientists' construction of the laws of hygiene. For suggestions of disease are conveyed not alone by medical examinations, but by every placard marking a house where some contagious disease is quarantined, by every antispitting notice, every sanitary drinking fountain, in short by every one of the precautions through which modern science seeks to safeguard health and check the spread of disease.
>
> "Experience shows that every parasite that infests the human body (and most skin diseases are parasitic) can be conveyed from one to another; that every juvenile disease, mumps, measles, chicken-pox, scarlatina, is highly contagious; that the most deadly infections that poison the human system may be contracted by contact of one with another; and that nothing could be better calculated to communicate any of them than children's games, with the playing and romping natural to all normal children. One of the reasons why a health examination is proposed for all schools is that the healthy may not be infected by the diseased, and that obscure diseases or ailments which have escaped the child's guardians, else he would not be in school, may at once be looked to and relieved.
>
> "The other reason why school children are to be subject to examination has to do with eugenics, the new science that concerns itself with the welfare of society. Observation proves that schooling is thrown away on a sickly, a hungry, or a suffering child. Only normal pupils, well-nourished and in good health, are in condition to assimilate learning; on the others teaching is worse than thrown away. Neglected teeth, abnormal growths in nose and throat, imperfect vision and hearing have been found to have much to do with the backwardness of defective children, although most of these are easily remedied in the young, and when cured the mental deficiency frequently disappears.
>
> "That is why the state is undertaking to make education effectual by attending to the physical condition of the children, and providing in case of poverty free medical, surgical or dental treatment with intent to make them first of all healthy little animals, to the end that bodily discomfort shall not incapacitate them for mental training. This is one of the most enlightened measures ever applied to the public school system, and it would be a thousand pities to let the theories of any sect interfere with it.
>
> "At present Christian Scientists are living in safety because they are a fraction of a law-abiding community. But, supposing them in the majority, the enforcement of their views would mean that there would no longer be such a science of sanitation; we should speedily revert to the era of epidemics; small-pox, cholera, typhoid, which are now avoided in crowded cities only by stringent regulation; tuberculosis, with nothing doing to abate its ravages, would soon regain lost ground, and puerperal infection would again number its thousands of victims. Modern therapy is becoming more and more a question of the prevention and combating of infection; Christian Science denies the existence of infection; on this vital issue the two are flatly opposed. Now is as good a time as any to determine whether medical experts and men eminent in research are to be our guides in matters of health."

The Louisville (Ky.) *Courier Journal*, after commending the Kentucky State Board of Health for enforcing the laws for the protection of public health says:

> "Those laws are none too strict as they are. Indeed, under them many a man is 'practicing medicine' who ought to be practicing blacksmithing and it is only flagrant cases of quackery that can be reached by the law. . . It is not an easy work at any time but when in addition to the opposition of the mountebanks themselves, it must meet the opposition of the ignorant and credulous who are the willing victims of the mountebanks, its task is one of increasing difficulty. It is a prevailing weakness of poor human nature which makes men and women—even intelligent men and women—fall so easily the prey of charlatans in and out of the medical profession. In order to help such people the law must do it in spite of themselves, and even in the profession whose protection, as well as that of its patients, is the object of the board, there are all too many who obstruct it with petty jealousies and unworthy suspicions."

Commenting on the work of the state medical society for the advancement of public health, the Columbia (S. C.) *State* says:

> "Until comparatively recent years the medical practitioners were content to give one patient at a time such relief as lay within their power and retire, but the broader and better point of view of the medical profession now is that the state, which is to say, all the people, is their care. Quietly, without advertising or ostentation, the profession has set itself to diligent endeavors to remove the cause of disease by educating the public to the truth that the conditions in which disease germinates and flourishes ought

not to exist. . . In the building of the Panama Canal, members of the medical profession have been the field leaders. They made progress possible. A great part of the state of South Carolina must be redeemed before it can be properly and profitably used by men and women, and one can think of nothing that would more quickly redound to the prosperity and happiness of the people than the acceptance of the leadership of the doctors in their efforts to bring about this redemption, a leadership which the doctors do not seek.

"The medical profession has never been selfish. It has always been self-sacrificing but its attitude has changed in that it has assumed a responsibility to the public which formerly was confined for the most part to the individual, and the invaluable opportunity of the public is to cooperate through its intelligent laymen, with a medical campaign that would assail the fortified breeding grounds of disease as well as to remove a disease or relieve pain from the particular victim that it has seized.

"This new and splendid demonstration by the medical practitioners as yet is scarcely understood by the laity but it is going on in South Carolina and if the people have regard for their interest, commercial and industrial, as well as physical, they will help the doctors and give them heed in their far-reaching activities to prevent and drive out the illness that flesh is heir to."

The Boston *Advertiser*, commenting editorially on bubonic plague and its ravages in Asia, says:

> " . . . The Massachusetts legislature has a duty to perform in making sure that the power of the State Board of Health shall be adequate and conditions favorable, for full protection of the public health. Possibly the legislature is so busy playing politics, that it cannot afford to waste much time on so trivial a subject. . . The powers of the State Board of Health are badly limited even now, as the result of agitation by commercial interests which . . . more anxious to make big profits than to keep their customers safe from contagion have pushed through former legislatures one bill after another with the idea of preventing the board's interference with the sale of products dangerous to the public health. . . It is about time for the public to take some interest in this matter. . . The public has a right to know and should know the names of the men who are trying to abolish the powers of the one board which stands between the people and the dangers of wide-spread contagion."

Discussing national health legislation, the Erie (Pa.) *Dispatch* says:

> "This country certainly needs a department of health as a regular part of its national administration. This department ought to have as much power and influence as any of the departments of the cabinet. . . One of the first tasks such a department would undertake would be the prevention of the pollution of the waters of the great lakes. The great lakes are nothing but a great open sewer for all of the large cities bordering on them. . . The cities on this lower end of the lake would feel a great deal more satisfied if the matter were officially investigated and the actual truth of the situation determined by an official study of prevailing conditions by a department of the federal government. It is entirely too vital a question to leave to the surmises and hypotheses of local boards."

The Atlanta (Ga.) *Constitution* in a strong editorial on public health says:

> "We are not at present adequately conserving the lives and health of the men, women and children whose sustained vigor is the final safeguard of American institutions. As was shown in the congressional debate last year . . . hundreds of thousands of people die prematurely and needlessly in America every year; millions are half-incapacitated the year round by semi-invalidism . . . Spending enormous sums on the pork-barrel, squandering millions on unjustified additions to the pension system, sinking money in battleships doomed to the junk heap . . . we neglect those factors on which perpetuity of government and prosperity in America depend—the men, women and children. Perhaps, in the course of time, some governmental department will find time to pay as much attention to eradicating disease among human beings as among cattle and hogs."

Discussing the relation of health legislation to industrial and labor problems the Omaha *Bee* says:

> "The American Association of Labor Legislation . . . estimates that more than 13,000,000 cases of sickness occurring annually among industrial workers, represent a national loss of three-quarters of a billion dollars. . . It should not be necessary to reduce the loss to a money basis to obtain an attentive hearing. It should be enough simply to say that human life, without any regard to a money consideration, is being wasted by lax methods of sanitation. . . . One of the sanest and best enterprises ever undertaken in this country is the conservation of human resources. . . . The people are willing to waive their claim to a protest against the seeming necessity of first resolving the question into terms of dollars and cents. . . This financial aspect may serve to arouse a lethargic public conscience to the overwhelming need of improving the conditions in which women and children work as a prime factor in their health."

Newspapers frequently criticize physicians as a class and it may have seemed to some that recently the profession was getting rather more than its share of such criticism. There has never been any question, however, as to the appreciation of the physician as an individual, as shown by the recent editorial in the Washington *Herald*:

> "Of all the servants of mankind, the physician is apt to be the most abused. We criticize him and pigeonhole his bills, but at the first twinge we are jangling his bell in alarm. . . The physician is the man who must be ready always. Neither minute-hand nor hour-hand describes a time when he is not on duty. If he gets a whole night's rest, it is because the community happens to be free from aches and pains. He is the slave of telephone, night-bell, door-bell and office-bell.
>
> "After a hard day's work, another man goes to bed with the sense of having earned his rest; but the probabilities are that the physician will be asked to respond to some one's beck and call. He is altogether a special kind of person. His illusions are few. His inside information is enormous. If now and then he wears a superior smile, forgive him. He has probably just heard some remark which he knows to be hypocritical. Again, his jokes are likely to be a bit technical, and his view of life materialistic. But if he has a brand of idealism, you can put your trust in it, for he has learned it in a hard school. He has faced the worst, and can still believe the best. If he has religion, it will be worth while, for he has wrested it out of the actual battles of good and evil in a life seen at close range.
>
> "The lawyer we take into our confidence occasionally; the clergyman we admit to parlor and dining-room; but the doctor goes into bedrooms unannounced If what he sees there surprises him, he does not let it be known. In the healing of bodies he has opportunities for healing souls which could never come to a priest. He is the lay father confessor, regardless of creed. He always fits in. He is a safe man on committees; he can turn his hand to any public business, and, if left alone, discharges it creditably. He knows more psychology in five minutes than the philosopher in a week, yet he is the least emotional of men.
>
> "When the lawyer is in tears before a jury, and the parson is pathetic from his pulpit, the doctor is keeping his nerve. The peculiar thing about him is that while fighting his grim and silent battle with death, without the applause of a crowd, often without pay, and sometimes without gratitude, he seems superior to all these considerations. He is responding to a higher sort of *noblesse oblige* which is almost unintelligible to the average man. Somewhere, either in this world or the next, he will reap his deserved reward."

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—First Weekly Meeting

General Subject for the Month: Diseases of the Circulatory and Nervous Systems in Children

DISEASES OF THE CIRCULATORY SYSTEM

PHYSIOLOGY: Changes in circulation at birth. Pulse in infancy and childhood. Weight, size and rate of growth of heart. Physical examination of heart in infancy and childhood.

Congenital Heart Disease

Pathology: Defect in ventricular septum, in auricular septum, pulmonary stenosis, patent ductus arteriosus, abnormal origin of large vessels. Multiple defects. Secondary lesions.

Symptoms: Cyanosis, murmur, enlarged right heart. "Clubbing" of fingers and toes. Blood changes.

Prognosis.

Acute Endocarditis

Primary or secondary. Relation to rheumatism and chorea. Symptoms and diagnosis. Treatment.

Chronic Valvular Disease

Pathology: Changes occurring in valve segments, secondary changes, hypertrophy and dilatation.

Clinical Varieties

Mitral Insufficiency: Frequency, causes. Symptoms. Diagnosis.

Mitral Stenosis: Frequency, associated lesions. Diagnosis.

Aortic Stenosis: Frequency, associated lesions.

Tricuspid Insufficiency: Secondary to other valvular lesions or to pulmonary lesions. Diagnosis.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, April 3-4. Sec., Dr. Ancil Martin.

California: San Francisco, April 4. Sec., Dr. Charles L. Tisdale, 929 Butler Bldg.

Colorado: Denver, April 4. Sec., Dr. S. D. Van Meter, 1723 Tremont Place.

District of Columbia: Washington, April 11. Sec., Dr. George C. Ober, 125 B St., S.-E.

Georgia Eclectic: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

Idaho: Boise, April 4-5. Sec., Dr. O. J. Allen, Bellevue.

Minnesota: State University, Minneapolis, April 4. Sec., Dr. W. S. Fullerton, 215 American National Bank Bldg., St. Paul.

Montana: The Capitol, Helena, April 4. Sec., Dr. William C. Riddell.

New Mexico: Santa Fe, April 9-10. Sec., Dr. J. A. Massie.

Oklahoma: Oklahoma City, April 11. Sec., Dr. Frank P. Davis, Enid.

Rhode Island: State House, Providence, April 6-7. Sec., Dr. Gardner T. Swarts, State House.

Utah: Salt Lake City, April 4-5. Sec., Dr. G. F. Harding, 310 Templeton Bldg.

West Virginia: Huntington, April 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

Higher Entrance Standards

An official announcement received from the School of Medicine of Georgetown University, Washington, D. C., states that after Jan. 1, 1912, in addition to a four-year high-school education, two years of collegiate work will be required for admission; this additional work to include courses in physics, chemistry, biology and a modern language, either French or German.

Besides the forty medical colleges which require one or more years of collegiate work, there are now six others, or a total of forty-six, which by 1912 will have advanced requirements. Not only are medical colleges taking this action, but also the licensing boards in eight states have adopted a like standard as their minimum of preliminary education, and several other states are now endeavoring to secure legislation which will enable them to do likewise. It is safe to say that within the next few years all the better medical colleges, as well as the states which have secured a better control of medical licensure, will have adopted these higher requirements.

This advance will not only bring some relief to the overcrowded medical curriculum, but it will also secure for the medical schools more intelligent students who will be more able to comprehend and to make use of the intricate facts which make up the modern medical course. Certainly no measure in the effort to improve the quality of physicians is of greater importance than this decided advance in the entrance standards to medical schools.

Presented Forged Credentials

A medical student by the name of Lutf Joseph Rashid was recently dismissed from St. Louis University School of Medicine on account of his having presented forged credentials. These credentials consisted of a printed document which made it appear that he had passed successfully in all the subjects of the freshman year at the Northwestern University Medical School, where he attended in 1909-'10. Correspondence between the deans of the two colleges revealed the fact that instead of passing in all subjects at Northwestern, he had failed in three out of four branches at the end of the first semester, in six out of seven branches at the end of the year, and that he had been dismissed by the last-named school on account of poor scholarship. This incident shows that no medical school should accept credentials at their face value without obtaining corroboratory evidence from the college or colleges which the student claims to have attended. Numerous forgeries have been discovered by this method, adopted as a routine by some colleges, which otherwise might not have been detected.

Minnesota January Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written and practical examination held at St. Paul, January 3-6, 1911. The number of subjects examined in was 11; total number of questions asked, 110; percentage required to pass, 75. The total number of candidates examined was 9, of whom 6 passed and 3 failed. Thirteen reciprocal licenses were granted. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School	(1910)	79.5, 88.5
Boston University	(1908)	89.8
University of Michigan, Dept. of Med. and Surg.	(1895)	78.7
Jefferson Medical College	(1909)	76.6
Marquette University, Milwaukee	(1910)	80

FAILED

College	Year Grad.	Per Cent.
Hamline University	(1908)	66.9, 73.9
Marquette University, Milwaukee	(1910)	68.1

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1909)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
Keokuk Medical College, Coll. of Phys. and Surg.	(1906)	Iowa
State University of Iowa, College of Medicine	(1906)	Iowa
University of Maryland	(1878)	Maryland
Creighton Medical College	(1910)	Nebraska
University and Bellevue Hosp. Medical College	(1899)	Colorado
Columbus Medical College	(1887)	Ohio
University of Pennsylvania	(1910)	Maryland
Medical College of Virginia, Richmond	(1907)	Virginia
Marquette University, Milwaukee	(1910)	Wisconsin
Queen's University, Kingston, Ontario	(1906)	Iowa
University of Turin, Italy	(1895)	Michigan

Rhode Island January Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, Jan. 5-6, 1911. The number of subjects examined in was 11; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 11, of whom 9 passed and 2 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Yale Medical School	(1910)	91.5
Baltimore Medical College	(1910)	86.9
Johns Hopkins University	(1908)	90.1
University of Maryland	(1910)	80
Harvard University Medical School	(1909)	87.9
Tufts College Medical School	(1909) 81.8, (1910)	89.4
Starling-Ohio Medical College	(1909)	80
McGill University, Montreal, Quebec	(1908)	89.3

FAILED

Baltimore Medical College	(1909)	77.2
University of Vermont	(1910)	74.7

Book Notices

A Handbook of Practical Treatment. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. Volume 1. Cloth. Price, $6 net. Pp. 909, with 233 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Renewed interest in therapeutics is indicated by the publication of several recent works dealing with diseases specially from the standpoint of treatment. This interest accounts for the present work, which is to consist of three volumes and to comprise both a discussion of general principles and a detailed application of methods to individual diseases. The first volume, a book of 909 pages, is before us. It presents the views of a large number of writers and exhibits the faults as well as the virtues of the composite book. Most of the articles, however, are excellent, as might be expected from the names of the authors.

The introductory article by Musser gives a brief but excellent discussion of the relation of therapeutics to biologic processes and the defensive actions of the organisms.

The article on serotherapy, by Hektoen, is an excellent one, and presents this important subject in a scientific manner, and at the same time in language easily understood by all. The chapter on "Drug Poisonings and Drug Habits," by Horatio C. Wood, Jr., is comprehensive and practical. "Exercise, Massage and Mechanotherapy," by F. Tait McKenzie, thoroughly covers the field. Special attention is given to apparatus, this part of the article being well illustrated. The method of reeducating the muscles in locomotor ataxia is extensively described. Among "Miscellaneous Therapeutic Measures," by George P. Müller, a description of the hyperemic method of Bier is given, and other technical methods are described.

In an otherwise excellent article on "The General Care and Management of the Sick," by M. Howard Fussell, we read: "Headache, especially of nervous character, may be relieved by acetanilid, administered in 5-grain doses repeated half-hourly for four doses." These doses are large; it would be dangerous to give 20 grains of this drug within two hours to a nervous patient. At least a word of warning should have been incorporated. Some other method of quieting nervous headaches might also have been mentioned. The author gives sage advice, however, in the same section as to the inadvisability of prescribing for cough without careful diagnosis, especially emphasizing the danger of overlooking tuberculosis; and at the same time he warns against hasty diagnosis of this disease on insufficient signs.

The article by Edsall on "The General Principles of Dietetics" is one of the most useful chapters in the book. The subject is thoroughly and scientifically discussed, and yet in such a practical way that its importance and value will be readily appreciated even by the medical student. It is a pity that such reliable and practicable information on this important subject is not more frequently found in text-books. Only praise can be given to the article by Maynard Ladd on "The Dietetics of Infancy."

The article on "Drug Therapy," by Sir Lauder Brunton, is disappointing. While it is an exhaustive discussion of the whole subject of drug therapy, one would imagine, on reading part of it, that one was reading a chapter from a text-book of a quarter of a century ago. The use of "hydrocarbons" as a term for fats, while intelligible to those familiar with the older literature, can only confuse and mislead readers accustomed to present-day chemical nomenclature. Again, the fascinating theory in vogue thirty years ago that acids inhibit acid secretions and vice versa, and that alkalies stimulate the secretions of acids, is reproduced and applied especially to the secretion of the gastric juice, in spite of the fact, long since proved by experiment, that alkalies exert no such influence on the secretory activity of the stomach.

The chapter is also sadly marred by a tendency to the indiscriminate admission of proprietaries. It is rather strange that the editors would allow such nostrums as "Phenalgin" and "Cactina" to be recommended in the book. While a discriminating discussion of the value of proprietaries that are really deserving of recognition should be welcome in a work like this, we can but regret the presentation, in so excellent a book, of such an indiscriminate list as is brought into this chapter by Sir Lauder Brunton. We feel that so far as this part is concerned, it represents English rather than American views at the present time.

"Organotherapy," by Warren Coleman, presents a comprehensive but conservative view of the present state of knowledge regarding these methods. The rest cure, the work cure and psychotherapy are discussed by Charles W. Burr. Psychotherapy is very briefly considered in view of the extensive notice that it has recently received. Hypnotism is rather discouraged as the author has seen distinct injury from its improper use. An interesting chapter is that on artificial aerotherapy by Henry Sewall. "Electrotherapy," by J. M. Mosher, gives an excellent account of methods and indications. An admirable feature of this chapter is the summing up of the present status of electricity in general medical practice in three short paragraphs. Radiotherapy is treated by H. K. Pancoast. The author includes a consideration of radium, which, however, he thinks is not likely ever to equal the *x*-ray in general efficiency. Space does not permit a review of the articles on sunstroke by Tyson, diseases of the blood by Cabot and diseases of the lymphatic system and ductless glands by Dock. The excellency of these articles may be assumed from the names of their authors. The other articles dealing with minor subjects which space does not permit us to consider in detail are also excellent.

The first volume indicates that in spite of minor defects the complete work will be one of real value and if the standard set by the majority of the writers who have contributed to this is maintained in the succeeding volumes, the work will take high rank; it certainly will meet the needs of all classes of physicians.

Urinary Surgery. A Review. By Frank Kidd, F.R.C.S., Assistant Surgeon to the London Hospital. Cloth. Price, $2.60. Pp. 429, with illustrations. New York: Longmans, Green & Co., 1910.

The opening statement of this book describes it as "an attempt to review for the use of the practitioner the progress of urinary surgery during the last decade." The attempt has achieved notable success; the text is admirable in conception and execution—a terse, clear, complete presentation of etiology, diagnosis and the principles of treatment.

Among the few errors of sufficient moment for correction are the following: the usual recommendation of suprapubic aspiration instead of a single puncture for the insertion of a catheter, as the means for the relief of urinary retention; the advice to use cocain for anesthesia of urethra and bladder—a drug usually abandoned as dangerous in the urinary channel; and the usual failure to teach that tuberculosis of the urinary and genital tract results from a vice of nutrition which must be corrected by constitutional treatment (especially hygiene and tuberculin), to which treatment the knife is always subsidiary. In this book the local tuberculous focus and its removal by the knife obscures the major object of treatment—the correction of the constitutional defect.

The book is worthy of recommendation to both the general and the special practitioner.

The Prevention of Sexual Diseases. By Victor G. Vecki, M.D., ex-President San Francisco German Medical Society. With Introduction by William J. Robinson, M.D. Cloth. Price, $1.50. Pp. 132. New York: The Critic and Guide Co., 1910.

This little book contains a frank exposition of the author's ideas of this complex and important subject. As causes of the prevalence of venereal diseases, he gives ignorance, prostitution and alcohol. To overcome ignorance, the author advises education all along the line. The question of alcohol, he does not attempt to solve. The question of prostitution, he discusses in a sane and logical manner. He is a firm believer in segregation, as in this way only, he thinks, is it possible to accomplish a humane supervision of the prostitute. He condemns the reporting of cases of venereal disease and endorses the Detroit plan. What the book lacks in literary style, it makes up in sincerity and enthusiasm

Medicolegal

Information Obtained by Physician Appointed to Make Examination Not Privileged

The Court of Appeals of New York holds in the homicide case of People vs. Austin (93 N. E. R. 57), that information acquired by a physician through examination without intention or expectation of treatment is not privileged. In this case counsel for the defendant applied to the court, just before the trial, on an affidavit setting forth that the defendant was without means with which to procure the services of a physician to examine the defendant as to his sanity, so that his testimony might be used at the trial of the action, and asked that a physician be appointed to examine into the condition of the defendant and attend on the trial and testify, if the defendant so elected, and that the charge for such services of the physician be made against the county. The order was made, and the physician so appointed examined the defendant, but he was not called on behalf of the defendant as a witness at the trial. He was, however, called by the district attorney, after testimony as to the defendant's sanity had been offered, though three or four preliminary questions only were allowed to be answered, anything further being deemed privileged. That the witness should give any testimony was claimed to be error, but the court does not think that the defendant was prejudiced.

The testimony of a physician, the court says, was not excluded at common law. It is not privileged by the present New York statute (section 834 of Code of Civil Procedure), except when his information is "acquired in attending a patient, in a professional capacity," and where such information "was necessary to enable to act in that capacity." This court has frequently held that the burden is on the party seeking to exclude the testimony of a physician under said Section 834 to bring the case within its provisions.

It is clear from the statute itself and from the authorities that if the physician never attended the defendant in a professional capacity and never obtained information from him to enable him to prescribe in such professional capacity, he can testify the same as any other person. In such a case the seal of confidence existing by virtue of the statute between physician and patient and made necessary to obtain the fullest information in no way applies. It did not appear in this case from anything before the court that the physician, by what he said to the defendant, led him to believe that he was there to prescribe for him, or that the defendant by what was said by the physician was led to accept him as a physician and consequently to disclose to him information that perhaps would not otherwise have been given. Where a physician is sent to a jail by the district attorney to make an examination of the prisoner's mental and physical condition, the relation of patient and physician as contemplated by Section 834 does not exist, and the prisoner is not thereby compelled to furnish evidence against himself. There was nothing disclosed in the record in this case to show that the examination which the physician made of the defendant in the presence of his counsel was not competent, or that it was privileged by reason of Section 834.

Counterclaim Wrongly Allowed in Action for Services—No Implied Contract to Cure

The St. Louis Court of Appeals holds a new trial to be necessary in the case of Ruth vs. McPherson (131 S. W. R. 474), where the jury returned a verdict for the plaintiff for $225 for professional services, and for the defendant in the sum of $725 on a counterclaim for damages for malpractice, based on an alleged contract to heal and cure, or a net sum of $500. The court says that the jury by their verdict in favor of the plaintiff on his account must have found that the facts set out by the plaintiff in that account as to the rendition of the services and their value, and that they had been rendered at the instance of the defendant, were correct. To so find the jury must have concluded that the defense which the defendant interposed to that account, namely, unskilfulness in rendering them, was not sustained; that is, the jury by their verdict of $225 on the account in favor of the plaintiff necessarily found against the defendant on all of his averments as against that account. Having so found, then to turn round and find a verdict in favor of the defendant on his counterclaim, which counterclaim, to all intents and purposes, was founded on the identical defenses set up to the account, was utterly irreconcilable with the verdict in favor of the plaintiff on that account. Hence, as being inconsistent with itself on the issues, the verdict, as a whole, could not stand. Moreover, the counterclaim was specifically based on an alleged special contract whereby the plaintiff undertook as a physician and surgeon to attend and to cure and heal the defendant, but there was not an iota of testimony to prove any special contract. It is not within the implied contract of a surgeon employed to operate, or of a physician to attend on a patient, that he will heal and effect a cure. Any such contract must be an express one; it is not implied by the mere employment. To use skill, etc., is all that is implied in the mere employment of a physician or surgeon. Considering the averments of the counterclaim in this case, on which the defendant recovered damages, and in which counterclaim the averment of the contract to heal and cure was distinctly contained, the court holds it to be an averment which could be sustained only by proof of an express contract, a contract outside of the implied contract under which a surgeon is employed.

Latitude Allowed in Hypothetical Questions

The Supreme Court of Indiana says, in Taylor vs. Taylor (93 N. E. R. 9), that a party may put his hypothetical case as he claims it to be proven, or within reasonable inferences from the evidence, and the jury determines whether it is so supported by the evidence as to be of any value, or as to the weight and value they will give it. The opinion may be tested by cross-examination, by omissions and additions to the original question, or by an entirely new state of facts. If facts are assumed in a hypothetical question which are clearly so exaggerated as to impair the opinion, or are such manifest assumptions as to be misleading, confusing, and aside from evidence or fair inferences from the evidence, it should be excluded, and its admission might be prejudicial error in a given or specific case. But the weight and value of the opinion is a question for the jury, and depends for its value on there being evidence, admissions, or facts proved, on which it is based. And even if the question is faulty by the insertion of some facts not supported by the evidence, so that, uncorrected, an error might occur, it is corrected by an instruction to the jury that, if any of the material facts contained in the question are not shown by the evidence to be true, they are not to be taken as true, because embraced in the question, and, if of such character as to destroy the reliability of the opinion based on the hypothesis stated, the jury should attach no weight whatever to the opinion.

Medical Practice Act Not Invalidated by Provision as to Prayer

The Court of Appeal, First District, California, holds, in Ex parte Bohannon (111 Pac. R. 1039), that the medical practice act of that state of 1907 is not rendered unconstitutional by the proviso that nothing therein shall be held to apply or to regulate any kind of treatment by prayer. It was contended that this exemption made the whole act unconstitutional and void, and that it gives to a certain class of persons, to wit, those who treat physical ills by prayer, privileges and immunities, which "under like conditions are not granted to all citizens." But the court does not so construe the section. If prayer can be regarded as practicing medicine and as an immunity, the act, the court says, allows every person, man, woman or child, such immunity and the right to pray for the sick and afflicted, and that is the only way that disease can be treated by prayer. Whether such treatment avails anything or not is not for the court to say; but the privilege of practicing such treatment or such supplication is granted and allowed to all. The proviso or exception was evidently put into the act to prevent any interference with the right of any one to pray for the sick and afflicted.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
California, Medical Society of State of, Santa Barbara, April 18.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Georgia, Medical Association of, Rome, April 19-21.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Mississippi State Medical Association, Jackson, April 11.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
New York, Medical Society of the State of, Albany, April 18.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
South Carolina Medical Association, Charleston, April 19-21.
Tennessee State Medical Association, Nashville, April 11-13.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

NATIONAL CONFEDERATION OF STATE MEDICAL EXAMINING AND LICENSING BOARDS

Twenty-First Annual Meeting, held in Chicago, Feb. 28, 1911

The President, Dr. Joseph C. Guernsey, Philadelphia, in the Chair

An address of welcome was delivered by Dr. George W. Webster, Chicago, which was responded to by Dr. Lee H. Smith, Buffalo.

Dr. Guernsey delivered an address on medical licensure.

Officers Elected

The following officers were elected: president, Dr. Charles A. Tuttle, New Haven, Conn.; vice-presidents, Drs. James A. Egan, Springfield, Ill., and A. B. Brown, New Orleans; secretary-treasurer, Dr. George H. Matson, Columbus, Ohio; executive council, Dr. N. R. Coleman, Columbus, Ohio, chairman; Dr. Charles H. Cook, Natick, Mass.; Dr. Joseph C. Guernsey, Philadelphia; Dr. W. Scott Nay, Underhill, Vt.; Dr. James A. Duncan, Toledo, Ohio.

Chicago was selected as the place for holding the next annual meeting.

Flexner Report

Mr. Abraham Flexner, New York City: In my report to the confederation last year I pointed out: (1) The education prerequisites should be defined, and the board authorized to insist on it as an educational preliminary. (2) The enforcement of even the four-year high school standard will so far clean up the medical field that the state boards will at once be relieved of the duty of dealing with actually disreputable schools. (3) The examination for licensure is the lever with which the entire field may be lifted; for the power to examine is the power to destroy. A model state board law must guard the following points: the membership of the board must be drawn from the best elements of the profession, including those engaged in teaching; the board must be armed with the authority and machinery to institute practical examinations, to refuse recognition to unfit schools, and to insist on such preliminary educational standards as the state's own educational system warrants; finally it must be provided, either by appropriation or by greatly increased fees, with funds adequate to perform efficiently the functions for which it was created.

REPORT OF REFERENCE COMMITTEE

The committee to whom was referred the Flexner report, composed of Drs. W. J. Means, N. P. Colwell and Henry Beates, made the following report, which was adopted:

The recommendations made in Mr. Flexner's paper concern subjects which have been frequently presented and discussed at meetings of this confederation, as well as of the Association of American Medical Colleges and of the Council on Medical Education. We recommend, therefore, that most careful consideration be given to all the suggestions made, and that the three special recommendations, regarding preliminary education, the refusal to recognize poorly equipped schools and practical examinations, be adopted.

SYMPOSIUM ON STATE CONTROL OF MEDICAL COLLEGES

Could the State Control and Conduct Medical Colleges More Efficiently than Corporations and Private Individuals?

Dr. C. W. Dabney, President of the University of Cincinnati: Let us state the proposition in the following terms: public control of medical colleges through state, municipal or other public corporations, including corporations which, though not state or municipal in name, still by reason of their breadth and importance, really represent the entire public, should be expected to conduct medical colleges more efficiently than private corporations or private individuals. We should plan for the best organization of the medical college as a part of our system of public education. The duty of the state is being better and better understood, with the result that in the last two years many of the state universities have established colleges of law, of medicine and of dentistry, as well as of engineering, colleges for teachers, etc. The chief argument for public-supported institutions in a democracy is the necessity of making them accessible to all classes of citizens on equal terms. To exclude the poor from the opportunities of the highest education, including professional education, or to educate them only at the bounty of the wealthy, is utterly repugnant to our democratic ideals. It is eminently desirable that the wealthy should give of their surplus to endow and support public institutions. The best location for a medical college is where it will enable it in the most efficient manner to perform three great duties to the public: (1) The education and training of properly qualified youths for the profession of medicine and the service of the people in families, dispensaries and hospitals; (2) the advancement of science through experiment and research; (3) the education of the people in health and principles of preventive medicine and sanitation.

The Duty of the State in the Control of Medical Colleges

Mr. Abraham Flexner, New York City: There should be state control of medical colleges. This control should be indirect in the sense, first, that the state shall determine the date of registration of each medical student by setting a standard of preliminary education and permitting the student to begin to count his time of medical study only after the state has declared his preliminary education completed; second, that the state shall require a minimal period of medical study in a properly equipped medical school; third, that the state shall register for practice only such individuals as give evidence of having obtained a certain minimal knowledge of medicine as determined by examination and practical tests, etc.

Discussion on State Control of Medical Colleges

Hon. Charles Alling, Jr., Chicago: If the courts will sustain as a requirement for examination a diploma from an institution of the standards upheld by the Association of American Medical Colleges, they should for the same reason sustain a law providing that the degree of M.D. shall be given only by medical colleges in good standing with the State

Board of Medical Registration and Examination, an official body created by and acting for the state to secure good medical service for all the people.

Dr. Victor C. Vaughan, Ann Arbor, Mich.: The practice of medicine is under any and every condition a public service. No man can practice medicine without rendering a public service. Every physician present who attends a case of scarlet fever, diphtheria, or anything of that kind, may do the best he possibly can for his individual patient, yet he is rendering a hundredfold greater service to the state. He is preventing the spread of that disease. The practice of medicine is necessarily a public service, and it has been decided by the Supreme Court of the United States that the regulation of it lies within the hands of the state. The state has a perfect right to put any regulations that it pleases on the practice of medicine. We should impress on the people, and especially on those connected with state universities that are teaching medicine, that the most important function we have to perform is the enlargement of medical knowledge.

Dr. George H. Hoxie, Kansas City, Mo.: The majority of the people do not accept the fundamental principle that they have a right to restrict the practice of medicine, because the higher we get our standards, the more likely are they to permit the followers of the isms and pathies to practice medicine under one guise or another; thus showing conclusively, in my opinion, that they have not accepted that fundamental principle, but have simply been yielding to the pressure brought to bear by physicians. It is only when the people of the state become convinced of these fundamental principles that there is any hope of controlling medical colleges from without or of adequately supporting them.

Dr. James R. Guthrie, Dubuque, Iowa: If it be true that the future of medical education is largely in the line of preventive medicine, public hygiene and sanitation, is it not the highest duty and prerogative of the state to accept that situation and make it obligatory and place the power of the state behind this, the leading and controlling idea in modern scientific education?

Dr. George Blumer, New Haven, Conn.: I think it may be said that even when the appointment of state medical examiners is in the hands of bodies like state medical societies, we cannot entirely rule out the possibilities of political appointment, since politics enters into state medical societies as well as into the executive positions of the state. Another point of interest is the matter of representation of teachers on the state board of medical examiners. I think every teacher of experience has felt very critical at times toward the kind of questions that are put to students by a great many state boards of examiners. Members of the state board of examiners are not always selected with the idea in mind that they are to examine students trained in modern medical schools. For instance, there should be a man on the board of examiners who has been trained by the modern methods in such subjects as pathology and bacteriology, and it seems ridiculous to expect a man who has not received that kind of training to ask intelligent questions on those subjects.

The Advantages to Medical Colleges of State Control

Dr. Arthur Dean Bevan, Chicago: Proper state control would mean a great deal and be of great advantage to the medical colleges which are doing good work and developing along scientific lines. I believe that if every state board represented in the confederation will attempt to get the profession of its own state back of it and make proper state control effective, within five years American medicine could be placed in a position, with the exception of a very few states, where we could say that the American medical student is obtaining the proper medical education; that he has had a proper preliminary and medical education, and some practical hospital experience before he is allowed to practice medicine.

Some Evils in the Present System of Medical Education

Dr. F. C. Waite, Cleveland, Ohio: The evils of overproduction of medical graduates are self-evident. First, the field is overstocked, consequently the average income and adequate living are reduced. Second, from this the result must be that the more able members of following generations will shun the profession and its recruits must come from the mediocre. The general tone of the profession will thereby diminish. Third, the average lack of income from reputable and ethical practice of the profession will lead many into quackery and charlatanry, and thereby yet further reduce the dignity and respectability of the profession, which again will divert the tendencies of able young men from the profession. Medical teaching, even if privately supported, so closely affects the public that it must be considered a public utility, and therefore subject to the control of the commonwealth. The number of schools in a given state can be limited, either arbitrarily or by forcing public opinion to a level where the cost of maintenance of a school will exceed the private advantages accruing. This may be done by a close supervision of entrance requirements, by insistence on adequate laboratory equipment and clinical opportunities; by limiting the student body to the more capable. By examinations the average capability of the students can certainly be controlled. It is very important that practical means be found to eliminate men who do not measure up to the promises indicated by their preliminary training. The lack of this needed elimination of the unfit is one of the weakest points of our present system. The last two years, during which discussion has been free and meetings of representatives of various schools frequent, have shown a tremendous growth of interest on the part of each man and each school in the common cause. The further equalization of interests that would come from more centralized control would yield a further community of interests among the schools. A standardization of equipment and facilities, and the establishment of a minimum of opportunity for each student would secure a product in the graduate that would gain the confidence of both laity and profession. A control of the student's training at the time of admission, rather than an examination of his shortcomings after the evil is done, would be far more just to the student, who is too often innocently a victim of a system which seems to employ every means to mislead him and none to protect him. State control of medical education, like municipal ownership, has the potentiality of great blessings, if properly managed; but too often it is capable of many pitfalls if unwisely construed. To work out and put into operation all the details of such a plan is no light task. To gain the balance between ideals and expediency between the desirable and the possible requires rare judgment and altruistic devotion.

State Aid in Securing More Full-Time Salaried Teachers

Dr. Frank Winders, Columbus, Ohio: That full-time salaried men are indispensable to the proper teaching of the first and second years of the medical curriculum is no longer questioned. This plan is now in practice in every first-class medical school. The true purpose of a medical college is to be found only in teaching the science and art of medicine to the end that its students and graduates may be best equipped to prevent and relieve the ills and accidents of mankind. When other aims and purposes creep into the scheme of medical teaching, such as the personal interests of the teacher, the standard is lowered, the quality of instruction suffers, and the unfortunate student, not the teacher, pays the penalty. The teacher whose chief purpose consists in increasing his clientele by his teaching can certainly not develop the best that is in the student. Adequate compensation in proportion to the time required and to the excellence of the service rendered would do much to correct the evils resulting from the present practice. No modern medical college can be successful in its truest sense, unless it has at its disposal the wards of one or more large hospitals, and an adequate dispensary service. It is in such institutions that the material for successful clinical teaching must be obtained, and at least a part of the teaching staff in general medicine and surgery should be free to devote their entire time to such clinical work and to their duties as teachers. A college which does not have in its hospitals and dispensaries sufficient clinical material, properly utilized, to keep one or more teachers of general medicine and surgery busily occupied for their entire time, should not be permitted to remain in existence. One clinical case properly and exhaustively analyzed and demonstrated will have more real value than many which are presented in an incomplete and hurried manner. If medical schools were aided and controlled by the state, the same excellent conditions would obtain in all schools as are found in our state universities.

State Control of Medical Education and Enforcement of the Medical Practice Act

Dr. Edward Cranch, Erie, Pa.: The function of medical examining and licensing boards is judicial: deciding between the claims of the candidate backed by his college on the one hand, and the rights of the people, who need protection from the ignorant and unqualified practitioner, on the other. Licensing boards should also have the power of revoking licenses for cause shown. In the exercise of their function, in Pennsylvania, the examining boards were at first greeted with a defiant attitude by certain colleges whose faculties assured their students that it was of little or no consequence whether they passed the boards or not, the colleges would see that they had the right to practice anyhow—whatever the boards might say or do. This attitude was signally crushed by the results of one year's examinations, in which over 30 per cent. of candidates were rejected. If now, as under state control would be the case, examiners and teachers knew better what was coming, the work of both would be easier, but at the same time, if written examinations alone were to be relied on, chances for cheating would increase in equal measure. When the student knows that his record of study and standing in class will count for or against him, and when he knows that he is to be orally and practically examined, if only in some few departments, such as anatomy, materia medica and diagnosis, it will improve his whole method of study and render it more practical. The method of full control would be suitable for one or two colleges in each state, and then if others wish to organize, as now, they can, under a modified control, be rendered equally efficient, and yet preserve that initiative which will develop new and better methods for the future. In this way examining and licensing boards will find their work supported by the colleges, instead of being antagonized and criticized, as at present. This alone furnishes a good argument for at least a modified state control.

Result of State Control of Medical Colleges on Professional Efficiency

Dr. Royal S. Copeland, New York City: When one considers the really ideal condition as regards medical college supervision, naturally he thinks of the superior advantages of federal control, with uniform standards of admission, graduation and licensure. This, however, is impossible at present, and perhaps would be unwise. Of necessity, low standards will prevail in pioneer and undesirable sections of the country, and a federal law, in striking an average for the country at large, would raise a much higher standard than could obtain in many of the individual states. State control, therefore, is the present logical solution of the problem. In the matter of medical colleges, private control undoubtely results in abuses and a lower standard than should be tolerated at the present time. Certainly private control must mean lack of uniformity. In a given state, for instance, with private control, there will be of necessity as many standards of admission and graduation as there are colleges. With state control, while the standards may be no higher than the average of the private institutions in another state, at least there is uniformity in the administration of the colleges. There is uniformity as to the minimum requirements, with perfect liberty of diverse views as to the maximum. State control has all the benefits of federal control, if there are reciprocal relations between the states. This reciprocal relationship, so desirable to our profession, would be much easier to realize were there uniformity in the college curricula, as regards the essentials of medical education. The great argument for state supervision is the protection of the people against charlatans, quacks and poorly educated practitioners. Legislation providing for state supervision should include the conditions under which medical college charters may be issued, and the minimum requirements of preliminary and professional education. State supervision should include the right to revoke, for due cause, the license to practice medicine. The natural corollary of state supervision is reciprocity between the states. To this end there should be uniform laws and requirements. State supervision makes for more uniform and thorough education.

Report of Committee on Materia Medica

Dr. Murray Galt Motter, Washington, D. C., presented the list of medicaments reported last year in alphabetic order. Personally, he sees no advantage from the standpoint of the confederation in a list classified under any system whatsoever. The important thing to know is to what medicaments with their preparations it is desirous that chief attention shall be given, and he suggested that it would be both interesting and profitable to have a complete alphabetic list, including the list submitted by the joint committee last year, the list submitted by the Chicago Medical Society and adopted, and a list from the English examiners recently received by him from Dr. Cushny. A printed (complete) list is needed showing the drugs which are named in all three lists, and then the profession will have a competent list of drugs having wide use both in this country and in Great Britain. The future work of the committee on materia medica should be directed along the lines of securing endorsements of this general proposition. The list itself is not of such vital importance as the general proposition to adopt a restricted list. Then, if the teachers will devote their time and attention to this list, and if every medical examining board should say we will grant say 75 or perhaps 80 per cent. in the subject of materia medica pharmacology for examinations on this restricted list, it would leave the field open. It would not oblige any board to restrict itself absolutely to the list or prevent any teacher from teaching anything he might wish to teach. So it would leave the field open and mark a decided step in the progress for a more sane therapy.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held Feb. 27-28, 1911

(Continued from page 843)

The Medical College Library

Dr. C. M. Jackson, University of Missouri: The medical college library is an important but neglected factor in medical education. It supplements the laboratory and clinic by making available the accumulated knowledge and wisdom of the whole world, both past and present. The library should be carefully selected, quality being more important than quantity. Of the various forms of medical literature, the standard periodicals are by far the most important. Students should be instructed in the use of medical literature. A good library is indispensable in encouraging that research spirit which should be the ideal in medical education. Through his experience in daily practice the practitioner learns something, but through the medical literature he learns to interpret this experience and to profit by the experience of others.

The medical college library should include 4,000 or 5,000 well-selected volumes; especially it should include subscriptions to at least 100 of the leading medical periodicals. It is doubtful whether there are now more than twenty medical schools in the United States which meet this demand. More could easily do so, and doubtless will when the value of the college library in medical education is better understood. Periodicals are far more important than text-books, which are at best only compilations made from periodicals. Good periodicals contain original observations. There should be periodicals more or less general in scope and those devoted to the individual laboratory and clinical subjects. Some of the principal French and German journals should be included, as the better class of medical schools now require a reading knowledge of these languages. Under periodicals should also be included the transactions of the more important medical societies and hospital reports, which contain much of permanent value. Next to periodicals in importance come the various guides to medical literature—the Index-Catalogue of the Surgeon General's Library, the *Index Medicus*, German *Jahresberichte*, and others might be mentioned. Next in importance stand the dictionaries, encyclopedias, systems of medicine and surgery, handbooks and monographs, and, last of all, the text-books.

A trained librarian should be in charge. A faculty library committee should select the books and periodicals to be placed in the library. The funds necessary should be provided for in the annual budget. To maintain a good working library will require an annual appropriation of at least $1,000. Some good can be done with less. The students can be called on for assistance, likewise the faculty, and some donations from outside sources can be secured. The library should be accessible, catalogued and kept in order. Originality and independence of thought should be encouraged by frequent references to various sources in the best medical literature. It is important to make students familiar with the best sources of medical literature, how to find and use them. Instruction on these points should be given in the first year of the course by the librarian or some one competent to do so.

Every student before graduation should be required to write an original thesis on some subject of his choice, which, of course, will include a review of the literature. It would stimulate teachers and students to better efforts along this line. Only two schools, Yale and Bowdoin, now have such a requirement.

The following resolution was introduced by the Committee on Pedagogics and was adopted:

Resolutions

Resolved, That the association request each school to ascertain and file in the dean's office the estimate of each instructor as to the time required, both in the class-room and at home, in each course offered in the catalogue.

Resolved, That the judicial council be instructed to report at the annual meeting in 1912 as to the proper standard to be established for medical colleges in various sections of the country, and that the judicial council be instructed to confer with the Council on Medical Education of the American Medical Association and with the Carnegie Foundation for the Advancement of Teaching in the hope that these three bodies may agree on a minimum standard that may be applied practically at the present time.

Resolved, That the judicial council be requested to report at the same time as to the best methods of carrying out the inspection of colleges in membership in the association as provided for in the by-laws, sections 6 and 7, and of schools applying for membership in the association. (These two resolutions were introduced by the Committee on Medical Education and adopted.)

Report of Committee on Equipment

The committee pointed out the great need for securing proper clinical facilities, and urged the colleges to formulate plans tending toward the acquisition of a teaching hospital, a hospital in which all the material is available for teaching purposes. The committee urged that this be made an equipment requirement, as much so as microscopes and other apparatus used for teaching.

Report of Committee on Pedagogics

The committee offered suggestions on four topics:

1. The Unit of Credit:—Students should be given time for independent analytical thought. The average student cannot work profitably, either in class or by himself, more than twelve hours a day for five days in the week, or for ten hours a day for six days in the week. Sixty hours a week should be the optimum number of hours under average conditions. This for thirty-two weeks of actual teaching means 1,920 hours, or for thirty-six weeks, 2,160 hours. The committee recommended the recognition of a ratio of two hours of preparation or reading to each hour of recitation or lecture, and one hour of preparation or reading for each two hours of laboratory or clinic teaching—a three-hour unit. Catalogues should state how these hours are subdivided in each course.

2. Discussion of Pedagogic Principles:—The committee suggested that the regular faculty meetings be given over to the discussion of these principles, best under the guidance of some professional teacher brought in for the occasion. The oftener such meetings are held, the better.

3. Syllabus:—A syllabus of the courses of study in the curriculum is a necessity because of the increasing specialization and subdivision. It will avoid misunderstanding and amendment.

4. Training of Teachers:—Can clinical teachers be efficient without private practice? The committee made no recommendations or suggestions, but presented the opinions of three men. One, a clinician with only hospital training, did not believe that any particular form of training could be mapped out as a prerequisite for clinical teaching. To be successful he must have the *Geist* and be trained thoroughly. The best man is he who devotes his time to work in the fundamental branches, to clinical work in the hospital and a moderate amount of consultation practice. Private practice is time-consuming, leaving little time for development. There should be two classes of clinical teachers: those who devote a large part of their time to medical school work and those who devote a small part. The second, a man who has enjoyed private practice, said that it is impossible that a man should carry on a medical practice and at the same time conduct a medical department in a hospital and teach students. A moderate amount of time may profitably be spent in consultation work. The third, also a man who has had private practice, regards some training in private practice as being as essential as a training in chemistry, bacteriology or pharmacology. But such training must be limited because otherwise other equally essential training will be neglected. He, too, favored some consultation practice because of its educational value and the necessary intercourse with practicing physicians which it furnishes.

(*To be continued*)

CLEVELAND ACADEMY OF MEDICINE

Meeting held Feb. 17, 1911

Dr. W. B. Laffler in the Chair

Some Common Fractures and Results of Treatment

Dr. Frederick J. Cotton, Boston: The Roentgen ray has wrought many changes in the point of view of treatment of fractures, and has enabled us to work with more precision. What we want is, first, the avoidance of obvious deformity, and second (much more important), the attainment of good functional usefulness. Most troublesome cases are the result of (1) not checking results by the Roentgen ray; (2) associated nerve lesions being overlooked at first, and when found, attributed by the sufferer to the treatment; (3) forgetting that functional usefulness is the main aim and caring only for position in all cases of Colles' fracture along with radial fracture there is a forward dislocation of the ulna, and in effect on functional result this is of more importance than radial fracture. After reduction splints should be applied: (1) to protect radial fragments from trauma or muscle contraction; (2) to hold the ulna back where it belongs (it can't be held too far back); (3) to be comfortable. Splints should not confine thumbs and fingers, and active motion should be started not later than the third day. The posterior splint should be removed in one week and all in from ten days to two weeks. In elbow fractures in adults, after reduction by traction and direct manipulation, the arm should be put in the position in which the fragments are most firmly held, and the best splint is the one which best accomplishes this. The Roentgen ray should be employed to see that reduction is good. Within a week, with fractures of one condyle, and within two weeks, with fractures of both condyles or in T fractures active motion is allowed once a day. The surgeon should hold the fragments firmly and support the forearm. In children, elbow fractures are usually more or less complicated epiphyseal separations. After the fracture is reduced what of treatment? (1) Passive massage and motion in children only stirs up joint reaction, pain and stiffness. (2) Active motion, without danger of slipping of fragments, is hard to control in children, and is not to be employed for four weeks. (3) Children with elbow lesions do not show any permanent stiffening (except from malposition of bones), so that we need not worry about reestablishing motion. (4) Separation of the external condyle shows many instances of non-union; separation of internal condyle always results in fibrous union.

Shoulder fractures are commonly of the anatomic or surgical neck. The former are usually impacted and occur generally in the aged. They had best be left alone and mobilized early. Fractures of the surgical neck occur generally in youths or strong adults and if there is great difficulty in reducing, I have no hesitancy in cutting down and levering fragments into place, when a stitch of chromic gut will hold them. Though this is a serious operation, I believe that separation of the humeral epiphysis or fracture of the surgical neck in vigorous persons will come to be recognized as a condition calling for early operation in a large percentage of cases. In leg fractures, the question that comes up is whether after reduction the position is not good enough to let go, not whether it is perfect, for perfect reduction is impossible. The general line of the shaft should be good, and a position must be avoided in which the outer side of the periosteum of one fragment is brought into contact with a similar surface of the other fragment as it presages non-union from poor formation of callus.

The commonest of all ankle fractures is a fracture of the fibula alone, and it may occur from inversion or eversion. The former is more common. A not uncommon fracture, which is not described in text-books, is a splitting off of a large portion of the back edge of the tibia in a fragment that carries the internal malleolus as well. The fibula is also broken. The foot, astragalus, tibial fragment and lower fragment of the fibula move backward together.

As to the disability of the ankle joint following fractures, we have three important factors, mostly independent of precise lesion: (1) distortion of joint surfaces, causing unnecessary joint friction and limitation of motion; (2) deviation of weight-bearing axis; (3) loss of function (due to long immobilization). In reducing such lesions we should aim to alleviate these faults as much as possible and use early, active motions, preventing stiffening.

DISCUSSION

Dr. Frank E. Bunts: In the last five or six years our ideas of the treatment of fractures have materially changed—due to the use of the Roentgen ray. Does Dr. Cotton think that ischemic paralysis is due to tight splints or to faulty position of the splints, and how long does it take to produce it? I find that Mr. Lane, of London, thinks the periosteum of no value in the formation of callus. What does Dr. Cotton think of the use of Bier's passive hyperemia in delayed union in fractures? In the last few years fractures of the carpal bones have attracted the attention of many; especially since the Roentgen ray has shown many of the so-called sprains to be fractures. Does Dr. Cotton believe in operating and removing the fragments when they are especially difficult to reduce?

Dr. J. F. Hobson: I agree with Dr. Cotton that a Colles' fracture once reduced does not usually become displaced again. In a Pott's fracture we have always been taught that the three lines of fracture were (1) lower end of fibula; (2) internal malleolus, and (3) a small chip that was generally broken off the outer edge of the tibia. I see that Dr. Cotton did not mention the latter, and I would like to ask him about its relative frequency. In a fracture functional result is what is first desired, second, as near a return to the normal as is possible.

Dr. G. W. Crile: Surgery is once more beginning to turn from the abdomen to the bones and joints. The latter have been neglected and it is high time that the specialist and general practitioner make a careful study of the bones and joints.

Dr. George B. Follansbee: I have found in all fracture cases that early movement of the joints is of great value and tends to prevent adhesions and stiffness. I would like to ask the speaker whether it is always possible to reduce a dislocated ulna in a Colles' fracture. At times I have great trouble in doing so and also in keeping it in place. Does it make much difference whether the styloid process is much separated in a Colles' fracture?

Dr. W. O. Osborne: I have at present two old cases of Colles' fracture. In both there has been left a preternatural mobility of the ulna; the joint is also a little painful and a trifle weak. Is there any way to remedy this?

Dr. F. J. Cotton: Ischemic paralysis is often difficult to separate from a nerve paralysis. I have seen very few cases of it. In one case in which there was a cord-like matting together of the muscles, I found it necessary to rupture the bellies of the muscles, and the patient has now a pretty good use of his arm. Another patient was improved by dissecting out the muscles and freeing the nerves, and, I think many of these cases of Volkmann's ischemic paralysis are due to nothing but pressure on the nerves. In such cases I would recommend dissecting out the nerves and clearing away the muscles. In contrast to Mr. Lane, I still believe the periosteum to be of great value in the formation of callus. However, I do not think that stripping away the periosteum causes death of the bone as was formerly taught, and in case of necessity I have no hesitancy in stripping it away. I feel that very little is known as to the cause of delayed union from internal diseases—outside of malignancy and diabetes. Locally, delayed union may be due to a faulty parallel position of the periosteum from the fragments lying side by side. In regard to Bier's passive hyperemia treatment, it may be of interest to say that its author now thinks so little of it that he has given it up. In fracture of the carpal bones, it is usually the scaphoid that is affected and often displaced. When the bone is merely cracked, there is frequently a union without any limitation of motion or thickening of the bone; and I generally do not operate in these cases. However, if the bone is broken, displaced and not reducible, we must cut down and remove the displaced fragments. In answer to Dr. Hobson, I might say that I do not feel that a broken chip from the outer edge of the tibia is characteristic of a Pott's fracture. I agree that to hold the ulna in place is one of the difficulties in treating a Colles' fracture. Recurrent luxation of the ulna, after an old Colles' fracture is one of the sequelæ at times, and in a bad case I would cut down and shorten the radio-ulnar ligaments. I do not believe in operating and undergoing any extra risk. In a large percentage of shoulder cases it is necessary, and one should operate before too much callus has formed.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held Feb. 8, 1911

The President, Dr. C. B. Longenecker, in the Chair

Pellagra

Dr. Samuel Stern: The sense of security of the profession at present against the invasion of the pestilence is unwarranted. Pellagra will be found whenever one finds the factors necessary to cause the disease. The conditions are more widespread than heretofore credited, and it is the duty of the profession and the local and state health authorities to engage in a study of the disease in order that measures may be instituted to aid in its prevention and in the possible discovery of the cause and that a successful method of treatment may be found.

A Case of Pellagra Which Had Its Origin in Pennsylvania

Dr. M. B. Hartzell: G. R., aged 9, has spent all her life in Pennsylvania, most of it in Philadelphia. In August, 1909, she began to lose flesh, became melancholic, and some time later developed diarrhea. In the spring of 1910, a peculiar red-brown dermatitis of the hands and face developed. During her stay in the hospital there was considerable improvement, but soon after her discharge she grew worse and she died in October, 1910. All her symptoms were characteristic of pellagra. The eating of spoiled corn could be excluded as a causative factor with reasonable certainty. During the summer of last year I had the opportunity to study the disease as it occurs in northern Italy, and from the observation of a small series of cases I am convinced that in mild cases and poorly developed ones, the diagnosis may be surrounded with considerable difficulty; and that it is a mistake to lay too much stress on dermatitis and pigmentation unless accompanied by other symptoms, especially gastrointestinal.

DISCUSSION

Dr. Frank C. Knowles: I feel that the diagnosis of pellagra is almost impossible unless there are present the three Ds: diarrhea, dementia and dermatitis.

Dr. Leonard D. Frescoln: I have had two cases in Philadelphia which were suspicious of pellagra; but I have never seen any cases which were diagnosed to my own satisfaction by the authority of those who had seen the real disease in Italy. There has been shown no positive proof by blood-tests that from my study and reading I believe we should have. To the three Ds mentioned by Dr. Knowles, there should be added a fourth, that of "death." My impression is that practically all these patients die. They improve for a time, but finally die without any other manifest cause of death.

Dr. George E. Price: One is impressed with the great variety of mental symptoms that have been reported in association with pellagra. This is in a large measure due to the fact that many cases are found in the asylums for the insane. If there be any insanity of pellagra, it seems to me that it must from necessity follow the line of insanity of any infectious process. If we have a destructive agent sufficient to cause the changes that have been noted in the spinal cord in pellagra, we surely have a destructive agent sufficient to bring about pathologic changes in the brain and membranes. The cord changes have been those of a combined or diffuse sclerosis, comparable to the changes found in anemia and toxic states.

Dr. A. E. Roussel: My experience has been confined to four cases seen in South Carolina two years ago. The erythematous eruption in three of the four was marked. The necropsy findings were interesting in showing the earlier involvement of the membranes than of the cord proper. I feel that a thorough bacteriologic examination should be made before we assume definitely that every case of eruption of this or that type is pellagra. Even those experienced practitioners from neighborhoods where the disease abounds realize the difficulty of diagnosis in the early stages. Every safeguard should be adopted against the error of hasty diagnosis.

Dr. S. Stern: Regarding the relation of insanity to pellagra, abroad the figures vary from 10 to 30 per cent. Over 80 per cent. of the patients are not insane. Probably a very small percentage show any nervous manifestations. While it is true that dermatitis, dementia and diarrhea are important factors, and that their presence aids in diagnosis, I do not attach the same degree of importance to them as do some. The addition of "death" is out of order, since we desire to make the diagnosis in the early stage of the disease and not at the end.

The Destruction of Surface and Cavity Neoplasms by Desiccation

Dr. W. L. Clark: My work up to the present time would appear to justify the conclusions: 1. A current from a static machine of large output with properly attuned accessories, is capable of destroying tissue by desiccation. 2. Malignant growths may be destroyed without opening blood or lymph channels, thereby preventing further metastasis, or the inoculation of healthy tissue in adjacent parts. In cancer of the breast, in which there is involvement of the axillary or cervical glands, operation is indicated on account of inaccessibility of the involved structure; but, on the first appearance of recurrence, there would be a great possibility of arresting activity. In cancer of the cervix I believe it to be more desirable than the curette and cautery. It is a perfect sterilizing, destructive, styptic deodorant and is penetrating. It can be employed with a minimal degree of danger and discomfort and may offer a chance of cure if taken in time. 3. It simplifies the treatment of hemorrhoids and other neoplasms of the mucous membranes. Employing the endoscope as an aid, cavity lesions may be treated successfully. Its applicability in the bladder has been shown, and it is perfectly possible to apply it deeply into the rectum, the interior of the uterus, the throat, the esophagus and even the stomach. 4. In warts, moles, pigmentations and in certain other cutaneous lesions, the destruction is a simple matter and the cosmetic effect good. Old pus sacs may be entered, destroyed and sterilized, as in pustular acne, etc. Sluggish ulcers may be stimulated to repair. 5. Fulguration produces its effect by a coarse kind of mechanical superficial charring, while oscillatory current desiccation produces a refined, penetrating, devitalizing effect by drying, and possibly, some biologic effect in addition which I cannot at the present time define.

DISCUSSION

Dr. B. A. Thomas: It is true that good effects are obtained by this method in the treatment of papillomata of the genito-urinary tract. In a case of papilloma of the bladder recently treated, the tumor has had but two applications of the current and shows improvement. In one case of papilloma of the rectum, ten days after a single treatment the papilloma could not be found.

Dr. William J. Dugan: In my opinion, we have no proof of this "oscillatory" movement, and nothing is shown that has not been known for years. It seems to me that we have no scientific facts. The Roentgen ray, radium and fulguration, I believe, are palliative, but I do not believe that they cure cancer or sarcoma. If, after a diagnosis of such condition by a good pathologist, the patient is cured I shall accept the facts.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 16

1 *The Lumbosacral Articulation. An Explanation of Many Cases of "Lumbago," "Sciatica" and Paraplegia. J. E. Goldthwait, Boston.
2 Diverticulitis of the Sigmoid. W. P. Graves, Boston.
3 A Series of Cases of Syphilis Treated by Salvarsan at the Walter Reed General Hospital, District of Columbia. H. W. Jones, U. S. Army.
4 Liquid Air in Surgery. T. C. Beebe, Boston.

1. **The Lumbosacral Articulation.**—An experience in connection with the treatment of a patient with a spinal lesion was so disastrous to the patient and so distressing to Goldthwait, that a series of investigations were started by him in the hope of bringing some relief to the patient, and at the same time of preventing such happenings in the future. When very tired from a long stress of work, in lifting a heavy object, the patient strained his back, producing a distinct displacement of the sacro-iliac joint on the right side. The condition was recognized at once, and under nitrous oxid anesthesia the bones were replaced without difficulty. This was followed by a fairly normal recovery, so that in about three months the subjective symptoms had largely disappeared. At that time, after a fairly long car journey, the man carried a very heavy suit case in one hand, without change, for a distance of over half a mile, with the result that the back became painful. Two days later he consulted Goldthwait because of pain and sensitiveness in the lower back. At that time the sacro-iliac joints were shown to be strained, but the bones were not displaced. The next night, in turning over in bed, he felt a distinct slip exactly similar in all its sensations to that felt at the time of the first displacement. In the morning, after having a restless night, he was able to get up and take his usual tub bath. On trying to get out of the tub, in leaning forward and straining to get up, something slipped in his back, entirely different from anything he had before experienced. The body was drawn forward and to the left; there was intense pain, so that it was with great difficulty that he was able to get back to his room, and the suffering continued until he was seen by Goldthwait

four hours later. At that time the body was held bent forward and to the left. There was extreme tenderness in the sacral region, with pain extending into the legs, the right being much worse than the left. All efforts to give the patient relief failed. The more the case was studied, the more it seemed that some mechanical element must be the real difficulty, and that the point of pressure was probably somewhere below the giving off of the lumbosacral cord, although not much below this because all of the nerves making up the cauda equina below this point were involved. It was obviously spinal, since no lesion or involvement of the nerve roots or of the sacro-iliac joints could explain so complete a bilateral condition. The more the case was studied, the more definite the lumbosacral articulation seemed to represent the seat of the difficulty, and this was strengthened by the fact that when the patient was placed on his back to have the jacket applied a few days after a laminectomy there was something of the same sensation that was present when the first jacket was applied, and this was at once relieved by raising the buttocks. A similar sensation also developed when he was placed on the back to have a skiagraph taken.

This led Goldthwait to make a very careful and thorough study of the mechanics and anatomy of the lumbosacral articulation. He found that the lumbosacral articulation varies greatly in its stability, depending on peculiarities in the formation of the articular processes and of the transverse processes; that these peculiarities not only result in less than the normal strength of the joint, but may represent mechanical elements, which not only produce strain and cause pain, but may lead to such great instability that actual displacement of the bones may result, with at the same time the separation of the posterior portion of the intervertebral disk. In such displacement, if the fifth lumbar vertebra slides forward on the sacrum, spondylolisthesis, the condition is usually compensated for, and pressure on the cauda equina or the nerve roots does not occur. If the displacement be on one side, the spine must be rotated and the articular process of the fifth drawn into the spinal canal with such narrowing that paraplegia may result, or the crowding backward of the intervertebral disk alone may be so great as to cause similar paraplegia, but of more gradual development. Weakness of the joints or the partial displacements may cause irritation of the nerves inside or outside of the canal and produce the bilateral leg pains often called sciatica.

Medical Record, New York

March 18

5 Hygiene of Public Conveyances. S. A. Knopf, New York.
6 Importance of the Thread Impregnation Test for the Recognition of Ulcers of the Upper Digestive Tract. M. Einhorn, New York.
7 Two Cases of Ainhum. T. Abbe, Washington, D. C.
8 Criminal Abortion. A. D. Strasser, Arlington, N. J.
9 A Sociologic Experiment. G. F. Lydston, Chicago.
10 Multiple and Comminuted Fractures of the Metatarsal Bones in a Child. M. Leale, New York.
11 Sudden Death Following Spinal Puncture for Diagnosis. E. M. Colie, New York.
12 Short Talks with My Students and Others: Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

New York Medical Journal

March 11

13 Clinical Results from Use of Salvarsan. H. Fox and W. B. Trimble, New York.
14 Simple Apparatus for Intramuscular Administration of Salvarsan at the Bedside. A. L. Wolbarst, New York.
15 A Lanolin and Oil Emulsion of Salvarsan for Intramuscular Injection. J. G. Burke, Pittsburg.
16 Technic in Adenoid and Tonsil Operations. L. D. Alexander and J. T. Gwathmey, New York.
17 An Extracerebral Tumor in the Region of the Hypophysis Cerebri. F. J. Farnell, New York.
18 A Case of Colon Bacilluria in a Twelve-Year-Old Girl. J. Pedersen, New York.
19 The Effervescence Test for Gastric Acidity. A. L. Benedict, Buffalo.
20 The Eradication of Plague from Large Cities. C. W. Vogel, Washington, D. C.
21 Phrenology and Its Founder: The Claims of Franz Joseph Gall on the Homage of Scientific Posterity. J. Knott, Dublin.

March 18

22 Surgical Aspect of Gastric and Duodenal Ulcer. J. B. Deaver, Philadelphia.
23 Stomach Disorders Requiring Surgical Intervention from the Viewpoint of the Internist. C. D. Aaron, Detroit, Mich.
24 *Treatment of Tuberculosis by Deep Muscular Injections of Mercury. B. L. Wright, U. S. Navy.
25 Laboratory Notes on the Presence of Fats and Lipoids in the Lesion of Rhinoscleroma and on Variations in Its Bacteriology. J. Wright and L. W. Strong, New York.
26 *Relation of Gall-Stones to Cancer of the Bile Tract. J. A. McGlinn, Philadelphia.
27 *Irrigation Treatment in Septic Abortion. H. Weil, New York.
28 Individual Immunity. W. Lintz, Brooklyn, N. Y.
29 *Pneumothorax with Acute Abdominal Symptoms. E. J. G. Beardsley, Philadelphia.
30 Pinworms and Caraway Seed in Infant's Appendix. I. Kornblüh, New York.

24. **Mercury in Tuberculosis.**—During the past three years Wright has reported several hundred cases of chronic tuberculosis successfully treated by this method; among them were exhibited local lesions of practically all the organs and tissues, excepting the brain. He believes that the cases reported by himself and others demonstrate the fact that tubercle bacilli have a strong affinity for the succinimid and bichlorid of mercury. He has reported a number of cases in which three or four injections of one or the other of these salts caused the tubercle bacilli to disappear from the sputum and feces, and the cessation of the most profound toxemia. He now reports a case of acute miliary tuberculosis treated in this manner, which terminated in recovery and apparent cure, and which, in his opinion, emphatically and unquestionably demonstrates the parasitotropic and antitoxic properties of mercury in relation to tuberculosis. In less than eight weeks after the onset of the disease, at a time when 95 per cent. of these patients are either dead or dying, and six weeks after the administration of the first injection, the patient, a seaman, resumed his full duties on board ship, apparently cured. This result prompts Wright to say that in mercury we have the chemical affinity of the tubercle bacillus, and he expresses the hope that experimentation will sooner or later develop a command of mercury for which these organisms will have even a stronger affinity than they display for the succinimid.

26. **Gall-Stones and Cancer.**—This report is based on a study of over 9,000 post-mortem records in the Philadelphia General Hospital. In the report McGlinn has included cancer of the liver, pancreas and duodenum, on account of their close relationship to the biliary passages. In all, there are records of 456 cases of cancer. The liver was the site of primary cancer in twenty-six cases. Gall-stones were present in the gall-bladder in three cases and in the cystic duct in one case. The pancreas was the site of primary cancer in thirty-six cases. Gall-stones were present in the gall-bladder in four cases and in the gall-bladder and all the bile-ducts in one case. Gall-stones, then, were present in eight of the eleven cases of primary cancer of the gall-bladder. In primary cancer of the bile-ducts stones were present in three of the five cases. In the entire series of over 9,000 post-mortem examinations gall-stones were found in 507 cases. Studying these few cases, McGlinn says, it would seem that gall-stones play an important part in the etiology of cancer of the gall-bladder and bile-ducts, but in cancer of the liver and pancreas they are only incidental. They occurred no more frequently in cancer of these two organs than in cancer of more remote organs. There was a record of but one case of cancer of the doudenum; stones were not present.

27. **Irrigation in Septic Abortion.**—Weil urges continuous or frequent irrigations on the basis that absorption from the lochia is an important factor in the production of the toxemic element of puerperal sepsis.

29. **Pneumothorax.**—In the case cited by Beardsley, the onset of an acute pneumothorax caused violent abdominal symptoms which closely simulated those of perforative peritonitis.

Lancet-Clinic, Cincinnati

March 11

31 Operative Steps in Closure of Cleft Palate. G. V. I. Brown, Milwaukee, Wis.
32 Glioma of the Retina. S. C. Ayres, Cincinnati.
33 Double Glioma of Retina. K. L. Stoll, Cincinnati.
34 Value of Test-Meal in Stomach Diagnosis. F. L. Rattermann, Cincinnati.
35 A Simple and Economic Outfit for Intravenous Administration of Salvarsan. A. W. Nelson, Cincinnati.

March 18

36 Finger Enucleation of the Tonsils. W. Mithoefer, Cincinnati.
37 Gradual Evolution of a Sane Therapy in Tuberculosis. F. M. Pottenger, Monrovia, Cal.
38 Recognition of Incipient Pulmonary Tuberculosis. A. Faller, Cincinnati.

California State Journal of Medicine, San Francisco

March

39 Acute Cholecystitis. W. W. Kerr, San Francisco.
40 Systemic Gonorrheal Infection. W. P. Willard, San Francisco.
41 *Relief of Glaucoma by Subconjunctival Sodium Citrate Injections. H. G. Thomas, Oakland.
42 *Operative Treatment of Fractures of the Neck of the Femur. S. J. Hunkin, San Francisco.
43 The Squirrel Plague Problem. G. W. McCoy, San Francisco.
44 Artificial Cultivation of the Lepra Bacillus in Hawaii. H. E. Alderson, San Francisco.
45 A Case of Hernia in a Child. T. G. Dodds, Oakland.
46 Acute Lymphatic Leukemia. J. M. King, Los Angeles.
47 Non-Union of Fracture. A. W. Morton, San Francisco.
48 Diseases and Injuries to Knee-Joint and the Treatment. E. H. Smith, San Francisco.
49 Present Status of Cancer Investigation. P. K. Brown, San Francisco.
50 Status of Vaccine Work in Cancer. P. K. Gilman, Manila, P. I.
51 Operative Treatment of Hyperthyroidism. W. I. Terry, San Francisco.
52 Fracture of the Femur. E. Smith, San Francisco.
53 Four Cases of Tumor of the Cerebellopontile Angle. M. B. Lennon, San Francisco.
54 Operation to Expose the Cerebellopontile Angle. H. M. Sherman, San Francisco.
55 Three Cases of Probable Cancer Transplantation from the Use of the Gilman Vaccine. W. B. Coffey, San Francisco.

41. **Relief of Glaucoma.**—During the past year and a half, Thomas has been using subconjunctival injections of sodium citrate to reduce the tension. Its use was suggested by the antagonism discovered to exist between the effect of acids and neutral salts on the imbibition of water by colloids. The method consists in the injection of from 5 to 15 drops of a 4.05 per cent. to a 5.41 per cent. solution of the chemically pure crystallized sodium citrate, preceded by the instillation of a cocain and an adrenalin solution into the conjunctival sac. During this time he has treated nine cases of primary and two of secondary glaucoma; all but one occurred in women. As a group, the primary cases were in individuals over the age of 45, and concerned thin, ill-nourished women of sedentary habits. The effect of these injections in reducing tension was unfailing and without evil consequences. After each injection there was a relief of the symptoms of glaucoma for from three days to several weeks. Thomas believes that the advantages of the subconjunctival sodium citrate injections over the other recognized surgical or medical procedures are evidently to be sought in their simplicity and in the promptness with which they produce results. Clearly these injections do not constitute a "cure" for glaucoma, but no more do iridectomies, sclerotomies or any other procedures which merely aim to reduce tension.

42. **Operative Treatment of Fractures of Neck of Femur.**—The technic of the operation followed by Hunkin is described as follows: The patient is placed on the back with each leg protected and wrapped separately. The assistant marks the line of the femoral artery just below Poupart's ligament. A crescent incision from 9 to 15 cm. in length, depending on the fatness of the patient, is swept from the anterior superior spine; this incision reaches the muscular layer. In fat subjects the incision divides a little of the rectus femoris and sartorius. In thinner subjects the muscle is not divided by reason of the incision being shorter. A few strokes of a dry dissector and the pulling inward of the sartorius brings one at once on the capsule of the hip joint. A little rotation of the leg, with a finger on the capsule, locates the anatomy and demonstrates the fracture. The capsule is then opened with a knife and the fragments are exposed. A pair of deep retractors are introduced when direct observation of the fragments can be made. The internal fragment can be rotated with the hand or with a dry dissector and the cartilage of the head observed. The external fragment moves, of course, with the leg. The leg is then manipulated until the fractured ends are in contact and placed in that position, whatever it may be in which they appear less likely to slip. In recent fractures this is usually in the extreme abducted position of Whitman. One assistant is now given the sole duty of maintaining this corrected position, and the parts are fully exposed so that the assistant can see the anatomic landmarks of the pelvis.

A tiny puncture with a bistoury is then made over the trochanter, from 4 to 5 cm. below the tip, into the bone, and a steel (sometimes silver-plated) nail, 8 cm. long, is driven through the trochanter and neck into the head. When the small head of the nail approaches the skin a steel "set," cupped to fit the head of the nail, is applied to the nail, which is driven firmly home. After the nail is located Hunkin often drives one of his staples across the line of fracture, the inner arm going into the head just at the cartilage rim, and the outer arm into the neck to the outer side of the fracture. The capsule is then closed as tight as possible with firm catgut and the wound closed in the usual manner. A plaster-of-Paris spica is then closely applied from toes to mammary line, during the setting of which firm pressure is made downward and forward from above and behind the trochanter.

Journal of the South Carolina Medical Association, Charleston

February

56 Life of Dr. J. Marion Sims. J. H. Allen, Spartanburg.
57 Lumbar Puncture in Children. T. W. Ely, Charleston.
58 The Tonsil Question. S. H. Griffith, Gaffney.
59 The Uncinariasis Problem a Real One. W. A. Plecker, Hampton, Va.

Bulletin of the Manila Medical Society

January

60 *Poisoning from Datura Alba Seeds. F. B. Bowman, Manila.
61 Hemorrhagic Disease of New-Born Infants. F. W. Vincent, Baguio, P. I.
62 *Philippine Contact-Poisonous Plants. C. B. Robinson, Manila.
63 *A Case of Tetanus from "Fuentes." R. Llamas, Manila.

60. **Poisoning from Datura Alba Seeds.**—In Manila and other parts of the Philippines the plant *Datura alba* (Nees) grows in great abundance, and from this plant hyoscin may be obtained in large quantities. The alkaloid is found in all parts of the plant, but in greater amount in the seeds than elsewhere. One of the chemists employed in the Bureau of Science of Manila, while conducting experiments with *Datura alba*, ate approximately a gram of the seeds. He probably took in all 5 milligrams of the alkaloid, and because of the severity of the symptoms produced his case is reported. After half an hour he noticed that his mouth seemed dry and in an hour felt somewhat flushed and noticed that his pulse was rapid. When Bowman saw him an hour later the pupils were widely dilated, he was nervous and restless and laughed most of the time. His face was flushed, pulse rapid—130 a minute. His speech was scanning in character and he was unable to make connected sentences. Later he became drowsy and had hallucinations, and as the symptoms seemed to be becoming more severe, he was sent to the hospital. After arriving there he became very drowsy and was soon asleep. The skin was very dry, though micturition seemed to be excessive. He was given a hot pack and remained asleep until the next morning. On awakening, except for some weakness, he seemed to be quite well again. He still had some trouble in completing his sentences, and he remembered nothing that had happened after the commencement of his symptoms. This case of poisoning was severe, but not serious. In cases of poisoning, Bowman says, the stomach should be evacuated as soon as possible. Pilocarpin in large doses has been used with alleged good results, but it is necessary to give so much to counteract even small doses of alkaloids of the atropin series that its use as an antidote is questionable. Hot packs should be used in severe cases, and any respiratory or cardiac symptoms watched carefully and treated.

62. **Philippine Contact-Poisoning Plants.**—With the purpose of ascertaining the facts concerning the possibility of poisoning by the hairs of the leaf-sheaths of bamboo, the following experiment was made by Robinson. The bamboo was that known as cauayan quilling, a name which seems to be used only for *Bambusa vulgaris* Schrad; it is widely distributed in the tropics, both eastern and western, and had been cut the day before. About 10 a. m., August 11, numerous hairs were rubbed on the upper arm. By noon the skin was reddened around the place, but no pustules could be detected. In the afternoon this reddening disappeared, and there were bare traces of pustules. The first itching sensation was noticed about 10:30 p. m., but the pustules were still few and small. By the next morning they were fairly plentiful, but small, with the surrounding skin reddened, without evident sensation. This condition continued throughout that day and the next, with occasional slight itching, hardly perceptible except

on rubbing. From August 14 to 17 there was a gradual decrease, the pustules being still evident, without itching, with slight yellowish discoloration of the skin; on the morning of August 18 they were at the limit of visability, and would not have been noticed if their history had not been known. The immediate incentive to the experiment was the finding of similar pustules on the hands, a day after gathering bamboo material. The pustules disappeared without treatment, after a comparatively short time. While the bamboo, then, may be considered poisonous, the effect is not severe, and should not lead to anxiety.

A definite test on the nettle-like plant, *Fleurya interrupta* (Linn.) Gandich., showed that the stinging sensation was felt at once, becoming moderately severe. After about five minutes, pustules began to form, but the pain ceased about the same time. The pustules soon disappeared, without treatment. A recent involuntary contact with *Laportea meyeniana* (Walp.) Warb., lipa or lipang calabao, while causing immediate pain, did not result in any development of pustules; this is in agreement with experiments of others, even in severe cases of stinging by this plant.

63. **Tetanus from "Fuentes."**—"*Fuente*" is a cure practiced by the arbolarios or unlicensed physicians in the Philippines on persons suffering from stubborn diseases, such as beriberi, tuberculosis, anemia, etc., which, they think, physicians have failed to cure. Llamas says that it is a common belief among the poor class of people (and of some of the middle class), especially in the provinces, that they are relieved from their long suffering by opening a "fuente," as they express it, either on the arm, thigh or leg. Undoubtedly, this custom also prevails in Manila, having probably been introduced from the provinces. To start the infection, a mixture of lime and Chinese soap, in the proportion of two to one, is made into a "bolita" (pill), the diameter of which varies from 0.5 to 1 cm. This pill is then placed on the fleshy, least vascular part, usually the arm or leg, and is held in place by a tight bandage for twenty-four hours, or until a blister is formed. Next day another "bolita" of the same size (made of garlic) is placed on the surface of the previously opened blister, the wound dressed as before and the dressing is not removed until pus is produced and a cavity formed. The same effect may be produced by burning the skin directly with a lighted cigarette. The cavity once formed, another "bolita," made of Chinese wax or betel nut, is put in and covered with a piece of Chinese blotting paper. A hole is made in the middle of the paper and a piece of banana leaf is put on next and loosely bandaged. By the pressure the cavity receives, it becomes so deep that the pill soon has a cavity large enough to hold it.

Each part of the dressing has its own purpose. The pill is to maintain constant pressure on the cavity and to prevent any healing. The Chinese blotting paper absorbs any secretion, the banana leaf protects the wound from becoming wet and the bandage keeps out the air. The wound is washed morning and afternoon with warm guava water or ordinary tepid water and the dressing is changed. It is supposed that the secretion removes the impurity of the blood which has caused the sickness. If the "fuente" fails to cause secretion, the sickness is said to be incurable; if the patient gets well, the "bolita" or "pelotilla" is removed and the wound treated as before until it heals. Last May, Llamas treated a case of tetanus which was contracted through a "fuente" in the right leg of a woman suffering from beriberi and anemia. He thinks that an investigation would show that many cases of tetanus originate from infection due to the application of "fuentes."

Journal of the Arkansas Medical Society, Little Rock

February

64 *Postanesthetic Acidosis. J. G. Eberle, Fort Smith.
65 A Plea for More Accurate Diagnosis in Gynecologic Conditions. W. A. Snodgrass, Little Rock.
66 Cesarean Section Under Unfavorable Conditions. A. G. Harrison, Little Rock.
67 Cesarean Section. G. S. Brown, Conway.
68 *Preventable Blindness. J. G. Watkins, Little Rock.
69 Gunshot Wounds of the Abdomen. R. C. Dorr, Batesville.
70 Medical Organization. M. L. Norwood, Locksburg.

64 and 68. Abstracted in The Journal, June 11, 1910, p. 1992.

Journal of the American Public Health Association, Columbus, Ohio

February

71 *Preventive Principles in the Field of Mental Medicine. W. A. White, Washington, D. C.
72 *Prevention of Feeble-Mindedness. E. R. Johnstone, Vineland, N. J.
73 Sanitation of Bakeries and Restaurant Kitchens. C. B. Ball, Chicago.
74 *Saving Children from Milk-Borne Diseases. N. Straus.
75 Training of Janitors in Sanitary Care of School Premises. H. C. Putnam, Providence, R. I.
76 Electrolytic Production of Sodium Hypochlorite. C. P. Hoover, Columbus, Ohio.
77 An Emergency Hypochlorite Plant. H. A. Whittaker and J. A. Childs, Minneapolis.
78 The Hyperchlorite Treatment of Water at Minneapolis. J. F. Corbett, Minneapolis.
79 *Resistance of Certain Bacteria to Calcium Hypochlorite. F. F. Wesbrook, H. A. Whittaker and B. M. Mohler, Minneapolis.

71 and 72. Abstracted in The Journal, Sept. 24, 1910, p. 1135.

74. Abstracted in The Journal, Sept. 17, 1910, p. 1044.

79. **Resistance of Certain Bacteria to Calcium Hypochlorite.**—On treating Mississippi River water even with large amounts of calcium hypochlorite, the authors found it impossible to effect complete sterilization. The predominant organism remaining after treatment was found to be a spore-bearing bacillus. Treatment of this organism in pure culture has demonstrated a great resistance of certain spore-forming bacteria to this chemical, which may be one of the factors, if not the most important one, in the failure to produce complete sterility, and is probably the cause of the later rise in bacterial count after treatment in certain experiments. Results on the comparative treatment of *B. coli* and *B. typhosus* in pure culture show, in a general way, that the sum total of amounts of calcium hypochlorite required to exterminate both organisms is about the same, yet in the selection of individual cultures some variation in the amounts actually required is indicated. The results further demonstrate in a general way that pending the formulation of better technical methods we may continue to regard the presence or absence of colon bacillus in treated waters as the index of possible infection with, or freedom from, the typhoid organism. The authors venture to express the hope that investigations may soon be undertaken in this country or abroad, which will seek to determine the effect of the variable factors responsible for variations in efficiency of sterilization procedures in which hypochlorites are employed.

New Mexico Medical Journal, Las Cruces

February

80 Preventive Medicine in the Southwest: Its Aims and Limitations. J. W. Flinn, Prescott, Ariz.
81 A Case of Traumatic Jacksonian Epilepsy. M. K. Wylder, Albuquerque.
82 Splanchnoptosis and Its Surgical Treatment. H. A. Ingalls, Roswell.

Archives of Internal Medicine, Chicago

March

83 *Two Cases of Adams-Stokes' Syndrome with Heart-Block. W. S. Thayer, Baltimore, and F. W. Peabody, Cambridge, Mass.
84 A Case of Poisoning Due to Eating Poison-Hemlock (Cicuta Maculata). A. Egdahl, Menomonie, Wis.
85 *The Opsonic Index in the Diagnosis of Mixed Infection in Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
86 Entamœba Tetragena as a Cause of Dysentery in the Philippine Islands. C. F. Craig, Washington, D. C.
87 *The Acidosis Index. T. S. Hart, New York.
88 Acute Yellow Atrophy of the Liver. E. Novak and E. L. Whitney, Baltimore.
89 Allergy. C. E. von Pirquet, Baltimore.

83. **Adams-Stokes' Syndrome.**—Two cases of heart-block which came under the observation of Thayer and Peabody during the past year presented features of unusual interest: Case 1.—A man of 53, with rather thickened arteries and a slightly enlarged heart, with evidences of sclerosis at the aortic ring (rough systolic murmur), showed: (1) Syncopal and convulsive seizures, associated with bradycardia and marked irregularity in the size and sequence of the beats. These occurred often in groups of three or more in rapid succession, followed by intermissions amounting sometimes to nearly or quite half a minute in length. The auricular, which could often be counted clearly in the neck, was usually 100 or above. Long intermissions in the ventricular pulse were usually associated with long periods of apnea. No wholly satisfactory tracings were taken during paroxysms of this sort. Those which were

made suggest a complete dissociation. (2) Similar attacks, usually without convulsions, in which the ventricular beats occurred in groups of from two to three to ten, always at the same rate, and apparently following the same impulses as the auricular beats. These groups of beats were separated sometimes by intermissions amounting to as much as fifteen seconds. The auricular pulsations could usually be counted in the neck, and were sometimes as slow as 59. Sphygmographic tracings showed that these groups of beats consisted of a primary ventricular contraction, apparently automatic, which was succeeded shortly by a series of beats which followed the preceding auricular contractions after an a-c conduction time of approximately normal duration. During these groups of beats the auricular rate became progressively slower without lengthening of the conduction time, until finally the ventricular impulses stopped. The retardation of the auricular impulses continued during the next several auricular contractions, after which it became more rapid. Such attacks yielded on three occasions to the administration subcutaneously of atropin, gr. 1/60 (0.001 gm.). The auricular rate after atropin was slower than it was before, but more rapid than the rate of several slow beats at the time of onset of the periods of ventricular intermission. (3) Periods during which there was a fairly regular ventricular rhythm of about thirty to the minute with a rather rapid auricular rate (100 to 120). The tracings show an apparently complete auriculoventricular dissociation. One of these attacks failed to yield to atropin, gr. 1/30 (0.0021) given subcutaneously. (4) Periods during which intermission in the ventricular pulse occurred at varying intervals and lasted for varying periods of time, followed usually by an apparently spontaneous ventricular contraction, which was succeeded by one or more beats after a normal a-c conduction time. (5) Periods between these attacks in which the heart's action was regular, and the sphygmographic tracings revealed no abnormalities, the a-c interval remaining always normal. Although there have been seven or eight grave attacks of Adams-Stokes' syndrome in a year and a half, the patient is to-day in good condition.

Case 2.—A man, aged 83, for three or four years had had dyspnea on exertion and attacks of giddiness and faintness in which he had fallen to the street. Following treatment with infusion of digitalis, but persisting for more than a month after its discontinuance, there occurred periods of bradycardia, during which the pulse was sometimes nearly regular at about 40 and at other times irregular. The pulsations of the auricles observed in the neck were more frequent than those of the ventricles. The auricular pulsations further manifested themselves by a slight audible sound and sometimes by a palpable and even visible impulse at the apex. The cardiosphygmographic tracings showed a regular auriculoventricular rhythm, with much-prolonged a-c time, amounting sometimes to almost 0.6 of a second. At times there is characteristic dropping out of ventricular beats, associated with progressive prolongation of the a-c period and failure of conduction. At other periods there is an attempt to set up a spontaneous ventricular rhythm at the rate of about 40, a rhythm, however, which is not quite regular because of an occasional precocious ventricular contraction due, apparently, to the passage of a stimulus through the auriculoventricular bundle. The administration of atropin, gr. 1/30 (0.0021 gm.), resulted in the complete disappearance of irregularity and the development of a regular auriculoventricular rhythm with prolonged a-c conduction time. Pressure on the vagus resulted in the dropping out sometimes of alternate and, occasionally, of two successive ventricular beats. There was slight slowing of the auricular rate, with no apparent modification of the a-c conduction time. On one occasion, the administration of atropin, gr. 1/30 (0.0021 gm.), was followed by rapid action of the heart with alternating pulse. A year after the termination of these studies the patient was seen again, with an apparently complete auriculoventricular dissociation, the ventricular rate, however, being about 40. The authors regard this case as a typical instance of disease of the bundle of His in a hypertrophied and dilated heart.

85. **The Opsonic Index in Pulmonary Tuberculosis.**—Pettit does not regard the opsonic index as being an accurate method of diagnosis of mixed infection in pulmonary tuberculosis.

87. **The Acidosis Index.**—The method devised by Hart depends on the intensity of the color developed by adding ferric chlorid to urine containing the acetone bodies (Gerhardt's reaction).

St. Louis Medical Review

February

90 Tuberculosis: Its Nature, Causes and Prevention. J. B. Huber, New York.
91 Abdominal Pain. C. P. Thomas, Los Angeles.
92 The Most Vital Point in Anesthetizing. E. H. Williams, San Francisco.
93 Malignant Degeneration of Chronic Ulcers of the Leg. (So-Called Marjolin's Ulcer.) H. L. Kretschmer, Chicago.
94 Professional Confidences. E. S. McKee, Cincinnati.
95 Gastric Ulcer. J. G. Sherrill, Louisville, Ky.
96 Leprosy. J. Knott, Dublin, Ireland.
97 Medical Men of the Orient. A. H. Moodricker, Wabash, Ind.
98 Aims and Methods of Medical Education in America. G. Richter, St. Louis.

Colorado Medicine, Denver

March

99 Mild or Obscure Syphilis. A. J. Markley, Denver.
100 Nature of Prolapse of Genitalia in Woman. C. S. Elder, Denver.
101 Cancer of the Stomach. J. R. Arneill, Denver.
102 *Congenital Defect of the Clavicle. H. R. McGraw, Denver.
103 Colles' Fracture. L. W. Ely, Denver.

102. **Congenital Defect of Clavicle.**—Five or six days after the birth of McGraw's patient, the nurse noticed a slight swelling under the left ear. On examination this swelling seemed to be the sternocleido mastoid muscle in a state of constant contraction. Beneath this swelling and somewhat external to it there was a small knob, which proved to be a rudiment of the clavicle about 1 inch long. The outer end was attached to the acromion process of the scapula, and the small rounded prominence was freely movable. All the inner portion of the clavicle was missing. The shoulder could be drawn forward and inward to the median line, and the scapulæ projected behind. At this time it was thought that this bony knob or enlargement might be a beginning osteosarcoma. Dentition has been perfectly normal in every respect. At the age of 17 months a second radiogram was made and showed the clavicle absolutely perfect. This case is regarded as being of interest chiefly through its demonstration of the fact that there must be more than one center of ossification in the clavicle, and that the delay in development through some embryologic accident did not inhibit the subsequent growth of the center or centers forming the nucleus for the inner portion of the clavicle in the case cited. Careful inquiry has been made into the matter of heredity brought forward so prominently in the cases of Marie, Sherman and King, but with an absolutely negative result; neither was there association with rickets.

Yale Medical Journal, New Haven, Conn.

February

104 Results in Sanatorium Treatment of Tuberculosis. W. B. Bartlett, Hartford, Conn.
105 Wind Instruments and Longevity. J. F. Rogers, New Haven, Conn.
106 A Case of Long-Standing Nephritis in a Boy. G. Blumer, New Haven, Conn.
107 Periodic Attacks of Indigestion in Children, Accompanied by Presence of Diacetic Acid in the Urine. W. G. Murphy, E. Hartford, Conn.
108 Relative Value of Symptoms, Physical Signs, Tuberculin and the Roentgen Ray in Diagnosis of Tuberculosis. H. F. Stoll, Hartford, Conn.

Annals of Surgery, Philadelphia

March

109 *Parathyroid Implantation in Treatment of Tetania Parathyreopriva. W. H. Brown, Victoria, Australia.
110 Gastrostomy as a Curative Measure Per Se in Non-Malignant Strictures of the Esophagus. J. R. Eastman, Indianapolis.
111 Operative Treatment of Wounds of the Heart. G. W. W. Brewster and S. Robinson, Boston.
112 *Importance of Preserving the Gall-Bladder in Operations on the Gall-Passages. J. W. Long, Greensboro, N. C.
113 Retroperitoneal and Mesenteric Cysts of a Simple Nature. G. H. Makins, London.
114 *A New Abdominal Incision to Facilitate Intra-Abdominal Operations. H. A. Kelly, Baltimore.
115 Supernumerary Kidney Seat of Cystadenoma. F. Cobb and H. G. Giddings, Boston.
116 Damage Done to the Kidney by Operation. J. E. Moore and J. F. Corbett, Minneapolis.
117 *Empyema of the Ureter. H. A. Fowler, Washington, D. C.
118 Control of Urinary Drainage After Cystotomy. H. H. Sinclair, Walkerton, Ontario.
119 Technic of Median Perineal Prostatectomy. S. Alexander, New York.

120 *Operation for Stiffening the Knee-Joint. R. A. Hibbs, New York.
121 *Intussusception in the Adult. S. H. Watts, Charlottesville, Va.

109. **Tetania Parathyreopriva.**—In Brown's case, the implantation of monkey parathyroids was the only measure which with any permanence put the patient in better condition. Finally, however, it became necessary to transplant human parathyroids. After this procedure, the patient's progress toward recovery was continued and uneventful.

112. Abstracted in The Journal, Jan. 7, 1911, p. 67.

114. **Removal of Skin-Fat Wedge.**—The value of removing wedges of skin and fat in patients who are not troubled with obesity, but simply and solely for getting rid of a part of the thickness of the abdominal wall and making the field of operation more accessible, is emphasized by Kelly. An oval or an elliptical transverse excision is made, cutting right down to the strong fascia overlying the rectus and the oblique muscles. All bleeding vessels ought to be tied carefully. When this piece of skin and fat is removed the operator then finds it much easier to open the abdominal wall and operate than in a similar case in which he has to retract this embarrassing mass of tissue as well. Kelly closes such a wound with a fine catgut suture, catching a distinct layer of fascia about the middle of the fat, the silkworm-gut sutures uniting both skin and fat.

117. **Empyema of the Ureter.**—Fowler's patient, a man, gave a history of calculous diseases of fifteen years' duration. The onset was marked by symptoms referable to the kidney. He had passed a great many calculi. Perineal section was performed for an impacted calculus in the urethra. Another stone was removed from the urethra by milking it forward to the meatus. Two litholapaxies were performed. The left kidney was removed on account of calculous pyonephrosis. Empyema of the left ureter developed as a result of the presence of a calculus, which was demonstrated in the first Roentgen-ray examination. This calculus was forgotten and consequently overlooked at the time of the left nephrectomy. Infection of the right kidney took place, pyonephrosis developed, and complete anuria occurred suddenly three years later. Anuria was complete for three days, and was due to the plugging of the ureter with pus. Renal retention was partially relieved by massage of the kidney and along the ureter, thus dislodging the plug of pus filling the ureter. Anuria again developed and nephrotomy of the remaining kidney was done. This kidney was greatly distended with urine and pus. No stone was demonstrated by the Roentgen ray and none was found at operation. The parenchyma formed a mere shell of tissue less than 1 cm. thick. Recovery was prompt and complete. Since the operation the patient has passed one stone and another has been removed from the bladder by litholapaxy. The skiagraph now shows a stone in the left ureter of the same shape, size and location as shown in the plate taken three years ago. Normal peristalsis was observed in this ureter three years after the complete removal of the corresponding kidney.

120. **Operation for Stiffening Knee-Joint.**—Hibbs believes that the knee-joint has not been stiffened frequently enough, especially among the classes of people seen in the dispensaries, who are, in most instances, wage-earners, and the necessity of wearing some kind of brace permanently is troublesome and expensive to them. This is probably due to the fact that attempting to stiffen this joint by the old method of doing practically an excision has not been very successful. In the first place, the removal of a sufficient amount of cartilage from the femur and tibia to secure bony surfaces for approximation shortens the leg about 1½ inches, which, with the shortening already present in these cases, is a serious consideration. And in the second place, the removal of the ligaments makes difficult the prevention of deformity during the long period, a year or more, before there is solid bony union. This led Hibbs, on Jan. 15, 1909, to perform an operation which obviates these disadvantages. It was that of mortising the patella, after it was denuded of its periosteum and cartilage, into a space prepared for it by the removal of the cartilage, just anterior to the center of the tibia and femur. Such a space may be secured without injury to the crucial ligaments or to the epiphysis of either bone. With the patella in this position, a perfect bony bridge is thus formed between the tibia and the femur. The patella in the first three cases was put in transversely, and in the next four horizontally. In all these cases, in from five to six months there was solid bony ankylosis, which has been maintained a sufficient length of time since the removal of the support to consider it permanent.

It then occurred to Hibbs, that if the patella were placed horizontally in a space prepared for it, and then if the periosteum were carefully preserved in its removal from the patella and brought down over the freshened area and stitched to the periosteum around the edges of the tibia and femur, there would be reproduced from this periosteum new bone, so that the bony bridge would be larger and stronger. In the last three cases, this procedure has been adopted, and in each case there has been a reproduction of bone from this periosteum, as has been unmistakably shown by skiagraphs. The advantages of the latter procedure are obvious. In the first place, there is less likelihood of the patella slipping out of its bed, and in the second place, there is secured, through the reproduction of new bone, a larger and stronger bony ridge, and the weight may be safely borne on the leg earlier with advantage, and all support removed sooner.

121. Abstracted in The Journal, Jan. 14, 1911, p. 140.

Albany Medical Annals

March

122 Experiences with Salvarsan. W. S. Gottheil, New York.
123 When Should the General Practitioner Measure the Blood-Pressure? T. C. Janeway, New York.

West Virginia Medical Journal, Wheeling

March

124 *A Remarkable Case of Hysteria. T. Diller, Pittsburg.
125 Social Hygiene and the Physician's Relation Thereto. J. C. Irons, Elkin.
126 Ether Anesthesia. R. H. Bullard, Wheeling.
127 Adenoids. P. L. Gordon, Charleston.

124. **A Case of Hysteria.**—This case was characterized by insane conduct, somnambulism, disordered personality, dream-like states and amnesia.

Illinois Medical Journal, Springfield

March.

128 Heredo-Syphilitics and Their Detection. A. Ravold, St. Louis.
129 Relation of Vasectomy to Eugenics. J. C. Hoag, Chicago.
130 Treatment of Delayed Resolution of Pneumonia. J. M. Patton, Chicago.
131 Diagnosis of Renal and Ureteral Calculi. D. N. Eisendrath, Chicago.
132 Bronchoscopy and Esophagoscopy. S. A. Friedberg, Chicago.
133 Non-Suppurative Ethmoiditis. G. P. Marquis, Chicago.
134 *An Unusual Case of Combined Extra-Uterine and Intra-Uterine Pregnancy. C. D. Center, Quincy.
135 Uterine Myomata and Parturition. C. E. Paddock, Chicago.
136 Surgery of the Pleura. O. L. Pelton, Elgin.
137 *Phthisiophobia. F. Tice, Chicago.
138 *Action of Iodin on the Tissues. A. Werelius, Chicago.
139 *Development of the Theory of Hearing. G. E. Shambaugh, Chicago.
140 Diagnosis of Cancer of the Rectum. C. J. Drueck, Chicago.

134. **Extra-Uterine and Intra-Uterine Pregnancy.**—Center's case was one of combined extra-uterine and intra-uterine pregnancy at the same time, with rupture and removal of the extra-uterine pregnancy, and both tubes and both ovaries, the intra-uterine gestation proceeding undisturbed to full term and normal labor.

137. **Phthisiophobia.**—The resident staff of the Cook County Hospital has been traced by Tice, and the frequency of tuberculous infection determined as accurately as circumstances will permit. During the period of thirty-three years, from 1866 to 1909, 376 physicians have served as interns, and each member, with the exception of the first three, has served a period of eighteen months. Until within the last year and a half, no attempt was made to segregate the tuberculous patients, but they were cared for in the general wards, not especially constructed for this class of patients, and where no special precautions were enforced. Of the 376 members of the resident staff, three had tuberculosis before their service, four during their service, and thirteen have developed it since that time, making a total of twenty, of whom six have died. Accepting the validity of the preceding statements, Tice thinks it is evident that the danger of infection in tuberculosis has been overestimated and exaggerated. As a result, tuberculous

individuals and the public at large have been subjected to great inconvenience and hardship. The medical profession, he declares, should realize the evils of these misconceptions and endeavor to correct them so far as possible; physicians should no longer continue to repeat many of the current stereotyped statements on tuberculosis, but more nearly to approach the truth as indicated by knowledge of recent developments. The nursing profession should be instructed properly and trained in the care of the tuberculous. Since much of the fear of tuberculosis has resulted from the educational efforts of the various antituberculosis organizations, it becomes incumbent on them to continue their efforts and assist in diminishing this evil.

138. **Action of Iodin on Tissues.**—The main object of Werelins' research was to ascertain the action of iodin on the healing process of wounds. For this purpose, two wounds were inflicted on the back of dogs on each side of the spine, treating one with, and the other without, application of iodin. The wound treated with iodin always healed much more slowly than the wound not so treated. In the experiments tincture of iodin was used.

139. **The Theory of Hearing.**—Shambaugh believes that the membrana basilaris is physically incapable of performing the rôle of a vibrating mechanism, and, furthermore, that the membrana tectoria must be this mechanism. Just how the membrana tectoria responds to the impulse of sound waves is largely speculative since this is beyond possibility of actual demonstration. His conclusions regarding the manner in which the structure responds is arrived at by assuming that manner of response which best explains the various phenomena associated with sound perception both in the normal physiology of hearing and in the phenomena associated with diseases of the labyrinth.

Journal of Cutaneous Diseases, New York

March

141 *Infectious Eczematoid Dermatitis. Possible Influence of Anaphylaxis in Skin Reactions. J. A. Fordyce, New York.
142 A Case of Frambesia. C. J. White and E. E. Tyzzer, Boston.
143 Mycosis Fungoides in the Negro. E. R. Strobel, Baltimore, and H. H. Hazen, Washington, D. C.
144 Exposure to the Sun as an Etiologic Factor in Alopecia. G. F. Harding, Boston.

141. **Infectious Eczematoid Dermatitis.**—In observing a large number of cases of dermatitis, Fordyce has been struck by the frequency with which forms of skin infection, usually diagnosed as eczema, have been secondary to some antecedent lesion or disease of the skin, such as scabies, wounds or traumatisms which have become infected, abscesses, furuncles, intertrigos, sinuses left after operation on bones, etc. In other words, the percentage of eczemas which were not preceded by some antecedent pathologic condition seemed to be in the minority. At times, when the eczematous and pyogenic processes have coexisted, it has been difficult to determine which condition was the primary one. On the other hand, when eczema and furunculosis were coincident, it was learned, on making inquiry of the patient, that the furuncles had in many cases antedated the outbreak of eczema. In addition to cases resulting from a purulent discharge or skin infection, Fordyce has noted others in which one or more scaling patches of dermatitis present for an indefinite time suddenly assumed an acute inflammatory reaction and spread by continuity or independent foci to other parts of the body. He believes that those cases belong to the group described under the name of infectious eczematoid dermatitis, and that irritation of the skin produced by discharges from abscesses, sinuses, ulcers and other pus-secreting surfaces is the true basis of these phenomena. In certain of these cases, the outbreaks occur at a distance from the primary focus and are not to be explained on the ground of autoinoculation or direct conveyance of the irritant substance. These cases, Fordyce would claim to be due to anaphylaxis.

Medical Fortnightly, St. Louis

March 10

145 Relation of the Eye to the Nervous System. E. E. Clark, Danville, Ill.
146 Ileus Paralyticus Relieved by Operation. C. W. McElhaney, Greenville, Pa.
147 Pneumonia. G. L. Servoss, Fairview, Nev.

American Journal of Physiology, Boston

March

148 The Physiology of Regeneration. Regeneration of Isolated Segments and of Small Pieces of Worms. S. Morgulis, Boston.
149 *Influence of Cold Baths on the Glycogen Content of Man. G. Lusk, New York.
150 Nuclein Metabolism in the Dog. P. A. Levene and F. Medigreceanu, New York.
151 *Effects of Various Forms of Exercise on Systolic, Diastolic and Pulse Pressure and Pulse Rate. O. S. Lowsley, Baltimore.
152 Does Dextrose Arise from Cellulose in Digestion? G. Lusk, New York.

149. **Influence of Cold Baths on Glycogen Content of Man.**—In order to determine whether cold baths will not completely remove the glycogen content of a man, two individuals who had accustomed themselves during the summer to a swim of fifteen minutes' duration in the early morning in cold water, and who took daily cold douches as a matter of routine at other times, submitted themselves in the morning (without breakfast) to the action of two baths, each of from six to ten minutes' duration. The water contained floating ice blocks and had a temperature of 10 C., the baths being given at intervals of about two hours. The treatment was effective in exhausting the glycogen supply. Lusk concludes that immersion of normal men in cold baths at a temperature of 10 C. when the intestine is free from carbohydrates, induces shivering which causes a rapid utilization of body glycogen as determined by a fall in the respiratory quotient to the fasting level. In one very muscular individual this result could not be obtained. In one individual in whom the shivering had been severe, a quotient of 0.67 and another of 0.62 were found during subsequent periods of rest, which correspond to those observed during rest after a period of exhaustive exercise (glycogen formation from protein). The greatest increase in heat production which was brought about by the cold baths was 181 per cent. above the normal. The urine remained free from albumin and from sugar.

151. **Effects of Various Forms of Exercise.**—The conclusions to be drawn from Lowsley's experiments are as follows: All types of prolonged exercise which cause an increase in pulse rate cause also a rise in systolic and diastolic pressures. The systolic pressure shows the greater rise; hence there is an increase in pulse pressure, which may be interpreted to mean that the heart beats are augmented as well as accelerated. After all types of exercise studied, the systolic, diastolic and pulse pressures invariably fall below normal and remain in this subnormal condition for a considerable time. The more exhaustive the nature of the exercise, the longer will be the subnormal period which follows. Systolic pressure invariably falls more rapidly than diastolic, and hence the pulse pressure becomes weaker. Pulse rate, which always increases during exercise, decreases rapidly after its completion. Rapid exercises (vigorous, fatiguing and exhausting) are followed by a fall of pressure below normal which lasts longer than after moderate exercise, even if the former is continued only for a very short period and the latter for quite a long period of time. If Lusk's interpretation of the subnormal phase is correct, it would follow that the so-called field events, consisting of jumping, shot putting, discus and hammer throwing and baseball, gymnasium apparatus work, and exercises of a similar nature, are preferable to rapid exercises such as basketball, football and running races. This is particularly true in the case of the rapidly growing youth, whose heart is under the additional demand of keeping pace with an increase in the tissue mass of the body. There is less strain put on the circulatory system by walking a number of miles at a moderate rate than by sprinting 100 yards at top speed. Long-distance races and similar forms of exhaustive exercise give rise to a serious strain on the heart, as is indicated by the long period of subnormal blood-pressure.

Woman's Medical Journal, Cincinnati

March

153 A Review of the Treatment of Sterility. M. D. Rushmore, New York.
154 Cholera and Typhoid. M. S. Macy, New York.
155 Relation of Women in Industry to Child Welfare. I. T. Smart, New York.
156 Economics of Development. J. M. Taylor, New York.

Journal of the Medical Society of New Jersey, Orange

March

157 Podalgia and Flat-Feet. H. J. Bogardus, Jersey City.
158 Appendicitis and Its Moving Pathology. G. K. Dickinson, Jersey City.
159 Prevention of Peritonitis. E. W. Hedges, Plainfield.
160 Care of Fractures. W. H. Lawrence, Summit.
161 Intussusception. T. W. Harvey, Orange.
162 *A New Technic in the Use of Forceps. M. A. Swiney, Bayonne.
163 An Appeal for Inquiry Beyond the Isms of the Times. H. Chevanne, Salem.
164 Fermentation and Putrefaction. L. F. Bishop, New York.
165 A Case of Splenomyelogenous Leukemia. G. Knauer, Elizabeth.

162. **New Technic in Use of Forceps.**—The indications for the technic described by Swiney are: Vertex presentations, or convertible vertex presentations with no engagement, when there is no great disparity between head and inlet. The principal points in the method are the Walcher position, forceps application at the beginning of a pain and withholding the anesthetic until the head is properly forced into the brim. This plan should not be tried until the os is fully dilated and sufficient time should always be given for Nature to do her best. In using the Walcher position, the toes should not touch a chair or the floor during a pain. An assistant must hold the patient by the shoulders to keep her on the table. During the interval an assistant should hold up her legs, as it is more comfortable for the patient.

Chicago Medical Recorder

March

166 New Problems in Treatment of Cancer. C. Wagner, Chicago.
167 Active Immunization in Tuberculosis. H. J. Achard, Chicago.
168 Elements which Make Success or Failure in Surgical Work. C. W. Barrett, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

March 4

1 *Mediastinal Affections. P. Kidd.
2 Immunity Reaction in Diagnosis, Especially of Tuberculosis and Syphilis. W. d'E. Emery.
3 *Mechanical Treatment of Spinal Caries. H. J. Gauvain.
4 Education of the Deaf. M. Yearsley.
5 *A Case of Suprarenal Apoplexy. R. Waterhouse.
6 Cranial Asymmetry Due to Postural Causes. H. Armstrong.
7 A Case of Rodent Ulcer of the Thigh. H. E. Friend.
8 A Case of Retention of Urine. G. W. Bury.
9 Infantile Diarrhea. W. Tibbles.
10 Bone-Setting and Its General Principles. F. Romer.
11 Twin Scissors for Twin Sclerotomy. N. B. Harman.

1. **Mediastinal Affections.**—Nine cases are reported by Kidd: Case 1. Substernal thyroid tumor simulating a mediastinal new growth; operation, recovery. Case 2. Mediastinal cyst (? dermoid); operation; recovery. Case 3. Mediastinal abscess perforating the trachea and esophagus and causing subcutaneous emphysema and cellulitis; temporary relief following bleeding; death. At the necropsy the left pleura was found to contain 1½ pints of brownish turbid fluid, the lung being collapsed and covered with recent greenish lymph. Both lungs contained numerous miliary abscesses. In the esophagus opposite the bifurcation of the trachea there was a flat oval fibroma measuring 1x⅔ inch, and just to the left of the tumor a small smooth-edged opening led into an abscess cavity at the bifurcation of the trachea. There was also acute recent pericarditis. The disease appeared to have originated in the subtracheal lymphatic glands, whether as the result of tuberculosis or some other cause could not be determined. Case 4. Mediastinal growth masked by pericardial effusion; death. At necropsy the mediastinal glands in front of the trachea and bronchi were found to be infiltrated with a firm whitish-yellow growth forming a mass of about the size of a duck's egg, not occluding or narrowing either bronchus, trachea or esophagus. There was a small nodule of growth in the upper lobe of the left lung. Case 5. Mediastinal growth masked by pleural effusion; death. At necropsy a large pleural effusion was found on the right side and turbid fluid with flakes of lymph. The trachea and the root of each lung were embedded in a large whitish growth extending widely into the lower lobe of the right lung. The esophagus and large veins were not involved. Case 6. Tuberculosis of mediastinal glands followed by pleurisy with effusion; recovery for some years; death from tuberculous meningitis. Case 7. Tuberculosis of mediastinal glands compressing the right bronchus; recovery. Case 8. Tuberculosis of mediastinal glands involving the lung by direct infection through the bronchi. The case progressed slowly downward, the chief features being remittent pyrexia, loss of flesh and slight cough. Signs of consolidation gradually spread up toward the apex of the right lung, râles and rhonchi appeared over both lungs, and the patient died from tuberculous meningitis. At necropsy large caseous glands were found in the anterior mediastinum and beneath the fork of the trachea. The right bronchus was perforated by the caseous glands in two of its divisions—the branch to the middle ear and the branch to the lower lobe. The middle lobe of the right lung was converted into a large caseous mass. In the upper lobe there were a limited fibrosis and a small cavity. Both lungs were studded with miliary tubercles. There was tuberculous meningitis. Case 9. Tuberculous abscess of bronchial glands; bronchopneumonia simulating acute tuberculosis; death from septicemia.

To determine whether bronchial breathing, like bronchophony, is heard about the seventh cervical, and three or four dorsal upper vertebræ in a great number of healthy persons, especially in those that are thin, in women and children, Kidd examined fifty-one patients consecutively. The only patients excluded were such as had consolidation of the lung of any kind, pleural effusion, or any evidence of tuberculous or other glandular disease in any district of the body. Of these fifty-one patients, thirty-three showed bronchial breathing or pectoriloquy over the seventh cervical and upper dorsal spines, usually the first and second. In twenty-two cases both bronchial breathing and pectoriloquy were present; in eleven cases either bronchial breathing or pectoriloquy alone. In eighteen cases the results were uncertain or negative. Most of the patients who gave positive results were spare or thin, but not all, a notable exception being a man weighing over 210 pounds, the subject of a cerebral tumor. Among the positive cases nineteen were male and fourteen female; age: under 10 years, seven cases; 10 years and over, twenty-six cases. Kidd feels persuaded that we may expect to find bronchial breathing and pectoriloquy over the upper dorsal spines in many healthy people.

3. **Mechanical Treatment of Spinal Caries.**—Gauvain discusses mechanical treatment during recumbency only.

5. **Suprarenal Apoplexy.**—The history of Waterhouse's patient, a boy aged 8 months, was as follows: throughout the morning the child had been very drowsy and had "looked strange," but had not seemed to be in pain; he had taken nourishment readily, and the bowels had acted as usual. About 3 o'clock in the afternoon he vomited. Previously the child had always seemed perfectly healthy. He had been breast-fed until three weeks before admission, when a mixture of cow's milk and water was substituted. The infant was obviously very ill: complexion gray, eyes dull, breathing rapid, shallow and noiseless; temperature 100.4 F., pulse 140, and respirations 72. Râles could be heard all over the chest, especially at the bases behind. The abdomen was soft and not tender. There were no signs of meningitis, and nothing abnormal was to be seen in the mouth or fauces. Two hours after admission an extensive eruption of purple spots and blotches appeared over the whole trunk, upper arms and thighs. The temperature had fallen to 99.4 F. The child rapidly grew worse, the face became cyanosed, and death occurred four hours after admission. There were no convulsions throughout.

The post-mortem examination was made twenty-two hours later. The suprarenal capsules were striking objects even before their removal from the body; of little more than normal size for a child of this age, they were both of a deep purple color and evidently the seat of hemorrhage. The extravasation of blood had taken place into both the cortical and medullary portions, but no bleeding had occurred into the adjacent tissues. Microscopically, the structure of the medulla was seen to be completely destroyed and replaced by effused blood. The arrangement of the columns of cells in the cortex could be made out, but the cells themselves had largely disappeared, their nuclei alone remaining, while everywhere were to be seen large numbers of red corpuscles. All the other organs appeared natural. Cultures taken from the adrenals, from the spleen and from the cerebrospinal fluid all proved sterile. No microorganisms could be detected in films made from the cerebrospinal fluid and from the interior of the suprarenal capsules.

Medical Press and Circular, London

March 1

12 Medicinal Treatment of Uterine Hemorrhage. R. Asch.
13 History of Mummification. G. E. Smith.
14 Indications for and Technic of Cesarean Section and Its Alternatives in Women with Contracted Pelves Who Have Been Long in Labor and Exposed to Septic Infection. A. J. Routh.
15 Therapeutic Use of Radium. W. H. B. Aikens and F. C. Harrison.

Australasian Medical Gazette, Sydney

January

16 *The "Presystolic Murmur." J. M. Gill.
17 Diagnosis of Intra-Uterine Pregnancy in the Earlier Months. J. K. Couch
18 *Identification of Bacillus Typhosus (Eberth Gaffky) and Bacillus Dysenteriæ (Flexner). B. Bradley.
19 A Case of Undeveloped Genitalia with Pregnancy, Resulting in the Birth of Unequal Monochorial Twins. T. G. Wilson.
20 *A Plea for the Early Diagnosis and Treatment of Incipient Phthisis by Tuberculin. E. Ure.
21 Kyoomba Sanatorium for Treatment of Tuberculosis. H. Shaw.
22 Aspects of Tuberculosis in Man and Animals. J. B. Cleland.
23 Congenital Dislocation of the Hip, Treated by Lorenz's Method and Its Etiology. T. and P. Fiaschi.

16. **Presystolic Murmur.**—The presystolic murmur consists of a series of sounds following each other in rapid sequence, the murmur being sometimes short and at other times prolonged. When short, it resembles a reduplicated second sound at the apex; on the other hand, it may occupy the whole of a prolonged diastolic period, being frequently a half a second or even a full second in duration. Cardiograms taken by Gill show, he says, that the vibrations, which when palpable form the thrill, are really continuous during the whole cardiac cycle, and are always present, whether the presystolic murmur be audible or not. These vibrations are often best obtained from an area well over the right ventricle—that is, internal to the nipple line, a little above the level of the nipple. They vary in rate as a rule from about seven or eight a second to ten or twelve, and can be recorded in a variety of pathologic conditions apart from mitral stenosis, and are therefore not peculiar to it. Although these rapid movements are frequently encountered in cardiograms, yet in venous pulse records they are only occasionally present. In jugular tracings from cases showing a continuously irregular pulse, they are often well marked during long diastolic pauses and are now generally recognized as being due to fibrillary contractions of the auricle. They can often be obtained in cardiograms from these cases.

The presystolic murmur is not, Gill says, necessarily dependent on contraction of the auricles. It is occasionally associated with an irregular pulse. The right auricle is the seat of regularly occurring vibrations, yet there is no proper contraction as shown by the venous pulse; the left auricle, as shown by the presystolic murmur and the apex tracings, shows similar movements; the ventricular contraction is continuously irregular. Research by means of the string galvanometer, has shown clearly that in all cases of persistent irregularity similar vibrations are always present; these vibrations have therefore undoubtedly a muscular origin, and further arise in the right auricle. The string galvanometer shows usually in cases with presystolic murmur, a double-peaked wave; sometimes the wave has three peaks, at other times four. The explanation is that these waves are due to independent contractions of the sinus venosus tissue in the right auricle, and to a much less degree in the left auricle. In the course of development the two auricles absorb the sinus venosus. It is still uncertain what part of the auricles is derived from the sinus venosus; in the right auricle, probably that portion lying between the mouth of the superior vena cava above and the inferior vena cava and coronary sinus below, together with the adjacent part of the inter-auricular septum; in the left auricle the opening of the pulmonary veins, which have been observed occasionally to be capable of independent muscular contraction. We thus have a perfectly simple explanation of the presystolic and other diastolic apex murmurs. Vibrations occurring in the left auricle are rendered audible at the apex, by the fact that the blood in the auricle is under tension; the movement of the blood transmits these audible vibrations to the apex.

Gill points out that any explanation of the presystolic murmur must explain its proper relation to contraction of the left auricle. There is no doubt of the almost absolute association of contraction of the left auricle and the presystolic murmur, but there are a few exceptions. Such exceptions show that contraction of the auricle properly so called is not essential to the production of the presystolic murmur. The explanation seems to be that the sinus venosus movements involve only a small part of the muscular wall of the left auricle particularly; hence, a certain degree of tension being necessary for the production of sonorous vibrations, these movements are lost in the flaccid membrane, till the contraction of the auricle proper commences. The necessary degree of tension in the auricular wall may be present when the muscular tissue of the auricle is good, the obstruction being yet considerable; in that case, the auricular wall would be in a constant state of tension. Gill has seen three such cases in three years.

18. **Identification of Bacillus Typhosus and Bacillus Dysenteriæ.**—For the differentiation of these bacteria, Bradley uses plates of simple agar. Next day a number of colonies, at least ten, if possible from twenty-five to fifty, are picked off from the plate directly into lactose litmus peptone water. Next day those tubes showing an acid reaction are thrown out, leaving only the non-lactose-fermenting organisms. Some (at least six) and preferably all of these are then inoculated into mannitol litmus peptone water, saccharose litmus peptone water, sorbitol litmus peptone water, litmus milk, peptone water and gelatin, and films are made and stained by Gram's method. If next day any cultures, which by films are shown to be Gram-negative bacilli, give acid on mannitol and sorbitol and *nil* on saccharose and slight acidity on litmus milk, the agglutination reaction of one or more may be tested. If this be positive, in a dilution approaching the titre of the serum for control standard culture, the provisional diagnosis of *B. typhosus* may be made, but a week at least should be given before the diagnosis can be certain, after which the milk should remain very slightly acid and not clotted; the peptone water should become turbid and give no indol reaction, and the gelatin remain unliquefied.

For most practical purposes, Bradley believes that the following is a sufficiently good definition of typical *B. typhosus:* a Gram-negative bacillus, non-gelatin liquefier in seven days, non-lactose fermenter, non-saccharose fermenter, giving acid (without gas) on mannitol and sorbitol, very slight permanent acid without clot on litmus milk, and no indol reaction on peptone water in seven days. If these characteristics are all presented, Bradley has no hesitation in pronouncing the organism *B. typhosus.*

20. **Treatment of Incipient Phthisis by Tuberculin.**—Ure reports most encouraging results from the use of Koch's old tuberculin, commencing with very small doses and gradually increasing until extraordinary toleration to the toxin is established, active immunization being at the same time produced, which induces steady improvement in the patient's condition.

Dublin Journal of Medical Sciences

March

24 *A Case of Myasthenia Gravis. T. G. Moorhead.
25 *Epidemic Pneumonia. A. J. Powell.
26 Congenital Fistulas. J. H. P. Boyd Barrett.
27 Influenza. J. F. Clarke.

24. **Myasthenia Gravis.**—The essential symptoms of myasthenia gravis consist of paralysis of the voluntary muscles, more especially those supplied by the cranial nerves, varying in intensity and persistence, but usually more marked after muscular effort, and accompanied by a peculiar myasthenic reaction when the muscles are stimulated by the faradic current. Among the most common paralyses are those of the

ocular muscles, including the orbicularis palpebrarum and the levator of the upper eyelid, the lip muscles, those of the tongue and those of the neck; but in severe cases almost all of the muscles of the body may be involved. The paralysis almost invariably tends to increase when the affected muscles are used, so that at the beginning of a conversation the lip and tongue muscles may be used fairly well, but after a few minutes they become weakened, and soon may become so completely paralyzed as to be hardly capable of being made to contract at all. The appearance presented by the patient is strongly suggestive of the existence of some lesion of the nervous system. Moorhead's patient, on the eleventh day, was attacked with sudden dyspnea and cardiac failure, became quite unable to speak or swallow, and died in a couple of hours. The case was typical; however, there was marked atrophy of the gluteal muscles, the deltoids, and of the tongue, inasmuch as absence of atrophy was at one time regarded as an important diagnostic sign.

The post-mortem findings in this case were as follows: the thymus was persistent, and possessed two well-defined lobes extending down over the pericardium; microscopically it was normal, but contained no eosinophil cells. The thyroid was somewhat enlarged, and microscopically was more cellular than normal. The kidney was slightly congested and showed parenchymatous changes; both ovaries were enlarged and cystic. The other viscera, including the red marrow and pituitary body, were normal microscopically and macroscopically. The spinal cord, the medulla, the pons, the central nuclei and the cortex in the Rolandic region of the brain were normal. Macroscopically, the brain and spinal cord were normal. As regards the muscles, sections were made from the levator palpebræ superioris, the masseter and the pectoralis major, and in all Moorhead examined over 400 sections. The masseter and pectoralis major appeared to be normal, with the exception of one doubtful lymphorrhage in the pectoralis. The collection of cells, however, in this particular instance was found not between the muscle fibers but in the interstitial connective tissue. In the levator palpebræ some atrophy of muscle fibers was noted, marked proliferation of sarcolemmal nuclei was present, and in many of the sections scattered uninuclear cells with rounded nuclei were found between the muscle fibers. Nothing at all approaching in appearance, however, to the lymphorrhage, as figured by Buzzard, was found, and after a most careful search in three of the muscles of a very typical case, Moorhead feels inclined to throw doubt on the universal presence of lymphorrhages in the muscles of myasthenic cases.

25. **Epidemic Pneumonia.**—This epidemic recorded by Powell occurred in April and May, 1909, in the village of Penn, near Wolverhampton, Staffordshire, England. The patients came from the smaller cottagers in the village with the exception of the first, who came from about one mile outside the village. The number of recorded cases was nine. The number of deaths was seven. The cases can be divided into two series, in each of which a clear history of direct infection from case to case was manifest. In the first group there were four cases and in the second three. The remaining two occurred sporadically, but were both attended by the district nurse who had attended some of the other cases. Beyond these significant facts no clearer history of infection could be obtained in the last two cases. The type of disease was characterized by great cardiac depression, cyanosis and dyspnea at the outset with but few local physical signs. The number of cases attended by other practitioners in the immediate neighborhood during this time was considerable, but accurate information cannot be obtained either as to their numbers or the type of the disease or the nature of the infection. Only two of Powell's patients recovered, both children, one aged 14, the other 6. All the adults died, making a mortality of 77.7 per cent.

Glasgow Medical Journal

March

28 What Are We Doing to Combat Infant Mortality? L. Findlay.
29 Recent Advances in Hematology. W. K. Hunter.
30 *An Unusual Complication of Measles. A. J. Couper.

30. **Unusual Complication of Measles.**—In Couper's case a fairly well-marked and typical measles eruption was present, and involved the whole skin area. Coryza and conjunctival suffusion were mild. The patient was a well nourished child, but flabby. The heart sounds were soft. Pulse was of low tension. Mucous râles were present, and were heard over both lungs, anteriorly and posteriorly. These were most numerous and were of finer quality at the right base behind. No dulness was detected, and the respiratory murmur was nowhere impaired. The case ran the usual course. The rash became brighter and the temperature rose on the fifth day of illness; the former began to fade on the ninth day of illness. With the fading of the rash, the temperature rose to 102 F., while pulse and respirations numbered 140 and 60 respectively. From this somewhat high register there was a drop of temperature, which occupied three days, the temperature being normal on the twelfth day. During this period there was no alteration in the chest condition. On the sixteenth day the temperature again rose to 102 F. This was accompanied by an increase in pulse-rate to 136, and in respiration-rate to 44. Next day temperature was 97.6 F. The dorsum of the right hand was found to be swollen and edematous. Circulation in the part was good, and there was no discoloration. No pain or tenderness was present in any part of the limb. On the following day the swelling was much increased, involving the palm and extending up the wrist. The terminal phalanx of each digit had become cyanosed, and the circulation in the fingers was very sluggish. By the nineteenth day the swelling had become pronounced. The whole of the right arm, together with the inner wall of the axilla, was affected, and these parts were distinctly edematous and very tense. The limb was cold to the touch and mottled (of a purplish color), while the extremities of the digits were black. With this increase in swelling, temperature rose to 103 F.; pulse, 138; respirations, 40. Crepitant râles were heard at both bases posteriorly, but no dulness was detected. On the twentieth day the swelling was still further increased, the limb and the inner wall of the axilla had assumed a much deeper and more uniform tint, and numerous ecchymoses and bullæ, containing a sero-sanguinolent fluid, were observed. The child died on the twenty-first day of his illness. Two days after death a post-mortem examination was made. In the subclavian vein, about half an inch from its proximal extremity, was a firm clot, which extended for an inch backward, and was adherent to the wall of the vein. Attempts to grow cultures from the clot failed.

Journal of Laryngology, Rhinology and Otology, London

March

31 Reports for 1909 from the Ear and Throat Department of the Royal Infirmary, Edinburgh. W. T. Gardiner.
32 The Wire Saw in the Radical Operation on the Middle Ear. V. S. Stein.
33 Injuries of the Head and Nasal Diseases. C. Ziem.

Clinical Journal, London

March 1

34 Nervous Exhaustion. W. H. B. Stoddart.
35 Historical Notes of Plague. F. M. Sandwith.
36 Significance of Sphygmomanometric Readings. F. H. Humphris.

Bulletin de l'Académie de Médecine, Paris

February 14, LXXV, No. 7, pp. 177-216

37 *Malta Fever. (A propos de la fièvre ondulante.) R. Blanchard.
38 Abortive Treatment of Syphilis. E. Gaucher.
39 *Institutes for Infant Welfare. (Des Instituts de puériculture après la naissance.) A. Pinard.

37. See Paris Letter in The Journal, March 11, p. 755.

39. **Infant Welfare.**—Pinard describes the workings of an institution at Paris for infant and child welfare and urges the organization of similar institutes of puericulture in other cities. The institute serves as an object lesson in the care of young children and the means to avoid epidemics.

Bulletins de la Société de Pédiatrie, Paris

January, XIII, No. 1, pp. 1-64

40 *Insufficiently Fed Infants. (L'hypoalimentation chez le nourrisson.) Nageotte-Wilbouchewitch.
41 Sclerosis and Leukoplasia of the Tongue from Inherited Syphilis in Two Brothers. P. Merklen.
42 *Methylene Blue and Fuchsin Test of Age of Milk. (Appréciation rapide du degré d'altération d'un lait.) H. Bertin-Sans and E. Gaujoux.
43 *Criteria of Normal Stools. (Physiologie digestive et coprologie.) H. Triboulet.

44 Varicella with Adenopathies, Torticollis and Initial Pruritus. (Trois particularités au cours de la varicelle.) P. Merklen.
45 Verrucous Tuberculosis of Leg After Lesion of Metatarsus. A. Trèves and G. Schriber.

40. **Insufficiently Fed Nursing Infants.**—Nageotte confirms Merklen's statements (mentioned in these columns March 4, page 702), that mothers often take too literally the directions of their medical attendants in respect to overfeeding their children and go to the other extreme. This is particularly the case, she has found, among the young mothers in the student quarter of Paris, progressive women, solicitous for the welfare of their infants, whom yet they are scientifically starving. These women are not so good nurses, to begin with, as the less nervous women of the uneducated classes. She remarks that this hypoalimentation is an artificial vice, of exclusively medical origin, and the babies are all against it, so that it can soon be suppressed if its presence is once recognized. The trouble is that when the infant vomits repeatedly, this being a characteristic symptom of the lack of sufficient nourishment, the tendency is to reduce the ration still lower. Another characteristic sign of insufficient nourishment is that the infants try to put both hands in the mouth and suck the fingers hungrily. All this, she remarks, teaches anew that medicine cannot be reduced to mathematical formulas; rules valuable for full-breasted, robust women cannot apply to frail nervous women more or less exhausted by privation and study.

[G. Variot reiterates that the signs of overfeeding and of insufficient feeding frequently have features in common, especially repeated vomiting and distended abdomen. It would be a great mistake, he emphasizes in a recent communication on the subject published in the *Bulletins de la Soc. Méd. des Hôp.*, to regard big-bellied infants as necessarily always overfed; frequently the abdominal ectasia, as he prefers to call it, is the result of swallowing of air as the child sucks in its vain effort to obtain enough nourishment. There is generally a marked disproportion between the size and the weight of such underfed children, and the Roentgen rays may show the distention of stomach and intestines with air. The little body floats lightly on the surface of water if the head is sustained with one finger. When the children are given sufficient nourishment the abdomen promptly subsides to the normal aspect.]

42. **Test for Age of Milk.**—A colored plate shows a color reaction obtained with milk too old to be sanitary for infants. The technic for the test is rapid and simple. Two stains are required: a 1 to 4,000 solution made by dissolving 0.25 gm. of methylene blue in 1 liter of distilled water; and a second solution made by dissolving 0.25 gm. of fuchsin rubein in 50 c.c. of alcohol and then diluting to 1 liter. To about 20 c.c. of the milk to be examined are added 3 drops of the fuchsin solution and 5 drops of the blue solution. The test-tube is plugged with cotton and placed in water in the water-bath and heated to about 38 or 40 C. The color gradually changes from the first ash-grey tint to a lavender and then to pink, from decoloration of the blue. The change of tint occurs the more rapidly the older the milk; if the change occurs in fifteen minutes the milk is too old to use; if the color reaction occurs in three quarters or an hour, the milk is too old for infants and the sick, and the milk should be regarded as suspicious when the change of tint is observed in less than an hour and a half. The test is based on the presence of reductase in the milk, the reductase being the consequence of the development of microorganisms. Negative findings may not be conclusive, the authors state, but positive findings may be relied on.

43. **Criteria of Normal Stools.**—Triboulet has long been insisting that simple inspection of infants' stools is inadequate for proper estimation of conditions, while comparison of the findings with the acetic-acid test gives an instructive oversight of the digestive functioning. With a normal stool, the contents of the test-tube form a homogeneous mixture, clearer at the top and becoming turbid toward the bottom, the whole being of a peach-flower pink. When digestion is defective, a coarser grained sediment settles to the bottom while fat and mucus float on top. The litmus reaction should indicate acid stools for breast-fed infants and alkaline stools for bottle babies. The presence of bile salts is indicated by an immediate red tint in the Pettenkofer test, while the bile pigments under four months show in the green meconium; after four months the stercobilin shows pink; the control test is the fluorescence with zinc acetate. Salts, lactose, casein and fats are not discoverable in normal stools on milk alone, and starch is all digested. Whatever the diet, there should be no red or pink reaction with phenolphthalein as these indicate the presence of blood or of products of fermentation. The acetic sublimate test is made by treating the well-diluted stool, for macroscopic examination, with 8 or 10 drops of the ordinary laboratory solution of 100 c.c. distilled water; 3.5 gm. of bichlorid of mercury, and 1 gm. of acetic acid. About 10 drops of this mixture are added to the diluted stool in a test-tube and the color findings are examined after one hour or up to twenty-four hours at most. Triboulet uses a printed chart to record the findings with the acetic test, in addition to the age, clinical diagnosis, diet, aspect and frequency of the stools, their consistence, odor, color, reaction and the findings with the Pettenkofer, biuret, Lugol and phenolphthalein tests—all the latter tests are negative with normal stools.

Obstétrique, Paris

February, N. S. IV, No. 2, pp. 121-248

46 Structure and Evolution of the Uterine Mucosa. E. Retterer and A. Lelièvre.
47 *Review of the Use of Scopolamin in Obstetrics. P. Lequeux.

47. **Review of Scopolamin in Obstetrics.**—The scopolamin-morphin method of anesthesia for painless labor was originated by Steinbüchel, Lequeux remarks, but Krönig was its apostle and Gauss has been its executive, while Hocheisen denounces it as dangerous for both mother and child, and several other prominent obstetricians share this view. All acknowledge that the method has varying effects, that cases of inexplicable idiosyncrasy are sometimes encountered, and that the same technic is very liable to give very different results in different patients. The work of thirty-one writers on the subject are reviewed. The total number of cases in which it has been applied is 4,619, and this material is tabulated for comparison, showing the percentage of good and bad results for mother and child. Lequeux' final conclusion is that we may feel encouraged to continue cautious clinical research on the subject.

Presse Médicale, Paris

February 18, XIX, No. 14, pp. 121-128

48 *Slight Dilatation of the Bronchi in Children. V. Hutinel.

February 22, No. 15, pp. 129-136

49 Pneumonic Plague. E. Rist.
50 Charts Representing Arterial Tension. A. Martinet.

February 25, No. 16, pp. 137-152

51 *Meningitis and Tabes Dorsalis. J. Tinel.
52 *Treatment of Dread of Emotional Blushing. (La base organique de l'éreuthophobie et son traitement.) P. Hartenberg.
53 Immobilization in Tuberculous Osteo-Arthritis. G. Monod.

48. **Slight Dilatation of the Bronchi in Children.**—In children, mild forms of bronchiectasia may exist which seldom cause symptoms; weeks and months may pass before any functional disturbances can be observed. The bronchiectasia thus escapes detection until some casual infection of the air passages above extends to the dilated bronchial tubes. General symptoms then rapidly develop, sometimes serious, with peribronchial and pulmonary disturbances and signs as of cavity formations. These local phenomena may prove misleading, but correctly interpreted they clear up the diagnosis. The fever is often high, with a wide range, the pulse rapid, and there may be a distressing cough, especially when the temperature runs up. The sputum is purulent but not fetid as in adults, and the dyspnea is generally moderate. The chest may be retracted on one side and the wall less movable, with impaired resonance or actual dulness over the lesion. In the intervals between the exacerbations of the catarrh the râles may subside, but the cough arouses them again. The younger the child the greater the chance of recovery; but every catarrhal affection retards this and increases the tendency to sclerosis of the lungs. Such children should be guarded carefully and particularly shielded from contact with tuberculosis. Differentiation from established tuberculosis is often difficult, but the overrapid development of signs of a

cavity, their location at the base of the lung and absence of tubercle bacilli in the sputum, together with the antecedents should suggest the bronchiectasia.

51. **Meningitis and Tabes.**—Tinel shows in thirteen illustrations the changes in the nerve fibers in the course of any meningitis. The radicular meningitis is seen to be practically the same process in the various infections, tuberculous, cerebrospinal, syphilitic, etc. Ordinary meningitis either speedily heals or progresses to a fatal termination; but in syphilitic meningitis the long chronic course leads to such an advanced stage of the resulting lesions that tabes is the inevitable result. The mechanism of its development is exactly the same, he declares, as in meningitis of any other origin, and it is possible that any toxic-infectious process in the meninges, especially if attenuated and chronic, is liable to reproduce, in whole or in part, the anatomic and clinical picture of tabes, if it has time enough.

52. **Morbid Dread of Blushing.**—Hartenberg has always found an organic basis for excessive blushing, some physiologic peculiarity creating a predisposition to the emotional reflex. In six cases described in detail the following signs were found: the heart was exceptionally active, the beat powerful, but its rhythm was not accelerated; the carotid arteries were engorged and the head sweated easily; drops of moisture appeared on the brow and cheeks as the individual was speaking. Only one of the patients was a woman, the others were men between the ages of 18 and 32. The cardiac erethism, dilatation and hypotension of the arteries suggest certain symptoms of exophthalmic goiter, and one of the patients had other symptoms of an incomplete form of this disease. Hartenberg conquered the habit and morbid dread of blushing by the galvanic current, which he has found useful in exophthalmic goiter. The positive electrode was applied to fit around the front of the neck, the negative on the back, abdomen or elsewhere; a current of 50 milliamperes was applied for thirty minutes every day at first, then every second day. This electric treatment was supplemented by 2 or 3 gm. of bromid daily, with some restriction of salt. Twenty or thirty electric sittings were generally necessary. Psychotherapy does not remove the cause.

Semaine Médicale, Paris

March 1, XXXI, No. 9, pp. 97-108

54 *Dorsal Percussion of the Heart and Its Application in Interpretation of Grocco's Paravertebral Triangle of Dulness. J. Teissier.

54. **Grocco's Paravertebral Triangle.**—Teissier gives a detailed analysis of the triangular area of dulness close to the spine to which Grocco has called attention as a sign of pleural effusion, and discusses the mechanism responsible for the phenomenon. His conclusions differ from those generally accepted as he ascribes it mostly to dilatation of the right auricle. The resonance of the region involved becomes less when the spine is in contact with a fluid as in pleurisy or with a solid object as in case of encroaching dilatation of the heart or displacement of the mediastinum. Dilatation of the right heart is the most frequent cause, he asserts, and is the main factor in the majority of cases. The sign shows that something is wrong in the cardiopulmonary circulation or that there is inflammation in the subjacent pleura or both. In a case reported in detail, the triangular area of dulness corresponded to the dilated right auricle. The top of the triangle was not quite so high as the surface of the effusion, and it persisted after its subsidence to some extent. Teissier thinks that not enough attention is paid to dorsal percussion of the heart and analysis of the findings.

Archiv für Gynaekologie, Berlin

XCII, No. 3, pp. 607-808. Last indexed March 18, p. 455

55 Behavior of Intestinal Epithelium of New-Born Infants. (Verhalten des Darmepithels bei verschiedenen functionellen Zuständen. Beitrag zur Physiologie des Neugeborenen.) M. Stickel.
56 Fatal Eclampsia-Like Syndrome in Pregnant Woman at Term, with Primary Melanosarcomas in the Ovaries and Multiple Carcinomas in the Liver and Metastasis in the Placenta. N. Markus.
57 Cyclopean Monster. (Holocardius paracephalus cyclops.) I. Horwitz.
58 Research on the Blood During Pregnancy. (Gehalt des Blutplasmas an Gesammteiweiss, Fibrinogen und Reststickstoff bei Schwangeren.) E. Landsberg.
59 Ovarian Alveolar Sarcoma. A. Wolff.
60 Diagnosis and Prognosis of Puerperal Infection from Bacteriologic Findings in Blood and Lochia. H. Reibmayr.
61 Experimental Research on Ascending Genital Tuberculosis. P. Jung and E. Engelhorn.
62 Endometritis. O. Büttner.

Berliner klinische Wochenschrift

February 20, XLVIII, No. 8, pp. 325-368

63 *Gastric Ulcer and Pulmonary Tuberculosis. (Magengeschwür und Lungentuberkulose.) B. Stiller.
64 *Prostatectomy at Two Sittings. (Erfahrungen mit der zweizeitigen Prostatektomie in Lokalanästhesie.) P. Kayser.
65 Unfavorable Experiences with Sodium Nucleinate in Progressive Paralysis. O. L. Klieneberger.
66 Action of Radium Rays on Inoperable Cancer of the Uterus. E. Arendt.
67 Experimental Production of Gall-Stones. (Experimentelle Gallensteinbildung.) D. Klinkert.
68 Action of Serum of Cachectic Patients on Corrosive Sublimate Hemolysis. Kentzler.
69 Mydriatic Action of Organ Extracts. A. Bittorf.
70 Relations of Helminths to Tumor Formation. (Beziehungen der Acari zur Geschwulstätiologie.) E. Saul.
71 What Paris Does for Children with Bone and Joint Tuberculosis. (Die Fürsorge der Stadt Paris für Kinder mit Knochen- und Gelenktuberkulose.) G. Joachimsthal.

63. **Gastric Ulcer and Pulmonary Tuberculosis.**—Stiller reviews the various theories in vogue as to the origin of gastric ulcer and its frequent coincidence with pulmonary tuberculosis, and then states his conviction that both can be traced to the congenital condition to which he long ago called attention as asthenia universalis. This is responsible, he says, for the conditions which predispose to gastric ulcer on the one hand and to pulmonary infection on the other. The form of body peculiar to phthisical subjects, the flat chest, etc., is, he reiterates, merely the expression of the asthenia universalis, and the dyspepsia of the tuberculous is merely the nervous dyspepsia which forms part of the appanage of the universal asthenia. This throws light, Stiller thinks, on Weinberg's statement that neurasthenia in many cases is a sign of latent tuberculosis; he had noticed that many of his patients who had had neurasthenia later became victims of tuberculosis, while the children of tuberculous parents seemed peculiarly prone to neurasthenia. The identity of the phthisical and asthenic constitutions explains these facts at once. If he had looked about him, Stiller remarks, he would have seen that there are numerous other equivalents of neurasthenia besides tuberculosis: dyspepsia, ptosis of various or all the viscera, atony of the stomach, the splashing sound, hyperacidity, etc.—all symptoms of the asthenic habitus. Zielinsky found a surprisingly large number of congenital anomalies in the external or internal organs in nearly all of 900 tuberculous cadavers. The asthenia universalis does not necessarily entail tuberculosis; many healthy individuals are encountered with the narrow shoulders, the floating tenth rib, the drooping, exceptionally oblique ribs and the frail skeleton. This demonstrates that this form of body is not the result of existing tuberculosis as some have maintained. Stiller adds in conclusion that the hygienic-dietetic measures employed in treatment of tuberculosis are in reality directed mostly against the underlying asthenia.

64. **Prostatectomy in Two Sittings.**—Kayser does not advocate this as a general rule, but he is convinced that it is possible to save by two operations, under local anesthesia, a number of patients with prostatic enlargement whom otherwise we would be unable to relieve as it would be out of the question to inflict a single long operation on them, to say nothing of the general anesthesia which alone might so easily snuff out the spark of life. Most patients with prostatic enlargement are at an age when any operation is risky, especially under general or spinal anesthesia. If the bladder can be restored approximately to normal conditions by the preliminary operation, the patient will be much better able to stand the stress of the operation on the prostate, while the operation in two sittings materially reduces the danger of infection of the wound. Still another advantage of the two-sitting technic is that the long repose which it imposes on the bladder goes a long way toward ensuring better muscular functioning of that viscus later. He reports the details of four cases in which he operated on these principles, with unusually good outcome. None of these patients could have survived the ordinary prostatectomy.

Deutsche medizinische Wochenschrift, Berlin

February 23, XXXVII, No. 8, pp. 337-384

72 Rarity of Bovine Tubercle Bacilli in Human Sputum. (Typus der Tuberkelbazillen im Auswurf der Phthisiker.) B. Möllers.
73 *Tuberculosis Infection in Children. F. W. Rothe.
74 *Hyperemia in Pulmonary Tuberculosis. E. Jacoby.
75 Muscular Rigidity of Upper Chest Not Necessarily a Sign of Tuberculosis. (Vorkommen und Ursache der "Muskelrigidität" im Bereiche des oberen Brustkorbes.) F. Bredow.
76 Bronchial Asthma. Pescatore.
77 Precipitin Diagnosis of Anthrax. (Biologische Milzbranddiagnose mittels der Präzipitinmethode.) A. Ascoli.
78 Rapid Bacteriologic Diagnosis of Cholera. G. Pollaci.
79 Salvarsan in Syphilis. N. Z. Joannides.
80 *The Plague. Trautmann and W. Vierhuff.

73. **Tuberculosis in Children.**—The research reported supplements Gaffky's previously reported research on 300 child cadavers. The present article reports examination of an additional hundred. By inoculation of guinea-pigs with material from the bronchial and mesenteric glands tuberculosis was revealed in 19.5 per cent., that is, in 78 of the total 400 cadavers. In forty-two cases both bronchial and mesenteric glands were affected, in fourteen the mesenteric alone and in twenty-two the bronchial alone. In 98.68 per cent. of the tuberculous cases the tubercle bacilli were apparently exclusively of the human type; an unmistakable bovine type was found only in one cadaver. These findings confirm, Rothe remarks, the preponderant importance of inhalation of the germs for the development of tuberculosis in children.

74. **Local Hyperemia in Pulmonary Tuberculosis.**—The Journal mentioned Jacoby's announcement in 1897 of the advantages of inducing hyperemia in the lungs by lowering the upper part of the trunk. This "autotransfusion," as he called it, flushes the apices and does away with the mechanical conditions favoring the progress of the tuberculous lesion. He uses a special reclining chair in which the entire trunk lies horizontally, the head can be slightly raised, while the legs lie higher than the shoulders. By this arrangement, the pelvis is on a line with the chest, not lower than the chest according to the usual method of reclining. The pelvis can be raised a little higher than the chest by an interposed cushion which supplements the hyperemia induced by the autotransfusion with compression of the base of the lungs by the pressure of the intestines sliding down against the diaphragm. The respiration is more of the costal type, and the lungs are much better ventilated when the trunk is lying flat than when the patient is half sitting up, possibly with the shoulders stooping forward; this actually increases the tendency to anemia of the apices. He raises the feet higher by an inch each three days, until the feet are 18 inches above the level of the head. The patients find that they can breathe more deeply and more easily and that expectoration is promoted. Usually the occasional sharp pains in the chest disappeared during this position treatment. The horizontal attitude is not so agreeable for the patients as sitting up but they soon become accustomed to it and like it, as they come to appreciate the benefit therefrom. The method has been applied in various sanatoria in Germany and the general impression seems to be favorable. Muttray does not hesitate to apply it even when there is a history of hemoptysis in the past, but Jacoby does not go so far as this.

80. **The Plague in Manchuria and at Odessa.**—Trautmann comments on the fact that plague differs essentially from all other serious epidemic diseases in that it is primarily an animal disease, while it is much more infectious than any other animal infection. It is fortunate, he says, that healthy plague germ-carriers are unknown. It is possible, however, that persons who recover from the plague may sow the disease germs for a time afterward. Another advantage in favor of plague is that there is no record of its being water-borne. The germ is very sensitive and does not form spores but, with sufficient moisture and appropriate media, it may live a long time; plague infection has been traced to garments a year after their contact with the sick. He states that in Germany the black house rat is practically exterminated and with it the dangerous flea, Cheopis. The migrating rat (*Mus decumanus*) generally has another kind of flea, the *Ceratophyllus fasciatus*. Trautmann queries whether there may not be a primary intestinal form of the plague; in a case at Hamburg plague bacteria were found in the stool for two days. The man recovered. It is important, Trautmann adds, to have trained clinicians, bacteriologists and sanitary officials to handle the plague properly; it may be possible also that meteorologic and geologic factors are involved. He does not think that the statements of the English plague commission in regard to the intermediation of the flea are based on sufficient experience to establish a law; it must be remembered that the conditions were incomparably favorable for positive findings. There is still room for suspicion that some other factors may be involved in transmission of the plague. This is suggested by the experiences at Hamburg: None of the force engaged in exterminating the rats on the vessels from plague-infected ports has ever contracted the disease although many of the Cheopis fleas survived the gases that killed the rats. The men handling them never became infected. The flea theory also seems to be disproved by the "plague houses" in which the plague returns year after year although the inhabitants had fled and the buildings stood vacant for many months. He thinks that the rats surviving the plague would have left the empty house, taking their fleas with them. He has also been impressed by the anatomic differences between the plague rats in India and those arriving at Hamburg.

Vierhuff reviews the reports made by Zabolotny, who has just returned from Manchuria, and Skschiwan of Odessa at the recent public health congress at St. Petersburg. There were 141 cases of plague at Odessa last year; and the cases all occurred in the same blocks and some in the same houses where the last epidemic of plague had occurred in 1902. The bubonic form predominated; generally the glands in the groin were involved, only rarely the axillary glands; only two cases of the pneumonic form were encountered. A local connection with the plague in rats was beyond question, and about 50,000 rats were killed and 60 per cent. examined. The disease is still prevalent in rats there so that the epidemic cannot be regarded as over although no cases have been reported recently. The antiplague measures will have to be kept up for a year at least.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXII, No. 4, pp. 511-674. Last indexed February 18, p. 547

81 Experimental Study of Electric Thermopenetration. (Experimentelle Untersuchungen über den spezifischen Leitungswiderstand und über die spezifische Wärme der Gewebe des menschlichen Körpers als Grundlage für die Beurteilung des Weges von wärmeerregenden Hochfrequenzströmen.) F. Wildermuth.
82 *Cooling of the Inhaled Air in Ether Anesthesia. ("Ueber Abkühlung der Inspirationsluft bei der Aethernarkose, ihre Bedeutung und Verhütung.") F. Joss.
83 Metabolism of Iron in Myeloid Leukemia Before and After Roentgen-Ray Exposures. R. Bayer.
84 *Clinical Significance of Leukocytosis and Neutrophile Blood Picture in Appendicitis. H. Kohl.
85 *Tardy Fatal Chloroform Intoxication. (Klinischer und experimenteller Beitrag zur Kenntnis des Chloroformspättodes.) A. L. M. Muskens.
86 Congenital and Familial Malformations of the Hands. E. Ebstein.
87 *Infection of Urinary Passages with Colon Bacillus. (Aetiologisches zur Coliinfektion der Harnwege.) C. Franke.
88 Origin of Kidney Calculi. (Kritischer und experimenteller Beitrag zur Frage der Entstehung der Nierensteine.) H. Rosenbach.
89 *Paralysis of Cerebral Nerves in Exophthalmic Goiter. (Ueber Gehirnnervenlähmungen bei der Basedowschen Krankheit.) M. Kappis.

82. **The Local Refrigerating Effect of Ether.**—Postoperative pneumonia has been much reduced in frequency since more care has been taken to prevent chilling the patient's body, but not enough attention has been paid hitherto to the chilling resulting from the local refrigerating effect of the ether inhaled. Joss found that the ether cools the air inhaled through the mask so that it averages 33 degrees F. below the temperature of the room, and the difference may even be 44 degrees during certain phases of the anesthesia. The cooler air chills the air passages, undoubtedly lowering their resisting powers and checking the movements of the cilia of the ciliated epithelium lining them. The ciliary movement is affected by variations in temperature and is entirely arrested at the freezing point. Infectious material is thus liable to find its way more readily into the finer air passages as salivation becomes increased under the influence of the anesthetic. The problem

now is to find some way to counteract the refrigerating action of the ether and warm the air as it is inhaled. Joss has tried to devise an appliance for the purpose but the one he has been experimenting with has not proved satisfactory and he is now attacking the problem from another standpoint.

84. **The Blood-Picture in Appendicitis.**—Kohl's report of his research is preceded by some remarks by Sonnenburg on the importance of examination of the blood as a routine measure in appendicitis. By this means it is possible to detect cases in which delay before operating is dangerous. Without it, this discriminating estimation of cases is a matter solely of the physician's temperament and experience. Any physician who can use a microscope, he says, can readily make a blood-count. It does not require any more time than to take the temperature, while determination of the neutrophile blood-picture requires barely half an hour. Years of experience with these measures at his clinic (in the Moabit hospital at Berlin) have revealed certain laws regulating the blood-picture, and the Arneth formula has been of great assistance. There are still many interesting questions awaiting solution, especially leukocytosis with incorporation of toxins or bacteria. Of all the protecting devices of the body against infection, the leukocytosis seems to be the most important manifestation for general practice, especially as it fits in with the temperature and pulse curves. He pleads for further cooperation in this line from surgeons. Kohl gives the details of a number of typical cases of various forms of appendicitis of varying severity as the blood-picture was studied at different periods of the disease and the findings compared with the anatomic conditions. His general conclusions are that there can be no doubt that the leukocyte count is equally important with the temperature and the pulse curve. If it seems to contradict the other clinical symptoms, the neutrophile mononuclears should be estimated by the Arneth classification. [This was described in The Journal, Feb. 13 and Aug. 20, 1904, pages 494 and 577.] The Arneth blood-picture seems to be an expression of the virulence of the infection while the leukocytosis is the expression of the peritoneal irritation on one side and of the reacting capacity of the individual on the other. The only cases of appendicitis in which an operation is not indicated are those with a mild clinical picture, especially slight local tenderness, and the Arneth blood-picture and the leukocytosis are normal or only slightly above normal. Even with a mild clinical picture if there is considerable leukocytosis the operation should not be deferred.. A low leukocytosis and normal Arneth blood-picture should not deter from the operation if the clinical phenomena are pronounced, especially if there is much local tenderness. In such cases the inflammation is generally behind the cecum or it is extraperitoneal and restricted to the region of the appendix.

85. **Tardy Chloroform Intoxication.**—Muskens gives a historical review of this subject and tabulates the details of twenty-six cases from the literature and then reports his experimental research on the effect of chloroform on the liver, heart and kidneys. De Haan called attention in 1907 to the necessity for discriminating between the chloroform intoxication of these three organs, each having its own syndrome and its pathologic anatomy, although fatty degeneration is the essential pathologic change. Muskens also reports the necropsy findings in a youth of 15 who died sixty-four hours after removal of tuberculous glands in the neck under chloroform. The glands on the other side of the neck had been removed also under chloroform, two and a half months before. Except for the occasionally suppurating glands, the patient was in good health, free from fever and sweats, and nothing was found at necropsy to explain the fatality except the fatty degeneration of the liver, the pale and loose consistency of the heart muscle and the pronounced degeneration of the kidney parenchyma—these findings being a perfect reproduction of those published in the reports of the twenty-six cases on record of tardy chloroform fatalities. Muskens is convinced that the tardy effects of chloroform intoxication are more serious than has been hitherto recognized by the profession and the laity. Two fatalities from this cause have been observed during the last two years in the course of the 1,400 chloroform operations at the Rotterdam city hospital, and the chloroform intoxication was a probable accessory factor in the fatal outcome of others. Theoretically, it seems plausible to try to ward off trouble by restricting the intake of fat before attempting to operate, refraining from administering any oily purgatives beforehand and striving to promote elimination of fat by stimulating the liver functioning with medicines to increase the flow of bile.

87. **Colon Bacillus Infection of the Urinary Passages.**—Franke states as the result of experiments on rabbits that the ascending colon and the cecum are connected by a train of lymphatics with the right kidney. He was not able to find such connection with the left kidney. He says further that bacteria are able to pass directly from the intestine into the lymph vessels, if there is even a slight lesion of the intestinal wall. His research also demonstrates that the bladder can be infected in this way by the kidney route even when the kidney itself has been spared.

89. **Paralysis of Cerebral Nerves with Exophthalmic Goiter.**—Kappis summarizes the features of a case of exophthalmic goiter with paralysis of the ocular muscles. In the last two years he has encountered another patient with the same condition and two others in whom the paralysis involved the muscles of swallowing or the soft palate. He has also compiled from the literature forty cases of paralysis of the ocular muscles and nine cases of actual bulbar paralysis with or without ophthalmoplegia. These bulbar cases all terminated fatally in a short time; the bulbar symptoms developed in the course of a rapid and severe Basedow syndrome. In five other cases the bulbar paralysis was less pronounced. These and other cases reviewed suggest that there must be some disturbance in one or more nuclei or fibers in the medulla oblongata, and the lack of pathologic anatomic findings is because this region has seldom been examined properly in such cases. If series of sections fail to reveal anything pathologic, then the trouble must have been a myasthenic disturbance rather than true paralysis. The practical lesson taught by the material reviewed is that the paralysis does not develop until the exophthalmic goiter has existed for some time; if the syndrome had been cured, the paralysis would not have manifested itself. Consequently the exophthalmic goiter syndrome should not be allowed to progress indefinitely but should be cured before irreparable lesions have developed, and he regards operative removal of the goiter as the most certain measure at our disposal. All the symptoms retrogress more readily, he says, after an early operation, while it has no mortality to speak of. It is harmless, protects against irreparable damage and cures the Basedow syndrome, he says, so that an early operation should be urgently advocated.

Münchener medizinische Wochenschrift

February 21, LVIII, No. 8, pp. 393-440

90 Technic for Intravenous Injections. (Zur Methodik der Venenpunktion und der intravenösen Injektionen, insbes. auch solcher von undefibriniertem Menschenblute.) F. Moritz.
91 Technic for Intravenous Injections of Salvarsan. J. Iversen.
92 Idem. J. Benario.
93 Salvarsan in Frambesia. R. P. Strong.
94 Roentgen Rays in Diagnosis of Gastric Ulcer and Cancer. M. Haudek.
95 Nature and Treatment of Osteomalacia. H. Cramer.
96 *Epidural Injections in Sciatica. P. Glimm.
97 *Cancer in Bavaria. (Ergebnisse der Krebsstatistik des Königreiches Bayern in Jahre 1909.). F. A. Theilhaber.
98 Defect in Pectoralis Muscle and High Shoulder. (Zur Lehre vom Pektoralisdefekt und Schulterhochstand.) R. Purckhauer.
99 Successful Removal of Racemose Angioma of Brain. (Kavernöses Angiom des Gehirns; mit Erfolg operiert.) E. Baum.
100 History of the Telecardiogram. F. Pick.

96. **Epidural Injections in Sciatica.**—Glimm's experience confirms that reported by Blum and others recently in regard to the prompt and permanent cure of sciatica by epidural injection of about 20 c.c. of physiologic salt solution or a weak anesthetic. His best results were obtained with this amount of Schleich's No. II solution. This proved effectual in five of seven cases of inveterate sciatica as also in a case of tedious and rebellious coccygodynia resulting from a fall in a girl of 12. In this latter case the pain was banished permanently by a single injection of 10 c.c. of a 0.25 per cent. solution of cocain. The epidural injection also cured four or five youths with nocturnal enuresis; the one uncured patient proved to have

tuberculosis of the bladder. In the sciatica cases Glimm always stretched the nerve to supplement the injection, doing this ten minutes after the latter, and he regards the stretching as an important factor in the permanent cure.

97. See Berlin Letter in The Journal, March 18, p. 827.

Wiener klinische Wochenschrift, Vienna

February 23, XXIV, No. 8, pp. 263-298

101 Action of Epinephrin on Unicellular Organisms. (Wirkung des Adrenalins auf einzellige Organismen.) O. Schwarz.
102 *Calculi in Lower Ureter. (Klinik und Therapie der Steine im Beckenteile des Ureters.) F. Necker and K. Gagstatter.
103 Measurement of Permeability of the Nose. (Messung der Durchgängigkeit der Nase für den Luftstrom.) G. Gaertner.
104 Nature of Nevus Cells. Kreibich.
105 Technic of Puncture of Bone Marrow. (Knochenmarkspunktion.) G. Ghedini.

102. **Calculi in the Lower Ureter.**—Necker and Gagstatter give the details of sixteen operative cases and emphasize the evils of the dilatation of the ureter sure to follow obstruction by a concrement in the lower portion, not to mention the danger of retention and infection of the kidney above. If the concrement does not change its position notwithstanding attacks of colic showing that the ureter is trying to push it along, there is not much hope of its spontaneous expulsion. It may be possible to dislodge it by Jahr's method, injecting a lubricant under pressure to distend the passage. If this fails, operative measures are indicated. The experiences related indicate that only small, smooth-walled stones, the ureter still showing no signs of dilatation, are capable of being spontaneously expelled. If the Roentgen rays show that the stone can turn on its axis, this indicates a preceding dilatation of the ureter which in turn suggests that the peristalsis of the ureter walls must have been enfeebled by the distention and consequently operative measures are required without further delay. Even if the stone is expelled into the bladder, all trouble is not certainly past, as the stone may become impacted in the urethra; this happened in one of the cases reported, external urethrotomy becoming necessary at last. In the fifteen cases of extraperitoneal ureter lithotomy, the wounds healed smoothly without a fistula. Adding these to Jeanbrau's compilation of sixty similar operations, the mortality therewith is seen to be 1.35 per cent. in seventy-five operations, illustrating the progress realized in recent years in these difficult urologic operations.

Zentralblatt für Chirurgie, Leipsic

February 25, XXXVIII, No. 8, pp. 265-304

106 *Snow-Shoer's Fracture. (Typische Verletzungen der Schneeschuhläufer.) A. G. Oberst.

106. **Snow-Shoer's Fracture.**—Oberst gives illustrations of these peculiar twisting fractures as he has observed them in ten cases. When the toe of the snow-shoe catches and is held by some obstruction, the other foot goes on and this twists the leg in such a way that it is liable to fracture the bone in a typical manner when the foot is fastened immovably to the shoe. Prevention should aim to leave the foot looser.

Zentralblatt für Gynäkologie, Leipsic

February 25, XXXV, No. 8, pp. 297-336

107 Bacteriologic Study of Puerperal Fever. (Ueber saprisches und septisches Wochenbettfieber nebst kritischen Bemerkungen zu den Fromme'schen Verfahren zur Differenzierung der saprophytären und pathogenen Streptokokken.) O. Bondy.
108 *Cancer of Stump of the Cervix Uteri. (Karzinom des Cervixstumpfes nach supravaginaler Amputation des myomatösen Uterus.) R. Ekler.
109 *Plastic Operation for Prolapse of Uterus, and Cystocele. (Interpositio uteri vesicovaginalis — Wertheim-Schauta — nach Keilresektion oder vaginaler Amputation des Uterus.) A. Löwit.
110 Spontaneous Gangrene of Both Ischiorectal Fossæ. S. Leyzerowicz.

108. **Carcinoma in Stump of the Cervix Uteri.**—Ekler reports a case in which four years after supravaginal amputation of a myomatous uterus, cancer developed on the stump. There was no microscopic trace of cancer at the time of the operation, and he is convinced that the cancer developed independently of the preceding operation and that this is the fact in most cancer cases of this kind. He urges systematic reexamination of patients after operations for myoma to obtain better knowledge of conditions in respect to cancer later.

109. **Plastic Operation for Prolapse.**—Löwit states that the Wertheim-Schauta operation has been done in 119 cases at the Rothschild Hospital at Vienna; it was modified in thirteen cases by wedge resection of the uterus before bringing it down to serve as the support for the bladder. In eight other cases the uterus was amputated, leaving only the cervix to form the pad to sustain the cystocele. The results were very good at the time, and also a year later in the patients whose reexamination was possible.

Zentralblatt für innere Medizin, Leipsic

February 25, XXXII, No. 8, pp. 193-224

111 *Etiology of Amenorrhea. F. Rosenberger.

111. **Etiology of Amenorrhea.**—Rosenberger declares that amenorrhea should always arouse concern; it may be the first symptom of acromegaly to which it stands in about the same relation as ordinary goiter does to exophthalmic goiter, the hypophysis cerebri being so often involved. The amenorrheic should take special pains to avoid chilling, especially of the feet, and every catarrhal affection should be treated with great care. Three such patients in his practice had serious sinusitis, commencing in one case at the time the menses became irregular. Special care should also be paid to treatment of syphilis in this connection; it may be injuring the hypophysis even when there are no apparent manifestations elsewhere. His experiences further indicate that a pregnancy is liable to aggravate disease of the pituitary body. He discusses the points in which morbid amenorrhea resembles and differs from natural amenorrhea in pregnancy and after the menopause. Acromegaly is the form of amenorrhea in which there is sugar in the blood in almost half the cases, and there is hypertrophy of the bones of the face.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 19, XXXII, No. 22, pp. 227-242

112 The Chills in Malta Fever. (Il brivido freddo nell'infezione melitense.) F. Lastaria.

February 23, No. 24, pp. 251-258

113 Present Status of Leprosy in Sicily. Castorina.
114 Chronic Cystic Mastitis and Epithelial Tumors of the Breast. G. Marangoni.

Policlinico, Rome

February 19, XVIII, No. 8, pp. 229-260

115 *The Campaign Against Malaria in Sicily. Donzello.

February 26, No. 9, pp. 261-292

116 Pathogenesis of Cholera Intoxication. T. Pontano.
117 Iodo-Iodid Injections in Tuberculous Peritonitis. (Peritonite tubercolare curato con il metodo Durante.) C. Centra, N Scime and A. Ugolini.

February, Surgical Section No. 2, pp. 49-96

118 *Gonorrheal Septicemia. (La presenza del gonococco nel sangue circolante dei blenorragici.) F. Lofaro.
119 Tincture of Iodin in Sterilization of the Skin. (Ricerche istologische e batteriologische sul metodo di Grossich.) A. Duse.

February, Medical Section No. 2, pp. 49-96

120 Connection Between Lipoid Content of the Serum and the Wassermann Reaction. P. Alessandrini.
121 *Practical Importance of the Wassermann Reaction in Syphilis. G. Gavini.
122 Experimental Endocarditis. F. Fulci.

115. **The Antimalaria Campaign in Sicily.**—Donzello states that in this hotbed of malaria the campaign has been kept up during the winter, in the effort to effect a permanent cure. The people are debilitated from repeated infections and notwithstanding the energetic quinin medication and tonics, the malaria recurred in 5.70 per cent. This, however, is a tremendous gain over preceding years, and the general condition of all was much better than usual, the spleens being materially reduced in size. Last summer, preventive quinin treatment was given to 33,387 persons, 0.4 gm. (6 grains) being given every second day. Not a case of pernicious malaria developed in the district; only 2.6 per cent. among the agriculturists and 1.3 per cent. among the miners had febrile attacks and these yielded promptly to curative doses of quinin. There was no mortality. The benefits from the campaign are thrown into brighter light by the large numbers having malarial fever in the country outside of the protected zone. The work is under the auspices of the Red Cross.

118. **Gonococcus in the Blood.**—Lofaro found gonococci in the blood in 58.2 per cent. of sixty-seven cases of acute or chronic gonorrheal urethritis: in all the cases of chronic urethritis with stricture; in over 66 per cent. of cases with glandular involvement. in 50 per cent. of the cases of vulvitis and vaginitis. and in over 73 per cent. of the cases of urethritis with epididymitis.

121. **The Wassermann Reaction in Syphilis.**—Gavini has been studying the Wassermann test as applied to 367 syphilitics, seventy suspects and ninety-six healthy persons. The findings show that a negative reaction does not exclude syphilis but that an intense and even a moderate reaction is of extreme diagnostic importance. The subsidence of the reaction under treatment is a reliable index of the efficacy of treatment.

Riforma Medica, Naples

February 20, XXVII, No. 8, pp. 197-224

123 Case of Writer's Cramp with Jacksonian Epilepsy. (Mogigrafia ed epilessia jaksoniana.) E. Morselli.
124 Serodiagnosis of *B. Coli* Infection. S. Fichera.
125 *The Diaphragm Reflex. C. Quadrone.

125. **The Diaphragm Reflex.**—Quadrone has been studying the diaphragm reflex in over 2,000 persons and has become convinced that it is a very instructive sign of normal functioning; its absence indicates paresis or paralysis of the diaphragm or neuritis of the phrenic nerve. except in elderly persons and in the very obese, in whom the parts have lost their elasticity or the motor reaction is invisible. The absence of the reflex may throw light, he says, on obscure affections compromising diaphragm functioning, and also on the prognosis in acute infectious disease. The reflex is a physiologic cutaneous reflex, elicited by tickling the tip of the nipple or the areola. This induces a contraction of the diaphragm which is readily perceived as the patient lies on his back, against the light, the head nearly flat, the legs slightly flexed. As the diaphragm contracts the ensiform appendix is drawn inward and sometimes also the inner portion of the costal arch.

Norsk Magazin for Lægevidenskaben, Christiania

March, LXXII, No. 3, pp. 227-416

126 Histologic and Pathologic Study of General Paralysis and Other Psychoses and Organic Disease in Central Nervous System. N. B. Grøndahl.
127 *Three Cases of Fat Embolism with Punctate Hemorrhages in the Skin. G. Benestad.
128 Technic for Localization of Foreign Bodies in the Eye, and Their Extraction. (Om Röntgenlokalisation av okulære fremmedlegemer og deres extraktion fra glaslegemet.) S. Holth.
129 Heredity and Degeneracy. (Kritik av degenerationslæren.) H. Evensen.

127. **Fat Embolism.**—Benestad remarks that no cases of fat embolism are reported except the severe ones with fatal outcome. Most of these cases followed orthopedic operations and fractures. The view is gradually gaining ground, however, that fat embolism is a much more frequent occurrence than formerly was supposed possible. Leading authorities have long insisted on the difficulty of diagnosing it, but in three cases in his practice in the last six months there were punctate cutaneous hemorrhages, and he thinks that this sign may reveal the fat embolism in many cases which otherwise would escape detection. He has been unable to find similar cases on record. His patients were workingmen from 26 to 36 years old, with fracture of the tibia or femur. The patients were brought almost at once to the hospital, and Benestad was impressed with their restlessness which interfered with the care of the fracture while they seemed extremely apathetic and stupid. The apathy was pronounced two or four hours after the accident and kept increasing for a few days. In one case it amounted to actual stupor. It took them several seconds to understand what was said to them; the next moment they had apparently forgotten it. They all said that they had only a vague remembrance of what happened during the first two or three weeks after their accident—it seemed like a dream. There was no cyanosis but they all had weak pulse, requiring stimulants—rate 110 in one case. All complained that it was hard for them to breathe. This difficulty in breathing came on fifteen minutes after the fracture in one case and long persisted. One man had a slight cough and the others coughed violently, the cough being the predominant symptom. All complained of pain in their lungs more than at the point of the fracture. There was no dulness or blowing over the lungs but here and there small bubbles could be heard over both lungs at the close of inspiration, and there was some expectoration; the sputum exactly resembled that of pneumonia in one case. The temperature was high at first, and then kept at a subfebrile height. The diagnosis of pneumonia seemed inevitable when the discovery of the petechiæ cleared up the diagnosis. The punctate hemorrhages in the skin were numerous, and they did not subside under pressure of the finger. They were disseminated symmetrically over the sides of the neck, over the chest and part of the abdomen. The petechiæ disappeared after a week, the cough and expectoration gradually subsided, the temperature returned to normal, and by the end of the second week the patient was well and lively. All the patients recovered. Benestad says that nothing but the assumption of fat embolism will explain these cases. The fracture was a simple one in all, without dislocation.

Ugeskrift for Læger, Copenhagen

February 23, LXXIII, No. 8, pp. 253-288

130 Tuberculosis in the Holack District. Kierkgaard.
131 Sulphuric Acid Used in Manufacture of Cereals and Resulting Intestinal Disease. K. Isager.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Landmarks and Surface Markings of the Human Body. By L. Bathe Rawling, M.B., B.C., F.R.C.S., Surgeon with Charge of Out-Patients, Demonstrator of Practical and Operative Surgery, Late Senior Demonstrator of Anatomy at St. Bartholomew's Hospital. Fourth Edition. Cloth. Price, $2 net. Pp. 96, with 29 illustrations. New York: Paul B. Heeber, 1911.

Hughes' Practice of Medicine. Including a Section on Mental Diseases and One on Diseases of the Skin. Revised and enlarged by R. J. E. Scott, M.A., B.C.L., M.D., Attending Physician to the Demilt Dispensary. Tenth Edition. Leather. Price, $2.50 net. Pp. 878, with 63 illustrations. Philadelphia: P. Blakiston's Son & Co, 1911.

An Introduction to Bacteriological and Enzyme Chemistry. By Gilbert J. Fowler, D.Sc., F.I.C., Lecturer in Bacteriological Chemistry in the Public Health Department, Victoria University of Manchester. Cloth. Price, $2.10 net. Pp. 328, with 28 illustrations. New York: Longmans, Green & Co.

Annual Report of the Bureau of Health for the Philippine Islands. From July 1, 1909, to June 30, 1910. Victor G. Heiser, M.D., Director of Health, Passed Assistant Surgeon, U. S. Public Health and Marine-Hospital Service. Paper. Pp. 193, with illustrations. Manila, 1910.

Hookworm Disease. A Handbook of Information for All Who Are Interested. Prepared Under the Direction of the State Board of Health of Florida, by Dr. Hiram Byrd, Assistant State Health Officer. Publication 79. October, 1910. Paper. Pp. 70, with 13 illustrations.

A Laboratory Manual for the Solution of Problems in Biology. By Richard W. Sharpe, Instructor in Biology in the De Witt Clinton High School, New York. Cloth. Price, 75 cents. Pp. 352, with 86 illustrations. Chicago: American Book Co., 1911.

Essentials of Biology Presented in Problems. By George William Hunter, A.M., Head of the Department of Biology, De Witt Clinton High School, New York. Cloth. Price, $1.25. Pp. 448, with illustrations. Chicago: American Book Co., 1911.

Alcoholic Fermentation. By Arthur Harden, Ph.D., D.Sc., F.R.A., Head of the Biochemical Department, Lister Institute, Chelsea. Cloth. Price, $1.25 net. Pp. 128, with illustrations. New York: Longmans, Green & Co., 1911.

A Pocket-Book of Treatment. By Ralph Winnington Leftwich, M.D., Late Assistant Physician to the East London Children's Hospital. Leather. Price, $1.70 net. Pp. 348. New York: Longmans, Green & Co.

Report of the Superintendent of Public Instruction (N. H.). Being the Fifty-Sixth Report on the Public Schools of New Hampshire. Cloth. Pp. 459. Henry C. Morrison, Superintendent, Concord. 1910.

The Serpent's Trail, or, Memoirs of Harold Bagote, Physician. A Tale of the South and of Cuba. By F. B. Cullens. Cloth. Price, $1.25. Pp. 168. New York: Broadway Publishing Co.

Tuberculosis of Farm Animals. Bulletin 149, University of Illinois Agricultural Experiment Station. By Charles F. Briscoe and W. J. MacNeal. Urbana, Ill., February, 1911. Paper. Pp. 431.

Annual Report of the Newton Hospital Corporation. For the Year Ending Aug. 31, 1910. Newton Hospital, 2014 Washington Street, Newton Lower Falls, Mass. Paper. Pp. 31.

Tenth Biennial Report of Colorado State Board of Health. Jan. 1, 1909, to Dec. 31, 1910. Cloth. Pp. 137. Hugh L. Taylor, Secretary, Denver Colo. 1910.

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THE EVOLUTIONARY SPIRIT FOR BETTERMENT IN MEDICAL EDUCATION *

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CHICAGO

The time is opportune to indulge in a few remarks relative to medical education. The evolutionary spirit for betterments pervading the land is significant. The teaching and practice of medicine are being influenced by this same spirit. An opportunity, full of possibilities, now presents itself to this body to manifest this spirit by inaugurating a resistless movement for betterments within our educational ranks. The perturbed condition of medical matters in America and abroad, cries for rectification. Medical education must be standardized, systematized and glorified. Innumerable details must be considered and generalized. The materials are present in abundance, the opportunities are ripe, and everything is in readiness for the master-strokes of our educationalists.

A grave responsibility, in fact, rests on this body. You have before you no easy task, but a mighty labor—a labor in which we proffer you our undivided support and prayers. It is your task to evolve out of chaos a practicable system that will be a credit to yourselves and a lasting monument to the genius and tact of American democracy.

I would specify among the many subjects that would profitably come under your deliberations, three in particular: First, *State Medical Education*; second, *Interstate Medical Relationship*; third, *A National Standard of Medicine.*

I notice by your program that "Standards of Admission to the Medical Schools," "Administration of Entrance Requirements," "The Fifth Year in Medicine," "The Medical Library," "What the Internist Wants the Anatomist and the Physiologist to Teach," and "What the Surgeon Wants the Anatomist and the Physiologist to Teach," etc., are to be presented and discussed by members of this body of specialists in medical education. These presentations and these discussions will be gladly received and thought over, again and again, by the medical profession of this city, state and country.

OVERCROWDING OF THE MEDICAL PROFESSION

One great and lamentable condition stands out very prominently in America, namely, that the medical profession is overcrowded—not by the survival of the fittest, but by the survival of the unfit. This is a serious evil which must be remedied. With a population of about 90,000,000 in the United States, we have at least 140,000 doctors (1 to about 642+) who are legally qualified to practice. In England the proportion of doctors to the population is about 1 to 1,250 and in France 1 to about 2,175. In other nations the proportion is still more favorable to the medical profession. To be concise, we do not need more doctors in America, but we do desire a better brand of doctors. It is my deliberate opinion that this evil, which is due to the large number of irresponsible medical colleges, would be remedied by free medical education.

FREE MEDICAL EDUCATION

The fulfilment in the future of long-cherished ideals in the teaching and practice of medicine is a potent reason for the advocacy of free medical education. Free medical education would ensure a proficient medical profession, which, in turn, would protect the public health and enlighten the masses on medical matters. Thus disease would be forestalled, suffering alleviated and deaths prevented. From a financial standpoint, alone, free medical education would prove a boon to the state, for, since every premature death is a loss to the state of from $1,000 to $2,000 by the lowest computation, every life saved through the agency of the medical profession is a corresponding gain. The number of preventable diseases is many, and the number of deaths due to ignorance is simply appalling.

Free medical education, moreover, would play an important rôle in abolishing certain undesirable private medical schools. The teaching of medicine is too sacred a thing to be trusted at all in the hands of these petty medical colleges. In this connection we would do well to follow the example of Germany, which has demonstrated to the world that it has the best systems of teaching and maintaining scientific medicine.

Allow me to conjure up before you the ideal educational tree as I would fain see it in this state in the near future. Behold, it is a stately tree, with its roots firmly implanted in the common schools, from which it receives its nourishment; its sturdy trunk embodying the high schools, from which it receives its stamina; and its branches outspreading into the various departments of the university, where it attains that maturity which enables it to put forth good fruit in arts, in agriculture, in engineering, in science, in law, and in medicine. Then, with the aid of free medical education, would this stately tree bring forth in medicine the rich and abundant fruits to which our commonwealth is logically entitled.

In our grand educational scheme we must not forget that the life motive of a child naturally begins to germinate at puberty. If all were taught that at this age they should begin to map out their futures and were aided in this by the mature judgment of efficient teachers, according to the symptoms and signs presented by the individual, they would be enabled to decide early on a life career. Especially in medicine is it true that the student should begin on his training early in life.

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* Address of Welcome to the Association of American Medical Colleges, Chicago, Feb. 27, 1911.

MEDICAL TRAINING AND TEACHING

The teachers in the college of medicine should be well paid for their services. In this regard all the colleges of a university should be treated alike. The courses should be made largely elective. This elective system would create a spirit of emulation between the professors as well as among the students. The medical student should be given an examination every year, written and oral, and should moreover be scrutinized socially, politically, and religiously.

Didactic teaching and the reading of books is no longer the sole source of knowledge. Memorizing Gray's "Anatomy" and other text-books is unprofitable. I remember when the student who was most lauded at college was he who gave his answers verbatim as he had read the information in a text-book or received it from the lectures of his professor. The introduction of the laboratories into universities and colleges completely changed the method of teaching and learning. The spirit of experimentation is developed by this laboratory method of training, and an impulse for thought and study is inspired. The student of to-day sees for himself, handles for himself and thinks for himself. The young doctor in the hospital investigates what he hears. The laboratory man expresses doubt of what is presented by others and sees for himself.

There is nothing, it seems to me, of much more importance in the successful teaching of medicine than the actual personal contact of professor and student, when the professor may inspire and the pupil be inspired by that subtile quality called personal magnetism. While individual attention by the professor to the student is not always possible, yet much can be accomplished along this line by limiting the size of the class—say to twenty or twenty-five members. This comes back as near as possible to the old doctrine of Locke, Montaigne, Milton, Spenser and others, namely, that the student receives the greatest amount of educational benefit under a tutor.

No matter what method of teaching is employed, however, no student can hope to know it all. Time was not long since when we took an arts course and a medical course at the same time. Professor Eliot, the late president of Harvard University, said: "When I was an undergraduate at Harvard I took almost every course that the college offered. Now I think it would take a bright, active minded student at least one hundred years to go through all the courses the college offers."

THINKERS

"Thinkers rise upon us like new stars, a few in a century." Thinkers are not unlike runners inasmuch as some excel others—those in the lead think farther and faster. Incidentally I might mention here that while some of the medical profession think for themselves according to circumstances, environments and conditions, still many of them, as a result of their bad training, "follow the lead" of some one else. The true philanthropists are thinkers and altruistic specialists. To this class belong Rhodes, Carnegie, Rockefeller and others. What a far reaching influence the philanthropy and thinking of Rhodes will have for all time upon the education of the world. Just think of the furore that has been created by the Carnegie Fund for Medical Education. This donation has stirred us to the utmost and has set us to thinking afresh. Great praise must be given to John D. Rockefeller for all that he has done for general education and research in medical sciences through his unbounded spirit for the welfare of mankind. A new era has been created, a new future is before us, and it is the honorable duty of this distinguished and learned body to aid Carnegie and Rockefeller in their great work.

4619 Grand Boulevard.

A SAFE AND RAPID METHOD FOR THE ADMINISTRATION OF ANTITYPHOID VACCINE

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Since the introduction into the British army of the inoculation of bacterial vaccine as a prophylactic measure against typhoid fever, by Wright and Leishman, medical officers, both at home and abroad, have become thoroughly convinced of the value of the procedure in the military service; so that antityphoid inoculation (or vaccination) can no longer be said to be in the experimental stage. In fact recent orders from the War Department make possible compulsory vaccination of an entire garrison in the presence of an epidemic. So consistently favorable have recent statistics been, that it is safe to say that this method of protection against a dread disease will soon cease to be almost exclusive property of the military organization, but will be accepted and eventually enforced as a safeguard to municipal health.

It is not my purpose to attempt to advance argument in favor of the practice or to explain its rationale or results. A careful perusal of the several recent articles by Major Frederick F. Russell, Medical Corps, U. S. A., would, it is thought, convince the most skeptical of the value of antityphoid vaccination and of its effectiveness. The question which will be considered is, Granted a large number of persons from civil or military life to be vaccinated, how can they best be handled with the least possible loss of time and the greatest safety?

In brief, the method used in our army consists in making three subcutaneous injections, at ten-day intervals, of a killed culture of *B. typhosus.* The vaccine is prepared in the laboratory of the Army Medical School at Washington, D. C., and is sent out in 1 c.c., 5 c.c. and 10 c.c. sealed ampoules, the standard content being 1,000,000,000 dead bacilli per cubic centimeter. The first dose is 0.5 c.c. and the second and third doses 1 c.c. each.

The vaccination of an entire brigade would appear at first sight to be a rather stupendous task, and, as hypodermics are usually given, would indeed be such; but the method about to be described, which is the result of facing just such a proposition, has made possible the administration of over 4,000 doses without a single infected arm, and, with two officers working, at the rate of 5 doses per minute.

The principal factors to be considered, then, since the vaccine is standardized and sterile, are the preparation of the subject's arm (experience having shown that the middle of the posterolateral aspect of the arm offers the most advantageous point), and the manipulation of the syringe and needle. Several syringes were tried with varying results. In general it was clearly demonstrated that any syringe which depended on a rubber or leather washer for a tight connection between needle and barrel was sure to give trouble and to be short-lived. The best syringe is one with a plain, ground nipple on the barrel, to fit which the bases of the needles are ground. The needles will then stand repeated boiling and still make a tight joint.

It has been suggested that simple plunging of the needle into boiling water or strong solution of phenol or formaldehyd solution is sufficient sterilization; but it is doubtful if the author of such a suggestion would relish being the next man inoculated with that needle after it had been used on a syphilitic. So, in view of the questionable cases bound to appear, each needle was disconnected from the syringe and boiled, a freshly sterilized needle being used on each case.

Records of each case are kept on cards furnished by the Surgeon-General's office, and for this purpose a sergeant is stationed at a desk just within the door by which the men enter the vaccination room. Coat-racks are provided in the hall. The men enter by organizations in as nearly alphabetical order as possible, each with his left arm bare, exposing the lower two thirds of the arm. The necessary data is given to the sergeant as each man enters the "scrub-up" line. Here at the first table the arm is scrubbed with green soap and warm water, rinsed, and the subject passes on to the second table where a second man washes the previously scrubbed area with a 1 to 1,000 solution of mercuric chlorid; he then advances to a third table where the field is rubbed with 95 per cent. alcohol, after which he comes to the officer who is to vaccinate him. This may seem like needless caution, but a glance at the water after a few arms have been washed would prove ample justification for the first step, while the fact that men coming from stables and police work of various kinds, without any preparation whatever, experience no bad results, would indicate its thoroughness.

When the subject reaches the medical officer, the arm is grasped between the thumb and forefinger of the left hand to steady it and pinch the skin taut, while the needle is plunged downward and slightly forward, nearly parallel with the surface of the arm, into the subcutaneous fat. The injection is given with moderate rapidity and the needle quickly withdrawn. The needle puncture is then touched with a glass rod moistened in pure trikresol and the man leaves by another door. The trikresol dries in a few seconds after which the clothing may be replaced.

The use of trikresol in this manner has been very valuable, not only in cauterizing the needle tract, but the slight burn it leaves marks the site of a previous inoculation and prevents the administration of two doses the same day; for in spite of all directions, some men, knowing they must take three doses, will get back in line for another dose. Thus no difficulty is experienced, even with the short-lived memory of colored troopers; for trikresol leaves a white spot for several weeks, and it is impossible to mistake the number of doses received.

The cleaning-up process is conducted in a line and may be as rapid as desirable; the greatest time being consumed in the filling of the syringe and the maintenance of surgical technic regarding the needles. As was stated before, each needle is boiled and for this purpose a small evaporating dish of water containing a little soda bicarbonate is kept boiling over a gasoline torch. An assistant picks up the needles from the table after they are used and drops them in the water to boil, after which they are removed with a sterile eight-inch Kelly clamp and placed point down in the needle-holder. To secure a fresh needle, with the type of syringe described above, it is necessary for the surgeon only to insert the nipple of the syringe into the base of one of the needles in the holder, give it a slight twist and pull it out. It is well, after thus obtaining the needle, to set it firmly on the syringe by grasping the base (which is winged for the purpose) between the fingers and giving an additional twist. In this manner the inside of the base of the needle, its point and shaft and the outside of the nipple of the syringe can in no way become infected. The syringes are of course boiled to start with.

The needle-holder is steam-sterilized in a towel or thoroughly flamed and placed on a sterile towel. Its capacity is such that two surgeons may have sterile needles available at all times and still allow at least one minute for boiling after use. It consists of a sheet of heavily tinned iron so bent that it forms the bottom and sides of a box 10 inches long, 1½ inches wide and 2 inches deep. In the bottom are punched twelve holes about 3/16 inch in diameter, the burr directed inward. It is placed bottom up on the towel and thus furnishes twelve receptacles for needles large enough so that the point may be easily inserted, but too small to pass the base. The burr being directly downward makes the holes sloping enough on the edges so that needles do not catch.

The needle-holder, as before stated, is sterilized and the needles as they are boiled are removed from the water with the boiled clamp and dropped point down in the holes; the bases, projecting above the surface, are readily accessible without the necessity of handling. Sixteen needles will run two surgeons constantly; eight can be in the holder while four are boiling and four waiting to be boiled.

The vaccine ampoules are kept in a 1 to 500 mercuric chlorid solution, removed and dried as needed, and, after shaking, scratched with a file and broken at the neck; the sterile needle is then inserted into the ampoule and the syringe filled. A little practice is necessary to hit the opening in the ampoule every time with a needle, and several needles will be soiled till this practice is acquired; but the use of the vaccine from the original container eliminates one source of infection, while the small opening minimizes dust contamination, which is a factor where so many persons are constantly moving.

By means of the above equipment, two medical officers, assisted by four men, and one non-commissioned officer in charge of records, have been able to maintain an average of between four and five doses to the minute for an hour or more, and while it may seem elaborate and require considerable help, it is in reality a time-saver for both the subjects and the medical staff. At all events it has made the vaccination of from 150 to 300 men (a not unusual daily occurrence) a mere incident instead of a rather formidable task.

In view of the marked interest taken in antityphoid vaccination by civilians in the neighborhood of Fort D. A. Russell, it is safe to prophesy that the time is not far off when civil practitioners will be confronted with the problem of wholesale vaccination against typhoid in schools, etc.

It is hoped that the procedure may not fall into disrepute on account of infections due to the sacrifice of good technic for speed, and that the preceding paragraphs, in which the methods described apparently combines both technic and speed, may contain some useful suggestions.

I wish to acknowledge my indebtedness to Major George A. Skinner, Medical Corps, U. S. A., and to Captain Percy L. Jones, Medical Corps, U. S. A., for invaluable assistance in the working out of this system and the preparation of this article.

THE PREVENTION OF INDUSTRIAL PHOSPHORUS POISONING *

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This paper is based on supervision, extending over two and a half years, of the hygiene of employees in a large match factory, and observation before and during that time of several cases of necrosis of the jaws from various sources.

The subject may at first sight appear to be of interest only to manufacturers and those interested in labor conditions, but it has been recently so much before the general public in newspapers and magazines, and concerns an article of such universal use, that it is deserving of some attention by medical men.

The pathology of phosphorus necrosis of the jaws is not fully understood, but that this is a very common effect of chronic phosphorus poisoning is well known. Whether the result is an expression of the general toxemia sometimes present in these cases, the poison being derived from the blood after absorption into the system, or whether it gains direct entrance through local lesions in the mouth, is still unsettled. The evidence tends to show that both factors may be present in a few cases, though my observation is that the disease (necrosis) as a general rule may be purely local in origin, and that the poison gains entrance through local points of lowered resistance in the mouth, such as decay of the teeth involving the root canals, pyorrhea alveolaris, etc.

It is well established that the white or yellow phosphorus alone is poisonous, and for that reason legislation has been passed in many European countries, including Great Britain, forbidding its use in the manufacture of matches. In these countries the non-poisonous, red, amorphous phosphorus, and the sesquisulphid of phosphorus are used. The red phosphorus is employed in the manufacture of safety matches, which will strike practically only on the box, while matches made from the sesquisulphid strike anywhere. Neither of these forms of match is as satisfactory to the general American public as the common yellow phosphorus parlor match at present on the market.

Federal and state legislation is now being proposed against the manufacture of yellow phosphorus matches in this country, much stress being laid on the danger to employees in factories making them; and it is undoubtedly true that conditions in some factories justify these measures. Mr. John B. Andrews, Secretary of the American Association for Labor Legislation, recently conducted an investigation of match factories in the United States, and reported his results to the Department of Commerce and Labor. The conclusions he reached were on the whole unfavorable to the continuance of the use of white or yellow phosphorus in the manufacture of matches. Newspapers and medical journals in editorials have taken up the cry and unanimously condemn the yellow phosphorus match, without knowing all the facts, and without fully realizing the economic and other conditions involved. Safety and sesquisulphid matches, under the present tariff and labor conditions, cannot be produced in this country in competition with foreign manufacturers, and if this legislation is passed without modification, the match companies of the United States, representing a capitalization of $20,000,000, employing about 5,000 persons, and putting forth an annual product amounting to about $15,000,000, will be driven out of business. The match manufacturers also point out that other trades, such as those involving the use of lead, are more dangerous to employees than the manufacture of matches. These arguments, however, do not justify the use of poisonous phosphorus when there is a non-poisonous substitute, unless the risk to workers can be eliminated. Can this be done? I believe that, barring absolute carelessness on the part of employees, comparable to playing with dynamite on the part of a miner, yellow phosphorus can be used in the manufacture of matches practically without danger.

SAFETY MEASURES

The following is a brief account of the precautions that have been taken during the past two and a half years by one company. Afterward we shall see the results attained.

The company has on its pay-roll about 120 persons—men, women, boys and girls. There are at the present time forty-four women and girls, the rest being men and boys. There are three main departments: (1) the machine room, where the match sticks are cut and dipped by machinery, employing thirty-five men and boys; (2) the filling room, where the matches are packed into the boxes, chiefly by hand, employing forty-forty women and girls, and twenty-two boys; (3) the general department, which includes the chemical room, the saw and planing mill, the printing and box-making rooms, and the lumber-yard.

General Precautions.—The factory is roomy, and is provided with thorough ventilation, whereby there is a complete change of air every four minutes, and the phosphorus fumes are drawn out by air pumps placed directly over the working places. Lunch rooms, apart from the working rooms, are provided, and employees are obliged to wash their hands before eating. They are instructed about care and cleanliness of the mouth and teeth, and warned against eating or chewing tobacco while at work. An antiseptic mouth-wash is supplied free to all employees. Recently a new match has been introduced, which requires only about one-fifth the amount of phosphorus used in the ordinary match, and machinery will be installed shortly that will greatly reduce the personal handling of the matches.

Special Regulations.—No person is permitted to start work in the factory without a certificate from a local dentist, or until he has been passed on by the special examiner at his monthly visit. A visit is made to the factory by this examiner once a month, at which time the mouths and teeth of all workers are carefully examined, and in addition a survey is made of their general condition as to anemia, hypertrophied tonsils, throat and lung trouble, etc. The results of the examinations are carefully noted on cards. Employees with diseased teeth are required at once to visit a dentist, enforced absence from the factory until the work is completed being left to the judgment of the examiner according to the severity of the lesions found, ranging from simple dental caries to alveolar abscess. It is a general rule not to permit those under treatment for any lesion more serious than simple caries to remain at work. At the next visit the treatment that has been carried out is carefully recorded on the cards. All candidates for employment are obliged to have their mouths and teeth put in order before they are accepted. The aim is to select robust individuals as workers, with sound teeth if possible, and to avoid those with devitalized teeth and those wearing fixed artificial appliances such as crowns and bridges. It is not practicable to make this an absolute rule, and if the individual wearing crowns or bridges be otherwise healthy he is admitted, provided his mouth is kept in good condition. All applicants with diseased tooth-roots beyond repair, are sent to have these extracted, and the wounds caused in their removal must have completely healed before permission is given to work. Persons suffering from simple dental caries are permitted to work during the time they are under the care of the dentist, but those who have devitalized teeth or cavities involving the pulp-chamber must wait until the dental work is completed.

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*Read in the Philadelphia County Medical Society, Feb. 22, 1911.

Monthly inspection, with special attention to the teeth and jaws, keeps the health of the employees right up to the mark, and any development of disease is checked in time. From observation of patients who had worked in the factory for years before the regular examinations were introduced, it is found that the disease may lie dormant for months without any external evidence of its existence, and many of the cases of necrosis arise without pain. The slightest sign of development of an alveolar abscess is sufficient reason for prohibiting the employee from further work until the trouble has subsided. Cases of necrosis due to causes other than phosphorus may of course arise in match workers, and the trouble be attributed to phosphorus. In one case the Wassermann reaction testified to the syphilitic origin of the disease.

RESULTS AND STATISTICS

During the past two and a half years (July, 1908, to December, 1910), 177 persons have been observed for over six months each, divided into departments as follows:

Filling room	97
Machine room	52
General	28
Total	177

Eighty-one of these have worked in the factory for more than two and a half years, that is, before the routine inspections were instituted, as follows:

Filling room	39
Machine room	26
General	16
Total	81

Since the regular monthly examinations have been in force, eight cases of necrosis of the jaws have been found. In one of these the diagnosis of syphilis was confirmed by the Wassermann reaction. Of the other seven, two of the cases began as alveolar abscesses from roots of teeth bearing artificial crowns. Two began from devitalized teeth which had been undergoing treatment for a long period. In another case the man was employed in mixing the chemicals, undoubtedly the most hazardous work in the factory, because it necessitated handling the phosphorus in a concentrated form. Practically every tooth in his mouth had at some time required treatment. The disease rapidly extended and involved the entire lower jaw-bone, resulting finally in the death of the patient. The fatal outcome of this case is to be attributed chiefly to neglect on the part of the patient himself, and his refusal to remain under proper care and to comply with treatment. The man now working in this part of the factory is obliged to have his mouth examined weekly. Two other cases in men employed for nine years occurred after extraction of several badly decayed roots, which they had persistently neglected to have removed. Four of the cases occurred in women working in the filling room, where the matches are packed into boxes by hand. None of these cases can be quoted as an argument against the efficiency of the measures at present in force.

SUMMARY OF CASES

1. Chemical room, male . . . . Lower jaw, fatal
2. Filling room, female . . . . Upper jaw, slight
3. Filling room, female . . . . Upper jaw, moderate
4. Filling room, female . . . . Upper jaw, moderate
5. Filling room, female . . . . Lower jaw, severe
6. Machine room, male . . . . Upper jaw, slight
7. Superintendent, male . . . . Lower jaw, severe

Thus there have been seven cases of true phosphorus necrosis manifesting themselves since the routine examinations were begun, all occurring in persons who had worked at the trade several years before that time. Previously the company had been continually troubled with cases of the disease. (It is interesting to note that in these seven cases, the upper jaw was affected more frequently than the lower, which is contrary to the general teaching.) In Cases 6 and 7 the employees had been with the company nine years, and had worked at the trade longer still without any hygienic regulations. In all of the cases reported the individuals had bad teeth; that is, teeth through which the infection could directly reach the jaw-bone. The disease has developed in no one who has since admission to the factory been subjected to a monthly examination of the mouth and teeth. In no case has the disease developed without a previous dental lesion. At the present time the factory is absolutely free from the disease.

CONCLUSION

The foregoing facts all point to a local infection of the jaw-bone by the phosphorus through diseased teeth as the essential factor in necrosis. In view of these results of observations on 177 persons for periods ranging from six months to two and a half years, it is justifiable to conclude that the measures in operation at the present time are effectual in the prevention of necrosis in persons employed in the manufacture of matches from white phosphorus, and that the substitution of other less satisfactory materials is unnecessary.

1623 Walnut Street.

Conditions Favorable for Cesarean Section.—The mother must be healthy and the child living and at full term. The mother should be under observation for a time beforehand in hospital or nursing home. It must be ascertained by careful examination that Cesarean section is the best available mode of delivery. Any previous handling or examination must be conducted under the strictest antiseptic precautions. The patient must be prepared as is usual for an abdominal section. The usual routine is disinfection of the external genitals and vagina, sterilization of the skin with iodin solution; rubber gloves for the surgeon and all assistants; high median abdominal incision; long swabs packed round the uterus; median incision of the uterus and delivery of the child before bringing the uterus out of the abdomen; thorough cleansing of uterine cavity and making sure of patency of cervix for subsequent drainage; interrupted catgut sutures through the uterine wall, covered in with continuous catgut suture of the peritoneal edges of uterine wound; stitching of the abdominal wound as far as possible in the usual layers, with supporting through and through silkworm-gut sutures.—A. W. Russell, in the *Practitioner.*

AN EFFICIENT AND TIME-SAVING METHOD OF TYING THE SQUARE KNOT

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The time consumed in tying sutures and ligatures during many surgical operations is too great in proportion to the time taken to do the rest of the work. The circumstances under which ligatures must be tied often render the work most difficult and unsafe when done in many of the ordinary ways. The very fine ligature material often used, gloved fingers covered with blood and other fluids, deep and small cavities, the short time one has at command, and the great importance of the security of the knot change a very simple task into one of great moment.

A knot to be of the greatest value must be one which will not slip or cut the ligature while being tied; it must be simple, requiring few and uncomplicated movements to produce it. It must be made in such a manner that both ends of the ligature are held in the grasp of the fingers while the knot is being tied. It should be tied with one hand. With these important facts in mind we devised the method here described for tying that best of knots, the square or reef knot.

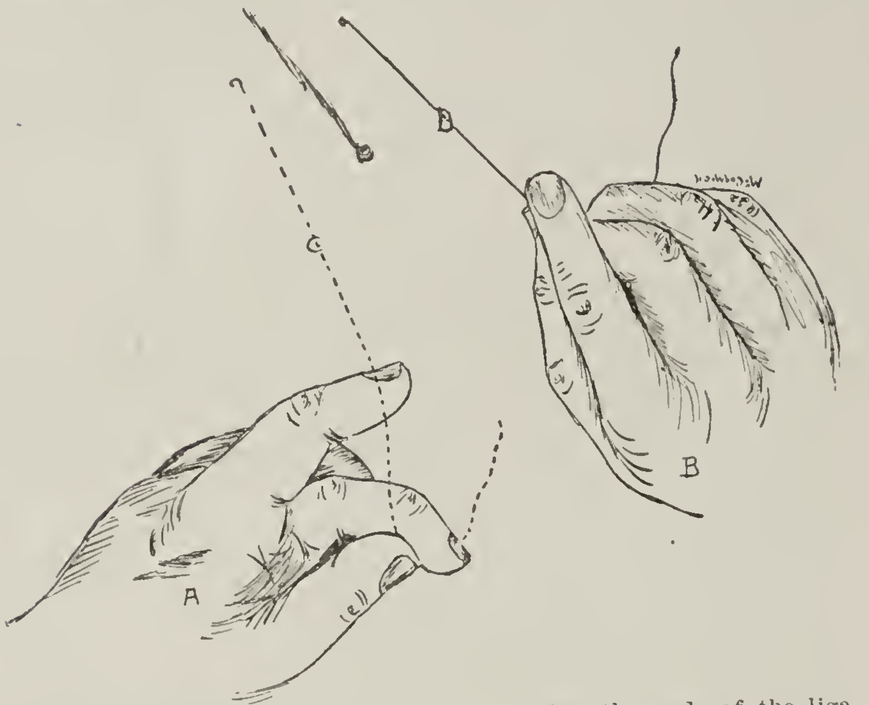

Fig. 1.—Hands (A, left; B, right) grasping the ends of the ligature, ready to make the knot.

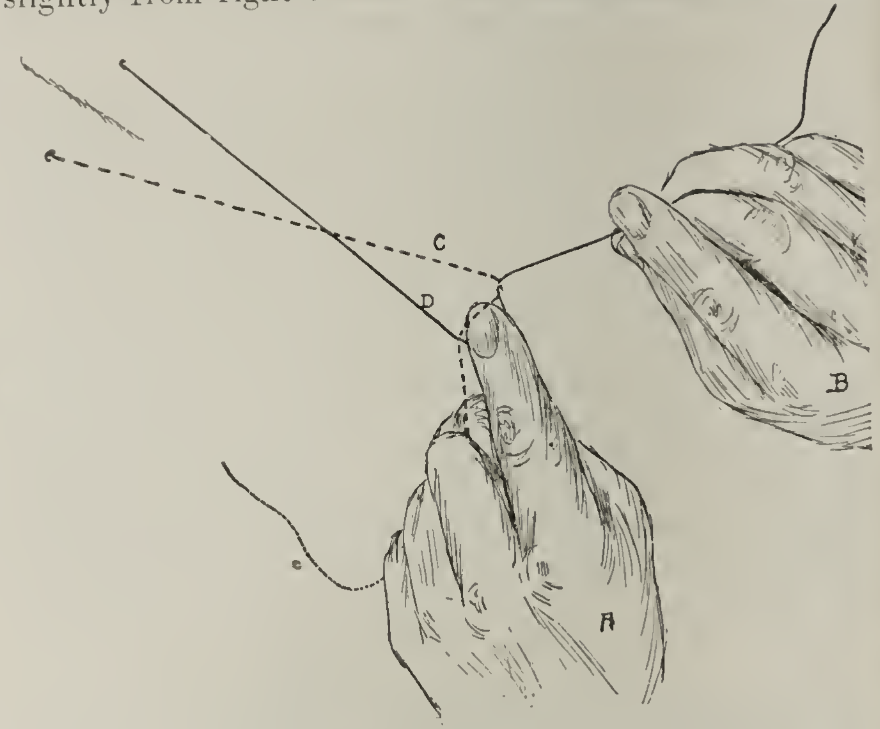

Fig. 3.—The index finger of the left hand (A) making the loop.

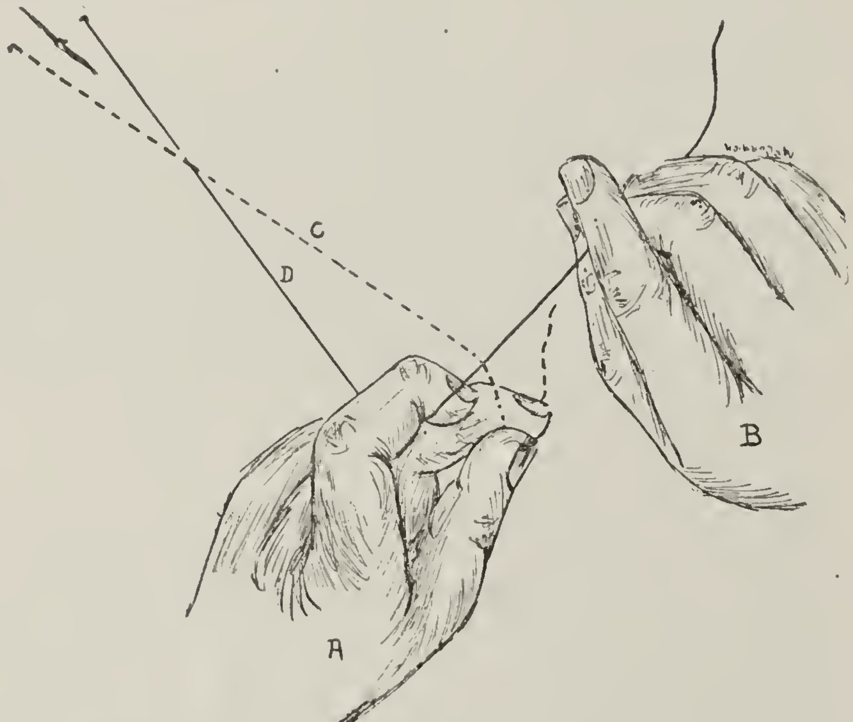

Fig. 2.—First movement, made with the left hand (A).

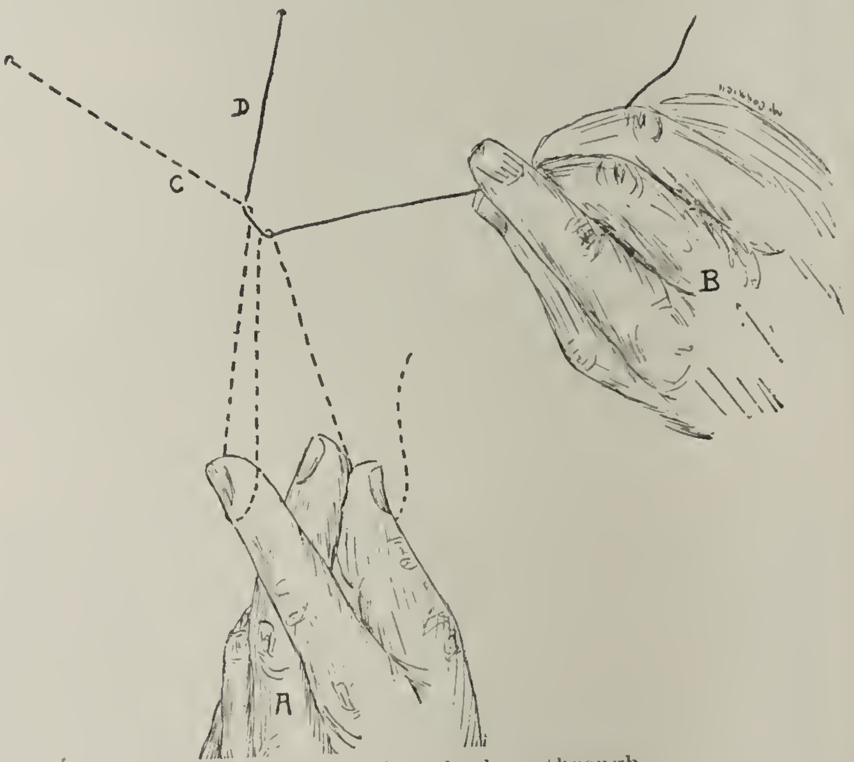

Fig. 4.—Pulling the loop through.

The accompanying drawings were made while the author posed to show each step. To enable the reader to follow each detail, the hands are represented as his own hands, and not as those of some one else whom he is watching.

The left hand (Fig. 1 A) grasps the left end (C) of the ligature between the thumb and the middle finger. The ligature (C) passes over the index finger. The right hand (B) grasps the right end (D) of the ligature. This grip is constant throughout the process of tying the knot. In rapid work the right hand is moved slightly from right to left. The index finger of the left hand is then hooked (Fig. 2) over the end of the ligature (D). The left end of the ligature (C) rolls off of the left index finger. This finger is now further flexed, causing the left end of the ligature (C) to rest on the nail of the same finger. The left index finger is then extended (Fig. 3) and ready to pull C through the loop in D (Fig. 4). The first half of the knot is then tightened (Fig. 5). The middle finger of the left hand will be on the left side of C when the hands are lifted into position over the incision (E).

In the second step the thumb and index finger of the left hand hold the left end of the ligature (C), and the left middle finger is hooked under D. By first flexing and then extending this finger C is again hooked through D, and the knot is finished (Figs. 6 and 7).

There is thus produced a square knot which has one turn in either half. This is the best knot for tying ordinary vessels as two turns in one half prevents the ligature from being drawn down to the vessel. The larger the ligature used, and the smaller the vessel to be tied, the greater will be the error by making two turns in the first half of the knot. This knot can be produced equally as well by either hand. If it is desired to have two turns of the ligature in either half of the knot, the same principles can be utilized. All that is necessary is to employ both the left and the right hands simultaneously. The left hand makes the first part of the knot using the index finger while the right hand makes the second part using the middle finger. This will produce the first half of a knot with two turns in it. Now, if the same steps are taken, only in this instance the index finger of the right hand and the middle finger of the left hand are used, the second half of the knot will be made. Each end of the ligature remains in the hand in which it was held in the beginning of the process. It can be produced almost as quickly as the one which has only the single turn in either half.

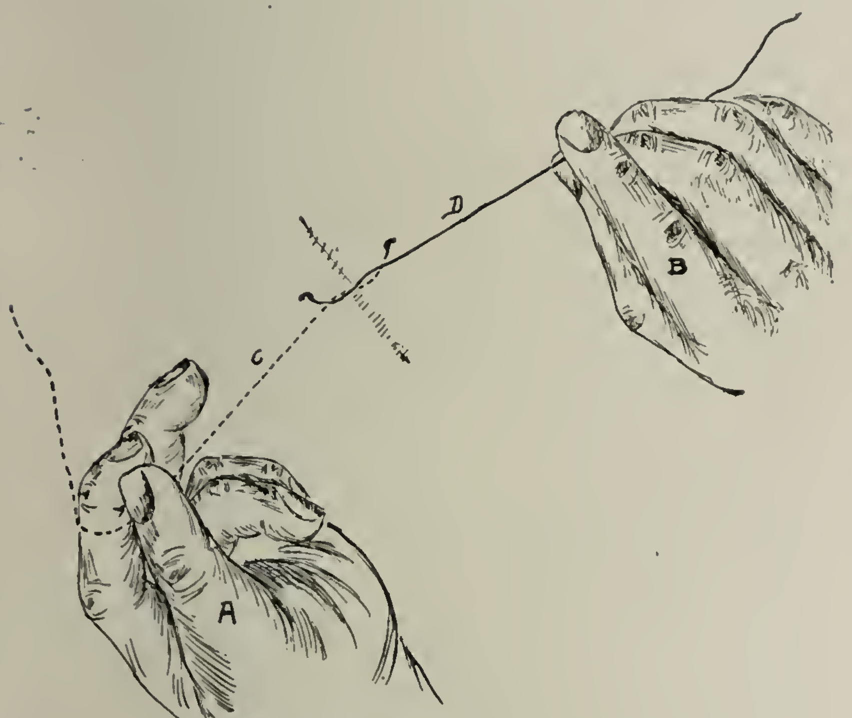

Fig. 5.—First half of knot completed.

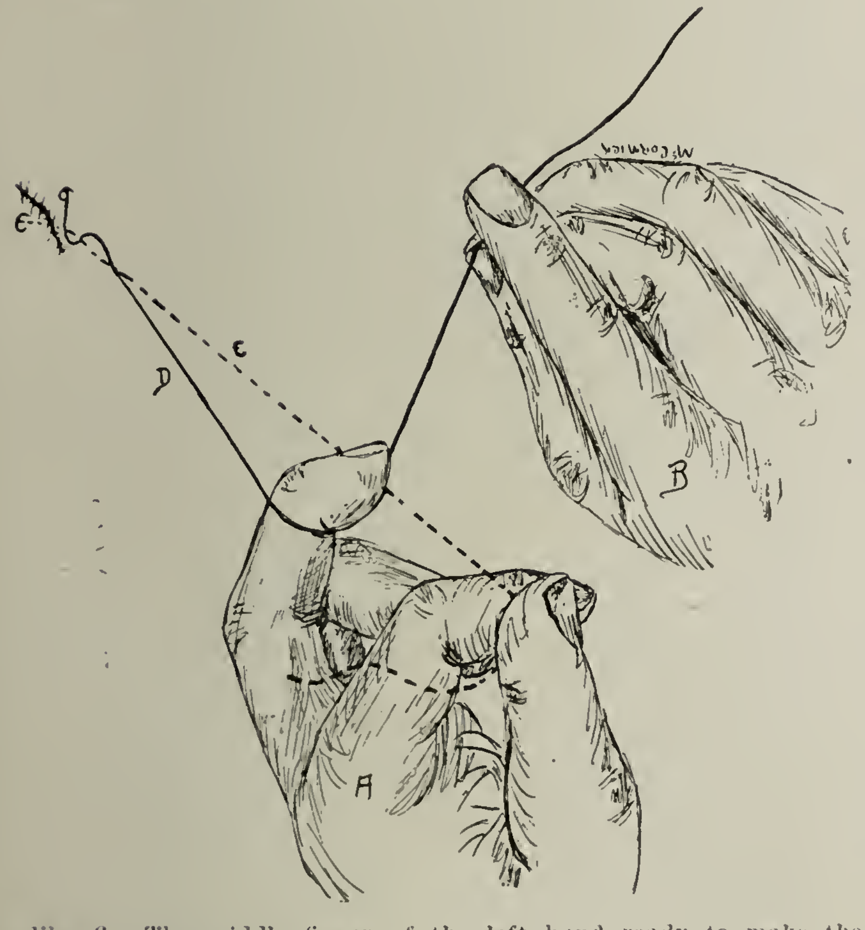

Fig. 6.—The middle finger of the left hand ready to make the loop for the second knot.

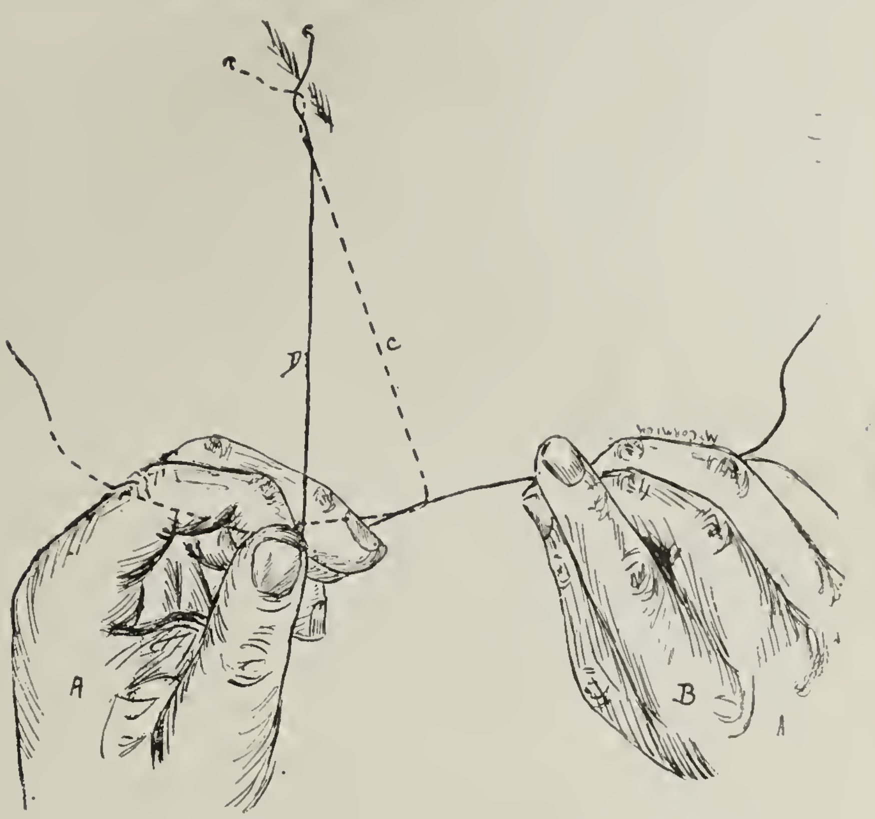

Fig. 7.—The loop made and the knot all but tied.

It should be borne in mind that where there are two turns in the first half of a knot there should also be two in the second, for if there be two in the first part and only one in the second there will be loosening of the first part when the second part is drawn tightly. This is especially true when tying stiff chromic or heavy plain catgut.

1820 Sutter Street.

"INNOCENT" GALL-STONES A MYTH

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Ten years ago we heard a great deal about "innocent gall-stones," which meant that gall-stones existed without symptoms and that their presence was not suspected until post-mortem examination brought them to light. We cannot now escape the conviction that the gall-stones did cause symptoms and that we as diagnosticians, and not the gall-stones, were "innocent."

In the early history of our knowledge concerning gall-stone disease, the diagnosis was not often made until secondary complications and infections had brought about marked local signs and symptoms, or until Nature hung out the yellow flag of jaundice. The mysteries of the disease have, however, been gradually dispelled by operative interference, which has given us pathologic information of the early stages.

It has been stated by good authorities, Naunyn,[1] and others, that gall-stones are present in 10 per cent. of the human race, and this conclusion has apparently been substantiated by the post-mortem material obtained from large hospitals, old ladies' homes, almshouses, etc., but it is quite certain that the illness or disability which placed these people in the hospitals, or disabled them to the extent of becoming a charge on the community, were in themselves of a nature to bring about gall-stones or to be caused by such disease. It would be idle to estimate, as has been done, that there are sixty million Germans and that six million, or 10 per cent. of them, have gall-stone disease. Obviously the premises on which any such computation is based are incorrect.

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[1] Naunyn: Keen's Surgery, 1910, p. 1006.

Hale White[2] found that, in twenty-five years in Guy's Hospital, there had been 11,333 post-mortem examinations of adult subjects, and that just 333, or 3 per cent. of them had had gall-stones. That this percentage is in excess of the truth if applied to the population at large seems fairly probable, as again, these adults were not the average "well," but the average "sick." It is more probable that one-half of 1 per cent. would be a fair estimate of the frequency of gall-stones in individuals of all ages, although evidence at hand shows that 5 to 8 per cent. of women and 2 to 4 per cent. of men have gall-stones after the age of 50. From Jan. 1, 1901, to Dec. 31, 1910, a period of ten years, 1,244 women were operated on in St. Mary's Hospital, Rochester, Minnesota (C. H. and W. J. Mayo), for uterine myomata. Of these, ninety-two or 7.1 per cent. had gall-stones.

As regards the presence of gall-stones without symptoms: The symptoms may not be recognized as coming from gall-stones, but if gall-stones are accidentally found during the course of operation for other causes, and the history is retaken in the light of these findings, it will usually be found that symptoms were present but were not differentiated from the symptoms of the disease for which the original operation was undertaken. I have been impressed with this fact on finding undiagnosed gall-stones in operating on women for pelvic trouble. After the recovery of the patient I have nearly always been able to elicit a satisfactory history.

The hypothesis of Lartigau[3] as to the bacterial causation of gall-stones is probably correct, namely, that the attenuated infection which seems to be necessary to their formation comes from infected bile, due to bacteria which have been carried to the liver through the portal circulation, which were not completely destroyed. That this passage of bacteria through the liver occurs just as certain bacteria pass through the kidney, has been demonstrated. The necessary degree of attenuation of the bacteria has been difficult to reproduce experimentally, and experimental gall-stones therefore have been but rarely produced.

The more common bacterial agents are derived from the colon and allied groups, especially the bacillus of typhoid. Admitting that, in healthy persons, the bile is sterile, in the various intestinal diseases such as typhoid, ileocolitis, etc., an excessive number of colon and similar bacteria are carried to the liver through the portal circulation, and experimental work shows that, under such circumstances, these bacteria may be isolated from the bile.

Adami[4] has pointed out that the pigmented areas in the liver are derived from the pigments of destroyed bacteria, and in his contribution to the physiology and pathology of the liver, gives many interesting facts in this connection.

It is possible that in some instances an ascending infection through the common duct from the duodenum to the gall-bladder may cause gall-stones, but we should remember that there is a constant stream of bile and pancreatic juice toward the duodenum which interferes mechanically with bacterial invasion, and again, as Adami and Cushing[5] point out, the content of the duodenum is relatively free from bacteria. One must also admit the possibility of bacterial invasion of the gall-bladder by way of the hepatic artery or through the lymphatics; but this is equally difficult to prove or disprove.

Gall-stones are originally formed in the gall-bladder, although later in the disease, because of obstruction and infection in the common and hepatic ducts, secondary stones may form in the liver ducts; but I have never seen hepatic duct stones without evidence that the original disease had its source in an infection of the gall-bladder or common duct, and the common duct involvement was almost always secondary to the gall-bladder disease.

The symptoms of gall-stones depend on the location of the stones, and here the anatomy of the gall-bladder plays an important part. The cystic duct is not continuous with the neck of the gall-bladder, but is elevated on its inner side; the neck forms a little pouch which overlaps the duct on its outer surface. It is in this situation, the so-called "pelvis" of the gall-bladder, that stones are so often impacted.

It has been a matter of speculation why the gall-bladder, when filled with pus and acutely infective material, should not produce more serious constitutional disturbances. The explanation lies in the fact that the gall-bladder has no lymphatic glands and very few lymphatic channels; therefore it has not the possibility of ready absorption, and its elastic tissue permits such speedy distention that the septic material is not under sufficient tension to force the infection into the circulation. By the time the tension has become great the lymphatic channels are blocked with inflammatory products and a thick leukocyte sheet protects the gall-bladder, as is shown by the great thickening of its walls. When stones in the common duct cause cholangeitis, we promptly get extreme symptoms, often aguish in character, due to the relative abundance of lymphatics along the cystic and common ducts and in the fissure of the liver; the temperature often running up to 103 and 105 F. for short periods of time. This sudden elevation of temperature is usually accompanied by colic and more or less jaundice, although in the quiescent period about 30 per cent. of cases of stone in the common duct will have little or no jaundice. Movable stones in the cystic duct, with a contracted gall-bladder, will cause intermittent symptoms of the same type as those accompanying common duct stones, but without the jaundice.

Older observers developed the natural history of gall-stone disease from the post-mortem pathology, which was obtained after the ravages of terminal infections and secondary complications had grossly changed the conditions which existed during life. The newer or physiologic method of study is based on an investigation of the early departure from health, and brings up the question, What is the purpose of the gall-bladder? In times past we have been ready to assert that it was a storehouse for bile, but there is as much bile secreted in twenty-four hours as there is urine; and of what avail would be a storage capacity of one ounce, which is the capacity of the normal gall-bladder? If the conjecture that the gall-bladder is a storehouse for bile were true, it should have some mechanism to force the bile out at proper intervals, but no one has ever seen the gall-bladder contract. The muscles in its walls are very scanty, not to be compared to the muscle in the wall of the stomach or the urinary bladder. On the contrary, the gall-bladder is composed largely of elastic tissue and it seems most reasonable to suppose that its function is to take the pressure off the common and hepatic ducts temporarily, and also from the ducts of the pancreas, whenever the necessity arises. Since neither the pancreatic nor the biliary ducts have valves, they cannot protect themselves from abnormal pressure if for any reason the bile and pancreatic juices should not escape readily through the papillæ of the common ducts.

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[2] Hale White: Guy's Hospital Report, xlix.

[3] Lartigau: Tr. New York Acad. Med., 1902.

[4] Adami: Cirrhosis, Sajous Annual, 1898.

[5] Cushing: In Robson and Moynihan's Diseases of the Stomach and Their Surgical Treatment, 1904.

The ampulla of Vater is a small chamber in which the biliary and pancreatic secretions mix, and it may be said to resemble the carbureter of a gasoline engine. If the secretions do not escape readily into the duodenum, the back pressure may force the secretion of one organ into the ducts of the other with disastrous consequences. Opie[5] has shown experimentally, and Halsted[6] has shown clinically, that pure bile injected into the pancreatic ducts will produce acute and usually fatal pancreatitis. In some of our cases of secondary operation at St. Mary's Hospital, in which the gall-bladder had been previously removed, we have observed that dilatation of the stump of the gall-bladder and cystic duct had taken place and that the common duct was almost uniformly dilated; evidently compensatory to the removal of the pressure-reducing gall-bladder.

A second function of the gall-bladder is the production of mucus, shown by the fistulas which follow the destruction of the cystic duct. When the bile passes into the gall-bladder it mixes with the contained mucus. If for any reason the ready escape of the bile into the duodenum is prevented, the mixture of bile and mucus (being subjected to greater pressure in the elastic gall-bladder than the pure bile in the liver ducts) fills the common duct. Therefore, if the contents of the common duct were forced into the pancreatic ducts it would be a mixture of bile and mucus, and not pure bile. Flexner[8] showed that when bile was mixed with mucus, experimentally, it did not produce acute pancreatitis when injected into the pancreatic ducts, but rather the chronic type of pancreatitis, if any harm at all resulted.

In studying the manifestations and complications of gall-stones, I have been impressed with the fact that 86 per cent. of all of the cases of pancreatic disease which we have seen at operation have been complicated with gall-stones. Seven per cent. of all patients with gall-stones in the gall-bladder operated on have had pancreatitis in some form, and in 27 per cent. of cases of stone in the common duct, marked pancreatitis was present. Courvoisier's[9] law holds good, that in 84 per cent. of cases of stone in the common duct the gall-bladder is contracted and practically functionless. We find pancreatic complications four times more frequent in cases of common duct stones than in cases in which the stones are still in the gall-bladder. That the gall-bladder is important as a means of protection, especially to the pancreas, is evident, and is a strong argument against its unnecessary removal.

Gall-stone disease is found to be much more frequent in women than in men. In 4,000 operations which we have performed on the gall-bladder and biliary passages (Feb. 25, 1911, C. H. and W. J. Mayo), 3,075 were in women, and 925 were in men, with an average operative mortality of 2.75 per cent. Eleven per cent. of the total number of deaths occurred in the cancer cases. That there is some cause for the phenomenon which relates to sex, and which cannot be explained by habits, diet, mode of living, etc., seems assured. We (the staff of St. Mary's) have operated on but 3 male patients for gall-stones who were under 20 years of age, while we have operated on 38 females under 20 years of age.

Ninety per cent. of married women who have gall-stones have borne children, and 90 per cent. of these women identify the beginning of the symptoms with some particular pregnancy. The liver of the female should, potentially, be larger than that of a male, since it must functionate for both mother and child. Strange to say, the weight of the female liver is relatively less than that of the male liver, being one fortieth of the body weight, while that of the male is one thirty-sixth of the body weight (Cunningham[10]).

Quiescent gall-stones often become active during pregnancy, and in a number of instances we have been obliged to operate for the relief of rapidly recurring colics, obstruction with infection, or to remove stones which had been forced down into the common duct during the pregnant state. Recovery was always speedy, and in no cases did the operation cause the spontaneous termination of the pregnancy.

The colic of simple gall-stone disease is usually most intense in the epigastrium, passing through to the back, sometimes to the right and occasionally to the left, but seldom radiating below the umbilicus. Spontaneous relief is usually accompanied by a feeling of movement of gas or vomiting, and the vomitus more often contains pure bile than does the material vomited in cases which might be mistaken for gall-stone disease. When the pain and tenderness passes into the region of the gall-bladder it is an indication of changes in the wall of the organ, and from this time on the patient does not secure the complete relief between colics which occurred in the earlier stages of the disease, but very often becomes a victim to dyspepsia, indigestion and stomach distress. This is so true that every patient with chronic gastric distress should be questioned intelligently in order to obtain an early history of gall-stone colics, since this information, having apparently no connection with the present symptoms, might easily escape the patient's mind.

Gall-stone disease sometimes causes serious circulatory disturbances. Endocarditis is one of the results, and while it occurs but rarely, it appears to be of a specific type, the development of the heart lesion being coincident with a gall-stone attack; and each exacerbation of the gall-stone disease is accompanied by an increase of the cardiac symptoms. We have operated on some patients with the heart in such condition as to render an operation or even an anesthetic a serious procedure, but the removal of the gall-stones and drainage of the gall-bladder has usually relieved the patient and stopped further cardiac damage, although the heart remained in a crippled condition.

While stones are the most common cause of cholecystitis, in many instances inflammation of the gall-bladder is not accompanied by stones, but nevertheless the patient requires operation for relief. The various forms of cholecystitis have been considered pathologically by MacCarty.[11] One of the fairly common varieties of the non-calculous cholecystitis is the so-called "strawberry gall-bladder," in which the mucous membrane has the appearance of a ripe strawberry.

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[6] Opie: Diseases of the Pancreas, 1903, p. 30.

[7] Halsted: Bull. Johns Hopkins Hosp., 1901, xii.

[8] Flexner: Contributions to Medicine Dedicated to William H. Welch, 1901.

[9] Courvoisier: Pathologie und Chirurgie der Gallenwegen, 1890.

[10] Cunningham: Anatomy, Edition 3, 1909.

[11] MacCarty: Ann. Surg., May, 1910.

Cholecystitis without stones is usually accompanied by habitual tenderness in the region of the gall-bladder. As a rule, colic is not a prominent symptom, and if present is not so severe in character as that accompanying gall-stones. There is often a mild constitutional disturbance, and in some instances, for months at a time, there will be a slight elevation of evening temperature (99 to 100 F.), but without marked loss of flesh; the patient complaining of lassitude and other symptoms of a chronic mild toxemia.

Non-calculous cholecystitis occurs in several forms; the two most frequent are the following: 1. The distended thin-walled gall-bladder contains several ounces of colon-infected bile, often with a foul odor. 2. The wall of the gall-bladder is thickened and white, often adherent and contains a thick, tarry material. In both of these forms the lymph-glands along the common ducts are enlarged. In one of our cases of cholecystitis of long standing (twenty years or more) these enlarged glands had become calcareous, producing sufficient pressure on the common duct to cause chronic jaundice.

Complications were found in more than two-thirds of the patients on whom we operated for gall-stones. Stones were found in the common duct in 492 cases, while serious complications involving the liver, duodenum, transverse colon, etc., were the rule. Carcinoma was found associated with gall-stones in 85 cases (2.25 per cent.). We have removed a number of gall-bladders for carcinoma, and in several instances have excised a piece of the adjacent liver. In cases in which the carcinomatous condition of the gall-bladder was sufficiently advanced to diagnose at the time of operation, the patients did not survive one year, but in a number of cases an early carcinoma was removed accidentally, so to speak, in removing thick-walled functionless gall-bladders, and five of these patients are alive and well at periods of from two to six years after operation.

Gall-stones are foreign bodies. Why delay operating until complications occur? In our experience simple operation for uncomplicated gall-stones has had a mortality of less than 0.5 per cent., and this might be called accidental, since it was due to the condition of the patient, rather than to the operation.

Early operation is relatively safe and the gall-bladder may be saved in a condition for future function. Fatalities can be traced in almost every instance to delay. That temporary palliation can be procured with non-operative measures cannot be denied (Carlsbad, etc.), but the cure of the patient can only be brought about by surgical measures.

In this connection may be noted the wide difference of opinion between the British and American observers, on the one hand, who urge early operation, and those continental observers on the other hand, who advocate delay in operation. One of the most prominent of the continental surgeons draws conclusions which may be epitomized as follows: 1. Stones in the gall-bladder do not require operation until they have produced marked changes in the wall of the gall-bladder, i. e., formation of tumor, etc. 2. A long incision should always be made in operating for gall-stone disease. 3. The ideal operation is removal of the gall-bladder. 4. Drainage of the hepatic ducts will usually be necessary. In reply the advocates of early operation would say: 1. In operating before gross changes are manifest the danger is minimized and the mortality is small. 2. In operating early an incision longer than is necessary to introduce the hand for exploration is not often required, and prolonged convalescence and the danger of hernia is avoided. 3. In early operations it is not necessary to remove the gall-bladder, and this valuable organ is saved. 4. Early operation relieves the patient before deep-seated infections occur which necessitate drainage of the liver ducts.

HOOKWORM DISEASE

PREVALENCE, HARMFUL RESULTS AND TREATMENT *

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PREVALENCE OF HOOKWORM DISEASE

Hookworm disease prevails in tropical and semitropical regions. Its distribution is now being studied in many parts of the world, and especially in our South; in every southern state a number of physicians are spending their entire time collecting data on its prevalence, and endeavoring as best they may to effect its eradication. Already it is known that the disease exists in Virginia on the Potomac River, in Florida, in Texas and in the intervening states, including North Carolina, South Carolina, Georgia, Alabama, Mississippi, Louisiana, Arkansas and Tennessee.

The following results of investigations which have been made will give some idea of the degree of infection among our people. Chamberlin in 1909 examined a number of southern recruits and found 60 per cent. of them infected. Later Siler in examining 105 recruits found ninety-three infected, which is 88.5 per cent. In North Carolina during the past summer the following examinations have been made with results as indicated (Figures collected by Dr. J. A. Ferrell, director of the North Carolina campaign):

	Examined, No.	Infected, Per Cent.
First regiment North Carolina soldiers	372	36
Second regiment, North Carolina soldiers	366	58
Third regiment North Carolina soldiers	149	32
Coast artillery North Carolina soldiers	218	30
N. C. A. and M. College (colored)	93	16
Presbyterian Orphanage, Barium Springs, N. C.	165	40

Odd Fellows' Orphanage, Goldsboro, N. C.:

	Examined, No.	Infected, No.	Infected, Per Cent.
Total	96	52	54
Girls	51	27	53
Boys	45	25	55
Counties represented	27	21	77

Methodist Orphanage, Raleigh, N. C.:

	Examined, No.	Infected, No.	Infected, Per Cent.
Boys	48	36	75
Girls	83	44	53
Total	131	80	61

Masonic Orphanage (colored), Oxford, N. C.:

	Examined, No.	Infected, No.	Infected, Per Cent.	Ascaris Present
Boys	50	6	12	39
Girls	58	7	12	38
Total	108	13	12	77

The children here, as in the other orphanages, range in age from 6 to 18 years.

Dr. B. W. Page, assistant to the Secretary for Hookworm Disease to North Carolina Board of Health, had 394 children at the Baptist Orphanage examined and found 38 per cent. of them infected. Dr. C. L. Pridgen, is also an assistant in the North Carolina Hookworm Campaign, working in the western section of the state. His examinations of school children showed the following: Fifty-four specimens from Mitchell and Yancey

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* Read at the medical society meeting of the Fourth District of North Carolina.

counties showed twenty-eight infections with hookworm, and twenty-five with *Ascaris lumbricoides.* Twenty-eight examinations in McDowell County showed twenty-eight infections, or 73 per cent., and in the town of Marion in the same county, 54 per cent. of infection was found in thirty-five examinations.

Serving the North Carolina Hookworm Commission in same capacity as the two physicians last named and working in eastern North Carolina, I found the infection running somewhat higher than in the central and western sections of the state. In the Kinston High School fifty-one were examined; twenty-eight or 55 per cent. of them showed hookworm infection. At Magnolia in Duplin County, seven school children were examined and six were found infected. At Faison, in the same county, twenty-four people were examined whose ages ranged from nine to forty years, and thirteen were found infected. Other schools showed the following:

Wayne County, Eureka,	6 examined,	4 infected,	or 66 2/3 per cent.
Wayne County,	21 examined,	19 infected,	or 90.5 per cent.
Wayne County,	19 examined,	13 infected,	or 68.4 per cent.

Moreover, Dr. K. A. Price, of Hickory, had fifty-six male college students examined and found nine infected. Examinations of school children are now being made in large numbers and the results of these will soon be obtainable. At this time only the figures above given are in my possession. The figures given tend to show that the disease exists in all sections of the state, but that it is more prevalent in the eastern counties. This may be due in part to the fact that the soil is largely sandy and level, factors favoring the propagation of the hookworms; in part to the fact that the negroes, who are regarded as extensive worm-carriers, though they suffer but little from the disease, are more densely settled in the east than in the west, and in part perhaps to the fact that the counties in the tide-water belt have longer and warmer summers than the mountain counties.

Further information on the prevalence of the disease in the state may, it would seem, soon be obtained from our general practitioners. During the first three months of 1910 they sent to the state laboratory only seventy specimens for examination. During the second quarter, which ended June 30, they sent in 486 specimens, and during the three months ending September 30, 1910, they sent in 2,421 specimens. If their interest in the work continues to grow with such rapidity the distribution of the disease may be known to a certainty.

HARMFUL RESULTS

The thorough discussion of the far-reaching harm resulting from hookworm infection would be too lengthy for the present paper. Dr. H. F. Harris, secretary to the Georgia State Board of Health, says: "In no other disease does the victim suffer so long; in no other condition is he for such a period a menace to those about him; in no other malady of such gravity is treatment so rapidly and surely successful." The more immediate results of the disease are of vital importance.

Perhaps the harm produced by the worms will be more easily explained if first a word is given to the characteristics of the worms. They are blood-sucking parasites, varying in length from one-fourth to one-half inch; in numbers they range from less than a hundred to more than four thousand in a single victim of the disease. They inhabit the small intestine and attach themselves by their mouths, which are supplied with powerful muscles, teeth and sucking surfaces, to the mucous membrane. They move from place to place in feeding on the blood they suck from the flesh, each time making a new wound. The loss of blood resulting from their action is of greatest importance. Much blood is drawn directly into the bodies of the worms, but a more important loss perhaps occurs through the minute hemorrhages from the wounds which they make. So great is this latter loss in some instances that the blood in the stool of the victim may be recognized by the naked eye; if it is less, it may be detected by the usual chemical tests. Ordinarily the loss of blood would be somewhat dependent on the number of invading parasites. There are cases, however, in which the number of worms present seems to account only in a remote degree for the symptoms produced. The patient's age, his constitution, his digestive system, and his power to manufacture new blood are points which determine, to some extent, the amount and effect of the loss of blood.

A second harmful result is the poisoned system. The worms are supposed to secrete and inject into the flesh a hemolytic poison, which, moreover, prevents the coagulation of blood in the wounds, from which, therefore, much blood is lost by oozing. Moreover, the excrementitious products from the worms are poisonous, and since the wounds offer points for easy entrance of pathogenic organisms, in many instances the wounds are followed by suppuration, and poisons from such places, when absorbed, increase the general poisoned condition of the patient's system.

In addition to the loss of blood and the poisoning of the system should be mentioned the damage done to the intestine. The numerous bites, together with the poison, give rise to a chronic catarrhal inflammation of the intestine. This impairs digestion and causes tenderness in the epigastric region. To this may be added what is really of sufficient importance for separate consideration. With much denuded and diseased mucosa exposed, disease organisms, particularly tubercle bacilli, and typhoid bacilli, which find entrance into the intestinal canal with food or water, easily pass into the lymphatic or blood-currents and ultimately overwhelm the defenseless victim with the disease they produce.

The secondary changes which result from the hookworms will be best understood by discussing them in connection with the symptoms of the disease. Anemia, with its important effects on all nutritive and metabolic processes, accounts for most of the striking features presented by a hookworm victim, such especially as physical and mental weakness. It also predisposes the person to other diseases and in many instances the ensuing complication is regarded as the primary cause of the death of the person.

For convenience of description I shall classify the disease, according to its harmful results, into four divisions; namely, mild, medium, severe, and very severe.

Mild Cases.—In the mild cases we have, at present, no recognizable symptoms, and they are only diagnosed by the microscope. Though I have found in adults mild digestive disturbances, such as slight reduction of digestive ability, tenderness, pain, and discomfort in the epigastrium, accompanied by nervousness. (This is by no means constant.) Sometimes only a small number of worms are present; again 200 to 300 worms may be present and not produce recognizable symptoms (Dock and Bass).

Medium.—Cases of medium severity have little pallor or have a slightly dirty, yellow tinge of the skin in whites, and a slight pastiness in mulattoes. There is a reduction in the normal amount of perspiration; the appetite is frequently excessive. There may be uneasiness, pain or tenderness in the epigastrium, frequent attacks of meteorism, slight dyspnea on exertion, palpitation of the heart, dizziness, headache, lack of attention to details, and a little stupidity. The muscles are flabby, and weakness and indisposition to labor exists (laziness). The hemoglobin of such persons generally is between 60 per cent. and normal. Joint pains, especially in the sternum, constitute a frequent symptom. The temperature may range from 99 to 101 F.

Severe Cases. — Here all symptoms noted under medium cases are more prominent. The pallor is definite, the mucous membranes are paler than normal, and where the same form a juncture with the skin it often fades away so gradually as to be imperceptible, the skin is quite dry, and sweating is rare. The appetite may be exaggerated or diminished. Nausea is frequent. The tongue is coated and often flabby and enlarged. Tenderness of the epigastrium, with spontaneous pain on gentle pressure at times, is present. (In sixty inspections followed by microscopic examination, this sign has proved positive in every one, being the most constant, most suggestive and most marked of all signs or symptoms.) Breathlessness is easily brought about by the slightest exertion. There is often a hemic murmur of the heart. There may be much pain in the sternum and chest, with a feeling of weakness of the knees and legs. There is much dizziness, especially on sudden changes of position, noise in the ears and frequent headaches. The mental condition is decidedly depressed, and the patient is quite passive to his surroundings, and presents a stupid appearance. The patellar reflex may be either exaggerated or diminished. Patients complain of cold and tingling of the feet, which frequently go to sleep; the muscles are flabby and may be slightly painful; joint pains are so common that a diagnosis of rheumatism is often made. Work is performed with great effort and is deficient in both quality and quantity. In about ten days after ground-itch appears the patient usually develops a sore throat, a slight bronchitis, and a temperature ranging from 99 F. to 102 F. The skin is waxy, tallow or tan color. Edema of the face may be present. The hemoglobin is apt to be between 45 and 70 per cent.

Very Severe Cases.—A case in this stage of the disease may terminate fatally at any time. The skin is tan or tallow-colored. Edema of the feet and ankles alone, or sometimes extreme anasarca may be present. The appetite may be slight or enormous. Nausea and vomiting are frequent. Ascites may be alarming. Diarrhea often alternates with constipation. There is distressing dyspnea on slightest exertion, severe palpitation of the heart, pericordial pain, rapid, weak and compressible pulse, and often dilatation of the heart; marked pulsation of the vessels of the neck; dizziness and tinnitus aurium are extreme; patellar reflex is abolished. In men impotence is an almost invariable symptom, and amenorrhea in women. The intellect is dull and the patient seems confused and stupid. The facial expression is anxious and stupid. There is a tendency to dilatation of the pupil, and blurred vision exists. The urine has a low specific gravity, is abundant in quantity, and usually contains no albumin. The muscles are flabby, sore and painful. Extreme weakness is observed and the patient is incapacitated for labor. There is often irregular fever, with intervals of subnormal temperature.

Acute hookworm disease may occur without previous infection, or an acute attack may supervene on a chronic infection. These acute attacks occur in the spring and summer, and their symptoms vary with the severity of the infection. Should sufficient infection occur, there will be a sore throat, and bronchitis, nausea or vomiting, a chill and diarrhea, epigastric pains or colic, rapid anemia, and elevation of temperature as high as 101 or 102 F. One difference between acute and chronic cases is that the skin is waxy white with severe anemia, whereas in chronic cases, with the same amount of anemia there is a more yellow tinge ("tallow-faced"). Children with acute hookworm disease have not the "pot-belly" present in so many of the chronic, severe cases. In very severe infections, as in Claud A. Smith's experimental case, great swelling occurs on the second and third days. Loose has noticed red lines running up the leg—probably a lymphangitis.

Nervous System.—Insomnia and night terrors are quite common, because of motion of the worms. Somnolence often occurs, and the patient keeps awake with difficulty. Lack of ambition and lassitude are noticeable. After administration of thymol the temperature frequently rises to 102 or 104 F., usually subsiding in twelve hours. I offer the following explanation of this phenomenon: When the thymol comes in contact with the worms they become very active; the thymol causes them to vomit and purge most of their ingested blood (Bass); at the same time they eliminate a large amount of toxin; much blood escapes from their points of attachment. Therefore, if the hookworm toxin acts as a direct poison, and the blood absorption acts as an auto-intoxicant, I feel that a rise in temperature would be accounted for.

QUESTIONS BEARING ON POSSIBLE ADDITIONAL HARMFUL RESULTS

1. May not many cases of neurasthenia and hysteria be attributable to hookworm disease?

2. Could not such perversions, among hookworm patients, as disobedience, profanity, lying, stealing, drinking, forging, and sexual perversions be attributable to hookworm disease, provided recovery followed cure of the hookworms?

3. Is not chlorosis or "green-sickness," in many cases a result of uncinariasis?

4. Is it not probable that a number of cases of defective eyes and ears, and diseased tonsils and adenoids could be attributed to the same cause?

5. Is it not true that many abortions and miscarriages can be attributed to anemia resulting from hookworm disease?

6. Does not observation show that, as Dr. Nicholson of Onslow County says, whereas the average eclampsia with first child in the United States is 1 to 250, in women suffering with hookworm disease the average is 1 to 50.

7. Is it not probable that many women die from shock during labor as a result of hookworm disease?

8. Is it not a fact that, as a result of this disease, many women cannot furnish sufficient milk to nourish their babies?

9. Is it not a fact that hookworm disease is the cause of more amenorrhea, dysmenorrhea, and scanty and irregular menstruations, than any other disease in our South?

10. Is it not a fact that a hookworm patient, pregnant, quite often suffers with a severe dropsy, and often after delivery may run an irregular temperature for some time and fail to react to tonics or quinin?

TREATMENT

External.—Ground-itch in the papular or vesicular stage may be treated with a 5 per cent. salicylic acid suspended in collodion. This usually cuts the attack of ground-itch to one or two days. During the pustular state, the wound should be cleansed and canterized with silver nitrate and then a dry dressing of 5 per cent. boric acid and zinc oxid ointment applied twice daily.

When great swellings occur hot applications should be used. To allay itching and prevent secondary infection a combination 5 per cent. zinc oxid and salicylic acid ointment applied locally, twice daily, is recommended. It is important to keep the foot bandaged or covered to prevent scratching or rubbing.

Internal.—Treatment should be begun on the fifteenth day from date of the ground-itch and repeated once. The same treatment should be instituted after an attack of ground-itch as if eggs were present in the stools, thus getting rid of the worms before they reach maturity and have done much harm. The stools should be examined at the end of six and twelve weeks from the attack of ground-itch for eggs of any worm that may have escaped previous treatment.

Preliminary.—The first step is to remove the protecting chyme and mucus by a large dose of salts—Rochelle, Epsom or Glauber's—four hours after the last meal. Sodium sulphate dissolves and removes the intestinal mucus best. The drugs used to kill or expel the worms are thymol, betanaphthol and male-fern.

Dose of Thymol.—The dose for children should be in proportion to the size, apparent age, and physical condition. Ashford and King give the following table of doses, to be regulated, in the case of children, rather by size than by actual age.

	Grains.
Under 5 years	7½
5 to 10 years	15
10 to 15 years	30
15 to 20 years	45
20 to 60 years	60
Over 60 years	30 to 45

I have been giving about 2 grains per year up to the age of 30, the same to be administered in two equal doses two hours apart. Unfavorable conditions, such as great weakness, extreme anemia, diarrhea, cardiac depression, pregnancy, and dropsy, require a smaller dose.

Mode of Administration of Thymol.—This should be given in two or three broken doses to prolong its presence in the upper bowel. Because of its tendency to pack together under pressure or in the mucus in the intestine, equal parts of sugar of milk or some other soluble substance should be mixed with it. To prevent its burning of the mouth and throat, it should be given in cachets, wafers, or capsules; it may also be given suspended in either mucilage or syrup of acacia or some simple syrup. The patient should lie on the right side and refrain from drinking much water, to prevent vomiting. After two or three hours another brisk purgative of salts (never castor oil) should be given to prevent its absorption. The patient should remain in bed until the thymol is moved off. Either the bed-pan or the commode should be used in the room to avoid possible fainting.

Diet During Thymol Treatment.—To keep the alimentary canal clean, no food or drink, except water, should be allowed from the time the preparatory purgative is given until the purgative following the thymol has acted well. If the patient is weak or faint, or if the burning in the stomach is excessive, a little warm coffee may be allowed. The diet need not be restricted after several free movements have occurred following the post-thymol purgative, unless there is some special indication. The treatment should be repeated once a week until examination of the stool, washed through a piece of cheese-cloth, shows no worms, or the microscopic examination shows no eggs.

Saturday evening and Sunday is the most convenient time to administer the treatment to working people and school children. The salts purge should be given Saturday evening and thymol begun early Sunday morning. For example, Saturday at 8-9 p. m. sodium sulphate may be given; Sunday at 6 a. m., thymol; Sunday at 8 a. m. thymol again; at 10 a. m., sodium sulphate. Until 4 p. m. the patient should not eat, or drink anything except water, and but little of that.

Caution.—Oils, fats (milk or butter), patent medicines, or beverages containing alcohol should not be allowed during thymol treatment. Thymol may affect the patient in one of three different ways: by intoxication, by irritation of the kidney, and by irritation of the stomach and intestine. The effects of absorbing a large amount of thymol are depression, headache, weakness, dizziness, tinnitus, nausea, unconsciousness, rapid, weak pulse, and sometimes profuse sweating and subnormal temperature (about ½ gr. of thymol is soluble to the ounce of water). The effect of thymol on the gastro-intestinal canal is occasional epigastric pain, nausea and vomiting, and more or less diarrhea. Therefore gastritis, and diarrhea or dysentery are contra-indications. About half a dose should be given to a very weak subject the first time.

Treatment of Toxic Symptoms.—Cardiac stimulants should be given, morphin and atropin, strychnin, digitalin or ergot, subcutaneously, and hot coffe per rectum: Alcoholic stimulation should be avoided. The patient should be kept recumbent. Hot blankets should be applied to the body and a warm water enema used.

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SANITARY CONSIDERATION OF HEALTH RESORTS

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The recommendation of health resorts is frequently expected of physicians who unconsciously assume the risk, little thinking what effects, both good and bad, the individual town or hotel may have on its guests. Convalescents, travellers and vacationists visit the health and summer resorts unsuspecting of any danger or with the confidence that the conditions are as the physician assumes or expects. The mere mention or naming of a resort by a physician is considered a recommendation and a therapeutic direction to be followed as any other therapeutic order. Opinions of resorts must be formed from personal observation, from description by others, or advertisement. There is an avoidance of the whole truth in many advertisements, yet these misstatements or evasions are accepted without question, and serving as the directing force, may ultimately end disastrously to the guests and finally to the resorts.

Had one physician, referring to a western town as a well-known health resort, known its true condition and the possibility of contracting typhoid fever there, he would have pronounced it anything but a health resort.

Up to the present there has been no proper sewerage in the town. The water-supply is obtained from driven wells located within the city limits. The subsoil is badly polluted with sewage which, unless a change is made, must inevitably dangerously pollute the water-supply, thereby causing an epidemic which may be extensive and serious to the victims, besides ruining the reputation of the resort.

There being such a multitude of resorts in each state, and it being impossible to learn of the conditions in the various localities and resorts, there is needed some method by which the desired information may become available. Physicians should know what constitutes safety in a particular resort, and should give recommendation to the safe ones rather than condemnation to the backward or careless places. In consequence of this recognition of the dangers of certain resorts these places, aided by private or official instruction, will learn the value of sanitary conditions, and appreciate that it is necessary in their competition for existence.

Many resorts are ideal, but it is the occasional hotel or town, conducted blindly, without any medical or sanitary supervision, which becomes a risk amounting to a menace. When a resort installs sanitary conditions and maintains an active regard for the health of its patrons it should be publicly recognized as safe. Sanitary conditions imply much more than plumbing fixtures. If the resort furnishes pure water, pure foods, and has eliminated noxious gases, plants and insects, and becomes in no way a distributing station for environmental or infectious diseases, it deserves the recognition and patronage of physicians. In publishing any list of safe and well-equipped establishments there should be no discrimination against the smaller resorts in favor of the larger, stronger and more wealthy places. The resorts should be judged not alone by their financial outlay or advertisements, but by their activity in maintaining true health-giving conditions.

The resorts which are not safe are in such condition more from ignorance than indifference, and from an inability to understand what constitutes lack of sanitation rather than from a disregard for the safety of others. The proprietors of such places need instruction in what constitutes sanitary requirements, what is purity in water and foods, how infection may be transmitted and how to guard against disease. The information is more welcome when presented in a manner to show the influences each objectionable condition can have on the proprietor's family and guests and on his income and prosperity. If an utter disregard for the safety of the patrons is evinced, it may be necessary to use other than suasive measures. Then official threatenings, legal force or publicity of conditions may be judged by some to be required. Such was the opinion of the New York State Department of Health, which considered itself obliged to publish the names of some sixteen resorts in that state, warning the public of the many dangerous conditions maintained.

The revolting conditions in a few resorts may be cited: One hotel discharges sewage into a lake only a short distance from its water-supply intake; another hotel takes its water from a small lake which receives the sewage of hundreds of people; ground directly beneath the hotel guests' windows is covered with the overflow from cesspools; in spite of window screens I found many anopheles in my hotel room every morning; a well supplying drinking-water to a hotel is within thirty feet of a privy, another within ten feet; toilet accommodations are notoriously insufficient and out of repair in some hotels; one hotel disposes of its garbage by emptying it along a roadside; a resort town has its water-supply pipe laid in the same trench with its sewer, the outlet of the sewer being within three feet of the intake of the water-pipe in the same stream. The main sewer of one well-known shore resort discharges on its most frequented bathing beach.

These resorts are the exceptions; but it is these exceptions which constitute the dangers and should be eliminated. Other resorts, on the other hand, are equipped with water-filters and sewage disposal plants of the highest efficiency, and take extreme care to preserve the purity of all surroundings and supplies. One actively prohibits the fertilization of fields within five hundred feet of the stream which is its water-supply, and no water from barnyards or even remote privies can enter the stream.

An attempt to collect sanitary data by mail failed, owing to many not replying, many not appreciating the value of details, and other health officers not being versed in the conditions of resorts in their jurisdiction or not being able to judge of safety. One officer declared there was no opportunity of their supply of river water being polluted, "except from towns above this." Another town obtaining water from the lake into which the sewage is discharged declares there is no danger of pollution.

Owing to the neglect of sanitary conditions and the refusal to listen to warnings there have occurred in isolated hotels outbreaks of typhoid which resulted in numerous deaths, public condemnation, loss of prestige and business failure for the hotels.

The sanitary inspection and control of resorts should be one of the duties of the state board of health. For four years the New York State Department of Health has been carrying on activities among its mountain and shore resorts with good effect. The resorts were mostly found in satisfactory condition, but there were occasional evasions of esthetic and sanitary requirements. Of twenty-six resorts in the Raquette and Saranac water-sheds, inspected in 1908, only seven obtained their water-supply at a distance from the resort grounds and away from any possible source of pollution. Two resorts used lake-water; twelve discharged into lakes. The pollution of lakes and bathing beaches constitutes a serious danger. Of twenty-four resorts on Long Island, reinspected in 1908, ten failed to comply with the orders to abate nuisances. As a rule the proprietors are willing to make corrections, but are ignorant of what constitutes dangerous conditions. The welfare of the guests at some localities is admirably protected as at Upper Saranac, Richfield Springs and Sylvan Beach. There are many resorts, from Bar Harbor to Pinehurst and Los Angeles, which have spent much money in obtaining pure water.

In maintaining state sanitary control there should be classed as health resorts all towns usually advertised or considered as resorts, hotels used by summer or winter visitors or vacationists, pleasure and recreation resorts, parks and camps, the so-called watering places, the so-called medicinal spring resorts, bathing or watering places patronized by excursionists, and localities or institutions advertised as sanitariums or sanatoriums. All of these places can strictly be classed as sanitariums or sanatoriums, for to them people go with the hope of acquiring or maintaining health. The Travellers' Protective Association recently recommended the enactment of state laws placing all hotels under state inspection and fixing a standard of sanitary efficiency and safety as the principal requirement for license. The adoption of such legislation seems desirable.

Mineral spring resorts should be placed under licensure. A committee of competent and accepted authorities should be delegated to determine the status of these resorts and the medicinal value of their treatment and vended waters. License should be granted only after frequent sanitary inspections, and after the advertised analyses of waters and all advertisements and resort literature comply with the true virtues of the waters as expressed in the opinion of the medical authorities. Misbranding in the advertisements of these and other resorts and hotels is a menace to health, since people place dependence in the resorts without consulting physicians. The widely circulated assertions that certain mineral springs will cure long lists of diseases places these resorts on the same footing with nostrums and exerts a damaging influence on those baths which possess great value in the treatment of certain specific diseases. The misbranding of resorts becomes a crime. The enforcement of truthfulness in the literature and advertisements of all places and objects on which people place dependence for health and life becomes a state's duty. If a resort commits the double crime of wilfully or knowingly deceiving people by concealing its dangers, publicity of conditions and public condemnation of that resort would seem to be just.

In cities it is more practical to keep the infected transmitting agents away from the people; but in small resorts or isolated hotels it is more practical to keep the infected people away from the agents which they may infect; as, in cities to keep the infected mosquitoes away from the people; in resorts to keep the infected person screened from the mosquitoes. The controlling influence must be exerted against the infected carrier which is in lesser numbers and more easily isolated, whether it be man or insect, food or dirt, water-supply or sewage.

Too much reliance should not be placed on crude mortality rates when judging the healthfulness of a locality. Only when statistical tables are calculated to consider age groupings and individual susceptibilities can the figures be considered of much value. The general death-rate of a town may be high from a large infant mortality, yet the place be perfectly healthy for visitors. The mortality rates may be low, owing to native insusceptibility, but the danger to visitors great. In a healthy town the rate may be augmented by diseased persons going there for the benefit they may derive. The influence of hospitals within the city or in adjoining cities and the factor of imported or exported cases should be considered, and receive an allowance in the published rate. Some towns, like one large resort, unrightfully glory in a low rate by transporting their patients to hospitals in other cities, or because their transient visitors develop symptoms only after returning to their homes. Large cities are unjustly obliged to bear the burden of including in their rates many cases which have been contracted through the carelessness or ignorance of other localities. Statistical records which are used for comparison should include only those cases which originate within the town. The summer distribution of a town's population throughout the infected areas of the country is the factor, more than any other one, which is accountable for the great rise in the typhoid mortality in the fall. It has been estimated that 22 per cent. of the typhoid cases in the District of Columbia are imported. Ten per cent. of the cases in Philadelphia are imported, the ratio in the fall (1909) being over half. In 1909 of 2,336 cases of typhoid fever 231 were proved to have been imported, twenty-nine of these cases coming from one summer resort. Twenty-eight of the other cases originated in other resorts.

Eliminating the statistical factors of susceptibility and age grouping, some idea of the existing conditions may be gathered from the typhoid rates in the registration area. The general rate for the area for 1907 was 30.3; for 1908, 25.3 per 100,000 population. Colorado, a resort state, was highest with a rate of 47.7 in 1908 (63.7 in 1907). The fact that Pennsylvania's rate of 50.3 in 1907, was reduced to 23.9 in 1909, shows what can be accomplished through the energy and work of a state department of health. Of the registration cities in 1907, the typhoid list was headed by Escanaba, Mich., a lumber town and summer resort, with a record of 220.2 (126.5 in 1908). The notoriously high rate of Pittsburg (130.8 in 1907) was eclipsed by Jacksonville, Fla., with a rate of 155.1, yet the dangers to health of the latter place are rarely mentioned. The excessive rate of Niagara Falls (126.6 in 1907) may fortunately soon be lowered, for in place of furnishing Buffalo's sewage, purified water may soon be supplied from an effective filtration plant. Philadelphia was long called a typhoid-infected center, yet a comparison with cities which people unsuspectingly visit expecting to regain health, will indicate misplaced conviction.

TYPHOID MORTALITY RATES OF RESORT TOWNS

	1907.	1908.		
Escanaba	220.2	126.5	St. Petersburg	80.7
Jacksonville	155.1	104	Havana	39.3
Niagara Falls	126.6	....	Paris	21.7
Key West	109.8	44.4	Montevideo	18.8
Salt Lake City	93.2	47.4	Brussels	17.2
Savannah	77.3	22.5	Rio Janeiro	15.9
Sacramento	76.7	97.8	Vienna	5.1
Denver	67.1	54.8	Berlin	5
San Antonio	66.9	44	Stockholm (1907)	4
Long Branch	69.9	60.6	London (1907)	2
Saratoga Springs	52.9	....		

San Antonio's rate does not indicate the quality of her water, which comes from clean artesian wells far outside the city. The recent epidemic at Montreal disclosed the condition of her water, which is taken from the St. Lawrence below the sewer outfall.

The malarial mortality rate of the registration cities gives prominence to some conditions and may surprise some health seekers. In 1907 Savannah headed the list with a rate of 111.6 (122.3 in 1908), followed by Memphis and Jacksonville (78.8 in 1907, 58.3 in 1908). The 1908 rate of Charleston was 44.3, while that of New Orleans was but 19.5. It is unfair to judge the health activities of a locality by a mere comparison of rates or by the apparent rapidity of their decline. The conditions with which health officers must contend are variable and in some places almost insurmountable.

Physicians should not be reticent about giving unasked advice, but when opportunity offers should assist hotel proprietors to improve conditions. When the proprietors use such means as are at their command to improve and to maintain health-giving conditions there will be stamped on their resorts a recognition of safety, with the inevitable result of public appreciation, increased prestige, more publicity and more business. The confidence of the public is the chief asset of a resort. It is the forte of sanitarians not to antagonize or to bankrupt, but to instruct, to assist the resort-keepers to install and to maintain resorts in their highest efficiency, and to teach that healthfulness and sanitary safety mean increase of popularity and prosperity.

TRICHINIASIS IN ITALIANS

FOLLOWING THE EATING OF RAW HAM OR "PROSCIUTTO"

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The Italians give much thought to the preparation of their food, palatability being of prime importance, while care in the selection—especially of animal food—seems to be secondary.

I have seen two cases of trichiniasis among Italians in private practice within the past year; and have collected ten other cases from the records of the Boston City Hospital, admitted within the past five years, six of these ten cases being directly traceable to the ingestion of raw ham. These latter cases were among Italians, and the infection was traced to the same source; that is, smoked ham, or "prosciutto." There was one death among the twelve cases.

This raw ham, or prosciutto, was, up to two or three years ago, imported in fairly large amounts, but the recent advance in the cost of food products has made the importation almost prohibitive. The imported ham, however, may be obtained in about every second delicatessen store in the Italian quarter of Boston, and costs about fifty cents per pound. The home-cured or domestic prosciutto is also obtainable for about thirty-five cents per pound, and is cured by the local delicatessen dealers.

The ham which is offered for sale is cut in very thin slices and is eaten in the entirely raw state between slices of bread. The curing process evidently does not kill the trichinæ.

In the cases which came to my attention, the imported ham was probably eaten, according to the statements of the persons who bought it; but so little reliance can be placed in the testimony of the patient, either through fear of prosecution of their dealer, or through fear of having personally committed some breach of the law, that it has been impossible to determine whether they were due to the domestic or imported ham.

The disease, trichiniasis, is much more common than is supposed, and every writer in considering it calls attention to the fact that it is too frequently overlooked. It is moreover, almost always one of easy diagnosis.

H. U. Williams[1] of Buffalo states that in a series of 505 unselected autopsies in persons having died from causes other than trichiniasis, the organism was found in 5.3 per cent. McCollom[2] reported eight cases and one death in an epidemic which occurred in Boston in 1892. Grawitz[3] states that one-third of the cases of muscular rheumatism showed trichinæ at autopsy. F. H. Drew[3] in 1892 reported an epidemic of fifty cases and four deaths. The nature of this epidemic was not recognized until three deaths had occurred, and although witnessed by three physicians, it was not until the fourth week that the disease was even suspected.

In five cases which I have seen, the symptoms in each were practically identical. The first signs of disturbance were puffiness, and a very slight redness of both upper and lower eyelids, and, in most cases, there was in addition, a slight puffiness of the face surrounding the region of the eyes. Pain quickly appeared in the muscular structures, varying in proportion to the amount of motion made with the muscles. Those most complained of were the masseters, the muscles of the back of the neck, those of deglutition, the diaphragm, and the muscles of the extremities, especially of the calf of the leg and the biceps of the arm.

The digestive disturbance was slight, amounting to some nausea, a sense of distress in the stomach region, sometimes amounting to actual pain, the latter possibly due to involvement of the diaphragm, which is a favorite site for the lodgment of the organism. There was considerable diarrhea in almost every instance. Distinct chills, or chilly sensations, often accompanied the period of muscular invasion. The temperature was moderately elevated, reaching 104 degrees in one case. The pulse followed the temperature and varied from 90 to 100.

One of the greatest aids in the diagnosis is the increase in the number of eosinophils in the blood. This seems to be invariably present in the acute stages. Their numbers vary both during the course of the disease, and with the severity of the infection. At the onset they are usually few in number; in one of the above cases they numbered only 4 per cent. at the beginning, before the muscular pain became severe. As the disease progressed, they continued to increase and numbered 55 per cent. on the fifteenth day. One very mild case showed not more than 10 per cent. at any time.

These eosinophils differ from the normal in the following respects: The granules are fewer in number, less distinct, and do not have as punched-out and clean-cut edges. The acid stain is not taken as brilliantly. It is possible that these morphologic differences are due to the fact that they are young cells.

The course of the disease in the above-mentioned cases was perfectly typical, and lasted from three to six weeks.

It should be borne in mind that although the disease is more commonly found in the hog, trichiniasis in man has arisen from the ingestion of trichinous beef,[4] geese, rabbits, and dogs. In a commission[5] appointed by the German government for the study of trichiniasis, the workers reported that trichinæ were digested by the larvæ of flies, and one or two young rabbits were infected by feeding them the trichinous larvæ.

There is no known drug which will kill the parasite either within the intestines or after it has reached the muscles. The treatment now recommended is an initial purge, preferably of castor oil or calomel, followed by Epsom salts in doses of one-half or full teaspoon doses daily. Thymol in 5 grain doses three times daily is given as an intestinal antiseptic. If the muscular pain be severe, opiates may be used.

CASE REPORTS

Case 1.—Tony P., aged 24, Italian, was seen August 28, 1909.

Family and past history were negative.

Present Illness.—The patient ate prosciutto at a friend's house Aug. 21, 1909. Six days later his eyelids began to swell and, on account of his appearance, he was accused by his family of having been drunk the previous night. On account of the pain in his muscles he consulted me the following day.

Examination and Course.—Physical examination showed both upper and lower eyelids distinctly swollen and slightly reddened; the whole face was slightly fuller than normal. He complained of pain in both masseter muscles, in those of the back of the neck, on swallowing, in the region of the diaphragm, in the arms, and especially in the calves of the legs. There was considerable prostration and a sense of muscular weakness which became marked during the following two or three days. The temperature was 98.6 F.; respiration 20; and the pulse

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[1] Osler, W.: Practice of Medicine, 1901, p. 356.

[2] McCollom, J. H.: Boston Med. and Surg. Jour., cxxvii, 59.

[3] Drew, F. H.: Boston Med. and Surg. Jour., cxxvii, 61.

[4] Glazier, W. C. W.: Report on Trichinosis, Marine Hospital Service, 1881.

[5] Bericht des zur Erforschung der Trichinen-Krankheit von der k.k. Gesellschaft der Aerzte Ernannten Comités, Wien, 1867.

80. The urine was negative. An examination of the blood showed hemoglobin 100 per cent.; white cells 12.000; red cells 6.500.000; and an eosinophilia of 6 per cent.

September 1, 1909. The patient complained of general muscular pain and muscular weakness. Temperature 103.5 F.; pulse 100; respiration 24; physical examination as before, save that in the bases of both lungs there were a few coarse râles.

Without my knowledge or consent the patient was seen by another physician the day before who had made the diagnosis of laryngitis and muscular rheumatism, and had painted his throat with some form of iodin, and had prescribed salicylates.

An examination of the blood showed hemoglobin 100 per cent.; red cells 6,496.000; white cells 22,000; eosinophils 29 per cent.

Under cocain a small piece of muscle was taken from the gastrocnemius, which showed, under the microscope, many trichinæ in active movement. The temperature and pulse remained elevated for about ten days; then, gradually falling, became normal on the sixteenth day. The symptoms subsided with the temperature. Further recovery was uneventful. Although careful and prolonged search for worms was made in the stools at different periods in the disease, none was found.

A friend of this patient, who had also eaten of the ham, was soon taken with symptoms similar to the above, and was confined to his bed for eight weeks. According to the statement of my patient, the nature of the sickness of this friend was not well understood.

Case 2.—M. D. V., aged 23, Italian, was seen Dec. 6, 1909. Family and past history negative.

Present Illness.—The patient has been in the habit of eating raw ham. Six days ago he noticed a swelling of the eyelids and face, and complained of pain and swelling in the arms and legs, and an occasional chilly sensation.

Examination and Course.—Physical examination showed face and eyelids puffy, with tenderness especially of the muscles of the calves of the legs, thighs, and forearms. There was slight general edema. The white cells were 16,000; eosinophils 17.3 per cent.

December 10, 1909.—Condition of patient had remained about the same; temperature was still elevated; complained of much pain in moving the extremities. The white cells were 9.500; eosinophils 13 per cent.

December 16, 1909, the patient complained of great loss of strength. An urticaria had appeared on the trunk and extremities, accompanied by severe itching.

December 17, 1909. White cells 19,000; eosinophils 39 per cent; slight improvement in general condition.

December 23, 1909. White cells 12,400; eosinophils 33 per cent. The patient was well enough to be up and about.

January 3, 1910. White cells 11,000; eosinophils 23 per cent. The patient desired to go home, and although advised to remain at the hospital, he refused, and was discharged Jan. 5, 1910.

In the prevention of trichiniasis, little can be done under local boards of health, or by inspection under federal control, on account of the great cost and other difficulties, legal, financial and practical. The federal law now states that "meat food products imported into the United States shall be accompanied by a certificate of official inspection of a character to satisfy the Secretary of Agriculture that they are not dangerous to the health. The certificate shall set forth the official position of the inspector, and the character of the inspection, etc. . . . The official inspector who signs the certificate shall have his authority viséed before the United States consul" [at the point of exportation].

That the present laws in regard to inspection are of little value is shown by the foregoing cases.

CONCLUSIONS

1. Trichiniasis is more common than is generally supposed, being erroneously diagnosed as typhoid, muscular rheumatism, influenza, laryngitis, neuritis, nephritis, and many other diseases.

2. The diagnosis is not difficult, if in every case of generalized muscular pain a differential count of the leukocytes is made, and, if possible, a bit of muscle excised for examination.

3. More rigid examination should be made at the ports of entry, of foreign meat products, especially those of pork.

4. The eating of all raw animal foods—sausages, ham, smoked beef, and the like—should be condemned. Much can be accomplished by the physician who comes in contact with the Italians, in pointing out the dangers of eating underdone or raw pork foods.

405 Marlborough Street.

TREATMENT OF THE PARALYSIS FOLLOWING ACUTE POLIOMYELITIS

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The anatomic relation between the motor nerve-cells of the anterior horn and the muscles of the body is very complex. In this connection Lovett and Lucas[1] have pointed out that the motor cells are arranged in spindle-shaped bundles or groups, extending frequently through several segments of the spinal cord. Whether each motor nerve-cell group represents an anatomic set of muscles, or a functional grouping, has not been determined, but it is known that one group, or center, will sometimes send impulses to two or more muscles; and, on the other hand, one muscle may receive motor impulses from more than one nerve-cell group. The bearing of these facts on the lesions produced in the cord by poliomyelitis and on the treatment of the paralysis following acute poliomyelitis is most important.

Recent investigation has shown that the virus of acute poliomyelitis causes a profuse inflammation within the spinal cord, the most pronounced result of which is an injury or destruction of the motor cells of the anterior horn. This injury or destruction of the nerve-cells causes an interference with the motor function of the cord, and manifests itself in the paralysis of individual muscles or groups of muscles.

Within certain areas of the spinal cord the anterior horn cells which control individual muscles or groups of muscles may be totally destroyed, and the result would be a total paralysis of the individual muscles or groups of muscles so controlled. In other areas of the cord only certain of the motor cells controlling muscles may be destroyed, and in this case the result would be a partial paralysis of the muscles. In still other areas there may be no actual destruction of motor cells or other structures in the cord, but the presence of inflammation and inflammatory products may cause a temporary interference with the function of the cord, which would show itself as a temporary paralysis in the muscles controlled by such areas.

The pathologic changes induced by the profuse myelitis within the cord, and their effects when projected on the muscular system of the body, may be figured schematically as is shown in the drawing.

There are various methods in use in the treatment of the paralysis following acute poliomyelitis. The most important of these are the electrical treatment, the brace treatment, operative treatment, and treatment by massage and muscle-training.

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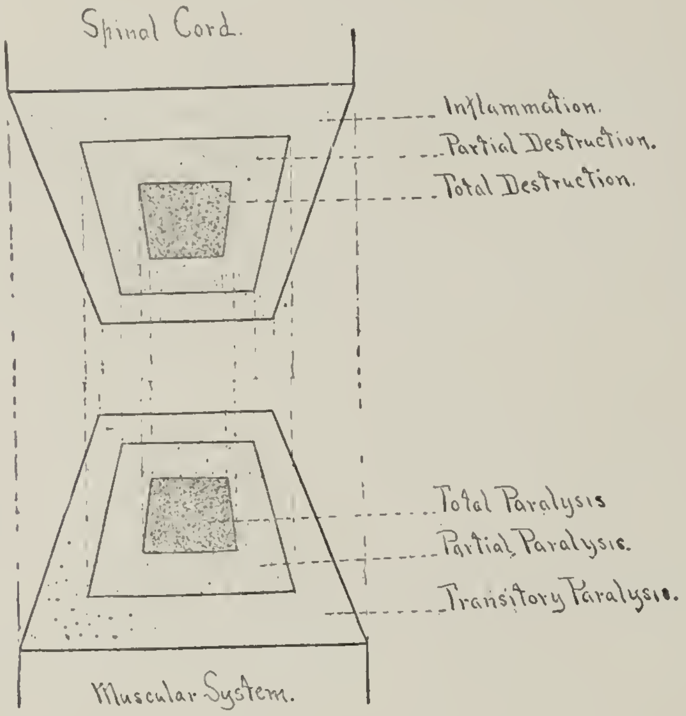
[1] Lovett, R. W., and Lucas, W. P.: Infantile Paralysis; a Study of 635 Cases from the Children's Hospital, Boston, with Especial Reference to Treatment, The Journal A. M. A., Nov. 14, 1908, p. 1677

The electrical treatment is probably in more general use than any other form of treatment and the best authorities seem to believe that the galvanic current is of much more value than the faradic. The chief value of the electrical treatment lies in the preservation of the nutrition in the paralyzed muscles until such time as voluntary control returns. It is best employed, therefore, only in the earlier stages of the paralysis while improvement is taking place. After the paralysis becomes stationary, electrical treatment is of little, if any, use. The great mistake, frequently made in electrical treatment, is to expect too much from it. Too often it is the sole method of treatment resorted to, and many cases can be found in which the treatment has been left in the hands of parents or friends of the patient, who simply rub the poles of a cheap faradic battery over the paralyzed limbs a few minutes each day.



Schematic representation showing in the upper portion the different degrees of pathologic change in the spinal cord in poliomyelitis, and in the lower portion the corresponding impairment of muscle function.

Whitman says of brace treatment, "The object of a brace is to prevent the deformity due to weakness and to utilize the muscular power that remains, so that the disabled member may carry out its function." Another important object of a brace is to obviate the overstretching of muscles with consequent weakening and paralysis.

The use of a brace is not without its objections, however. Mild degrees of paralysis may do better without a brace, since its pressure may cause atrophy and thus defeat the ends for which it was designed; also, severe grades of paralysis do better without a brace, since its weight and pressure tend to retard improvement. On the other hand, brace treatment is absolutely necessary at times. A boy who had paralysis of both legs recovered partially, but was neglected and allowed to walk before his strength had sufficiently returned. He is now able to make practically all movements with his legs and feet; he can flex and extend the thighs and can also flex and extend the legs and feet; he can walk but suffers from a marked degree of genu recurvatum. Nothing would do this patient so much good as a pair of light braces fastened to the shoes, extending to the thigh, and provided with a lock-joint at the knee, preventing hyperextension.

Braces should always be strong, but as light and simple as possible. Thus, in cases of foot-drop, sometimes all that is necessary is a stiff-ankled shoe, or at most a brace going up one side of the leg as far as the knee. In paralysis of the leg, the brace should not be extended to go around the waist unless absolutely necessary. Motion should always be allowed at joints, if possible.

The operative treatment of the paralysis following acute poliomyelitis consists in the correction of deformities, arthrodesis, tendon-grafting, anastomosis or transfer and nerve anastomosis.

The correction of deformity, when present, is always advisable and sometimes absolutely necessary. Thus, a patient with poliomyelitis affecting the legs, and who has been neglected until contracture has taken place at the knees, must, first of all, have the contracture relieved as a preliminary to standing on his feet and walking.

The operations of tendon-grafting, anastomosis or transfer, are frequently beneficial, and sometimes offer the best method of improving the condition of the patient.

Ankylosing operations are sometimes of use, especially at the ankle.

As regards nerve anastomosis, the operation has not developed the brilliant results that its first use seemed to promise.

The consideration of massage and muscle-training has been left until the last because it has proved to be the most important method of treatment. Massage and muscle-training are two distinct procedures in treatment, but they go well together, the muscle-training supplementing the massage. In the earlier stages of the paralysis following poliomyelitis the only other therapeutic agent which can compare with massage is electricity, and massage possesses practically all the advantages of electrical treatment and none of its disadvantages. Massage seems to have an equal value with electricity in preserving the nutrition of muscles and in stimulating them to growth, and it is much more agreeable to the patient. This latter fact is especially true with young children who are very apt to be frightened by electrical treatment.

In giving massage to poliomyelitic patients, it should always be borne in mind that the affected muscles are weak and sensitive. Strong massage would have a tendency to weaken the muscles still more and to hasten their atrophy; the massage should therefore be very light in quality. In the treatment of the late stages of paralysis, massage is of great value as a preliminary to muscle-training.

Before discussing muscle-training it will be of advantage to recall to mind the pathologic changes in the cord in poliomyelitis. It will be remembered that there may be, first, areas of total destruction; second, areas of partial destruction; and, third, areas affected only by transitory inflammation. In relation to these pathologic changes, the paralysis resulting from total destruction is absolute, and it is obvious that no form of treatment can influence it in any way. On the other hand, the paralysis resulting from transitory inflammation is not permanent and will clear up as the primary inflammation clears up, under almost any or no form of treatment.

It is in the paralysis which results from areas of partial destruction within the cord, where the motor cells controlling individual muscles or groups of muscles are merely injured, or only in part destroyed, that the benefits of proper treatment are best observed, and without doubt, muscle-training is the most valuable therapeutic procedure in these cases.

The aim of muscle-training is twofold. In the first place, through voluntary impulses from the brain the effort is made to improve the function of the injured motor cells, and in cases in which there has been a partial destruction of the cells supplying individual muscles, or groups of muscles, the effort is made to train the remaining cells to do the work of the many destroyed. In the second place, the aim of muscle-training is to build up and strengthen the muscles through voluntary contraction. It is a well-known fact that voluntary contractions are much more efficacious in building up and strengthening a muscle than are contractions caused by electricity or any other means.

Muscle-training should not be started so early as massage. It should not be started until all acute symptoms have subsided and the muscles have lost their irritability. In many cases it may be well to wait as long as a month or six weeks before beginning the muscle-training. Otherwise, the earlier muscle-training can be started, the better it will be for the ultimate outcome of the case.

The treatment of muscle-training is best given on an ordinary massage table or any other firm support. The patient should be freed from distracting influences and encouraged to devote all his energies to the work. All clothing should be removed from the limbs so as not to hamper their movements. Too much should not be attempted at first. The instructor should start with the movements that the patient can make and gradually try to instruct the patient in new movements. It is not a difficult matter to bring the muscles whose nervous mechanism has been but little damaged into activity again, but with other muscles this may be very difficult. There are cases in which the muscle-sense seems to be lost; the nervous mechanism is present, and the power of muscular contraction is present, but there seems to be a lack of coordination between the two. In such cases the patient, while undergoing passive movement produced by the instructor, tries to make the movement himself. In this way, the association-paths in the central nervous system are educated and developed. As soon as a movement has become established, resisted exercises are of the greatest value in developing strength.

Twenty minutes to half an hour a day, or, in some cases, every other day, is time enough to devote to a case. Great care should be taken not to overtire the weakened muscles; the instructor should not be in such haste to get results as to strain the muscles or joints, but he should aim to get some improvement each day. Progress will of course be slow at times and successful treatment requires care and perseverance on the part of both instructor and patient.

In young children, the exercises of muscle-training should be given in the form of play.[2] In older children, the stimulus of competition with other children in a class is advantageous. An appeal to pride and ambition is of value in older patients. Each case is a study in itself.

There is always a temptation to get patients into braces and walking too early. The use of heavy braces is apt to mean the end of improvement. Before the patient is allowed to walk, creeping exercises are of great value; following these, or along with them, the patient is allowed to kneel, and, last of all, to assume the complete upright positon. In the end, braces of some sort will usually be needed.

In cases in which muscle-training has not been started early, in addition to the regular training of the nervous mechanism and the developing of the muscles, contractions may have to be overcome; muscles that have become paralyzed by over-stretching brought into activity again, and muscles weakened and atrophied by disuse strengthened.

Muscle-training is useful in all cases of paralysis following poliomyelitis, and at any stage of the paralysis after the acute symptoms have subsided. In the cases in which brace treatment or operative treatment is necessary the brace or operative treatment should always be supplemented by muscle-training. Muscle-training should be given with a view to ultimately giving up the brace.

2 Chestnut Street.

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[2] Illustrations of this have been given in a previous article; Albany Med. Ann., April, 1910.

TWO CASES OF CESAREAN SECTION WITH UNUSUAL COMPLICATIONS *

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CASE 1.—*History.*—The patient, Mrs. G. B. K., white, was 29 years old. Her mother had had ten children and died in childbirth. Three of these children died, no cause known. Until the patient was 3 or 4 years of age she walked normally. For some reason she then lost the use of her lower limbs and has since used crutches. This condition was attributed to a fall and injury to knee-cap. Other than this she gives no history of disease. She was married in June, 1909. Last menstruation was Dec. 1, 1909.

Examination.—June 13, 1910: Patient is a dwarfed woman, presenting the flaccid useless legs of a child who had gone through an attack of infantile paralysis and regained but slight motion. The abdomen was enlarged to about the size of six months' gestation. The pelvic measurements were as follows: Between the spines, 21 cm.; between the crests, 23 cm.; between the trochanters, 26 cm.; left oblique, 19 cm.; right oblique, 19.5 cm.; external conjugate, 15.5 cm.; and internal conjugate, 7 cm. The type was that of an infantile or undeveloped pelvis, outlet being unusually small.

Progress of Case.—Section at term with removal of the uterus, was advised and accepted. The patient's own physician examined the urine until Aug. 1, 1910, and reported it normal I saw one specimen in the first week of August and found it free from any pathologic elements. On Aug. 9, 1910, scarcely one week later the patient sent for me to relieve sleeplessness and general edema. The edema of face, hands and feet was very marked. The urine secured a few days later was solid albumin on boiling and contained all kinds of casts. The patient was rushed to the hospital and eliminative treatment started vigorously. The total quantity of urine had been diminished before entering hospital. In spite of treatment it rapidly grew less: August 10, 32 ounces; August 11, 13 ounces. She would be at term Sept. 7, 1910, and it was felt that any delay was especially dangerous and from the nature of the operation before us we wished to avoid eclampsia.

Operation.—Aug. 11, 1910. Cesarean section was done; the baby was a living male child, weighing 4 pounds 6 ounces The uterus was then removed by the plan suggested by Dr. E. P. Davis, which is as follows: A silk ligature is placed on each of the ovarian vessels, then heavy hysterectomy clamps are clamped across the lower uterine segment, the uterus being cut off above. The peritoneum is sewed together and then to the sides of this stump which is left free outside the peritoneal cavity to be dressed. The patient is placed on the operating table before ether is started and ether stopped early. In the present instance the entire operation was finished in twenty-five minutes.

Postoperative History.—After operation the urine remained scant. August 12, 4 ounces; August 13, 11 ounces. On August

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* Read before Philadelphia Obstetrical Society, Jan. 5, 1911

13, convulsions supervened, and while not frequent they were severe; the patient had six in all, in two days' time. On August 16, the urine secreted amounted to 56 ounces and from that time the woman improved rapidly. The clamps held firmly; the right broad ligament showed some slight trauma from slipping of the clamp in convulsions. The wound healed by sloughing and granulations; the clamps were removed at end of five days. Before this the temperature remained below 99 F., following there was a slight elevation—100 to 100.4 F. from absorption from stump.

The patient left the maternity hospital at the end of a month, having made a good recovery. Both mother and baby are doing well.

Case 2.—*History.*—The patient, Mrs. R., white, twice married, was 41 years old. Her mother died of cancer of the uterus. The patient had had the usual diseases of childhood. She gives a vague history of an abscess in the pelvis which evacuated through the bowel, during first marriage. She was married ten years to first husband, no pregnancies. To her present husband she had been married about two years, and was pregnant four months. She came under my care for an acute attack of pain in the lower left abdomen: temperature was 100-101 F. The pain was unrelieved by the usual measures and a provisional diagnosis was made of pelvic abscess complicating pregnancy with possible rupture and beginning peritonitis.

Operation.—I opened the abdomen and found that the mass which had been discovered in the pelvis, was a soft fibroid, incarcerated in the pelvis, somewhat twisted and congested: it was intramural in origin with a broad base and was larger than the four-months' pregnant uterus from whose left side in the folds and above the broad ligament it arose. There was no evidence of necrosis of the fibroid. After freeing the tumor from the pelvis and finding that myomectomy was an impossibility I refused to do a hysterectomy and closed the abdomen.

Postoperative History.—The pain and temperature subsided immediately; the woman made a rapid recovery and left the hospital at end of ten days practically well except for a slight ether nephritis. She was allowed to go to term, though suffering some unusual discomfort and at times pain in the left side.

Cesarean Section.—On the advice of her physician and because her mother had died of cancer of the uterus, she requested that both baby and fibroid be removed at one sitting. She was taken to Jefferson Hospital (Maternity) and on Aug. 16, 1910, an abdominal hysterectomy was performed, and a well-formed male child delivered. The operation proved somewhat difficult because of the fibroid in the left broad ligament extending down to the vessels of the left side; apparently there was an old adhesion or cicatrix from a previous left-sided pus tube also.

Postoperative History.—The patient was somewhat shocked but reacted well and presented a normal postoperative chart for one week. Then the temperature rose to 101 F. with severe pain in the left side. This pain was relieved only by evacuating through the vault of the vagina a clot of blood in and posterior to the broad ligament where the fibroid and adhesion had existed.

The patient nursed her baby and made a good recovery. The child was small but not deformed—5 pounds 4 ounces.

This patient reported to me December 3. She is gaining in weight, nursing the baby and has no difficulty in the pelvis, but there are some symptoms of the menopause.

These two cases illustrate well the success attained in some complicated cases by the use of abdominal delivery.

There is no form of delivery so rapid as that represented by the first operation, and given a woman in whom future pregnancies are neither desired nor advised we can often save patients in cases which would otherwise be practically hopeless.

In the second case, the fact is illustrated that large single fibroids or even multiple fibroids are no bar to the development of a viable child.

400 Chestnut Street

Therapeutics

PRURITUS: ITCHING

To the clinician, pruritus, or itching, represents one of the most puzzling problems in medicine. There are few subjects in regard to which there are so few things definitely known as this one. The clinical manifestations are connected with the terminations of the sensory nerves in the epidermis. Concerning this point there is practical uniformity of sentiment among all observers. As to what affects these nerve endings, so as to give rise to itching, there is a great diversity of opinion. Many believe that it is associated with hyperemia and inflammation of the skin, this condition sometimes resulting in atrophy of the skin, with a continuance of the itching. There are many reasons for believing that these pathologic conditions are not the efficient cause of the itching in many cases.

For example, a common form of itching is pruritus ani, observed in children, caused by the presence of the *Oxyuris vermicularis*, or pin-worm. When these worms are present there may be at times intense itching without any local lesion, or any local disturbance of the nutrition of the skin, evident on ocular inspection. Presence of the worms on the skin in this region gives rise to the itching, but this must be due to something more than the simple presence of small foreign bodies, for no one has demonstrated that this unpleasant symptom may be caused by the presence in the same situation of small pieces of fine thread, or other similar bodies which do not possess active life at the time.

Another common cause of itching, especially in children, is the presence of pediculi, or lice. It seems to be at least open to question whether the itching produced by these parasites is due alone to their presence on the skin in a quiescent state, or even to their active movements on the skin.

Still another instance of intense itching associated with a parasite is that observed in scabies. The startling rapidity with which the symptom of itching subsides under the sulphur treatment of this condition would indicate that the itching is due to something besides the presence of the foreign body, for presumably the application of the sulphur destroys the itch mite, leaving its body in the skin, but as soon as its life is destroyed the itching ceases.

One of the most common forms of itching is that due to the bite of the mosquito. This is certainly out of all proportion to the local congestion and inflammation, and undoubtedly is due to the action of some poison injected by the animal beneath the skin.

Turning now from these obvious external causes of itching and considering the itching caused by jaundice, it will be generally accepted that the itching associated with the common form of jaundice dependent on obstruction to the flow of the bile into the intestine, is due to the irritation of the ends of the sensory nerves by some substance contained in the bile which is absorbed into the blood, or at least by the presence of some product resulting from decomposition of the ordinary constituents of the bile.

Urticaria is another form of skin disturbance associated with intense itching and is frequently due to the ingestion of some unusual article of food. It would seem probable that here the itching is due to some poison carried to the nerve endings in the blood, as is the case in jaundice.

It will be noted that many diseases accompanied by congestion and inflammation of the skin cause itching, but it is a curious fact that the disease, which is constantly accompanied by cutaneous lesions, has as a striking characteristic that its skin lesions are usually unaccompanied by itching. This disease, of course, is syphilis, which we might expect for a double reason would be generally accompanied by itching, but it might be supposed that the poison which unquestionably circulates in the blood and causes the lesions of the skin would give rise to itching, and it would also be supposed that the congestion and inflammatory conditions produced by it would be accompanied by itching, but such is not the fact.

With certain general diseases pruritus is a common symptom, especially diabetes and that common condition associated with abnormal metabolism, known as lithemia, and which is believed by many to be associated with gout. These diseases are all characterized by the presence in the blood of chemical bodies, which ordinarily do not belong there.

It is hardly worth while here to undertake an enumeration of the causes which are commonly assigned for pruritus. They will become apparent incidentally in connection with what will be said in regard to the general treatment of the condition. It has been already stated that the condition is associated with the terminations of the sensory nerves in the epidermis. It is commonly taught by writers that pruritus may be of central origin. It is asserted to be of not infrequent occurrence in hypochondriasis and hysteria. Still another form is described as being of psychic origin, and is seen in insane persons who have hallucinations of the presence of parasites, such as pediculi, on the skin; hallucinations which it is often difficult to remove, and which are sometimes removed only after repeated applications of antipruritic remedies.

In undertaking the treatment of a case of pruritus it is necessary to investigate every organ of the body so as to restore to its normal action, if possible, any organ which may be acting abnormally or which may be under abnormal conditions. First, the condition of the digestive organs must be carefully investigated, and the diet must be carefully regulated. There are two types of people in whom pruritus is seen: one is the stout, robust, plethoric person who is continually over-eating, and the other is the thin, hungry person who is continually starving himself. In the case of the former the diet should be cut down. The protein substances should be greatly reduced, and the starches and sugars should be considerably limited. If it is found that certain articles of food are not completely digested but give rise to fermentation, such articles should be reduced to an amount that can be taken care of by the digestive organs. In the latter class, the thin patients, fatty articles of food should be advised, and an adequate amount of protein should be given to afford adequate nourishment. In both classes, fruits, especially oranges and grapes, will be found exceedingly useful.

If the bowels are constipated, measures should be taken to make them act regularly and abundantly. Small doses of calomel, for a week or two, are sometimes useful for this purpose. For instance, the following prescription may be used:

℞	Gm.		
Hydrargyri chloridi mitis..........	20		gr.iii
Magnesiæ	5	or	gr.lxxv
Sodii bicarbonatis.................	10		ʒiiss

M. et fac chartulas 20.
Sig: A powder three times a day, after meals.

℞	Gm.		
Hydrargyri chloridi mitis.........	10	or	gr.iss
Sacchari	4		ʒi

M. et fac chartulas 20.
Sig.: Take one after each meal.

If this amount of calomel is not sufficient to cause free movements of the bowels, a saline may be given in addition to or in place of it. For instance, 1 or 2 drams of the sulphate of magnesium or of the phosphate of sodium may be given in half a glassful of water in the morning, before breakfast.

Pruritus is frequently associated with deficient elimination, and especially of the kidneys. If the condition of the urine is found to indicate such defective elimination, the internal use of alkalies will generally be found of advantage. In the case of the plethoric individual, with a strongly acid urine of high specific gravity, the following prescription may be used:

℞	Gm. or c.c.		
Potassii citratis	40		ʒix
Aquæ menthæ piperitæ.............	200	or	fl.℥vi

M. et Sig.: Two teaspoonfuls, in water, three times a day, after meals.

There is no special particular reason for the "A B C" mixture which is used to alkalize the urine either in gonorrhea or any other condition. The acetate, bicarbonate, and citrate of potassium act similarly. It is only a question of taste and the amount used. The citrate of potassium is the most pleasant; the bicarbonate the most disagreeable. The acetate may alkalize the urine in a little smaller dose than does the citrate. The above prescription presents an alkali in a pleasant form and perfectly bland to the stomach. It should be taken with plenty of water. If the above dose, three times a day, does not alkalize the urine (if that is the object desired), it may be administered four times a day.

Although it is admitted that pruritus is associated with the sensory nerves, and it is claimed that in some instances it is due to a disturbance of the central nervous system, no drug acting on the brain, spinal cord or nerve trunks is very effective in pruritus, possibly with a single exception of bromids, which really act by dulling the peripheral endings of the nerves. The treatment of pruritus with bromids is generally inadvisable, as they act by causing nerve debility and later muscle debility and loss of nutrition. Temporarily such treatment is often good treatment.

Generally, in order to stop the itching, it is necessary to apply some drug to the skin which will lessen the sensibility of the ends of the nerves which are in trouble. Several drugs are used for this purpose. The most useful are phenol (carbolic acid), menthol, camphor, chloral, thymol, oil of cade, alcohol and alkalies. The following are a few prescriptions which are suggestive. Various modifications of any one of them may act as satisfactorily.

℞	c.c.		
Phenolis	5		
Liquoris potassæ	5	or	āā fl.ʒiss
Petrolati liquidi.............. ad	50		ad fl.℥ii

M. et Sig.: Use externally as directed.
Shake.

Or,

℞.	c.c.		
Phenolis	3		fl.ʒi
Glycerini	10	or	fl.ʒiii
Liquor calcis	25		fl.℥i
Aquæ .... ad	100		ad fl.℥iv

M. et Sig.: Sponge over irritated surfaces.
Shake.

Or,

℞	c.c.		
Phenolis	25		fl.ʒvi
Liquoris calcis	125	or	fl.℥iv
Olei amygdalæ dulcis	ad 250		ad fl.℥viii

M. et Sig.: Use externally as directed.

Or,

℞	Gm. or c.c.		
Mentholis			gr.vii
Sodii bicarbonatis	15	or	℥ss
Glycerini	25		fl.ʒvi
Aquæ	ad 250		ad fl.℥viii

M. et Sig.: Use externally as directed.

Or,

℞	Gm. or c.c.		
Mentholis	50		gr.x
Camphoræ	1	or	gr.xviii
Olei amygdalæ dulcis	2		♏xxxv
Adipis lanæ hydrosi	25		℥i

M. et Sig.: Use externally.

Or,

℞	Gm. or c.c.		
Mentholis	30		gr.v
Phenylis salicylatis	2	or	ʒss
Olei amygdalæ dulcis	2		fl.ʒss
Adipis lanæ hydrosi	20		ʒv

M. et Sig.: Use externally.

Or,

℞	Gm.		
Camphoræ	15	or	āā ℥ss
Chlorali hydrati	15		

M. et Sig.: Paint over affected part.

Or,

℞	Gm. or c.c.		
Mentholis	1		gr.xv
Thymolis	2	or	gr.xxv
Aquæ	100		fl.℥iii

M. et Sig.: Use externally.

Or,

℞	Gm. or c.c.		
Camphoræ	5		gr.lxxv
Zinci oxidi	15	or	℥ss
Cretæ preparatæ	30		℥i

M. et fac chartulam 1.
Sig.: Use as a dusting powder.

Or,

℞	Gm.		
Camphoræ	5		gr.lxxv
Zinci oxidi	15	or	℥ss
Amyli	30		℥i

M. et fac chartulam 1.
Sig.: Use as a dusting powder.

Or,

℞	Gm. or c.c.		
Olei cadini	5		fl.ʒiss
Petrolati	50	or	℥ii

M. et Sig.: Use externally.

Or,

℞	Gm. or c.c.		
Olei cadini	5		fl.ʒiss
Adipis	25	or	
Adipis lanæ hydrosi	25		āā ℥i

M. et Sig.: Use externally.

Various other forms of tar may be used if desired.

℞	Gm. or c.c.		
Tincturæ iodi	5		āā fl.ʒiss
Tincturæ opii	5	or	
Glycerini	ad 25		ad fl.℥i

M. et Sig.: Paint on externally.

The above prescription may be used when only a small part itches, as a chilblain, or something of that description.

Various alcohol and menthol sprays and washes, or simple saline sprays are often satisfactory. The following is a menthol spray:

℞	Gm. or c.c.		
Mentholis	1		gr.xv
Alcoholis	100	or	fl.℥iii
Aquæ	ad 200		fl.℥vi

M. et Sig.: Use externally with an atomizer.

The question of the use of alcohol and tobacco is usually raised in connection with the treatment of pruritus, and it is generally advised that both should be forbidden. Certainly, the vast proportion of people who use tobacco and alcohol are not affected with pruritus. This of course does not indicate that they may not be detrimental to sufferers from pruritus, and possibly in some instances their use aggravates the condition. In such cases their discontinuance should certainly be advised; but in most cases their use or disuse will probably prove to be a matter of indifference.

PRURITUS ANI

While it is universally insisted that the term "pruritus" should be strictly limited to such itching affections of the skin as are not accompanied by any recognizable lesion, the term "pruritus ani," on the other hand, is used much more broadly, so that under it are commonly included such affections about the anus as are accompanied by itching but do not show any manifest lesion, and also those conditions in which there are decided pathologic changes in the skin and in which intense itching is the most important symptom. Pruritus ani commands the attention and interest of the general practitioner, the proctologist, the dermatologist, and, at times, the neurologist.

It is a very simple matter to declare that every case of pruritus ani is dependent on some distinct cause, and that in order to treat the disease successfully, this cause must be accurately determined; but to find out and determine, in each individual case, just what the cause is, and whether or not there are several etiologic factors, is another matter, and often extremely difficult.

The physician does not do his full duty to his patient, if he prescribes for itching about the anus without making a careful examination of that region and interrogating the patient in regard to his habits and the manner in which the functions of the different organs are performed. It is, ordinarily, a simple matter to determine whether the itching is due to the presence of the *Oxyuris vermicularis* (pin-worm) or to the presence of pediculi. The occasional occurrence of these parasites in this region and their causative relation to the production of itching should not be overlooked. On local examination, it is frequently possible to detect the presence of a fissure of the anus, or an ulcer in that situation, or within the sphincter ani muscle. In other cases there may be found a fistula, hemorrhoids, or polypi; and further exploration of the rectum may show a catarrhal condition of the mucous membrane, or a disease of the crypts.

At the beginning of the condition it may be impossible to find any lesion, but, as the case progresses unrelieved, the energetic scratching in order to relieve the itching usually produces a thickening of the skin. Inflammation of the skin occurs, causing an increase of the connective tissue which presses on the nerve endings. This may be followed by an atrophic condition of the superficial layer of the skin. The thickened integument may have a whitish, sodden appearance, and may lie in folds, on or between which there may be fissures caused by the scratching.

Many cases are accompanied by a condition of moisture of the skin about the anus. Some believe that this moisture is the cause of the itching, but it is more probable that in most cases it is an accompaniment of the condition that gives rise to the itching, or may accompany that lesion of the skin which is produced or aggravated by scratching. This moisture is probably due to a hypersecretion of the sebaceous glands, but it is possible that a part of it comes also from the sweat glands.

In some cases it will be found that a disturbance remote from the local manifestation gives rise to the itching. Congestion of the mucous membrane of the intestine accompanied by a catarrhal condition; congestion of the liver may be accompanied by a congestion about the anus which gives rise to intolerable itching. Pressure on the veins, as from the enlarged uterus during pregnancy, or from pelvic or abdominal tumors, may produce similar effects.

Some general diseases are occasionally accompanied by pruritus ani. The most important of these is diabetes, but the condition may be present in chronic nephritis, in gout, and in rheumatism. It is also a not infrequent accompaniment of the degenerative changes which accompany old age. Some cases show a decided neurotic element. Sometimes business or professional men who are actively engaged in following their vocation and who are subject to unusual nervous and mental strain are the subjects of this disorder. These various conditions, which do not cover all the causes which have been enumerated as etiologic factors of this itching, indicate that there is a wide scope for the use of judgment in selecting a line of treatment appropriate for each individual case. When this condition is an incident of senility, or of such general diseases as diabetes or nephritis, the treatment is generally palliative, by means of local applications. Of course, any improvement in the diabetes, or in the nephritis, will cause improvement in the local trouble.

The dietetic management of the case and the employment of such remedies as promote excretion of the products of metabolism are clearly indicated. In a large number of patients it will be found that a rearrangement of the diet is of great importance. Many of these patients eat too much, and their diet should be restricted so that they eat less and limit the amount of food to the needs of the system. In some patients who present symptoms which are commonly called lithemic, a limitation of the amount of protein ingested, and more especially a reduction of the meat to once a day, is advisable. In other patients, it will be found that there is a tendency to use an excessive amount of sugars and starches, and in such individuals these elements of the food should be restricted.

In many cases there is constipation, accompanied, sometimes, by intestinal fermentation. If this constipation cannot be corrected by a regulation of the diet, some laxative may be necessary. Aloes sometimes seems to do harm by increasing the irritability and congestion about the rectum. Usually cascara sagrada or a saline cathartic is preferable. Sometimes it is well to give a moderate dose of cascara sagrada at night and follow this by a saline laxative in the morning, regulating the dose so that the patient may have one soft movement after breakfast.

If the urine is highly colored, of high specific gravity, or is strongly acid, the administration of alkalies such as potassium citrate is useful.

Frequently an operation, it may be slight or it may be of considerable gravity, is indicated. If there are tags of hypertrophied skin, they should be snipped off. If there are hemorrhoids, they should be removed. If there is a fissure or ulcer, it must be treated by local applications of solutions of nitrate of silver daily, if the solutions are weak (from 1 to 3 per cent.); once in four or five days, if strong (10 per cent.). If there is a fistula, it should be incised or excised. If there is catarrh of the rectum, it may be treated by alkaline enemata.

In a few cases, which persistently resist milder forms of treatment, it has been proposed to excise the ring of affected skin surrounding the anus. Some favorable results have been reported from this treatment, but it is generally considered as more severe than is necessary. Other surgeons have proposed to incise strips of skin, leaving other strips *in situ*, but passing the knife under these so as entirely to separate the nerves through which the sensation of itching is transmitted.

A considerable number of these patients have been treated with very gratifying results with the Roentgen ray. These applications may be given at first with two exposures a week, until some dermatitis is produced, and then once a week. The *x*-ray causes a diminution of the excessive moisture which is sometimes present, and a decrease in the size of the sebaceous follicles, these seeming to be affected by the ray more than the sweat glands. Others have used the high-frequency current with asserted advantage.

Various local remedies are used with more or less success. A group of suggestive prescriptions will be found above. Many physicians advise the use of cocain, but this should never be given to the patient for personal use; it should only be used by the physician to relieve the pain of local applications, such as nitrate of silver, or for the performance of minor operations.

Before thinking of applying any remedy, a most scrupulous cleanliness should be exercised. After every movement of the bowels, the anal region should be bathed with hot water, which may be used without medication, or there may be dissolved in it simple salt, borax, or bicarbonate of sodium. The use of newspaper or other coarse paper should be strictly prohibited; indeed, some writers have expressed the opinion that the printers' ink on the newspapers is a frequent cause of this condition.

At such times as the itching comes on intensely, especially in the evening or after retiring, local applications of either ice-cold or very hot water often afford considerable relief. The hot water may be medicated by the addition of boric acid to the point of saturation, or with borax. Phenol (carbolic acid) may be applied in solution of from 2 to 3 per cent. strength, and it may be used in much stronger solution once or twice a week.

A very useful simple application, especially valuable in pruritus vulvæ, is yeast. It may be applied as brewers' yeast; or, as satisfactory, is a solution of an ordinary tin-foil-covered yeast cake in a half pint or a pint of water. Daily applications of this yeast solution, especially at night, will sometimes cure when all else has failed.

PRURITUS VULVÆ

All of the general remarks applicable to pruritus ani and perineal pruritus are equally applicable to pruritus vulvæ. Irritating vaginal discharges should be ameliorated: the possibility of the presence of insects should be considered, and if they are present they should be removed.

Diabetes is a frequent cause of the trouble. Irritating, abnormal urine is another frequent cause; when this is corrected, or the vulva protected by bland ointments, the pruritus ceases. In one-sided, unaccountable and unexplainable pruritus, the Roentgen ray has effected a cure.

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[*For other information see second page following reading matter*]

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RECENT STUDIES OF LEPROSY

From time immemorial leprosy has been held in almost superstitious horror by the laity—thanks probably to the Scriptural attitude toward it; and to physicians even now it presents problems such as are encountered in few, if any, other diseases. In light of recent contributions toward its study, however, many of these problems appear to be in a fair way toward solution. It is almost two years since Clegg[1] first announced the successful prolonged cultivation of the organism of leprosy on artificial media, and Duval[2] since then has devised methods that make this proceding one of comparative simplicity. Clegg's method consisted in first growing the organism along with amebas and symbiotic bacteria; after several transplantations under such conditions, the bacillus became altered sufficiently to permit growth in pure culture. Duval, however, has shown that the essential element necessary for its artificial growth is the presence in the medium of tryptophan and other free amido-acids—factors that were furnished in Clegg's experiments presumably by the action of the bacteria on dead amebas. Like Clegg, Duval found that the bacillus grew more readily after being cultivated artificially for some time. The organism was found by both investigators to be extremely hardy; it resisted a temperature of 70 C. for half an hour, and Duval and Gurd[3] were able to cultivate it from tissues kept in salt solution at room temperature for over eight months. Nor did overgrowth with saprophytic or pyogenic organisms appear to affect its vitality in the least.

Success in animal inoculation has advanced almost equally with the progress in artificial cultivation of the organism. Clegg was able to produce, from inoculation of pure cultures, localized lesions in the guinea-pig closely resembling those in man; and Sugai[4] showed that the Japanese dancing mouse was sufficiently susceptible to undergo systemic infection from local inoculation. Neither of these animals, however, showed a clinical picture like that in man. But Duval[5] has recently, by successive injections of a pure culture of the leprosy bacillus, succeeded in producing in the monkey (*Macacus rhesus*) a type of disease very similar to the human form, and in reobtaining the acid-fast organism from the remote lesions.

Of considerable interest as bearing on the methods of transmission, is the fact that Duval and Gurd were able to cultivate the organism from nasal secretions in two of five cases. They also succeeded in inoculating mice by rubbing cultures of the bacillus into their nares after gentle scarification. Taken in connection with the high resisting power of the organism, these facts would appear to speak strongly in favor of the usually adopted, though much disputed, measure of segregation.

The same investigators have taken up the serum reactions of leprosy. Amboceptor, specific apparently for the lipoid constituents of the organism, they found present in considerable amounts. Agglutinins occurred in small quantities; and the serum of leprous patients was found by them not to differ from that of normal individuals in content of complement. Their results as to specific amboceptor are confirmed by the work of Biehler and Eliasberg,[6] but unlike them, Eliasberg claims to have demonstrated the absence of free complement in the serum of lepers.

It will be seen that as a result of the foregoing work, Koch's postulates have now been fully carried out for leprosy. Considerable light has been thrown on the much argued question of methods of transmission. And with means at our disposal both for obtaining *Bacillus lepræ* in pure culture, and for successfully inoculating experimental animals, further progress should be rapid. Profiting, however, by our many disappointments with tuberculosis—a disease resembling leprosy in so many respects—it will be well to guard ourselves against expecting too much in the way of effective therapy of the disease as a result of recent experimental work.

WHITE PHOSPHORUS

From time to time The Journal has directed attention to the efforts which have been made to obtain Federal legislation prohibiting the use of white phosphorus in the match industry in this country. The stand taken by The Journal is that such legislation is a much-needed step in the direction of public control of the dangerous trades, and that for this reason the medical profession should endorse it. In an article in the present issue, Dr. Robert H. Ivy criticizes this view and presents an argument for the continued use of white phosphorus in the match industry on the ground that "barring absolute carelessness on the part of employees" white phosphorus can be used without danger. He proceeds to give his experience as examining surgeon for one of the match factories, and concludes that the substitution of the safe sesquisulphid for the poisonous white phosphorus is unnecessary, provided proper precautions are observed.

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[1] Philippine Jour. Sci., 1909, iv, 403.

[2] Jour. Exp. Med., 1910, xii, 649; 1911, xiii, 365.

[3] Arch. Int. Med., 1911, vii, 230.

[4] Lepra, 1909, viii, 203.

[5] Jour. Exp. Med., 1911, xiii, 374.

[6] Deutsch. med. Wchnschr., 1911, xxxvii, 302-304.

Dr. Ivy says that he requires from the employees of a match factory no unusual precautions, only that they shall not be guilty of a carelessness comparable to a miner's playing with dynamite. This seems to be an exaggerated description of such careless acts as picking the teeth while at work, chewing gum or eating candy while at work, drinking water from a glass standing on the work table, yet all these are recognized as dangerous actions for a match worker.

Dr. Ivy describes conditions in the factory with which he is connected and in which regular monthly dental examinations have been made for a period of two and a half years. No employee who entered the factory during that time has developed necrosis of the jaw. Some of these employees have not been at work more than six months; ninety-six have been there less than two and a half years. Now it is interesting in this connection to consider the length of exposure to phosphorus fumes given in the histories of cases of phosphorus necrosis. The report of John B. Andrews,[1] quoted by Dr. Ivy, gives thirteen histories in which this detail is noted. Ten individuals had worked with phosphorus for periods ranging from three and a half to forty years before they developed necrosis, only three for periods of less than three years. Five more gave the length of time as "several years," which would surely be more than two years. It would, therefore, seem that Dr. Ivy's negative conclusions can hardly be regarded as founded on sufficient data.

It is always difficult for one country to benefit by the experience of another, yet it would really be a great economy of time and effort could we consent to be taught by the past mistakes of our European cousins. We are now in the same position that most of the great European nations occupied ten or fifteen years ago. They wasted many years and permitted much human suffering in their effort to regulate the use of white phosphorus instead of abolishing it, but one by one they were obliged to confess their efforts a failure and to become converts to the prohibition policy. In 1906, an international agreement to prohibit the manufacture, importation or sale of white phosphorus matches was signed by France, Germany, Italy, Switzerland, Holland and Denmark. Great Britain held off, and that country's experience is illuminating for us. In 1898 the British Parliament appointed a committee of three experts to inquire into the question, a chemist, a dentist and a physician. The physician (Thomas Oliver) stated that nothing short of the total prohibition of white phosphorus would make match factories safe, but the dentist gave it as his opinion that proper regulation would meet the danger. Parliament at first accepted the more optimistic view, strengthened the regulations, and provided for examining dentists and doctors; but cases of necrosis continued to be reported, and in 1908 a law was passed prohibiting the use of white phosphorus. In that same year Great Britain signed the international agreement. It would seem then, that regulation of the industry has had a fair trial, and that it is hardly worth while for us to repeat the experiment, for the regulations which proved a failure in Europe were far more stringent that any we should be likely to enact in the United States. It is scarcely probable that our state legislatures would require factories to be built according to government plans, with compulsory medical inspection, notices concerning the dangers of the work which the employer must read aloud to his employees at stated intervals, limitation of the percentage of phosphorus in the paste, etc.

Lest anyone should believe that the situation in the United States differs from that in foreign countries, and that the match industry here is not productive of phosphorus necrosis, we quote from the Bureau of Labor investigation referred to above. There are about 3,500 employees in fifteen of the seventeen match factories in the United States. Of 3,383 whose occupation was specified 65 per cent. are exposed to phosphorus fumes; 95 per cent. of the 1,395 women are so exposed. An intensive study of three factories was made, and eighty-two cases of necrosis were discovered. Andrews describes a factory which is a model in equipment and in care of employees: "Here, if anywhere, careful regulation over many years and favorable conditions should have resulted in the complete disappearance of phosphorus necrosis. Yet forty cases of phosphorus necrosis" (fifteen involving loss of the jaw by operation) "were easily secured."

Were there no way of making matches except through the use of this poison we might resign ourselves to such conditions, but in view of the fact that the industry may be made entirely safe, it seems that as medical men we have no choice but to favor the legislation which is framed to accomplish this result.

PUBLIC HEALTH BULLETINS

The fact is not so well known by physicians as it should be that the national government, through the Public Health and Marine-Hospital Service, is issuing for gratuitous distribution a valuable series of bulletins on matters relating to public health. The series now numbers forty-four, and from the list of those already published it can be seen that at least the more recent ones deal with live and important phases of medicine as it relates to public health. These bulletins have been written by men who have had especial facilities for studying the various subjects of which they treat, and care has been taken that they should not be written from the viewpoint of the specialist or laboratory worker. They are intended for the use of the general practitioner, and give him recent and accurate information not easily obtainable elsewhere on many important subjects.

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[1] A close examination of the histories given by Andrews brings to light several significant facts. Three toothless individuals, with no apparent channel for infection present (the roots had also been removed), developed phosphorus necrosis. A man who had worked developed necrosis. Two individuals are mentioned as being unusually developed it. Two individuals are mentioned as being unusually intelligent and as having taken all possible precautions to protect themselves, yet falling victims to a severe form of the poisoning. One case of fragilitas ossium was discovered. Oliver speaks of having found this condition among the Belgian match workers at Grammont

The latest of these bulletins deals with the subject of acute anterior poliomyelitis.[1] This bulletin furnishes the general practitioner the latest information in regard to this disease, of which, according to the author, there have been during the last few years over 5,000 cases in the United States alone. Such a publication is of peculiar timeliness. The average text-book account of this disease (some text-books still confine themselves to the ordinary spinal type) is inadequate for any proper comprehension of this serious malady, and the recent literature is not accessible to the average practitioner. An accurate and comprehensive discussion of the subject, such as is here offered in comparatively brief compass, should appeal to every physician.

Another bulletin, treating of disinfectants, their use and application in the prevention of communicable diseases,[2] has also recently appeared and will be of great value to health officers, particularly to those in the smaller communities. This bulletin first discusses the gaseous disinfectants and disinfectant solutions in detail and from a practical standpoint, as well as the various methods for the application of gaseous disinfectants, particular attention being paid to the formalin-permanganate method for the generation of formaldehyd gas. Then insecticides are taken up with the methods of their use. This publication should be in the hands of every health officer in the United States.

Other publications of the series are on the sanitary privy, leprosy, the rat and its relation to the public health, hookworm, tuberculosis, yellow fever, bubonic plague, rabies, pellagra and trachoma. All are obtainable from the Superintendent of Public Documents.

In this connection it may be added that the Public Health Reports, the weekly journal published by the Public Health and Marine-Hospital Service, and the value of which to quarantine and health officers has long been appreciated, is now very frequently publishing short articles of the greatest interest to all health officials. These articles, while primarily intended for health officials, could be read with profit by every practitioner. The most recent of these[3] is a report on the investigation of a typhoid epidemic in a western city, and clearly outlines the methods of procedure in the treatment of such a situation with the many difficulties and complexities involved.

STATE RESPONSIBILITY IN MEDICAL EDUCATION

Those who have made a critical study of the present conditions surrounding medical education and licensure recognize three principal facts. First, modern medicine requires a broader education than did the medicine of twenty years ago; second, the medical profession is already seriously overcrowded; and third, there are still a large number of medical schools which are incapable of furnishing a modern medical course and which are turning into the profession large numbers of poorly trained graduates. A diminution both in the number of physicians and in the number of medical schools, therefore, would scarcely be a matter for regret; indeed, it would be beneficial, especially if such diminution led to the securing of better-trained physicians.

To furnish a modern medical training it is necessary that the medical school should, first of all, exact a higher entrance requirement in order to secure students who can master the modern medical course. The medical school should also possess better buildings, better-equipped laboratories, better hospital facilities and more full-time, thoroughly trained and expert teachers, than were required twenty years ago. These additional demands of the medical school require the expenditure of more money than can possibly be obtained from students' fees. The medical school of to-day, therefore, must be supported either by the state or by private endowment.

Already twenty-two states, to a greater or less extent, are supporting medical schools. Of these twenty-two, seventeen have thus far adopted as their minimum of preliminary education, in addition to a four-year high-school course, one or two years of collegiate work, including thorough courses in physics, chemistry and biology. These colleges, therefore, have adopted a reasonable and moderate standard which places them on a par with medical schools abroad and have not gone so far as to adopt the extreme requirement of a college degree for admission.

The strengthening of state university medical schools and the adoption of higher requirements will doubtless have the effect of forcing a number of low-grade medical colleges to increase their equipment so as to provide a modern medical training and to adopt higher standards of admission, or to go out of existence.

Considering the needs outlined above, the legislation which is being sought in several states is of particular concern to the interests of medical education. Bills have been presented in some states to make increased appropriations for medical education, to be expended in buildings, equipment, etc. This legislation is clearly in the interests of public health. In several other states the legislation asked for relates to higher standards of medical education. In one state, however, an effort is being made to lower the standard, but such retrogressive legislation is not likely to pass, since the people of that state fully realize the importance of the standards now held by both its university and its board of medical examiners.

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[1] Acute Anterior Poliomyelitis (Infantile Paralysis), by Wade H. Frost. Public Health Bulletin 44, U. S. Public Health and Marine-Hospital Service, Washington, February, 1911.

[2] Disinfectants, Their Use and Application in the Prevention of Communicable Diseases, by Thomas B. McClintic. Public Health Bulletin 42, U. S. Public Health and Marine-Hospital Service, Washington, December, 1910.

[3] Public Health Reports, Jan. 27, 1911, vol. xxvi.

Opposition to any advanced legislation is always a thing to be expected. The opposition to the above measures, however, seems to emanate chiefly from the less progressive medical schools which either fear the competition of the state institutions, or desire to continue their lower standards of admission. The cry is raised that this legislation tends to "restrict medical freedom," but that cry is a false alarm. "Medical freedom" to turn out ill-trained doctors—freedom to disregard scientific rules of sanitation—freedom to impose ignorant medical advisers on the helpless and the sick of any community—surely needs restriction. The time has certainly arrived when the state should assume its full responsibility, not only in providing for the training of well-qualified medical men, but also in safeguarding the public against bungling incompetence and fraud.

Current Comment

KEY TO THE AUTOMOBILE NAMES

This is the fifth annual Automobile Number. As usual, the names of the cars, tires and accessories, referred to by numbers, are given in a folder, a copy of which will be sent on receipt of a self-addressed stamped envelope. Some who have written on automobiles in previous issues report that many physicians wrote to them for further information—and forgot to send postage for reply. This is intended simply as a hint.

VACCINATION IN THE PHILIPPINES

The opposition ignorantly raised against vaccination has received another conclusive answer in a report[1] on small-pox and vaccination in the Philippine Islands by Passed Assistant Surgeon Victor G. Heiser, Director of Health in the Philippines, and Assistant Surgeon Robert Oleson of the U. S. P. H. and M.-H. Service. They say that at probably no time in the world's history has the efficiency of vaccination as a preventive for small-pox been so conclusively and effectively demonstrated as in the Philippine Islands since American occupation. The evidence of its value is incontestable. During Spanish times it was necessary each year, during the dry season, to erect in Manila a large temporary hospital to which the many hundred victims of small-pox could be taken. The great majority of them died. During the past five years not one person has died in Manila from small-pox who had been successfully vaccinated during the five previous years; nor has anyone died of small-pox in Manila since June, 1909. In 1907, systematic vaccination was completed in the six provinces near Manila. These provinces have a population of, approximately, one million, and from time immemorial until a few years ago the annual mortality from small-pox was at least six thousand. Since 1907, not one person has died of small-pox who had been successfully vaccinated, and only a few cases have occurred. In these few cases not a death occurred among vaccinated persons. This has been the experience in other provinces throughout the islands since the American occupation, and only in instances in which vaccination has been relaxed have cases of small-pox occurred, and then almost entirely among unvaccinated infants or among immigrants. This report contains many other convincing figures, but to the intolerant individuals who oppose vaccination, experience is a liar, and figures are intended only to conceal the truth.

GOVERNOR OSBORN FOR HONEST ADVERTISING

There is a public as well as a personal conscience; that there is an evolution of public conscience has been strikingly demonstrated recently in many ways. Probably in no direction is the public conscience developing more rapidly than in that of insisting on honesty in methods of publicity. The label clauses in our pure food laws, both state and national, are an illustration. The results secured by such legislation have raised the question in many minds: Why should not honesty be insisted on in all advertising, quite as much as in the advertising of food products? Evidently, one of our state executives believes that all advertising should be truthful and that the state should protect the purchaser and reader of newspapers and magazines, and he is not afraid to say so. In his inaugural message to the state legislature, Governor Charles S. Osborn of Michigan said:

> The action of the federal authorities in excluding offending newspapers from the mails protects only a part of the readers of fraudulent advertisements. There should be state legislation holding publishers accountable for printing palpably dishonest announcements of investment swindlers and of all other unscrupulous advertisers who seek to betray the reader's confidence in the integrity of the press.

Many far-sighted men in the newspaper business have recognized the growing sentiment in favor of honest advertising and have realized that the integrity of the press is its most valuable asset. Those publishers who have not yet grasped this fact must soon realize its importance or have their attention called to it by the enactment and enforcement of laws in accordance with growing public sentiment.

MINISTERS DEMAND MORE RIGID LAWS

Much has been said of late regarding the desirability of greater public interest in the state regulation of the practice of medicine. It has long been recognized that medical practice acts, being primarily for the protection of the public, should have a greater measure of public support. The recent action of the Iola (Kansas) Ministerial Association should be a source of gratification to all who are desirous of seeing the practice of medicine restricted by the state to those actually fitted by training to assume such responsibility. At a recent meeting of the ministers of Iola, a resolution was adopted and ordered sent to all the ministerial associations of the state, enlisting their aid in securing the passage of a law to restrict the practice of healing to those who could demonstrate their fitness and qualifications to treat the sick. After asking the cooperation of the ministry "in bringing before the legislature . . . some measure looking toward the more equitable regulation of the practice of the healing art," the resolutions continue: "A large and growing class of 'healers' and 'practitioners' of various names, forms and cults offer their services to the sick and appeal to the public for patronage. They are unlicensed and, therefore, irresponsible so far as regulation by the state is concerned. At the same time they are for the most part ignorant of that scientific knowledge which would enable them to make intelligent diagnoses of disease, to discover contagious diseases and to understand the true limits of their ability, thus causing much needless suffering and numerous untimely deaths. We believe that in the interest of common justice and for the safeguarding of the public health, the laws of our state should be so amended as to require all who assume to treat the sick, by whatever method, to secure a license from the proper state board of examiners after suitable examination as to their qualifications." Probably no men are better able to appreciate the harm done by ignorant "healers" than are the ministers. Their cooperation and support would go far to secure the establishment of a higher standard for entrance into the practice of medicine as well as a stricter and more impartial enforcement of the law for the protection of the public health.

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[1] Public Health Reports, March 10, 1911, p. 277.

NEEDED CHANGES IN ILLINOIS LAW

Senate Bill 235, which, if adopted, will materially strengthen the Illinois medical practice act, has passed the Illinois Senate and is now in the House. The first section of the bill, as we noted two weeks ago, authorizes the State Board of Health to issue a temporary license good for eighteen months, to medical students who have completed a course of instruction and passed the examination of the board, but who have not received diplomas, the object being to permit the board to license hospital interns who are appointed before their diplomas are given them. The second section of the bill authorizes the board to revoke licenses issued under the acts of 1877 and 1887, as well as those issued under the act of 1899, the present act. This provision is made necessary by a decision of the supreme court (*State Board of Health vs. Ross* (1901), 191 Ill., 87; 60 N. E., 811) which held that owing to the phraseology used in the existing law the board did not have authority to revoke licenses issued under previous laws. At present the state board has no power to revoke a license issued between July 12, 1877, and June 30, 1899, no matter what crime or unprofessional or dishonorable act may be committed by the practitioner holding such license. These two provisions are clearly in the interest of better administration of the medical practice act and of better protection to the public; it is to be hoped that this bill will become a law.

MUNYON THE HOPEFUL

"If the Sign of the Cross were to be destroyed the next best sign would be 'The Index-Finger Pointing Heavenward.'" Thus, in a quarter-page advertisement in one of his home papers, speaks Munyon, the genial quack whose uplifted finger, aggressive pompadour and sugar pills have made Philadelphia famous. Genial, did we say? Well, until recently. Of late Fate seems to have been unkind to this erstwhile dispenser of gladness and saccharine innocuity. Unimaginative government chemists are recently reported to have shown that the principal ingredient in Munyon's blood and asthma "cures" was ordinary cane sugar and the "Professor" has been penalized by the government to the tune of six hundred dollars. But, with a supreme disregard for the petty troubles of business, Munyon announces in large advertisements that he is "organizing a Hope Cult, whose mission is to preach Health-ism, Hope-ism and Love-ism." Talk about optimism! And as a clincher, we find heading one of the "Professor's" appeals to the public, this gem:

> "Don't cringe—don't flinch,
> Should fortune pinch
> And all seem lost;
> With might and main,
> Try, Try *again*
> At any cost. —Munyon."

Whether or not the apostle of hope and "homeopathic home remedies," here refers to his business reverses, can only be guessed. That he will "try, try again" to sell his sugar pellets is evidenced by the fact that he has set aside half a million dollars for a new 1911 advertising campaign. "And now abideth faith, hope and charity and the greatest of these"—when backed up with a generous advertising appropriation—is hope!

GOAT'S MILK IN MALTA

Fresh cow's milk is scarce in Malta, and most of the natives use goat's milk. According to U. S. Consul James Oliver Laing, at Valetta, there are about 10,000 milch goats in the islands. These are driven from house to house and milked in the presence of the buyer. Goats are tied at the doors of cafés and when milk is wanted for coffee the goat is milked by the owner. With a little care this method should eliminate much of the contamination of milk under the ordinary methods of handling and distribution. Though a primitive method and applicable only within narrow limits, it would seem to have some advantages. As a large proportion of the goats, however, harbor the germs of Malta fever, the foreign residents refrain from using the milk, and its use is forbidden in the British garrison. Mediterranean fever is intermittent and is one of the most feared diseases in the islands, for, if not fatal, its long duration and the ensuing debility often lead to other maladies. Attempts have been made to better conditions on the goat farms, and some progress has been made. Though milk is an excellent food, it seems to have serious disadvantages, even when drawn from original containers.

FREE MEDICAL EDUCATION

Whether or not the remedy for the most serious evils of our present method of recruiting the profession would be relieved by making medical education free, as Dr. Ferguson suggests in this issue, is an open question, and his arguments do not seem convincing. It would be most unfortunate, as President Vincent said in his address,[1] if the expense of obtaining a medical education should prevent those qualified by natural endowments from entering the profession. We doubt, however, whether this would often occur; at all events Vincent's plan of endowed scholarships is more practicable and in other respects better than the attempt to offer opportunities for free medical education without first applying some test of ability. Free medical education would certainly open the way for a still larger number of incompetents. If we are to reach our ideal of every physician being in all respects a thorough scientist and an honorable gentleman, some other method of selection of the material would be more economical and efficient than that of weeding out the applicants in a free-to-all course of medical instruction. It is a question also whether the number of unworthy and undesirable medical colleges would be diminished to such an extent as Dr. Ferguson seems to expect. A sentence in Dr. Ferguson's paper seems to be somewhat open to misunderstanding, to say the least: The scrutiny of the religious, social and political qualifications of candidates, with the popular signification of those adjectives, has a rather unfortunate sound. Of course it was understood by his hearers as it was meant, merely as a statement of the necessity that the physician should be a gentleman of good moral character.

A GERMAN VIEW OF AMERICAN MEDICAL SCHOOLS

In a recent number of the *Wiener klinische Wochenschrift,* a German-American, writing from this country, discusses medical education, especially the low-grade medical schools, and other medical conditions in this country. The *Wochenschrift* says, in an editorial note on this article:

> "All who know anything about conditions in America are full of admiration for the almost model achievements and progress in all lines in that country. It is almost universally conceded that the humanitarian and especially the scientific institutions of America—almost exclusively the creation of private initiative—in the scale in which they are conceived and the perfection of their equipment, cast all that Europe has to offer in this line so much in the shade that the scientists best acquainted with the facts have not hesitated to express their concern that Europe in time will be unable to compete with them, owing to the wise liberality with which scientific research is fostered over there. All this makes it the more interesting to learn that, side by side with conditions almost unsurpassed in their excellence, abuses flourish under the protection of individual liberty—abuses so dire that it seems actually impossible to conceive of their existence, especially in connection with medical education. In the very fact, however, that the Americans themselves have had the courage and the sincerity to lay bare these abuses lies the best evidence of their moral energy and this offers, at the same time, the most certain guarantee of a speedy and radical reform."

While this hearty recognition is encouraging, such a criticism of our educational conditions is and should be mortifying to our national pride. The reasons for the present wide-spread publicity and systematic exaggeration of such abuses as do exist in the profession in America are probably not entirely understood in Germany, yet the *Wochenschrift* is unquestionably right in stating that these abuses "flourish under the protection of individual liberty," and that some of the most flagrant of these abuses are "in connection with medical education." As a people, we have not yet learned that the rights of one man end where the rights of another man begin, and that no individual has a right, even in the sacred name of liberty, to do that which is harmful to the community. The diploma mill and the commercial medical school are unknown in Europe. The ignorant but mercenary physician is justly regarded there as a grave social danger. In these directions we have much to learn from Germany. Only by the establishment and maintenance of high standards of medical education can we hope to retain the respect of other nations and to effect those "speedy and radical reforms" which conditions demand.

Medical News

ILLINOIS

Hospital Bankrupt.—The Evangelical Lutheran Association, Granite City, which owned and managed the hospital in that place, is said to have filed a petition in bankruptcy, March 31.

Personal.—The office of Dr. Joseph Pugne, Edwardsville, was burned, March 27. The building and contents were a total loss.——Fire in Clinton, March 21, destroyed the office of Dr. Joseph C. Myers.

State Sanatorium Bill.—House Bill No. 57 for a state sanatorium for tuberculosis was considered by the judiciary committee of the house of representatives, March 29. Arguments in favor of the bill were made by Representative Shurtleff and by Dr. George W. Webster, president, and Dr. James A. Egan, secretary of the State Board of Health. It is believed that the committee will approve of the bill which carries an appropriation of $500,000.

Scarlet Fever in Chicago Suburbs.—Ravinia, Highland Park, and Evanston have reported recently a number of cases of scarlet fever. In Ravinia, the cause has been traced to a grocery store, in which the postoffice is located, and in which seven children of the proprietor have been ill with scarlet fever, but not quarantined. The contents of the grocery store were confiscated by the State Board of Health and taken to the Skokie Swamp and burned. The store was closed and thorough disinfection of all infected houses was made.

Kill the Optometry Bill.—The optometry bill, House Bill 121, will lie in judiciary committee until action is taken on a similar bill in the senate, No. 140. The State Board of Health requests that the president and secretary of every county society write their senator in Springfield in the name of the society, urging that he oppose Senate Bill 140, and suggests further that the president and secretary urge as many other members as possible to write their senator at Springfield on the same line. The action that the house of representatives will take on the house bill will be predicated entirely by the action that the senate takes on the senate bill. The senate bill is now on order of second reading.

Chicago

Personal.—Dr. and Mrs. Robert H. Babcock and family have returned after two months in California.——Dr. Arthur H. Geiger sailed for Europe, March 31.——Dr. John B. Murphy has returned from a trip to Florida and is ill at his home with typhoid fever.

Health Alliance.—The Citizens' Health Alliance, which was organized in Hull House in November last, has opened permanent headquarters at Room 1202, Ashland Block, and appeals for broader membership. The object of the alliance is to combat preventable disease and deaths. Dr. Hyman Cohen is at the head of the movement and Health Commissioner Evans is a member of the advisory board.

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[1] Vincent, G. E.: Standards and Authority, The Journal A. M. A., March 25, 1911, p. 894.

Tuberculosis Dispensary Opened.—For the benefit of persons working or living near the loop, the Chicago Municipal Tuberculosis Sanatorium has opened a downtown dispensary at the Iroquois Memorial Hospital, 87 Market Street, for the free examination and treatment of persons suspected of having, or actually afflicted with, tuberculosis. The dispensary, at present, is open on Tuesday evening from 7 to 9 and on Saturday from 2 to 4.

INDIANA

Permanent Meeting Place for Society.—At the meeting of the Madison County Medical Society, March 28, it was voted to hold all future meetings of the society at Anderson and to rent permanent headquarters in that city.

Presentation.—At the annual meeting of the Hamilton County Medical Society in Noblesville, recently, Dr. William B. Graham, the oldest practitioner of the county, was presented by Dr. Carlton H. Tomlinson, Cicero, with a gold-headed cane on behalf of the society.

New Hospital Dedicated.—On March 23, the new Schneck Memorial Hospital was dedicated at Seymour. This hospital was erected at a cost of $25,000 by Mrs. Mary Schneck in memory of her husband, Lewis S. Schneck. The institution will accommodate seventeen patients.

Society Meetings.—At the meeting of Parke County Medical Society, held in Rockville, March 14, Dr. Robert F. Hester, Bloomingdale, was elected president; Dr. Chester S. White, Rosedale, vice-president; Dr. A. Birch Lockridge, Rockville, secretary-treasurer; Dr. Reeve C. Peare, Bellmore, delegate to the state association, and Dr. Charles C. Morris, Rockville, alternate.

Personal.—Dr. Claude G. Bartlett, Lewisville, who has been ill with facial paralysis, is reported to be improving.——William R. Davidson, M.C., N. G. Ind., assigned to the Third Infantry, Evansville, has been ordered to the Mexican frontier on duty at the maneuvers.——Dr. Charles H. Parsons, Rushville, is seriously ill with paralysis.——Dr. Stanley A. Clark, South Bend, sailed for Europe, March 27.

IOWA

New Hospital for Cresco.—The new building of the St. Joseph's Mercy Hospital, Cresco, is now completed and ready to receive patients. The hospital represents an investment of $45,000, of which $15,000 was donated by citizens, in addition to the gift by Dr. George Kessel of the hospital building, its equipment and grounds. The institution was formally opened March 12.

KENTUCKY

Personal.—Dr. and Mrs. Joseph M. Mathews have returned to Louisville after a trip around the world.——Dr. J. Thomas Wallingford has been reelected health officer of Covington and Dr. L. E. Brinker, secretary of the board of health.

Officers Elected.—At the annual meeting of the Paducah Medical and Surgical Society, March 6, Dr. Oliver R. Kidd was elected president; Dr. Henry G. Reynolds, vice-president, and Dr. James T. Reddick was elected secretary-treasurer.

MARYLAND

Personal.—Dr. W. G. Ash, superintendent of the Forney Sanatorium, Mount Alto, has resigned and will be succeeded by Dr. Eben G. Alexander, Jr., of Jefferson College Hospital, Philadelphia.——Dr. J. Royer Laughlin has been appointed physician of the Bellevue Asylum, Hagerstown.

Fifty Years in Practice.—A dinner was given at the Baltimore Club, March 14, to Dr. Charles M. Ellis, Elkton, "in recognition of his completion of fifty years in the practice of medicine and in the service of his fellow men." The portrait of Dr. Ellis, painted by Julian Story, will be presented to the Medical and Chirurgical Faculty of Maryland at the annual meeting in April.

Baltimore

Grenfell in Baltimore.—Sir Wilfred T. Grenfell, of the Labrador Mission, spent last week in Baltimore, and lectured on his work in the hall of the Medical and Chirurgical Faculty of Maryland, April 1.

Personal Property of College Sold.—The personal property of the Woman's Medical College, Baltimore, which suspended a year ago on account of lack of funds to carry on the work, was sold a few days ago. The museum was bought by Dr. Anna Abercrombie, president of the alumnæ association of the college. The association, it is said, intends to maintain a memorial room in the proposed South Baltimore hospital.

Methodists Buy Hospital.—The three branches of the Methodist church, the Methodist Episcopal, Methodist Episcopal South and the Methodist Protestant, have bought from the faculty of the Baltimore Medical College the Maryland General Hospital, and will assume charge May 1. For ten years the hospital has been under the charge of the Sisters of Charity. The faculty of the college will continue in professional control.

MASSACHUSETTS

Bequests by Bishop's Widow.—By the will of the late Mrs. Amelia Worthington $5,000 is bequeathed to the House of Mercy, Springfield; $5,000 to Clarkson Memorial Hospital, Omaha; and provisionally, dependent on the death of certain relatives, $25,000 to the Children's Hospital, Boston.

Interns Draw Color Line.—Five female interns in the New England Hospital for Women and Children, Roxbury, Boston, resigned, March 22. The cause of the resignation is said to be the appointment of a colored woman as intern in the maternity department of the institution.

Bowditch Gift to Harvard.—By the will of the late Dr. Henry P. Bowditch, $4,000 in cash and all his books and scientific apparatus are bequeathed to Harvard Medical School. The money is to be added to the fund left by his father, J. Ingersoll Bowditch, the income of which is to be "expended under the direction of the professor of physiology for the purpose of original investigation."

Eminent Scientist Dies.—Mrs. Helen Henrietta Richards, instructor in the department of sanitary chemistry at the Massachusetts Institute of Technology since 1884 a pioneer scientist in industrial and sanitary chemistry, who received the degree of doctor of science from Smith College, was a bachelor and master of arts of Vassar College and a bachelor of science of the Massachusetts Institute of Technology, died at her home in Jamaica Plain, Boston, March 30, from angina pectoris, aged 68.

MICHIGAN

Honor Veteran Member.—Dr. Daniel Todd, the oldest practitioner of Lenawee County, who has been in practice sixty years, was the guest of honor at a banquet given by the Lenawee County Medical Society in Adrian, March 22.

Antituberculosis Societies.—At the annual meeting of the Houghton County Antituberculosis Society, held in Hancock, March 14, Dr. Arthur F. Fischer, Hubbell, was elected a vice-president. The treasurer reported a balance of $2,100.——Schoolcraft County Association for the Prevention and Relief of Tuberculosis, at its annual meeting, in Marquette, March 21, reported a membership of ninety, and elected officers for the ensuing year.

Personal.—Dr. Collins H. Johnston, Grand Rapids, left for Europe, March 28.——Dr. Frederick C. Warnshuis, Grand Rapids, was operated on March 24 for the removal of a growth in the nose.——Dr. Austin W. Alvord, Battle Creek, who has been ill with pneumonia, is reported to be convalescent.——Dr. Henry George, Detroit, is reported to be seriously ill in Harper Hospital with cerebral hemorrhage.——Dr. David L. Treat, Adrian, who has been seriously ill, is reported to be improving.

Society's New Home Opened.—Three hundred members of the Wayne County Medical Society attended the formal opening, March 22, of the new home of the society in Detroit, formerly the Marvin mansion, which has been remodeled and equipped at a cost of $20,000. The new home provides a reception parlor for women members of the society, rooms for meeting and club purposes, dining hall, a library containing 10,000 volumes, a clinical laboratory and the Brady room for the use of the nurses of the county.

MISSOURI

Itinerant Healer Fined.—J. C. Elliott, an itinerant healer, is said to have been found guilty of practicing medicine without a license and to have been fined $50 and costs in Milan, March 8.

Health Department Estimate.—The Hospital and Health Board of Kansas City has estimated that $325,000 will be required for the operation of the health department during the coming year. Of this $136,000 is required by the General Hospital, $28,000 for the new contagious disease hospital and $61,000 from the health department proper.

Court Decides Will Valid.—The Supreme Court of Missouri, on March 31, sustained the validity of the will of the late Robert A. Barnes, St. Louis, who bequeathed about $3,000,000 for the erection and endowment of a hospital to be conducted under the rules and regulations of the Methodist Episcopal Church South.

New Officers.—Howard County Medical Association, at its annual meeting in Fayette, elected the following officers: president, Dr. Uriel S. Wright, Fayette; vice-presidents, Drs. Doke J. Gentle, New Franklin, and Wesley R. Hawkins, Glasgow; secretary-treasurer, Dr. Charles W. Watts, Fayette; delegate to the state association, Dr. Joel Y. Hume, Armstrong, and censors, Drs. Charles O. Lewis, Vaughan Q. Bonham and Andrew W. Moore, all of Fayette.

Personal.—Dr. Isaac R. Lane, Mountain Grove, is seriously ill in Alexian Brothers' Hospital, St. Louis.——Dr. Gustav B. Schultz, Cape Girardeau, has been appointed a member of the State Board of Health.——Dr. John C. Edwards, O'Fallon, is reported to be ill at his home.——Dr. Mason C. Alderman, Sedalia, is seriously ill with heart disease.——The trial of Dr. Fred W. Brown, Billings, charged with performing a criminal operation, resulted in complete vindication of the defendant, March 9, when the circuit court judge gave peremptory orders to the jury to bring in a verdict of not guilty.

St. Louis

Red Cross Endowment Fund.—The St. Louis Committee on Endowment of the American Red Cross reports that $53,159.20 have been contributed of the $70,000 apportioned to the city.

Tuberculosis Commission Resigns.—The Municipal Commission on Tuberculosis resigned as a body, March 27, considering that its work had been completed with the establishment of the Robert Koch Hospital.

Fake Physician Fined.—Annibale Inverso is said to have been fined $50 and costs on each of three charges of practicing medicine without a license, March 23. In default of payment of fine he was committed to jail.

Intern Examination.—At the meeting of the City Hospital Board, March 29, Hospital Commissioner Morfit announced that 94 out of the 106 applicants had passed the examination recently conducted for internes in the City Hospital.

Personal.—Dr. Albrecht Collasowitz has returned from abroad.——Dr. Otto A. Wall, Jr., has succeeded Dr. Albert E. Taussig as editor of the *Weekly Bulletin of the St. Louis Medical Society*, and Dr. Grandison D. Royston has been made associate editor.——Dr. Hugo M. von Starkloff is reported to be seriously ill with appendicitis at St. Anthony's Hospital.——Dr. C. W. Gould, assistant bacteriologist of St. Louis, is reported to be ill with heart disease.

MISSISSIPPI

Personal.—Dr. Vincent Bonelli, Vicksburg, has succeeded Dr. Ewing F. Howard, Vicksburg, resigned as secretary of the Warren-Claiborne County Medical Association.——Dr. B. J. Marshall, Europa, has been elected head counsel of Mississippi Woodmen.——Dr. Sherwood R. Towns, Union Church, has been elected secretary of the Jefferson County Medical Society, vice Dr. John H. Carradine, Fayette, resigned.——A nurse who attempted to shoot Dr. Robert L. Turner, Meridian, two months ago, because of a disagreement is said to have been fined $500.

Society Meetings.—Clarksdale and Six Counties Medical Society held its semi-annual meeting in Clarksdale, March 22. The following officers were elected: president, Dr. Aaron G. Everett, Friar Point; vice-presidents, for Bolivar County, Dr. F. M. Duley; for Coahoma County, Dr. William W. Stuart, Clarksdale; for Tunica County, Dr. Daniel W. Coker, Tunica; for Quitman County, Dr. Samuel C. Cowan, Sabino; for Tallahatchie, Dr. Sylvanus W. Robinson, Pisgah; and for Sunflower County, Dr. William B. Harrison, Crawford; secretary-treasurer, Dr. Thomas W. Dye, Longwood; censor, Dr. Robert L. Mercer, Shelby; and delegates to the state association, for Bolivar County, Dr. A. M. Wynne, Merigold; alternate, Dr. Thomas D. Allen, Shaw; for Coahoma County, Dr. T. G. Hughes, Clarksdale; alternate, Dr. E. L. Hooper; for Quitman County, Dr. Frederick M. Brougher, Belen; alternate, Dr. Cyril J. Marshall, Lambert; for Sunflower County, Dr. Richard C. Smith, Potter; alternate, Dr. W. G. Boyd; for Tallahatchie County, Dr. T. F. Clay; alternate, Dr. John A. Harris, Webb; and for Tunica County, Dr. Morris J. Alexander, Tunica; and alternate, Dr. M. L. Minor.——At the annual meeting of the Lauderdale County Medical Society, held in Meridian, Dr. James M. Guthrie was elected president; Dr. George W. Stephens, vice-president; Dr. Samuel H. Hairston, secretary-treasurer; and Dr. William W. Reynolds, delegate to the state association, all of Meridian.

NEBRASKA

Home from Abroad.—Dr. Charles C. Morrison, Omaha, has returned after several months postgraduate work in London.——Dr. Adolph Sachs, Omaha, has returned after twenty months' study in Berlin and Vienna.

Journal Stockholders Meet.—The stockholders of the *Western Medical Review Company* met in Omaha, March 21, and elected the following directors: Drs. August F. Jonas, Frank E. Coulter, Henry F. Akin, Henry L. Burrell and Harold Gifford, all of Omaha.

State Association Meeting.—The Nebraska State Medical Association will hold its annual meeting in Omaha, May 2-4. Dr. John P. Lord has been made chairman of the committee on clinics; Dr. Louis B. Bushmann, chairman of the committee on management; and Dr. Alfred Schalek, chairman of the committee on entertainment.

NEVADA

Abortionist Sentenced.—Dr. Frederick Hugo Wichman, Reno, charged with causing the death of Mrs. Emma J. Ross by an illegal operation in October last, is said to have been found guilty, March 17, and sentenced to imprisonment for eight years in the Nevada Penitentiary. Motions for new trial and for appeal were argued and denied.

NEW YORK

Fire in State Institution.—Fire on April 2, practically destroyed the Northern New York Institution for Deaf Mutes, Malone, causing a loss of about $135,000. The 100 inmates of the institution marched out of the building without panic or injury just before an explosion occurred.

Medical Club Election.—The Utica Medical Club, at a meeting, March 16, elected Dr. Faust S. DeLong, president; Dr. Raymond L. Baker, vice-president; and Dr. Lewis B. Amsfry, secretary-treasurer. Dr. John Gromann, the president, entertained the club and delivered an address on "Chronic Urethritis."

State Board of Charities.—The board reports that the total number of persons supported by the state during 1910 in the state and reformatory institutions was 11,874. Of this number, 3,001 were discharged and 485 died, leaving on the state's hands 8,388 persons. The total value of property in these institutions is $10,303,899.

Medical Journal to be Offered for Sale.—By the will of the late Dr. William Warren Potter, Buffalo, his estate is left to Miss Margaret Bowden, his secretary and chief assistant for twenty-five years. The principal asset of the estate is the *Buffalo Medical Journal*. The will provides that the *Journal* shall first be offered for sale to the medical department of the University of Buffalo.

Celebrate Semicentenary.—On March 31, Schuyler County Medical Society gave a dinner at the Glen Springs, Watkins, in honor of the fiftieth anniversary of the graduation of two of its members, Drs. Charles D. Clawson, Montour Falls, and Gideon O. Smith, Odessa. After the dinner, Dr. Clawson gave "Reminiscences of a Student of Fifty Years Ago." Dr. Smith read a paper entitled "The Recollections of a Young Practitioner Fifty Years Ago," and the Hon. O. P. Hurd, Watkins, made an address on "The Experiences of a Patient Fifty Years Ago."

The Blackwell Memorial.—At the recent annual meeting of the Woman's Medical Society of New York State, resolutions were passed regarding the recent deaths of Drs. Elizabeth Blackwell, Hastings, England, and Emily Blackwell, New York City, who are recognized as pioneers in the study and practice of medicine, and who by their persevering efforts opened the way for other women to enter that field. The society expressed its deep respect for and appreciation of the character and work of the Drs. Blackwell, its indebtedness to them, and its earnest desire to carry forward the work so nobly begun by them.

New York City

Building for Public Health Service.—The United States Government has awarded the contract for a building to serve as quarters for assistant surgeons of the Public Health and Marine-Hospital Service, Staten Island.

Bequest to Cornell.—The late Dr. Samuel Alexander bequeathed all his surgical instruments and pathologic and anatomic preparations to Cornell University Medical Department.

Personal.—Dr. Reginald Pickett, ambulance physician of St. Vincent's Hospital, Staten Island, was thrown from the ambulance in a collision with an automobile, March 17, and was seriously injured.——Dr. Joseph P. Sheridan, diagnostician of the Queen's Borough branch of the board of health, has resigned, to take effect April 1.

Gifts to Hospitals.—Frederick W. Beinhauer who died recently, provided in his will that on the death of his wife, his real property, less specific bequests, be divided equally between the Presbyterian and German hospitals and St. John's Guild.——Alfred M. Heinsheimer has given $10,000 to the Hospital for Deformities and Joint Diseases as an endowment fund to aid in the equipment and maintenance of the institution.

Fund for Hungarian Hospital.—A new hospital for the benefit of the large Hungarian population of New York City is to be erected on the upper East Side. An option has been secured on several corners between Eightieth and Eighty-Fifth Streets and a large part of the $300,000 for the proposed structure has been subscribed. Plans have been prepared for a nine-story building of steel reinforced by concrete. It is expected that the hospital will be ready for occupancy by the fall of 1912.

Condemnation of Contaminated Food.—Acting under special orders from Health Commissioner Lederle, inspectors of the department of health began, on March 29, active enforcement of Section 46 of the sanitary code, which provides for the shielding of food from dust, dirt, flies and other contamination. The activity of the inspectors was directed especially against street vendors of candy, on whose stands were found large quantities of confectionery exposed for sale in uncovered, unprotected condition.

Gift to Hospital.—Among the many bequests to religious and charitable institutions made in the will of Mrs. Frances Swan Welles is one of $10,000 to the Presbyterian Hospital to provide a permanent fund, half the income from which is to be used to brighten the lives of the nurses in that institution and the other half to brighten the lives of the patients in the general wards. Other bequests were $5,000 to the Bryson Day Nursery and $5,000 to the Belknap Summer Home for Day Nursery Children, Far Rockaway.

Public Drinking Cups Must Go.—Believing the public drinking cup to be a carrier of infectious diseases, the Board of Health has adopted an additional section to the Sanitary Code which will make it unlawful after October 1, 1911, to have what is known as a "common drinking cup" in any public building, institution, factory, theater, school, railroad station or ferry house in the city. The health department is not recommending any special device to take the place of the drinking cup, but experiments by the department have shown that certain stock fixtures can be so arranged as to comply with the requirements of the new ordinance.

Sage Institute Out of City Charities.—The Russell Sage Institute of Pathology, which was founded in 1907 when Mrs. Sage gave $300,000 for pathological research work in connection with the hospitals and charitable institutions on Blackwell's Island, has resolved to terminate the agreement existing with the Public Charities Department and to withdraw its pathologists from the City Hospital and the City Home. Mr. Drummond, Commissioner of Charities, has asserted that the Institute of Pathology used city money without proper supervision on the part of the city; while on the other side the directors of the institute asserted that there was too much politics mixed with the administration of affairs on the island.

NORTH CAROLINA

Hospital News.—A new city hospital will soon be erected in Tarboro.——The new Rutherford Hospital was formally dedicated, March 10. Dr. Joseph Price, Philadelphia, delivered the principal address and held a clinic.——The new infirmary building of the State Normal College for Women, Greensboro, has been completed.

Personal.—The governor has reappointed Dr. Robert H. Stancell, Margarettsville, director of the State Hospital for the Insane, Raleigh, and Dr. William E. Headen, Morehead City, director of the State Hospital for Colored Insane, Goldsboro.——Dr. Isaac H. Faust, Salisbury, has given up the practice of medicine.——Dr. Francis J. Clemenger, Asheville, has been commissioned as captain of the Medical Corps of the National Guard.——Dr. Robert L. Caveness, Coleridge, has been elected president of the Siler City Loan and Trust Company.——Dr. Berte O. Edwards has been elected president of the Merchants and Farmers Bank, Landis.

Work of the Legislature.—In the last session of the legislature the following work of interest to physicians was accomplished: The bill approved by the state medical society and the State Board of Health, requiring a four years' high school course or its equivalent for candidates for medical license, passed the house but was defeated in the senate. This is the third time this measure has been defeated in the legislature.——The appropriation for the work of the new State Board of Health has been increased from $8,000 to $22,000. The board is also to receive about $4,000 as a tax on water companies, and will also save about $4,000 by the agreement of the state to print its *Bulletin* and other publications.——The county sanitary committee has been abolished, and in place thereof there has been created the county board, consisting of the chairman of the board of county commissioners, mayor of the county town, county superintendent of schools, and two physicians elected by them. The board elects the county superintendent of health who may act as quarantine officer if so desired.——State quarantine of small-pox has been abolished, but local quarantine of counties is left optional.——An act was passed creating a board of nine trustees and providing funds for the building and equipment of a state institution for the feeble-minded. Drs. Lewis B. McBrayer, Asheville; Alfred A. Kent, Lenoir; Ira M. Hardy, Washington; and Robert N. Cartwright, Fairfield, have been appointed members of the board.

NORTH DAKOTA

New Hospitals.—The Ward County Hospital controversy has been settled by turning over the hospital to a hospital association organized by the physicians and business men of Minot.——Dr. Arnt G. Anderson has established an eight-room hospital at Hillsboro.

Meeting of State Antituberculosis Association.—At the annual meeting of the North Dakota Antituberculosis Association, held in Bismarck, Dr. James Grassick, Grand Forks, delivered the annual address, giving a brief review of the work of the association for the past year. The association decided to enlarge the state tuberculosis exhibit, and accepted April 30 as Tuberculosis Sunday. It was reported that nearly 80,000 Red Cross seals were sold during the holidays. The following officers were reelected: president, Dr. James Grassick, Grand Forks; vice-presidents, Mrs. H. L. Bolley, Fargo, and Drs. Victor J. LaRose, Bismarck; Victor H. Stickney, Dickinson, and Andrew Carr, Minot; secretary, Dr. Fannie Dunn Quain, Bismarck; and treasurer, Mrs. J. E. Stevens, Grand Forks.

OHIO

New Department of State Board.—Through the efforts of Dr. Frank Warner, Columbus, the department of epidemiology has been established in cooperation with the State Board of Health for the control and prevention of epidemic diseases.

Plans for Sanatorium Accepted.—The final plans for the joint tuberculosis sanatorium to be erected by Columbiana, Stark, Mahoning, Portage and Summit Counties, have been accepted by the trustees. The sanatorium will be located on the Bixler farm near Akron.

Old Physicians Honored.—About eighty physicians of Montgomery Medical Society were present at a banquet in Dayton, given in honor of Drs. James M. Weaver, Dayton, and Samuel Souders, Dean, in celebration of the fiftieth anniversary of their medical practice. Dr. Souders was unable to attend the banquet on account of ill health. Dr. Horace Bonner was toastmaster. Dr. John S. Beck spoke on "Our Guests," and Dr. John C. Reeve, dean of the profession in Dayton, gave "The Greet of a Veteran Comrade."

Personal.—Dr. Harry D. Belt, Kenton, has sailed for Europe.——Dr. Michael A. Bartley has succeeded D. Rush Robinson, resigned, as district physician of the west side of Columbus.——Dr. Myron S. Clark has been reelected president of the board of health of Youngstown.——Dr. Arlington C. Holland, Marion, chief statistician of the state registrar of vital statistics, will, it is said, succeed Dr. Fred L. Watkins, Columbus, in that position.——Dr. W. Dallas Hoyer, health officer of Sandusky, has resigned and has been succeeded by Dr. Hiram D. Peterson.

Health Official Exonerated.—At a meeting of the board of health of Lorain, March 15, a resolution was adopted exonerating Dr. William A. Pitzele of the charges made against him by Dr. William F. Dager of connivance with local midwives. The board concluded that Dr. Pitzele was innocent of any wrongdoing, or breach of professional courtesy, and that he had done nothing deserving censure or in any way reflecting on his professional or personal integrity or honesty. The board also found that the action taken by Dr. Dager in the matter would have been fully justified had the information which he received been founded on facts.

Cincinnati

Personal.—Dr. Sigmund Wolf has been appointed physician to the Municipal Lodging House.——Dr. Clarence Bahlman has succeeded Dr. Franklin H. Lamb, resigned, as chemist and bacteriologist to the Cincinnati Board of Health.——Dr. Robert D. Maddox has been appointed a member of the orthopedic staff of the City Hospital.

Buildings of Contagious Group Opened.—On March 25 and 26, six new buildings of the contagious group of the Cincinnati Hospital were opened for public inspection. At a meeting of the board of hospital commissioners, last week, the specifications for the entire group of eighteen buildings were approved unanimously. These buildings are in addition to the six of the contagious group just completed, and will cost in the neighborhood of $1,850,000. In addition to wards for patients there will be administration building, receiving ward, nurses' dormitory, kitchen and dining room, room for women employees, operating building, power and laundry building, and stable and garage. The pathologic building will be five stories in height and will include a morgue, chapel and teaching department.

PENNSYLVANIA

Oppose Antivivisection Bills.—A hearing on the antivivisection bills took place before the house health and sanitation committee, representatives of the various medical schools appearing against the bills. Among these were Drs. Alfred Stengel, David Riesman and A. E. Taylor, University of Pennsylvania; Seneca Egbert and Joseph McFarland, Medico-Chirurgical; R. A. Remington, Philadelphia College of Pharmacy, and State Veterinarian, C. J. Marshall.

Governor Favors Change in Medical Bill.—Governor Tener favors reconstructing the present medical bill. The provisions of the new measure will be substantially those of the Gerberich-Wasson measure now in the committee of health and sanitation in the senate. An amendment will be proposed to the bill to definitely fix the compensation of the examining board. This board will be composed of the state commissioner of health, the state superintendent of public instruction and five others to be appointed by the governor. Of these latter, there will be one member of each branch, regular, eclectic and homeopathic. The remaining two will not be members of the same school.

Philadelphia

Gift to Hospital.—The Rush Hospital for the Treatment of Consumption has been given $5,000 by Mr. John Wanamaker for the endowment of a free bed.

Elections.—The following officers for 1911 were elected at the last meeting of the Jefferson Hospital Clinical Society: president, Dr. Hobart A. Hare; vice-president, Dr. Frederick J. Kalteyer; secretary, Dr. Elmer H. Funk; treasurer, Dr. Clarence D. Smith, and executive committee, Drs. Aller G. Ellis, P. Brooke Bland, Edward J. Klopp and Edward J. G. Beardsley.

Gifts to College of Physicians.—At the stated meeting of the College of Physicians, April 5, Dr. John B. Shober read a memoir of the late Dr. George Convier Harlan, after which a portrait of Dr. Harlan was presented to the college on behalf of the daughter, Mrs. Harry Post Mitchell.——A portrait of Dr. James Tyson was also presented by Dr. George A. Piersol on behalf of the donors.——Another gift to the college was an acupuncture needle and a lancet, used by native Korean physicians.

Dr. Scott Memorial.—Ten thousand dollars has been contributed to the University of Pennsylvania to establish a memorial to the late Dr. J. Alison Scott, adjunct professor of medicine in that institution. This memorial will take the form of a fellowship for medical research. Of the interest money $200 will be spent each year to help some medical student to finish his course, while the remainder will be reinvested until the entire sum is large enough to support a physician, able to do research work.

Important Notice to Physicians.—The following postal card notice was sent to all physicians of the city from the Registration Office of the Bureau of Health:

> The Pennsylvania State Department of Health, conjointly with the Philadelphia Bureau of Health, is taking a block census of children under 2 years of age born in Philadelphia. This work will henceforth continue regularly. Where unregistered births are discovered an immediate prosecution will be instituted against the physician, midwife, institution or person found to be negligent. This notice is intended as a warning—that the law requiring the registration of all births within ten days of their occurrence will be absolutely enforced in every instance. Stillbirths must be registered both as births and deaths.

Efforts to Overturn Pure Food Laws.—An attempt to overthrow the pure food laws of the state by permitting the use of sulphur dioxid in the manufacture of candy, was disclosed in a bill presented to the legislature by Representative Edwin M. Abbott, March 30. This bill makes the second attempt within a short time to overturn the pure food laws. The first bill introduced by Senator James P. McNichol provided that saccharin might be used in "soft drinks," while the Abbott bill amends the present pure food law by allowing the use of sulphur dioxid in the manufacture of candy.

GENERAL NEWS

Association for the Study of Epilepsy.—The National Association for the Study of Epilepsy and the Care and Treatment of Epilepsy will hold its annual meeting in St. Louis, June 16, under the auspices of the St. Louis Medical Society. This date has been set so that members may attend the Denver meeting of the American Medico-Psychological Association, and still reach Los Angeles in ample time for the meeting of the American Medical Association.

Threatens Marine Hospital Surgeon.—The surgeon general of the Public Health and Marine-Hospital Service has received a report from Surgeon Henry D. Geddings, on duty at Naples, to the effect that his life has been threatened because of his activity in the cholera situation. Geddings has received anonymous letters threatening his life and has been pelted with vegetables and decayed fruit. The situation became so disagreeable that the authorities of Naples have furnished him with a guard.

Prevention of Infant Mortality.—The second annual meeting of the American Association for the Study and Prevention of Infant Mortality will be held in Chicago, November 16-18. The work of the association will be in six sections: Midwifery, Dr. Mary Sherwood, Baltimore, chairman; eugenics, Prof. H. O. Jordan, University of Virginia, chairman; public school education, Dr. Helen C. Putnam, Providence, R. I., chairman; housing, Mr. Lawrence Veiller, New York City, chairman; milk, Prof. E. O. Jordan, University of Chicago, chairman; and rural communities, Dr. Edward W. Saunders, St. Louis, chairman. Special reports will be made on the relative value of existing agencies in infant welfare work and on the work being carried on in this country, Great Britain and continental Europe in the prevention of infant mortality.

International Medical Congress.—The Seventeenth International Medical Congress will be held in London in the summer of 1913, the exact date being fixed by the permanent committee which will assemble in London, April 21 and 22, under the presidency of Dr. Frederick W. Pavy, London. At this meeting a list of the sections of the congress will be arranged. Any wishes or suggestions concerning the arrangement of this list may be sent, up to April 1, to the secretary of the permanent committee, Prof. H. Burger, Vondelstraat, I, Amsterdam, Holland, or to the bureau of the committee, Hugo de Grootstraat, 10, The Hague, Holland. The committee will also be glad to receive before that date, any information or suggestions regarding the organization of the congress. This is the first time any international medical congress has been organized with such broad preliminary work, and it is hoped to get out of ruts and the influence of traditions and to make the congress represent the advance of science in congresses as well as in the science for which the meeting stands. The appeal of the committee for suggestions should be heeded. Dr. John H. Musser, 1927 Chestnut Street, Philadelphia, the American member of the permanent commission, expects to attend the meeting of the commission in London and will be glad to present any suggestions made by the readers of THE JOURNAL.

FOREIGN NEWS

Sanitary Progress in Latin America.—The little island of Curaçoa, just north of the most northern point of South America, is a gateway to Porto Rico and the Panama Canal Zone; consequently it is satisfactory to learn that the colonial government has made strenuous efforts to exterminate rats. The war of extermination was instituted last year when plague appeared at the two principal ports of Venezuela to the south. Cable despatches also state that the city of Guayaquil, the main port of Ecuador on the Pacific Coast, has engaged engineers to install a new drainage and water-supply system and rebuild portions of the city to place it in first-class sanitary condition. Eight millions have been appropriated for this purpose. The way in which Buenos Aires is handling the rat question was described in these columns March 18, page 824.

Rio de Janeiro has been transformed in the last few years so that it now ranks among the healthiest cities in the world. Oswaldo Cruz, who had charge of the sanification of Rio, is now engaged in a similar task at Para, at the request of the city of Para, which is near the mouth of the Amazon River and is the headquarters of the Brazilian rubber trade. Cruz took with him ten leading sanitarians besides an office force and seventy aids. The entire force is under contract to the state of Para and the task of sanification is now well under way. In all the reports of the progress of sanitation in Latin America there is always some reference to the "Americans" having blazed the way—it is certainly curious how the countries to the north and south of the United States unanimously restrict the term "Americans" to the people of this country. The people of the United States have never arrogated to themselves the exclusive title of "Americans," but our neighbors north and south seem to have voluntarily thus crowned us.

Deaths in the Profession Abroad.—In addition to those already mentioned in our foreign correspondence, the following eminent physicians have died recently: J. dos Santos, Viscount de Ibituruna, the Nestor of the physicians at Rio de Janeiro and long a leader in preventive medicine, president of the Brazilian Liga contra a tuberculose, formerly president of the city council and of the board of public health, aged 83.——C. van Cauwenberge, professor of gynecology and obstetrics at the university of Ghent.——At Lima, Peru, F. A. Suter, professor of surgery, aged 37. He was called to this post from Switzerland in 1908.——W. F. Sprimon of Moscow, founder in 1881 and editor of the leading Russian medical monthly, *Medizinskoe Obozrenie.*——M. Nery, professor of nervous and mental diseases at the University of Rio de Janeiro and on the editorial staff of the *Brazil Medico.*——C. A. MacMunn of Wolverhampton, Eng., well known for his physiologic research, especially the application of the spectroscope to physiology, author of "The Spectroscope in Medicine" and of other works on physiologic and pathologic chemistry, aged 58.——Arthur Frame Jackson, M.B., 1909, Cambridge and Liverpool; D.T.M., 1910, Liverpool; a young medical missionary of great promise, a member of the staff of the Presbyterian Hospital, Mukden, Manchuria, and in charge of the section of that city in which 80 per cent. of the deaths from bubonic plague have occurred, contracted that disease January 23, and in spite of injections of Yersin's serum, and all that medical science could do, died January 25, aged 26. At the memorial services held in the British Consulate General, Mukden, February 1, Hsi Liang, viceroy of Manchuria, paid the following tribute to the work and memory of Dr. Jackson:

> We have shown ourselves unworthy of the trust laid on us by our emperor; we have allowed a dire pestilence to overwhelm the sacred capital. His majesty the king of Great Britain shows sympathy with every country when calamity overtakes them. His subject, Dr. Jackson, moved by his sovereign's spirit, and with the heart of the Savior, who gave his life to deliver the world, responded nobly when we asked him to help our country in its need. He went forth to help us in our fight; daily, where the pestilence lay thickest, midst the groans of the dying, he struggled to cure the stricken, to find medicine to stay the evil.
>
> Worn by his efforts, the pestilence seized on him, and took him from us, long ere his time. Our sorrow is beyond all measure, our grief too deep for words. Dr. Jackson was a young man of high education and great natural ability. He came to Manchuria with the intention of spreading medical knowledge and thus conveying untold blessing on the eastern peoples. In pursuit of his ideal he was cut down. The Presbyterian mission has lost a worker of great promise, the Chinese government a man who gave his life in his desire to help them.
>
> O, spirit of Dr. Jackson, we pray you intercede for the 20,000,000 people in Manchuria and ask the Lord of heaven to take away this pestilence, so that we may once more lay our heads in peace on our pillows. In life you were brave, in death you are an exalted spirit. Noble spirit, who sacrificed your life for us, help us still and look down in kindness on us all.

LONDON LETTER

(From Our Regular Correspondent)

London, March 25, 1911.

A Novel Doctrine of Ventilation

At the Institution of Heating and Ventilating Engineers, Mr. Leonard Hill, the eminent physiologist, described a remarkable series of experiments which he and his staff at the London Hospital have made, and which have led to a doctrine of ventilation that is a complete revolution. He began by referring to evidence which he gave before a royal commission on the conditions of weaving sheds. In these sheds there must be a high degree of humidity. The health authorities insist that the percentage of carbon dioxid must not rise above the usual amount allowed, say 10 parts in 10,000, but the work people want the sheds to be shut up and "stew in their own juice," so to speak. They wanted to get the requisite humidity from their own breaths rather than from admission of warm vapor. Now, curiously, the regulations, while forbidding more than a certain amount of carbon dioxid, did not prescribe any limitation of the wet-bulb temperature. But Mr. Hill found that carbon dioxid does not do any harm whatever, while a wet-bulb temperature of 75 degrees is very bad and ought not to be tolerated in any factory. All the current teaching of the hygiene of ventilation runs on the chemical purity of the air; but according to Mr. Hill the essential thing in ventilation is heat, not chemical purity. It does not matter if there is 1 per cent. more carbon dioxid and 1 per cent. less of oxygen. In the worst ventilated rooms there is not 1 per cent. less of oxygen. The only effect of an excess of carbon dioxid is to make one breathe a little more deeply. A much higher amount has to be attained to have any toxic effect. As to organic impurities derived from respiration, there is no physiologic evidence of their toxicity or that they are of any importance except as an indicator of the number of bacteria in air. Chemical purity of the air is desirable in order to diminish the chance of infection, but in halls and theaters there is very little chance of preventing infection from persons who sneeze or cough out thousands of bacteria. Even when a man is speaking, he is spraying out bacteria in front of him. The really important thing is immunity to such bacteria. In the case of water-borne disease we can prevent infection but not in the case of air-borne disease. The way to keep air best from the physiologic point of view is shown by the following experiment performed by Hill at the London Hospital: Into a small chamber which holds about 3 cubic meters he put eight students and sealed them up. They got into the chamber joking and lively. At the end of half an hour the wet-bulb temperature had risen to 85 F. They had ceased to laugh and joke and their faces were congested. The carbon dioxid had gone up 4 or 5 per cent. and the oxygen down to a corresponding extent. Hill then put on three electric fans and merely whirled the air about just as it was. The effect was like magic; the students at once felt perfectly comfortable, but immediately the fans stopped they felt as bad as ever. In another experiment, a man in the chamber breathed through a tin of soda lime so that he got no carbon dioxid. When the wet-bulb temperature rose to 85 degrees sweating and discomfort came on, just as in the first experiment, and when the fans were turned on he got the same relief. Then a bag containing carbon dioxid was connected with the chamber and enough of the gas was admitted to raise the percentage of carbon dioxid to 2 per cent. The man in the chamber felt no ill effects whatever and even did not know that the gas had been admitted, but he was observed to breathe more rapidly. These experiments, Hill asserts, show that all the discomfort from breathing air in a confined space is due to heat and moisture and not to carbon dioxid. Even after forty-five minutes in the chamber there were no after-effects such as headache. In a crowded room, the air is at the body temperature and there is no circulation; therefore it becomes saturated with moisture and we have no means left of keeping the body temperature down. We cannot radiate heat because we are of the same temperature. We cannot lose heat by evaporation because the air is entangled among our bodies and cannot get away. Then the heat-regulating mechanism is strained and in order to keep the body temperature down the heart has to beat very much faster and we feel miserable, but as soon as the air is made to move relief is given. Mr. Leonard Hill concludes, therefore, that when it is not possible to keep the air of a building up to the chemical standard of purity laid down in the text-books the proper course is to keep the air moving. In weaving sheds the wet-bulb temperature must be kept below 75 F. There are mines in Cornwall in which the wet-bulb temperature is often up to 90 F. and the men do not do an hour's work in the day; they drink enormously and pour the sweat out of their boots. The open air treatment that is so much talked about is not, he declares, a matter of fresh air, it is merely the constant cooling of the body by the circulation of air which makes us eat more and be more active. This leads to a general strengthening of the body because the blood is not only circulated by the heart but by every muscle in the body. There cannot be efficient circulation without constant movement and activity. If there is constant cooling by ventilation then a person is kept more active and the general health is improved.

Sir Francis Galton's Bequest for the Study of Eugenics

Sir Francis Galton, notice of whose death appeared in The Journal, February 4, p. 359, made a remarkable bequest of residuary estate, which is expected to amount to $325,000, for the advancement of eugenics, the science of race improvement, which he initiated in 1901. The money is to be used to endow a "Galton Professorship of Eugenics" at the University of London, with a laboratory and a library attached thereto. According to the words of the testament: "It shall be the duty of the professor to pursue the study and further the knowledge of national eugenics, that is, of agencies under social control that may improve or impair the racial faculties of future generations physically and mentally." The professor will be expected to collect material bearing on eugenics, to provide, under appropriate restrictions, information to private individuals and public authorities concerning the laws of inheritance in man; to urge the conclusions as to social conduct which follow from such laws, and to extend the knowledge of eugenics by instruction, publications, lectures and experimental or observational work. Sir Francis Galton left property to the gross value of $575,000. Thus, he left more than half of his estate for the advancement of the subject he had so much at heart. He also expressed the desire that the first holder of the chair should be Prof. Karl Pearson, the well-known protagonist of biometric methods, who shall have liberty to continue his biometric laboratory at University College.

The Small-Pox Epidemic

The small-pox epidemic in London appears to be at an end. No fresh cases have been reported for a fortnight. An outbreak of small-pox occurred at Bury in Lancashire, and there are now twenty-five patients in hospital. The outbreak has been traced to a mill in which all the affected people were employed. The mill has been closed in consequence of the operatives declining to work. The warps and weft in several looms have been ordered to be destroyed and about 3,000 finished pieces of cloth have been disinfected.

MANILA LETTER

(From Our Regular Correspondent)

MANILA, Feb. 13, 1911.

Effect of Tropical Climate on White Men

For all time, the discussion of any phase of the general topic, the effect of the tropics on the white man, doubtless will attract more or less attention. This effect, which is at once apparently so evident, and yet at the same time so difficult to prove absolutely, is bound to give rise to a great deal of scientific, semiscientific and popular discussion. That one does undergo a change in himself after coming to tropical Oriental countries is universally admitted. But whether this change is for good or bad in many cases might be open to doubt. A great deal depends on the personal element, one's former habits and environments and the habits, environments and associations which he falls into or acquires in the hot climate. For instance, for many Americans who are given to too much of the so-called American hustle, a temporary residence in the tropics is likely to prove directly beneficial. On first arriving in the tropics from a temperate climate a man finds himself burdened with a great desire for sleep—long hours of sleep at night and a nap after lunch. Any strenuous exercise quickly exhausts him, and tennis is very often the limit of his powers of exertion. This condition does not obtain usually more than three or four months, and he feels himself normal again, capable of much more exercise, and work ceases to be a burden, although in the meantime he has probably adjusted his activities to a slower pace.

The agents which are responsible for this effect, and for the more obscure and serious effects believed by many to be experienced by persons from temperate climates who remain in the tropics for a long time, are still unknown. The intense heat, the prolonged hot season, the glare of the tropical sun and the actinic rays of the tropical sun all have been indicted. Recent physical experiments made at the Bureau of Science, Manila, tend to rule out the actinic rays. In regard to the actinic rays, there have been made also in the U. S. Army in the Philippines, by the Tropical Diseases Board, a series of observations on soldiers wearing orange-red underwear. Cloth of this color had been supposed to be relatively impervious to the actinic rays of the sun. Hence, people wearing orange-red clothing would be almost immune to this supposedly injurious tropical agent. The following report has been made:

"During the quarter, the tests of the orange-red underclothing, which have been under way for over a year, were completed, and the work of compiling the great amount of data obtained from these observations was carried out by Captain James D. Phalen of the Medical Corps, who has submitted an extensive special report on the subject. A summary of the work is as follows:

"The test of the orange-red underwear and hat linings was undertaken as a result of recommendations by the Inspector-General of the Army. The garments were prepared at the Philadelphia depot of the Quartermaster Department, and were of a deep orange-red color. The shirts averaged one-fifth of an ounce heavier than the white ones worn by the controls. The orange-red drawers were of a different type from the white ones and averaged 1 1/5 ounces heavier. The garments faded materially on washing, especially if exposed to the sun while drying. However, the inner surface retained much of the dye, and it is not thought that the fading was so great as to destroy the value of the tests.

"It had been intended to equip 1,000 men with the special underwear and an equal number of controls with white, but owing to inability to fit sufficient men from the 5,000 suits furnished, it was found impossible to equip over 500 with the orange-red garments. The tests were carried out under the immediate supervision of the following medical officers at the posts shown after their names: Major C. C. Collins, Fort McKinley, Rizal, P. I.; First Lieutenant C. L. McKinney, Camp Stotsenburg, P. I.; First Lieutenant H. A. Philips, Camp Jossman, Guimaras, P. I.; First Lieutenant C. D. Cowles, Jr., Zamboanga, Mindanao, P. I.

"The men wearing the special clothing and the controls wearing the white were taken from the same companies, which were equally divided in such a way as to make the two groups as nearly as possible equal in physique. Those with long tropical service, or who were exceptionally weak, were excluded.

"The experiment was kept up during the calendar year of 1909, and a summary of the results are as follows:

"(1) Weight:—There was a loss of weight during the year in both groups of men, more marked in the mid-year (hot season) weighings, a certain amount of the mid-year loss being made up by the end of December. The loss of weight at the mid-year observations was greater by an average of 1 pound for the orange-red group men than for the control group. At the end of the period of observation there was no difference of weight in the two groups.

"(2) Blood Examinations:—The result in both groups agreed in character if not in degree with those of Captain Wickline of the Medical Corps, showing an increase above normal in the number of red cells and a decrease in the percentage of hemoglobin, the hemoglobin index being necessarily still more diminished. The increase of red cells and the decrease of hemoglobin were both more marked in the orange-red group than in the controls. Both this change and the greater loss in weight, referred to above as the lower blood-pressure mentioned below, may have been due to increased perspiration on the part of the orange group during the hot season.

"(3) Blood-Pressure:—The blood-pressure of both groups fell during the hot season, the fall being slightly more marked in the orange-red group. In December the pressure in both groups returned to practically the original point.

"(4) Pulse, Temperature and Respiration:—These were taken after drill or other exercises, 8,000 observations being made. Averages for 1,500 observations are shown in the following table:

Orange-red group..........	98.792	91.2	22.3
White group.............	98.780	90.9	21.3

"It will be seen that each is higher for the orange-red group than for the controls, but the differences are very slight.

"(5) Comparative:—Sick reports showed insignificant differences. The admissions per 1,000 and the days lost per 1,000 were, respectively, 508 and 3,526 for the special group, and 478 and 3,522 for the white group. The admissions per 1,000 for heat exhaustion were higher for the orange-red group, twenty-seven as compared with twenty-one for the controls.

"(6) Strength Tests:—Strength tests on men from the two groups showed nothing of value.

"(7) Symptoms Referable to Climate:—The two groups suffered about equally from these except as regards excessive perspiration, which was much more complained of by the men of the orange-red group.

"(8) Impressions of the Wearer:—Sixteen men preferred the orange-red garments, fifty-four had no choice between the colors, and the remainder, nearly 400, expressed an opinion adverse to the colored underwear. Fifty said it was hotter and 104 others stated that it caused more profuse perspiration. No organization commander saw any benefit from its use, and of sixteen officers who used it for a time, only one expressed approval.

"(9) Photographic Experiments:—Experiments showed that the campaign hat was as impervious to the rays affecting the photographic plate, without the orange lining as it was with it. The lining added materially to the opacity of the khaki cap. The differences in penetrability by actinic rays between a light skin and a dark Filipino were slight, and were entirely neutralized by one layer of khaki uniform cloth. The pigment of the darkest skin was found nowhere nearly so protective as was the orange-red garment.

"(10) Temperature Experiments:—Extensive experiments, both on and off the body, showed that, when exposed to the sun, the temperature was greater beneath the orange-red material than it was beneath similar white material. The same was found to be true when both materials were overlaid by khaki cloth.

"(11) Moist Heat Experiments:—These were carried out at Los Banos in a room ranging from 90 to 98 F. and with the atmosphere saturated with moisture. Men remaining four hours in this room lost greatly in weight and had a marked rise in temperature, with acceleration of pulse and respiration and fall in blood-pressure.

"From the results of the whole test and the experiments the conclusion was reached that the physiologic effects of the climate in the Philippines can be and probably are produced by moist heat without the aid of the sun's actinic rays, and no evidence was found that the sun's rays alone could or did produce these effects. On the contrary, the test underclothing added materially to the burden of heat which the system was compelled to endure and which is probably the chief cause of tropical deterioration. Even if the actinic rays have any influence whatever on the system, it is believed that they are sufficiently excluded by the khaki uniform and the campaign hat."

PARIS LETTER

(From Our Regular Correspondent)

Paris, March 24, 1911.

Statistics of Cancer

Dr. Jacques Bertillon, of the service of municipal statistics of Paris, on March 24 made an interesting communication on the statistics of cancer to the Académie de médecine. Drawing his material from the sanitary statistics of the communes published within the last three years by the interior department, he showed that it was easy to mark out on a map of France the region where cancer is frequent in the country and that where it is rare. If one draws a line from Caen to Angers, another from Angers to Dijon, and a third from Dijon to Mézières, in the quadrilateral formed by these three lines and the northern frontier are included all the departments which are most affected by cancer. Outside of this quadrilateral, on the other hand, except for La Vendée and l'Isère, are the departments where cancer is a third or a fourth as frequent. This fatal quadrilateral corresponds quite closely to the chalky basin of which Paris is the center. On the southwest, one may trace another quadrilateral as much exempt as the other is affected, by drawing a line from La Rochelle to the Rhône to the south of Lyons. The quadrilateral formed by this line, the Rhône, the Pyrénées and the two seas does not contain a single department where cancer is notably frequent. These statistics concern only the communes having less than 5,000 inhabitants, that is to say, the country; nevertheless, the distribution of cancer in French cities is identical with its distribution in the country.

In general, cancer is more frequent in the northern countries of Europe (England 91 deaths per year per 100,000 inhabitants, Norway 100, the Netherlands 101) than in the center of Europe (Prussia 71, Austria 78, France 76) and much more rare in the countries bordering on the Mediterranean (Spain 48, Italy 61, European population of Algeria 32). Its frequency, however, is increasing in all countries without exception. In England it has almost trebled within fifty years. The statistics of the other countries do not go back so far, but show at least as rapid an increase. The statistics of Paris show that cancer is not increasing in subjects under 55. Cancers of the stomach and the alimentary canal in general are increasing, but not cancers of the breast or of the genital organs. Is this state of things to be attributed to our diet? This is a point which cannot be answered. At all events, cancer is at present one of the most cruel scourges of humanity. In England it causes almost as many deaths (34,053 in 1909) as pulmonary tuberculosis (38,639). In France it caused 30,124 deaths in 1908.

The Statistics of the Public First-Aid Service

The public first-aid service of the prefecture of police has just compiled the statistics of the work done during 1910. The first-aid pavilion established on the borders of the Seine received 321 persons (247 men and 74 women) who were rescued from the river; of these three were not revived; 132 had thrown themselves into the water intentionally. In the first-aid stations of Paris 268 wounded and 12 sick persons were cared for. In the suburbs 78 wounded and 17 sick were cared for. The litters of the various stations of the arrondissements were used 661 times. The ambulances installed at the time of the ceremonies and public celebrations received 302 persons, 120 at the national festival, 62 during carnival.

Personal

Dr. Séverin Arloing, professor of experimental and comparative medicine at the Faculté de médecine de Lyon, and director of the veterinary school of that city, has just died suddenly. He was a correspondent of the Académie des sciences and a national associate of the Académie de médecine de Paris. His works on comparative pathology, some written by himself alone, some in collaboration with M. Chauveau, brought him a great reputation. In his latter years he devoted himself especially to research on tuberculosis.

Dr. Charles Debierre, professor of anatomy at the Faculté de médecine de Lille, has just been elected senator.

Measures Against Depopulation in Belgium

Serious inquietude is beginning to be felt in Belgium over the constant diminution of the birth-rate, which has been going on for some years. A bill has recently been proposed to punish by imprisonment of from one to three years, physicians, midwives and pharmacists who recommend means of abortion; also, to punish by imprisonment of from six months to three years and a fine of from $40 to $600 (200 to 3,000 francs) anyone who shall sell, put on sale or even privately offer drugs, instruments or objects intended to produce abortion, whether the attempt be effective or not.

Diminution of the Number of Abandoned Infants

According to the statistics communicated by M. Mesureur, director of the public charities (Assistance Publique) of Paris, the number of abandoned infants has diminished considerably, especially the number of abandoned infants from 8 to 15 days old. There were 1,500 such infants abandoned in 1900 and 1901; 1,300 in 1905, 1,100 in 1907 and 1908, and 1,000 in 1909, or a diminution of a third in ten years.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, March 17, 1911.

Personal

Dr. Seydel, extraordinary professor of legal medicine in Königsberg, celebrated the golden jubilee of his doctorate March 2.

Professor von Angerer, the body physician of the prince regent of Bavaria, was granted, on the occasion of the ninetieth birthday of the latter, a hereditary title of nobility.

Centennial of the University of Breslau

In August of this year the centennial of the University of Breslau occurs. In view of this circumstance, Dr. Paul Schottländer, a son of the well known publisher in Breslau, has contributed $62,500 (250,000 marks) for the aid of students and assistants of the Breslau university who are making tours for the purpose of investigation.

Prize Offered for Essay

A newspaper appearing in Frankfort called *Die Umschau* has offered a prize of $300 (1,200 marks) for the best work on the question "What do the inferior elements of the race cost the State and Society?"

Proposal to Establish a Department of Psychiatry in the Imperial Health Office

The well known psychiatrist, Professor Sommer of Giessen, has presented a petition to the Reichstag asking for the foundation of a department of psychiatry in the Imperial Health Office. The institution is to consist of a department for statistics and records of institutions, a department for clinical and forensic psychiatry, and a department for heredity and mental hygiene. Both the committee in charge of the petition and the government have characterized the plan as impracticable and so the proposition was merely referred to the imperial chancellor without comment.

Prize Articles on the Early Clinical Diagnosis of Cancer

The German central committee for cancer research has awarded prizes of $250, $125 and $75 (1,000, 500 and 300 marks) for the three best articles on the early diagnosis of cancer by clinical means which are suitable for distribution as circulars to practitioners. The prizes have been given in this order: Dr. Fischer-Defoy of Quedlinburg, Prof. Karewski, the well known surgeon of Berlin, and Dr. Hollmann of Solingen.

Discussions of the Reichstag Committee on the Antiquackery Bill

The further proceedings of the committee on the third section of this bill, namely, the forbidding of treatment by means of mystical processes, have increased the number of remarkable statements on the part of the conservatives and members of the center group on the value of the mystic methods of treatment. One conservative declared on the ground of thirty years' experience, that the so-called incantations (*Besprechen*) are of value for human beings as well as for animals. There occurred in connection with it a reflex action on the nervous system of the person who used the treatment. He had himself seen cases in which men who used incantations on animals, were themselves made to vomit. In his view there was a secret relation between the conjurer and the conjured, and there were secrets in nature which science so far is unable to explain. A member of the center group emphasized that the limits between faith and superstition were so difficult to draw that it is dangerous to attempt to define them. Naturally these grotesque views are held up to ridicule in the papers, and this has had the favorable effect that the representatives of the conservatives and of the central party are more reserved in their expressions. It is to be hoped that the passage ot the law against quackery will be promoted thereby.

Proposed Settlement of the Insurance Physician Question

The committee of the Reichstag which has the new insurance legislation under consideration, has, after much debate, reached a determination of the relations between physicians and the Krankenkassen, the most favorable to physicians of any that have so far been made. Whether the committee's report will be accepted by the house, remains to be seen. The most important paragraphs are as follows:

The relations between the Krankenkassen and the physicians shall be determined by a written contract. The Kasse (sick benefit club) may, except in urgent cases, refuse to pay other physicians. So long as it does not distinctly increase the burden of the club, it shall give its members free choice of at least two physicians. If the insured will pay the extra cost he shall have the right to choose among the physicians appointed by the clubs. The club may, however, decide that the patient can change his physician during the business year, or during the treatment of the same insurance case, only with the permission of the management. If the care of the sick by any sick benefit club is seriously menaced by the fact that the club cannot make a contract with a sufficient number of physicians or because the physicians do not keep their contract, the chief insurance officer may empower the sick benefit club to pay cash instead of furnishing nursing or medical care, to the extent of two-thirds of the average amount of their legal fund for sickness. The chief insurance office may at the same time determine: 1. How the condition of the person who is to receive the service shall be evidenced otherwise than through a physician's certificate. 2. That the club may continue its services as long as satisfactory evidence is furnished or withhold them until such evidence is provided. 3. That the club's duty to furnish service shall lapse if no sufficient evidence is brought within one year after the occasion for service arises. 4. That the club may send those who need medical care to a hospital even if the conditions of Section 199 (Par. 2) are not fulfilled. The club may appeal from the decision of the insurance office to the superior government officers. Section 381 permits the management to provide hospital treatment only through certain hospitals. Certain hospitals, especially those devoted to charity, may be excluded only for important reasons. Section 382 provides: If the hospital or medical treatment provided by any Krankenkasse is insufficient, the chief insurance office may direct that these services shall be furnished by other physicians or hospitals. Section 383 directs that when the Krankenkasse does not obey this order the chief insurance office may provide what is necessary at the expense of the club.

Campaign Against Sensationalism in the Press

The energetic efforts of many people to repress obscenity in language and pictures has been happily extended to the suppression of exaggorated sensational news. The Verband der rheinisch-westfälischen Presse has published an announcement in which the tendency of many newspapers to provide the public sensational news is criticized and reform emphatically urged. The reports of sensational court trials should be condensed to the extreme, as experience shows that unstable minds are easily prompted to the commission of similar crimes by reading such news. The same is true with regard to accounts of crimes, especially those of a sexual nature. Further care should be taken to avoid the collection of items regarding crime in a single number, so that the reader may not lose the sense of the detestableness of such things, and especially that the idea may not be aroused in the mind of the young that deeds so common are inevitable.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, March 13, 1911.

Increase of Rhinoscleroma in Hungary

Acting on a suggestion thrown out at the last international medical congress in Budapest, a committee for the investigation of rhinoscleroma has been informally constituted in Hungary, and already it has found thirty-seven fresh cases, some of which have been reported on previously. At present it is not yet possible to state whether actual infection is present. Therefore steps have been taken to keep the known patients on a list. The only reliable treatment is surgical: excision of the scleromatous tissues, with subsequent packing of the resulting nasal cavities. The disease, at least in this part of Europe, affects chiefly young and otherwise healthy persons, and does not incapacitate them seriously except when the entire breathing through the nose is stopped.

A State Institution for Infants and Mothers

In compliance with a generous wish of the old emperor, who is extremely fond of children, a large amount of money which had been originally intended for public expenditure has been turned to charitable purposes, especially for the erection of a large institution for the care of infants and for the instruction of mothers. The emperor himself has consented to accept the protectorship of the institute. The plan is to combine the following institutions: a postgraduate school for pediatricians, a school for special infants' nurses, a mothers' school and a school for children with moral and psychic defects, besides a consulting department for diseased and healthy infants. Each district hospital will be invited to send two nurses to the nurses' school, where they will remain one-fourth to one-half year and will be instructed in all subjects pertaining to the care of infants, in health and disease.

Thus in a couple of years a large number of fully trained children's nurses will be available all over the country. Furthermore, trained midwives will be received as pupils in these classes. They will be the chief aid of the doctors in the country, where mothers so often rely on the counsel of the "wise women" in regard to the feeding of babies. It is hoped that they will also be a useful means of propagating breast-feeding. Also the matrons and nurses of orphans' institutes and foundlings' homes will be invited to attend these classes. Physicians desiring to become eligible to the directorship of similar institutions in the country will find opportunity to learn the duties of such a post. Mothers, as well as grown-up girls, will be invited to become pupils in the mothers' classes. They will learn the elementary principles of the practical care of children. They will come into contact with children and babies and mothers and thus will be prepared for duties which they might be called on to fulfil any day. Physicians and teachers will be in permanent attendance on this mother's counsel department. The school for defective children aims chiefly at making these individuals as capable as possible for earning part or whole of their living. At the same time, nurses who wish to take up this branch of their occupation will be able to spend a great part of the day with such persons.

It will be possible to train twenty nurses yearly as special nurses for defective children, forty hospital nurses for children, and as many midwives, while forty infants and twenty older children will be accommodated for periods of six weeks each. Thus about 500 children a year will pass through the hands of the pupils in the institution. A number of destitute mothers will be made able to earn their living as competent nurses, poor women will receive free advice for their babies, and a few hundred children will be under control, so that their lives will have better chances. And besides, the advantages offered to members of the medical profession are also very considerable.

Association News

EASTERN RATES

One Fare and a Half Granted on the Los Angeles Trip East of Chicago

In previous announcements about the Los Angeles Session, it was stated that the eastern railroad rates had not been decided. We are now able to announce that a rate of one fare and a half has been granted for the round trip from points in the Central, Eastern and New England Passenger associations' territory to Chicago and return. The rate from Chicago to Los Angeles and return is $62.50, with $15.00 additional if one returns by one of the northern routes. Full information about rates, hotels, routes, trains, parties, etc., has been given in The Journal during the past weeks and will be repeated May 13 in the special illustrated number about Los Angeles.

No Program of Section on Dermatology

To the Editor:—The executive committee and the officers of the Section on Dermatology authorize its secretary to notify you of the postponement of the Section program and meeting for one year and that proper announcement be officially made by publication in The Journal. The action was taken at a meeting of the committee and officers of the Section in New York City, December 28, this action being the outcome of an insufficient number of papers. From eighty invitations issued requesting papers which were sent out in October only five papers were pledged, two being from men on the Pacific Coast.

H. R. Varney, Detroit, Secretary.

Miscellany

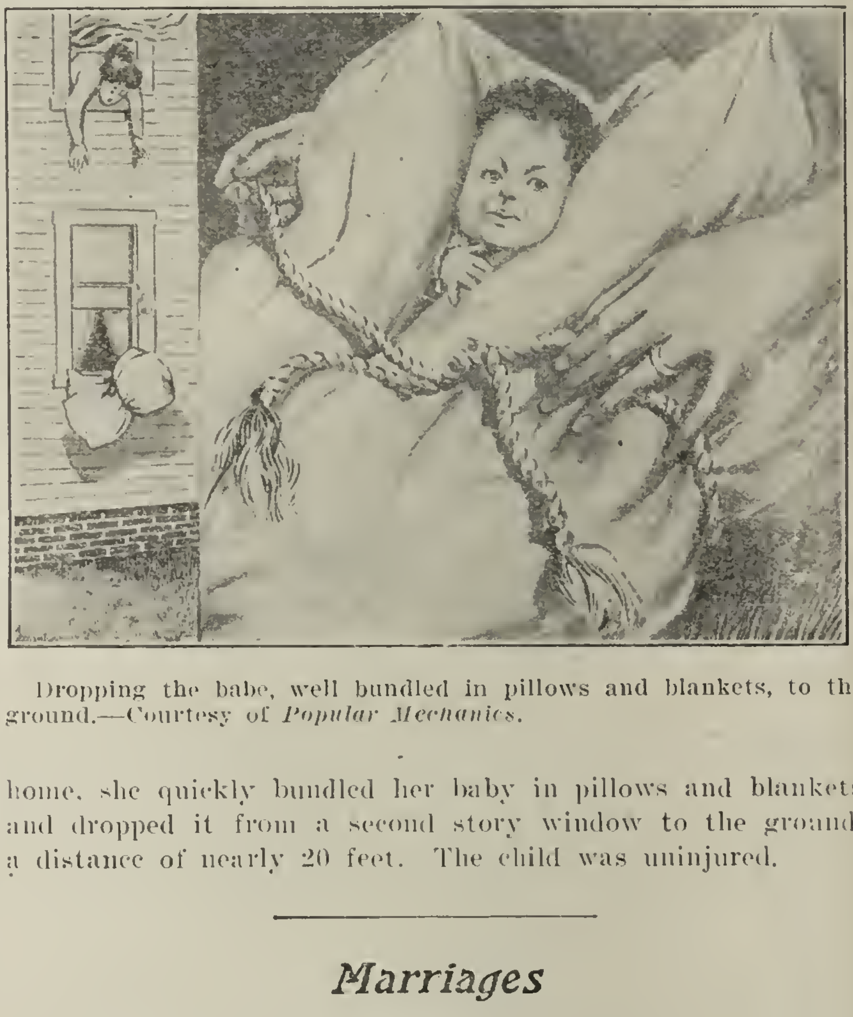
The Queer Things That Men Eat.—The primitive races of mankind eat many things that seem strange and repulsive to us, though not more so than some of our favorite dainties appear to them. Quoting from the circular of the Dresden Hygiene Exhibition, the *Scientific American* (March 11, 1911) says: At the end of the rainy season the Bushmen of South Africa go foraging, taking with them their wives and children and most of their earthly possessions. The men hunt, using arrows tipped with a poison which appears to be harmless when taken into the stomach. (The South American Indians assert that the curare which they use for this purpose makes the flesh of the game more digestible.) While the men hunt, the women dig edible roots with sharpened sticks. Caterpillars are collected, killed by crushing their heads and carefully packed in grass for future use. The aborigines of Australia live largely on the seeds of many species of grasses, for each of which they have a distinctive name. They also eat the seeds of various palms, many roots and bulbs and the gum exuded by trees. A sort of bread is made of the injua root, and a gruel of karanga seeds. The animal food of the Australians includes ants, caterpillars, cicadas and many other insects. A favorite dish, called tuinamba, is composed of pupa cases. The tent-like coverings which the psylla larvæ infesting the eucalyptus make for themselves out of the sweet and glutinous exudations of the leaves, and their own secretions, are dilligently collected and form a dainty which resembles manna and is called paralja. Another delicacy is the flesh of snakes which, with the exception of the liver, is too dry and tasteless to appeal to civilized palates.

The Physician and Public Health.—At all times, from the dawn of history, the highest function of the physician has been to guard those who entrust themselves to his care against the enemies of health, whether these come in the form of licentiousness, dissipation or disease, and for this service, mankind has always been willing to return a good compensation in both money and esteem. No man has ever been held in higher esteem in the world than he who could protect against impediments to health, who could ward off death when disease had broken through the lines of protection, and who could give relief from pain and disquietude. The world has bowed before him and even kings have honored him.—L. F. Flick, in *Interstate Medical Journal*.

"Stigma of Mentality."—A physician of Wisconsin, in sending an advertisement, part of which is reproduced below, writes: "I enclose a serio-comic but seriously intended advertisement that appeared in a local paper. It must be hard for some people to live under the 'stigma of mentality,' but it is indeed gratifying that there is an institution offering relief from this besetting sin."

> This institution was established to supply a public demand for a place where one could go without the stigma of mentality and receive treatment for those conditions requiring Physical correction. Open all the year.
> Physicians in Charge.

Rescuing the Baby.—In Chicago recently a woman adopted a clever expedient for saving her baby from burning when her dwelling caught fire. Awakened by the fire in her burning home, she quickly bundled her baby in pillows and blankets and dropped it from a second story window to the ground, a distance of nearly 20 feet. The child was uninjured.



Dropping the babe, well bundled in pillows and blankets, to the ground.—Courtesy of *Popular Mechanics*.

Marriages

J. M. Hodges, M.D., to Miss Frances McNeff, both of Detroit, March 20.

Walter C. Browning, M.D., to Miss Anna Garrett, both of Philadelphia, recently.

Arthur J. Somers, M.D., to Miss Elizabeth Gerding, both of Portal, N. D., March 13.

Henry B. Trigg, M.D., Fort Worth, Tex., to Miss Nellie Roscoe Day of Rhome, Tex., March 22.

Ernest Albrecht Victors, M.D., to Mrs. Nellie Temple Collier, both of San Francisco, March 17.

Eliot Round Clark, M.D., Baltimore, to Miss Eleanor Acheson Linton of Washington, Pa., March 21.

Howard Leon Jameson, M.D., Philadelphia, to Miss Eunice Ostrum of East Mauch Chunk, Pa., January 14.

John VanDoren Young, M.D., to Miss Rose Essie Kirkwood, both of New York City, at Passaic, N. J., March 16.

Leroy Edson Doolittle, M.D., Newberg, Ore., to Miss Bessie Kent of Duluth, Minn., at Spokane, Wash., March 20.

Frederick William Mayer, M.D., St. Paul, Minn., to Miss Elsa Gertrude Hofman, at Jersey City, N. J., March 15.

Ernest George Butt, M.D., to Miss Olive May Vandruff, both of Redondo Beach, Cal., at Los Angeles, March 15.

J. Russell Verbrycke, Jr., M.D., Washington, D. C., to Miss Sophie English Barnes, at Washington, February 28.

Deaths

Edward Fitch Cushing, M.D. *cum laude*, Harvard Medical School, 1888; a member of the Ohio State Medical Association; died in Lakeside Hospital, Cleveland, March 23, ten days after an operation for the relief of intestinal obstruction, aged 48. After his graduation, Dr. Cushing served for three years on the resident staff of the Massachusetts General Hospital, and later was an intern in the Boston Lying-In Hospital, and the New York Maternity. After a year's study abroad he entered practice in Cleveland and became professor of pediatrics in the Medical Department of Western Reserve University, in the reorganization of which he was actively interested. He was a member of the Cleveland Board of Health, and one of the founders of the new Babies Dispensary and Hospital. He also reorganized at his own expense the *Cleveland Medical Journal* Company, of which he was president.

George Abbott, M.D. University of Buffalo, N. Y., 1852; a member of the Medical Society of the State of New York; vice-president and president of the Erie County Medical Society from 1864 to 1866; surgeon of the Fifty-Seventh Infantry N. G. S. N. Y. in 1854; colonel of the Ninety-Eighth New York Volunteer Infantry during the Civil War; died at his home in Hamburg, March 27, aged 84.

Jacob R. Spangler, M.D. Jefferson Medical College, 1874; a member of the Medical Society of the State of Pennsylvania; city physician of York in 1881, later a member of the city board of health, and for two terms a member of the school board; died at his home, March 21, from pneumonia, aged 60. At a special meeting of the York County Medical Society, March 22, action was taken on the death of Dr. Spangler.

James William Dodd Hancock, M.D. Long Island College Hospital, Brooklyn, 1898; of Brooklyn; a member of the Medical Society of the State of New York; assistant surgeon to the ear, nose and throat department of the Williamsburg Hospital and the Brooklyn Eye and Ear Hospital; who was injured in an automobile accident near Jamaica, March 17, died in St. Mary's Hospital, March 22, aged 40.

Silas Springer Tam, M.D. University of Mobile, Alabama, 1894; formerly a member of the American Medical Association; a member of the Medical Association of the State of Alabama; local surgeon for the Mobile, Jackson and Kansas City railroad for several years; died at his home in Mobile, March 18, some weeks after an appendicitis operation, aged 39.

William Edward Hibbard, M.D. New York University, New York City, 1889; a member of the American Medical Association, and American Academy of Ophthalmology and Otolaryngology; formerly of Providence, R. I.; a specialist on diseases of the eye and ear; died in his home in Pasadena, Cal., March 16, from the effects of burns received accidentally, aged 45.

Charles More Stewart, M.D. Trinity Medical College, Toronto, 1897; M.R.C.S., England, 1902; an ear, nose and throat specialist of Toronto; for a time superintendent of the Ottawa General Hospital; while riding in Toronto, March 25, was thrown from his horse in front of a street car and instantly killed, aged 38.

William Clarkson Hastings, M.D. Pulte Medical College Cincinnati, 1888; a member of the American Medical Association; formerly a resident of Portland, Ind., and first superintendent of schools of that place; died at his home in Seattle, Wash., March 18, from heart disease, aged 58.

Isaac Smith Cramer, M.D. College of Physicians and Surgeons, New York City, 1854; a member of the Medical Society of New Jersey; and treasurer of the Hunterdon County Medical Society; and surrogate of the county in 1889; died at his home in Flemington, March 27, from heart disease, aged 77.

Henry Frederick Klenke, M.D. New York University, New York City, 1892; for several years surgeon of the New Haven (Conn.) fire department, and school physician; formerly captain in the Governor's Foot Guards; died in the New Haven Hospital, March 22, from acute nephritis, aged 43.

Frank Darwin Smith, M.D. Missouri Medical College, St. Louis, 1880; a member of the Ohio State Medical Association; a member of the staff of Engleside Hospital, Canton; died at his home in Hartville, O., March 13, from occlusion of the coronary artery due to atheroma, aged 57.

Fred W. Slocum, M.D. Syracuse (N. Y.) University, 1882; a member of the American Medical Association and Syracuse Academy of Medicine; for many years a member of the Syracuse pension examining board; died at his home in Camillus, N. Y., March 16, from nephritis, aged 52.

Sampson A. Ayo, M.D. Tulane University, New Orleans, 1899; a member and one of the councilors of the Louisiana State Medical Society; and a member of the State Board of Health; died at his home in Thibodaux, March 11, from pleuropneumonia, aged 38.

Benjamin Thompson, M.D. Pennsylvania Medical College Gettysburg, 1851; formerly a member of the American Medical Association; local surgeon of the Baltimore and Ohio Railroad at Landenberg, Pa.; died at his home in that place, recently, aged 83.

William Jennings Headrick, M.D. University of Louisville, Ky., 1876; a member of the Louisiana State Medical Society; and local surgeon of the Houston, East and West Texas Railway; died at his home in Logansport, Nov. 2, 1910, from paralysis, aged 63.

Benjamin Dudley Williams, M.D. University of Louisville; Ky., 1884; a member of the American Medical Association; president of the Calhoun County Medical Association; died at his home in Oxford, Ala., March 12, from pneumonia, aged 57.

Lorenia Kemble (license, years of practice, Ind., 1897); for thirty-five years a practitioner of South Bend; died in St. Joseph's Hospital in that city, February 17, eleven days after an operation for carcinoma of the uterus, aged 62.

Charles W. Kinnison, M.D. Starling Medical College, Columbus, O., 1891; of Oak Hill, W. Va.; died suddenly, March 27, from heart disease, on a Chesapeake and Ohio train, while en route to Johns Hopkins Hospital, Baltimore, aged 44.

William Clark Cooper, M.D. Albany (N. Y.) Medical College, 1881; College of Physicians and Surgeons, New York City, 1884; obstetrician to Samaritan Hospital, Troy, N. Y.; died at his home in that city, March 17, aged 52.

George Canning Howard, M.D. Dartmouth Medical School, Hanover, N. H., 1865; formerly of Lawrence, Mass.; a member of the Massachusetts Medical Society; surgeon of volunteers during the Civil War; died at the home of his son in North Attleboro, Mass., March 19, from diabetes.

Nathaniel Leo Niles, M.D. Harvard Medical School, 1905; a member of the Providence, R. I., Medical Society; radiologist to St. Joseph's Hospital, Providence; died at his home in that city, March 23, from carcinoma of the stomach, aged 34.

Fred C. Miller, M.D. Minneapolis College of Physicians and Surgeons, 1899; a member of the Minnesota State Medical Association; health officer of Olivia; died at his home in that city, March 19, from pneumonia, aged 42.

Arnett Phillip Boston, M.D. Tulane University, New Orleans, 1877; a specialist on diseases of the eye, ear, nose and throat; of Alice, Tex.; died at his old home in Beech Grove, Ky., March 16, from cerebral hemorrhage.

Ledyard Verdine Lewis, M.D. Rush Medical College, 1870; of Sun Prairie, Wis.; a member of the American Medical Association; died at his winter home in Redlands, Cal., March 19, from cerebral hemorrhage, aged 65.

Robert W. Cooper, M.D. Michigan College of Medicine and Surgery, Detroit, 1892; formerly of Milford, Mich.; died at his home in Kingston, Mich., March 11, from brain abscess following influenza, aged 47.

Edward R. Aiken, M.D. Albany (N. Y.) Medical College, 1868; for more than thirty years a practitioner of Perry, Ia.; died at the home of his son in Aiken, Neb., March 18, from arteriosclerosis, aged 65.

Arthur Henry Bigg, M.D. Detroit (Mich.) Medical College, 1881; a member of the American Medical Association; and Detroit Academy of Medicine; died at his home in Detroit, March 17, aged 69.

Elbert Goodman Van Orsdell, M.D. Albany (N. Y.) Medical College, 1902; a member of the Medical Society of the State of New York; died at his home in Brooklyn, March 25, from pneumonia, aged 40.

Gilbert H. Tollington, M.D. College of Physicians and Surgeons, Chicago, 1885; a specialist on diseases of the eye; died at his home in Clear Water, Minn., February 12, from chronic nephritis, aged 48.

John Holin, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1879; a member of the American Medical Association; died at his home in Cowden, Ill., March 18, from pneumonia, aged 65.

Mozark Jenkins, M.D. University of Vermont, Burlington, 1884; a member of the Medical Society of New Jersey; died at his home in Trenton, March 19, from laryngitis, aged 55.

Christopher William Flock, M.D. Victoria College, Coburg, Ont., 1856; for twenty years a practitioner of Nebraska; died at the home of his son in Emerson, March 11, aged 82.

Philander Tabor (license, Iowa, years of practice, 1887); for fifty-four years a resident of Independence, Ia.; died at the home of his son in that place, March 21, aged 93.

Willard Warren Ruggles, M.D. New York Homeopathic Medical College, New York City, 1908; died at his home in Brewster, N. Y., March 7, from typhoid fever, aged 31.

George Walker Bull, M.D. Bellevue Hospital Medical College, 1873; an ophthalmologist; formerly a resident of New York City; died in Paris, France, January 1.

Joseph Hartman Armitage, M.D. McGill University, Montreal, 1886; died at his home in Waterloo, Ont., January 18, from fracture of the spine, aged 50.

Lewis K. Esrey, M.D. Hahnemann Medical College, Philadelphia, 1888; died in his office in Philadelphia, March 24, from heart disease, agen 68.

William John Hare, M.D. Bellevue Hospital Medical College, 1885; died suddenly at his home in Detroit, March 23, from heart disease, aged 52.

Alexander C. Taylor, M.D. University of Pennsylvania, Philadelphia, 1850; died at his home in Vineland, N. J., March 22, aged 86.

William T. Risque, M.D. Kentucky School of Medicine, Louisville, 1856; died at his home in Paynes Depot, Ky., March 24, aged 83.

"The Propaganda for Reform"

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

Are Retail Pharmacists Waking Up?

While it is probably true that the physician's insufficient knowledge of drugs and of their use has been the chief cause for the growth of the proprietary specialty business, the pharmacist's inability to compound physicians' prescriptions properly has also been a potent cause for the prescribing of ready-made mixtures. Rancid or poorly made cod-liver oil emulsions have persuaded many a physician to prescribe Scott's Emulsion or some similar nostrum. Gritty ointments and turbid eye-drops have induced specialists to use ready-made preparations or to do their own dispensing. A program of a meeting of pharmacists—the Philadelphia Branch of the American Pharmaceutical Association—however, gives hopes that pharmacists are making serious efforts to improve professionally.

While the programs of meetings of retail pharmacists are often devoted to price protection, window trimming and the proper handling of cigars (live commercial topics, it is true), the meeting of the Philadelphia branch was devoted to a discussion of sterilization and its need as applied to pharmaceutical compounding. It also appears that the branch has a special committee whose function it is to arouse the interest of pharmacists throughout the country to the necessity of devising reliable methods for the preservation of galenicals, and also to the need of establishing a time limit for such pharmaceutical products as are known to deteriorate with age. Both of these subjects—the need in many cases of sterilizing pharmaceutical preparations and the necessity of giving proper attention to keeping qualities—are most important ones and their consideration cannot but be a benefit to professional pharmacists.

Therapeutically Suggestive Names for Medicines

While it is desirable that the name of a medicine should convey an idea of its composition, the full chemical names of many new remedies are so long that their adoption is out of the question. It would not be practicable, for instance, to use the chemical name for Ehrlich's new arsenic preparation, 3-diamino-4-dihydroxy-1-arseno-benzene hydrochlorid. In the past, however, there has been a tendency to adopt meaningless or cryptic names for medicines, such as Alypin, Orphol, Soamin, Veronal, or worse still, names which are therapeutically suggestive, such as Bronchiline, Genitone, Laxaphen, Migrainin, Nephritin, Neurosine, Ovaritone, Trigemin and Uriseptin. More recently, largely as a result of the influence of the Council on Pharmacy and Chemistry, manufacturers have adopted names which are more satisfactory, or, at least, that are a vast improvement over those used in the past. Thus, among the articles more recently passed by the Council are, Arsenoferratin, an organic compound of iron and arsenic; Carbosant, a carbonate of santalol; Digipuratum, a purified digitalis extract; Guaiacodein, a compound of codein and guaiacol; Tannismuth, a tannate of bismuth. These names are brief and to a certain extent descriptive of their composition. There is no basis for the excuse often given by exploiters of proprietary medicines for therapeutically suggestive names, namely, that it is impossible to coin names which are descriptive and yet sufficiently short and simple. Such disease-suggesting names as Antitussin, Pertussin, Migrainin, Somnos or Calmine should not be tolerated.

Similarity Between Nitrite and Acetanilid Poisoning

A physician recently wrote that a preparation of liquor sodii phosphatus compositus, when administered to a patient, produced symptoms that simulated acetanilid poisoning. The sample sent in by the physician was examined by the Association chemists who reported:

"Tests which would detect minute quantities of acetanilid failed to reveal the slightest trace of this substance. The odor of the solution was distinctly characteristic of oxids of nitrogen such as are produced in the decomposition of nitrates or nitrites. The presence of a small quantity of nitrate a regular constituent of this preparation—was detected and also the presence of considerable quantities of a nitrite. Quantitative determinations showed the presence of an amount of nitrite equivalent to 2.9 per cent. sodium nitrite. It seems improbable that a nitrate used in the preparation of this mixture had decomposed to form a nitrite; it is more likely that a nitrite was used inadvertently. If this preparation was given in doses of 8 c.c. (2 fluidrams)—the U. S. P. dose for liquor sodii phosphatus compositus—the patient received 0.2331 gm. or three and one-half times the U. S. P. dose of sodium nitrite."

This note is published to point out the similarity between acetanilid and nitrite poisoning.

Correspondence

Postgraduate Surgical Clinics in America

To the Editor:—The increasing importance of surgery and the increase in the number of good surgeons in America is especially evident to one who has traveled extensively over this country and has had opportunity to observe closely and for long periods of time the work of America's surgeons. To a physician, nothing is more interesting than to visit the clinics of other physicians and this applies also to surgeons.

The custom is almost as old as medicine itself, and for many years numbers of American physicians have been going to Europe to visit the famous clinics for helpful suggestions and the pleasure of the trip. It is evident that the American surgical clinics are now finding a distinct place of their own. I recently returned from a two years' trip to some of the best-known clinics, where I gave time, energy and thought to the study of surgical diagnosis, technic, complications and after-treatment and others may be interested in a brief account of the opportunities for surgical study in America for graduate physicians, and description of places which seemed to be especially popular.

A constantly growing number of physicians and surgeons from all parts of the country are visiting the Mayo clinics at Rochester, Minn., the clinics of Johns Hopkins, the surgical clinic of the German Hospital in Philadelphia (Deaver) and the clinics of Murphy and Ochsner in Chicago. At these places I have seen from 25 to 100 men, many of whom have national reputations, enjoying the splendid clinics and the gracious hospitality extended by the surgeons to visitors. The chiefs of these clinics realize what a compliment it is for men to come from all over the continent to learn from them something definite and practical in the treatment of the sick. At some of these clinics there is a large comfortable room for the visitors, with a book of registry and books of reference; at the Rochester clinic there is a surgical club which meets in the afternoon and discusses the operations which have been performed in the morning. At all of these places one can find comfortable living accommodations.

At none of these clinics did I find the surgeons looking for money from their visitors and intimating that the visitors take a postgraduate course; no matter how long one stays, be it a day or a year, he is always welcome without price. If these leaders have been able to show a physician anything that will make him a more valuable man in his community, they are glad indeed. In this selfish and grasping age, such splendid courtesy and generosity are most commendable and stimulating, and there is no question that these clinics stand among the great achievements of our present civilization.

For those especially interested in gynecology, I found the clinics of Kelly at Baltimore, Bovee at Washington, Clark, Beyea and Baldy in Philadelphia, and Coe in New York, especially helpful. The surgical and gynecologic clinics of Boston are good and deserve a larger attendance. For practical work and the opportunity to do something in genito-urinary work I know of no place like Young's clinic at Baltimore.

The following up of the treatment of surgical cases is one of the things that a great many men want, and if a physician speaks to the operating surgeon and tells him that he wants to follow up the cases, the surgeon usually is only too glad to help and will introduce the visitor to the house officer. Arrangements can then be made to make the rounds with the house surgeon at an early hour in the morning.

Such has been my experience and taking this trip after five years of practical work, I found it most helpful and at the same time enjoyable. There are of course many other clinics where excellent work is done, but the clinics named are those that I, as well as many others, found especially stimulating.

F. W. Hornbrook, M.D., Boston, Mass.

Nasal Suction

To the Editor:—The value of negative pressure by suction in the treatment of diseases of the nasal sinuses has appealed to me for years and it has been my practice to insist that "secretions be aspirated and not blown" out of the nose following operations. When the vacuum pumps were first introduced I tried to use them, but without success until the past few weeks, as it was difficult to close the postnasal space. One day it occurred to me to have the patient take some water in the mouth and swallow it at command. This absolutely closed the space for a time and a little practice would keep it under control. This method so far has proved itself practical and is far ahead of all the other methods that I have seen or heard of. The effect is apt to be startling when it is first applied and it is well to advise caution regarding the water pressure as it is liable to produce dizziness. It is necessary, of course, for the patient to breathe through the mouth after the palate is raised in order to keep it in position. The technic otherwise is the same as is generally used.

Otis Orendorff, M.D., Canon City, Colo.

Cacodylate of Sodium in Coronary Disease

To the Editor:—Allow me to suggest the use of sodium cacodylate in coronary disease with resulting myocardial degeneration and its usual train of symptoms, such as: general edema, hypertrophied liver, pulmonary engorgement and a low hemoglobin content.

Its use in a case in which there was no history of any specific lesion was prompt and gratifying. An ampoule of the drug, containing 3 grains, was administered on alternate days, each dose being preceded by a small dose of cocain, to overcome the smarting which follows the injection of the drug under the skin. Salines sufficient to obtain a few watery stools were given each morning.

H. F. Gillette, M.D., Cuba, N. Y.

Correction in Analgesic Formula

To the Editor:—My attention has just been called to the analgesic formula in my contribution to The Journal, March 25, 1911, p. 863, which is so manifestly an error that I trust no one has adopted the quantities as given. The error must have occurred in dictation and subsequent transcription. The formula as published is dangerously meaningless. I intended it to read as follows:

℞	gm. or c.c.	
Morphin hydrochlorid	0	01
Novocain..........................	0	04
or		
Scopolamin	0	0015
Normal salt solution............	1	

Charles A. L. Reed, Cincinnati.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

HUBBES' NASCENT MERCURY TREATMENT OF SYPHILIS

To the Editor:—In The Journal, March 25, 1911, p. 934, reference is made to an article by Hubbes. Who is Hubbes? Can you give anything further on his technic of treatment of syphilis with nascent mercury? F. G. Carlson, Thornton, Iowa.

Answer.—Dr. Fritz Hubbes was formerly assistant at the dermatologic clinic at the University of Graz, Austria. We can add nothing to the description of the technic given in our abstract.

THE AUTOMOBILE SPEED QUESTION

To the Editor:—I wish you would advise me if there is a law permitting physicians, on accident or emergency calls, to exceed the speed limits of cities, and, if so, is there any official emblem designating such favor to them? D. Y.

Answer.—Some information on this subject will be found on automobile pages XXI and XXII of this issue.

It is a common practice for physicians to place insignia on their automobiles, front and rear. They are thus recognized by policemen and often favored in the matter of right of way. These signs usually consist of a device in which the red Geneva Cross is prominent; but, in deference to the wishes of the American Red Cross, there is not a little sentiment in favor of leaving the red Geneva Cross for the use of that organization. Congress has passed an act to limit its use.

As a substitute it has been proposed to use the green St. Andrew's Cross. Something on this subject will be found in the department of Queries and Minor Notes, in The Journal of Aug. 27, 1910, page 795, and one firm, which supplies such insignia for automobiles, is prepared to supply the St. Andrew's Cross in answer to this suggestion.

DENATURED ALCOHOL

To the Editor:—1. What is denatured alcohol? 2. Would it be safe for external use, as bathing, etc.?

G. D. Carnes, South Haven, Mich.

Answer.—1. Denatured alcohol is alcohol to which have been added certain materials which destroy its character as a beverage and render it unfit for medicinal purposes but which do not prevent its employment for industrial purposes. Denatured alcohol is exempt from the internal revenue tax laid on ordinary alcohol and is sometimes called tax-free alcohol. Under authority of an act of Congress, passed in 1907, the commissioner of internal revenue has prescribed that for general purposes alcohol known as completely denatured must be prepared by either of the following formulas: (A) To every 100 gallons ethyl-alcohol (of not less than 180 degrees proof) there shall be added ten gallons of approved methyl-alcohol and one-half gallon of approved benzin. (B) To every 100 gallons of ethyl-alcohol (of not less than 180 degrees proof) there shall be added two gallons of approved methyl-alcohol and one-half gallon of approved pyridin bases. The methyl-alcohol, benzin and pyridin intended for use as denaturants must be submitted for chemical test and must conform to certain specifications. In cases in which the above-named substances would render the alcohol unfit for certain industrial uses special denaturants have been authorized.

2. The safety of denatured alcohol for external use depends on the denaturing agent. If methyl-alcohol (wood spirits) is used for the denaturing, it may be absorbed to such an extent as to produce poisoning, such as blindness, etc.

ODOR FROM ASPARAGUS

To the Editor:—The statement made in reply to a correspondent, March 25, p. 916, that the odor of urine after asparagus is eaten is due to asparagin, needs revision. The odor is usually ascribed to methyl mercaptan because of Nencki's investigations on the subject (*Arch. exp. Path. u. Pharmakol.*, xxviii.) Asparagin is not odoriferous and its properties are well known.

Lafayette B. Mendel, New Haven, Conn.

To the Editor:—I noticed in The Journal, March 25, 1911, page 916, a query on the cause of odor from asparagus. May I be permitted to give a few details? The nauseous odor from urine after the ingestion of asparagus is due directly, as you say, to asparagin; this, however, is decomposed in the intestine during digestion into a volatile sulphur compound—methyl mercaptan, H_2S [HS—Ed.] plus the methyl radical. The odor may last for from twelve to twenty hours. The action of asparagus is diuretic, but the use of asparagus is forbidden when a purin-free diet is indicated in gout and allied diseases, epilepsy, renal or vascular disorders. It contains 0.021 per cent. purins, or 1½ grains to the pound.

William B. Conyngham, New York.

ANALYSIS OF NOITOL—ORCIN REACTION—TEST FOR LEAD IN BLOOD

To the Editor:—Please give me answers to the following questions:

1. Has the Council on Pharmacy and Chemistry ever made an analysis of the solution named "Noitol," made by the Wheeler Chemical Works, Chicago?
2. What is the "orcin reaction for pentoses"?
3. Is there a test for lead in the blood of human being, either by microscopic or any blood reaction, or chemical test? C. M. B.

Answer.—1. "Noitol" was exposed in The Journal, May 21, 1910.

2. Orcin 1 gm. and 20 drops of a 10 per cent. solution of ferric chlorid are dissolved in 500 c.c. of a 30 per cent. solution of hydrochloric acid. Of this reagent 4 or 5 c.c. are heated to boiling, then removed from the flame and the suspicious urine added drop by drop, but not exceeding 1 c.c. If pentose be present a fine green color appears at once, or very soon. The green pigment can be extracted with amyl alcohol and, on spectroscopic examination, it gives rise to a well-defined band of absorption in the red portion of the spectrum near the yellow border.

3. In lead poisoning and in some other conditions, such as pernicious anemia, some of the red blood-cells when stained with a basic stain (gentian-violet or methylene-blue) exhibit minute granules. These "stippled" cells occur in great number in lead poisoning. In other conditions several fields must be searched in order to find one. In some cases of lead poisoning, however, they cannot be found in the time at the disposal of the ordinary clinical worker. They are especially numerous in patients with gastro-intestinal lesions, while in cases of peripheral neuritis due to lead their discovery may be very difficult.

POSTGRADUATE STUDY IN EUROPE

To the Editor:—I intend to take up postgraduate work next summer in some European center. Please give me information in regard to teachers, courses, cost, conditions of living, etc. D. B. G.

Answer.—As this inquiry is representative of many which are received in this office at this time of the year, we answer it in some detail. The space which we give to the subject does not mean that we consider foreign opportunities for postgraduate study to be preferred in every case, or even usually, to those in this country. In many subjects the advantages afforded by American clinics are more valuable and far less expensive. In gynecology and general surgery, for instance, the opportunities for postgraduate work in the United States are equal if not superior to those to be obtained abroad. If the physician goes abroad with only a hazy idea of what he wishes to obtain, and with only an imperfect knowledge of the language of the country, or none at all, he is likely to bring back little of practical value except the prestige of having studied abroad—which, indeed, may have been the chief object in many cases. The value of what a physician brings back from a foreign tour varies directly with what he takes abroad with him.

If the physician goes to the continent it is most important that he have a knowledge of French or German, according as he intends to study in Paris or Berlin or Vienna. This knowledge should be acquired as far as possible beforehand. The acquisition of a medical vocabulary in any foreign language can be considerably facilitated by the use of one of the medical manuals in that language, but the vocabulary learned by the eye alone is not sufficient; it is essential that the ear should be familiar with the pronunciation, since, while medical terms are often spelled the same way or similarly in several languages, the pronunciation differs in each from all the others, and hence is sure to be confusing to one who is accustomed to the language only on the printed page.

For the names of several excellent manuals which will be found useful to the physician seeking to familiarize himself with the medical vocabulary of a foreign tongue, we refer the reader to the answer to L. R. C., p. 1058, this issue.

Some of the smaller university cities abroad offer excellent opportunities for laboratory work, but for clinical instruction, which is what the American physician going abroad for postgraduate work usually desires, the best opportunities are found in the larger medical centers, and Vienna, Munich, Berlin, Paris and London are the cities usually selected. Information in regard to postgraduate medical courses in all countries is, according to recent plans, to be accumulated by the Medical Information Bureau of the Kaiserin Friedrich-Haus, Berlin, the headquarters of the system of postgraduate instruction throughout the empire (mentioned below), for free distribution to medical men in all parts of the world. The foreign governments are anxious to facilitate postgraduate work by outsiders, and are doing everything in their power to make it easy for those from abroad to get all the necessary information in regard to courses, libraries, lodgings, expense, etc. For this purpose scientific information bureaus have been opened in Paris and Berlin, as mentioned below, where they have attendants speaking various languages. These bureaus are listed in the telephone directory and are proving of great assistance to the newcomers. Vienna in particular has long provided exceptionally well-arranged facilities for brief postgraduate courses, some in English, and many arranged with special reference to the needs of American visitors.

LONDON

The instruction abroad, best suited for the physician who does not understand French or German, is to be found in the British Isles. In Great Britain and Ireland facilities for graduate study are to be found in London, Cambridge, Edinburgh, Glasgow and Dublin. The London Postgraduate Association, Hanover Square, London, W., is an organization which has entered into arrangements with the principal medical schools and hospitals in London so that it is able to issue a ticket which admits the holder to all the clinical instruction provided in these institutions. The fee for three months' instruction is 10 guineas (about $52.50). Full particulars regarding this association can be obtained from the secretary at Examination Hall, Victoria Embankment, London, W. C.

In addition, postgraduate work to which foreigners are admitted is given by the following schools: The Medical Graduate College and Policlinic, 22 Chenies Street, London, W. C., offers lectures, with practical demonstrations on chemical medicine and surgery in general, skin diseases, and diseases of the eyes, throat, nose and ears, to which the yearly subscription for admittance is 1 guinea (about $5.25), and practical courses of instruction in a large number of special subjects, for which an additional fee is charged. Further particulars can be obtained from the secretary. The North East London Post-Graduate College, the Prince of Wales General Hospital, Tottenham, N., offers a hospital student's ticket which entitles the holder to attend courses on clinical medicine and surgery in general, costing 5 guineas (about $26.25), while the fee for each of the special courses, such as diseases of the nose, throat and ear, skin diseases, roentgenology, medical electrology, is 1 guinea (about $5.25). Further particulars may be obtained from the dean of the college. The West London Post-Graduate College, West London Hospital, Hammersmith, W., gives courses of instruction in general clinical medicine and surgery and special subjects. The dean of the college will furnish particulars as to terms, etc. The fee for each course offered by the London School of Tropical Medicine, Connaught Road, Albert Docks, is 16 guineas (about $84). Further particulars may be obtained from P. J. Michelli, Esq., C.M.G., Seamen's Hospital, Greenwich, S.-E. In the London School of Clinical Medicine, Seamen's Hospital, Greenwich, S.-E., courses of instruction are given in clinical medicine and surgery and special subjects. The dean will supply further particulars if desired.

Among the London hospitals where postgraduate instruction may be obtained are the following: For general medicine: St. Bartholomew's Hospital, West Smithfield, E. C.; St. Thomas' Hospital, Albert Embankment, Westminster Bridge, S. E.; University College Hospital, University and Gower Streets, W. C., and London Hospital, Mile End, E. For pediatrics: the Hospital for Sick Children, Great Ormond Street, Bloomsbury, W. C. For ear, nose and throat diseases: the Hospital for Throat Diseases, Golden Square, W. For ophthalmic work: the Royal London Ophthalmic Hospital (formerly Moorfield's Eye Hospital), City Road, E. C. For nervous diseases: the National Hospital for the Paralyzed and Epileptic, Queen Square, Bloomsbury, W. C.

PARIS

According to E. St. Jacques (*Med. Rec.*, Aug. 14, 1909), clinical facilities are greater in France than in Germany, and Paris excels in dermatologic, neurologic and genito-urinary work.

In Paris there is no special official organization for medical postgraduate instruction, but any physician, foreign as well as French, may, without the payment of any fee, follow any theoretical course given in the Faculté de médecine or any of the clinical courses held in the hospitals or clinics. The physician should first introduce himself at the offices of the Assistance Publique, 3 Avenue Victoria. He will receive gratuitously a *carte d'entrée des* *hôpitaux*, which carries a formal request to the various directors of hospitals, etc., to assist the visitor with information and facilities; it also contains a list of all the hospitals under the jurisdiction of the Assistance Publique. In order to be admitted to the clinical lectures, ward visits and examination of patients, the physician has only to present his card to the concierge of the hospital and to ask by name for the physician or surgeon whom he wishes to see.

A physician who desires to take a practical course and to have the privilege of the library of the Faculté de médecine pays a matriculation fee of about $6 (30 francs), and in addition a fee for each practical course taken up, which is on the average about $10 (50 francs).

In various hospitals, clinics and laboratories there are *cours de perfectionnement* organized at various times of the year, especially during vacation. These are announced by placards posted in the buildings of the Faculté de médecine and the various hospitals and by notices in the medical journals. The newcomer is advised to consult the last few numbers of some such periodical as the *Bulletin médical* or the *Presse médicale* for notices of non-official courses (that is, those not given under the auspices of the Faculté de médecine).

The fees are variable, but rarely exceed $10 or $20. Moreover, there are several associations for complementary medical instruction which organize similar courses. Such courses are organized twice a year at No. 18 rue du Luxembourg, the winter series in November and December, the summer series in May and June. Vacation courses comprising the principal specialties are also organized in September and October. The price is about $4 (20 francs) a course.

The course in bacteriology at the Pasteur Institute is three or four months long, and therefore is not given more than twice a year. Names must be sent in to Dr. Roux or his assistants some time in advance.

A free information bureau for physicians and others, officially known as the Bureau de Renseignements Scientifiques, is maintained at the Sorbonne. It is open all the year around from 10 to 12 and from 2 to 5, with attendants able to speak German, English, Russian and Spanish, and catalogued information of all subjects of interest to persons intending to pursue scientific study.

"An English Handbook to the Paris Medical School," by A. A. Warden, published by P. Blakiston's Sons & Co., 1012 Walnut Street, Philadelphia, price 50 cents, contains a map of the Quartier Latin and much useful information in regard to the schools and courses.

The cost of living in Paris naturally varies according to the location and accommodations required. The physician who comes to Paris to study will find it to his advantage to live in the Latin Quarter, which is the seat of the Faculté de médecine and of the Collège de France and is in proximity to many important hospitals and clinics. Room and board in private families may be had for a price varying from $30 to $50 a month (150 to 250 francs). Room without board costs on the average from $10 to $12 a month.

BERLIN

Many American physicians go to Germany or Austria for postgraduate study. Especial advantages are found there for laboratory work and research, and instruction is said to be better organized, especially in Vienna. The two most important centers of medical instruction in German-speaking countries, of course, are Berlin and Vienna.

Medical courses at Berlin are divided into: (1) the regular university courses, which are intended for the undergraduate students; (2) vacation courses given by the university instructors during March and October, and (3) monthly courses by private instructors, which are given the year around. These are mostly policlinic or dispensary courses and correspond closely to the instruction given in graduate schools in the United States.

Regular student courses at the University of Berlin are often designed more for undergraduate than for postgraduate work. An occasional visit to these courses is welcomed without formality. To attend regularly one must sometimes matriculate. The university work is divided into a winter and a summer semester, the winter semester lasting from October 15 to March 15 and the summer semester from April 15 to August 15. The time for matriculation is comprised in the two weeks preceding the opening of the semester and the first two weeks of the semester. The matriculation fee is 18 marks; diploma and passport must be shown. Vacation courses are given twice a year (March and October) during the university holidays. These courses are for graduates in medicine and can be very highly recommended. They are, however, sometimes overcrowded. Most of these courses begin on the first day or during the first week of the month and last for four weeks. Assistantships or so-called "voluntary" assistantships are often obtainable in out-patient departments and inside the hospitals. The requirements of such positions may best be obtained from the older men in the Anglo-American Medical Association or members of its orientation committee.

As mentioned in the Berlin Letter (THE JOURNAL, March 4, 1911, p. 682), a double fee for the summer semester of 1911 has been imposed on foreigners attending lectures or taking laboratory work. The increase amounts to 10 marks ($2.50) for students in medicine and the natural sciences.

The Anglo-American Medical Association of Berlin was formed to promote the interests of British and American physicians studying in that city. The headquarters of the association are at Friedrichstrasse 105b, where an information clerk is in attendance from 9 to 10 a. m. The president is Dr. Bruggemann, Berlin W., Barbarossa Str. 33. The membership fee is 10 marks (about $2.50) a year. The year-book of the association will be sent by the secretary, W. J. Gritlin, on receipt of 5 cents in foreign exchange stamp coupons. It contains courses most frequently attended by Americans, but does not pretend to be a complete list of all courses given in Berlin.

For courses not announced therein the newcomer should not fail to consult the following publications: (1) Verzeichnis der Vorlesungen (list of university courses), price 60 pfgs; (2) Ferien-Kurse für praktische Aerzte (vacation list); (3) Schacht, Ratgeber und Wegweiser für Teilnehmer an ärztlichen Fortbildungskursen, price 1 mark; (4) Verzeichnis der Monatskurse, gratis; (5) Kurse für praktische Aerzte, gratis; (6) Verein für Aerzte-Kurse, gratis. Nos. 1 and 2 are the most important and will be sent to the United States on receipt of 25 cents in foreign exchange stamp coupons. They would probably be supplied either by the Anglo-American Medical Association or by the information bureau, similar to that mentioned at the Sorbonne, which is maintained at the Kaiserin Friedrich-Haus, Luisenplatz 2-4.

Postgraduate courses on a large variety of subjects are given under the auspices of the Bureau des Zentralkomitees für das ärztliche Fortbildungswesen in Preussen, Berlin N.-W. 6, Luisenplatz 2-4, Kaiserin Friedrich-Haus für das ärztliche Fortbildungswesen. The subjects offered include the following: pathologic anatomy, internal medicine, surgery, ophthalmology, the clinical and practical application of bacteriology, diseases of women, obstetrics, industrial hygiene, diseases of the nose and throat, urinary diseases and gonorrhea, dermatology and syphilis, diseases of children, including the nutrition of normal and diseased infants, clinical chemistry, care of the sick, gastric and intestinal diseases, diseases of the ear, surgical and mechanical orthopedics, the latest applications of water, light, heat and electricity to therapeutics, roentgenology, etc.

The recently opened Amerika-Institut, under the directorship of Prof. Hugo Münsterberg, in the Royal Library Building, Universitätstrasse 6, Berlin VII, seeks to assist Americans who wish to come into contact with German institutions, scholars, libraries, archives, laboratories, museums, hospitals, academies, etc.

It is imperative that American citizens bring with them passports. They must register in the consulate when arriving in Berlin. If possible it is best to reach Berlin about the twentieth of the month. According to information furnished by the Anglo-American Medical Association, at least one week should be spent in personal examination of the opportunities for study and in getting settled before beginning work.

DÜSSELDORF

The Academy for Practical Medicine, Düsseldorf, offers courses, open to foreign physicians, in pathologic anatomy and experimental therapy, and clinical courses in surgery, gynecology, obstetrics and pediatrics. The only expense is a registration fee of about $1.25.

VIENNA

Vienna presents many advantages from the medical student's point of view, one of which is the great amount and variety of the clinical material, since patients come to Vienna from territory within a very large radius. Another advantage is the centralization of facilities for instruction, which makes it possible for the student to economize his time.

There are ten large public hospitals, the chief of which, the Allgemeines Krankenhaus, comprises three clinics each of surgery and medicine, two clinics each for gynecology, dermatology and syphilis, ophthalmology, mental and nervous diseases, and one each for otology, rhino-laryngology and pediatrics. Some clinical teachers not only speak English fluently but give lectures in English in special classes. Within the last few years a magnificent new hospital has been erected a few hundred feet away from the old Allgemeines Krankenhaus, which is to be pulled down. It will contain only clinical wards for clinical teaching by ordinary professors. It is lavishly equipped in the most modern and scientific manner and will, when finished, contain 2,600 beds.

Besides this general hospital there are the Wiedner Hospital, the Rudolph Hospital and the Poliklinik, connected with the medical department of the university, in which clinical lectures are given also by professors during the semesters. The winter semester lasts from October till March 31, the summer semester from May 15 to July 15. The fees for clinical semester lectures are low, about $6 being the maximum, while special lectures are more expensive. A very good opportunity for anatomic and dissecting work is offered in the Anatomisches Institut, for pathologic anatomy and bacteriology in the Pathologisch-Anatomisches Institut. In these official institutes the fees for working and material come to something like $10 to $15 per term of eight weeks. There is also a well-equipped institute for the study of physiology, and one for histology of the nerves. A modern institute for experimental pathology and therapeutic research was opened two years ago. All the institutions mentioned above are in the same quarter or district of Vienna, called Alsergrund, and are conveniently near each other.

Those who wish to spend considerable time in the wards do not find it difficult to obtain the position of *Hospitant* in the wards, where they have the same rights as ordinary hospital officers, but not their duties; they, of course, receive no pay. The clinics for dermatology, practical medicine, syphilis, ophthalmology and otology especially are much frequented by American *Hospitants*.

The following are specimen charges in classes arranged by privat-docents and professors: Diagnostic classes for internal diseases, $10 for six weeks; hematology, $25, four to six weeks; surgery of the genito-urinary system, $20, four weeks; surgery of the ear, $15 to $20, six to eight weeks. In classes on rhinology the fees are between $20 and $40, including operations on patients. Surgical practice on the cadaver is obtainable as a special course. Urbantschitsch's classes on otology are much frequented by English-speaking physicians, and Finger's English classes on dermatology are an old-established institution. Furthermore, it is possible to get up a special class for nearly any branch of medicine if the lecturer is guaranteed a minimum fee varying between $100 and $150 for the whole class, so that there is a vast opportunity for both practical and theoretical teaching at a low cost to the individual members of the class.

The following is reported by an observer as a specimen day. From 8 to 10 a. m., class at von Noorden's clinic, a case of syringomyelia, two cases of multiple sclerosis; 10 a. m. to 12 m., Hochenegg's clinic, removal of a cancer of the breast, operation on a pancreatic cyst; 12 m. to 1 p. m., at Weichselbaum's pathologic theater, twenty-five fresh specimens, obtained during the morning at the necropsies, cancer of the penis, diphtheritic inflammation of the larynx, a volvulus, an anencephalus, a liver with fatty degeneration from phosphorus poisoning, typhoid intestines, leukemic bone-marrow, and several other interesting specimens; 1 to 2 p. m., a Cesarean section in Schauta's clinic; 4 to 5 p. m., a retinoscopy class in the second ophthalmic clinic, where cases of optic neuritis, iritis and keratitis specifica, glaucoma and a case of papilledema were shown; 5 to 6 p. m., work at a chemical laboratory; 6 to 7 p. m., an operative class on the ear of the cadaver.

There are two well-equipped public libraries. One is the large reading-room (Lesezimmer) of the Universitäts-Bibliothek, comprising about 400,000 books, and the other is the Aerztliches Lesezimmer in the hospital, with about 22,000 books and periodicals. English medical works are provided in abundance and access to these libraries is easily obtained.

The American Medical Association of Vienna, Schlösselgasse 28, Vienna VIII, secretary, Dr. M. W. Jacobs, also will be glad to assist any newcomer and to give information on study or other subjects.

A handbook in German, English and French of the postgraduate medical work under the patronage of the free organization for medical courses at the University of Vienna (Aerztliche Fortbildungskurse der freien Organisation für die medizinischen Kurse an der k.k. Universität Wien) is published by Urban & Schwarzenberg 1, Maximilianstrasse 4, Vienna, and supplied gratis on application.

A bureau of information for medical courses is maintained in the Allgemeines Krankenhaus, First Court, head offices (Direktion), first floor, room 14, where information can be obtained on personal or written application.

In the Alsergrund, the district which corresponds to the Latin Quarter in Paris, a conveniently situated room may be had for $8 or $12 a month. Board may be obtained for about $30 or $40 a month, or even less; $10 or $12 a week may be made to cover the expenses of decent living. There are low-priced private dining-halls for medical students and more expensive boarding-houses on the English plan. The following streets are suitable and convenient: Spitalgasse, Alserstrasse, Lazarethgasse, Pelikangasse, Kochgasse, Skodagasse, Schlösselgasse, Währingerstrasse and Garnisonsgasse.

TRAVEL NOTES OF INTEREST TO PROSPECTIVE STUDENTS ABROAD

The following letters and articles, published in The Journal and elsewhere, may be found of interest by the physician who is planning a trip abroad:

Hall, J. N.: Postgraduate Work in Vienna, The Journal, Dec. 7, 1907, p. 1932.
Osler, William: Vienna After Thirty-Four Years, The Journal, May 9, 1908, p. 1523; Impressions of Paris, *ibid*, Feb. 27, 1909, p. 701; March 6, 1909, p. 771.
Davis, A. Edward: Postgraduate Medical Instruction in Vienna, *Jour. Ophth. and Oto-Laryngol.*, April, 1909, p. 127.
Mannheimer, G.: Postgraduate Study in Europe, *Med. Rec.*, May 8, 1909.
Dewey, Richard: Psychiatry in Munich, The Journal, Jan. 1, 1910, p. 65.
Macy, Mary S.: Postgraduate Medical Work for Women in Europe, *Woman's Med. Jour.*, March, 1910, p. 59.
Kast, L.: The International Committee for Postgraduate Medical Education, *Post-Graduate*, June, 1910, p. 632.
Slocum, George: The American Medical Student in Vienna, *Phys. and Surg.*, July, 1910, p. 262.
Richardson, F. H.: Postgraduate Study of Pediatrics in Vienna, The Journal, Oct. 8, 1910, p. 1303.

While the Continental Anglo-American Medical Society is not organized for purposes of instruction, the American physician traveling on the Continent may find it useful to have the list of its members, as it will give him the names of English-speaking confrères in continental Europe, and northern Africa as well. The honorary secretary and treasurer is Dr. Charles G. Jarvis, 81 Boulevard Malesherbes, Paris.

CONVERSATIONAL AIDS IN FOREIGN LANGUAGES

To the Editor:—Please give me information in regard to books that will aid practitioners in obtaining a working knowledge of German and French.
L. R. C.

Answer.—One of the most rapid means of acquiring a foreign language is by reading articles in that language, comparing them meanwhile, sentence by sentence, with a literal translation. "Medical German," by Deutsch, price $1.75, contains conversations with patients in German and English. A volume of German-English medical dialogues, with dictionary and grammar, by Robert Lewin, is published by Dr. Werner Klinkhardt, Leipsic.

Other aids to conversations in French and German are P. Blaschke's English-German "Medizinisches Konversationsbuch," published by the Verlag von Walther Rothschild, Berlin. This is sold in this country for $1.20. Another work of this kind, "Englisch für Mediziner," about the same price, is published by the Verlag von J. A. Barth, Leipsic. But the most valuable work of the kind, perhaps, is the "Medical Vademecum in English and German" by B. Lewis, 1910, which is sold by P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, for $5. This was reviewed recently in The Journal (July 30, 1910, page 425) and commended as an ideal means of obtaining a working knowledge of German without the necessity for a dictionary; the postgraduate lectures and talks are given in English and in German on opposite pages. Especial attention is given to the conversations needed in conducting the examination of a patient in various pathologic conditions. The sixty lectures are on various subjects and are authentic clinical lectures. "Self-Taught French" by F. Thimm, and similar pamphlets for German, Spanish and Italian, are published by Dick & Fitzgerald, 18 Ann Street, New York, and are useful for general conversation. A reply to a query in regard to dictionaries in foreign languages was published in The Journal, March 20, 1909, page 980.

The Public Service

Medical Department, U. S. Army

Changes for the week ended April 1, 1911.

Harmon, Daniel W., lieut., granted two months' leave of absence, to take effect on arrival in the United States.

Skelton, Robert, M.R.C., ordered to proceed to Fort Jay, N. Y.

Davidson, Wilson T., captain, relieved from further duty at Columbus Barracks, Ohio, and ordered to Fort McIntosh, Texas.

Davis, William R., captain, ordered to proceed from Fort Porter, N. Y., to Cleveland, Ohio, on official business pertaining to the medical department of the Army.

Heterick, Robert H., M.R.C., relieved from duty at the Army Medical School and ordered to Fort Brady, Mich., for duty.

Bundesen, H. N., M.R.C., resignation accepted by the President, to take effect March 30, 1911.

Williamson, L. P., lieut., ordered with Co. I, Signal Corps, from Nogales, Ariz., to Hachita, N. Mex., for station.

Wing, Franklin F., D.S., ordered to proceed from Fort D. A. Russell, Wyo., to Fort Robinson, Neb., for temporary duty.

Tuttle, George B., M.R.C., ordered to Fort Miley, Cal., for temporary duty.

Whitmore, E. R., major, on expiration of his present leave of absence ordered to Fort Barrancas, Fla., for duty.

Newton, R. W., M.R.C., ordered to proceed to San Antonio, Texas, and report to the commanding general, department of Texas, for temporary duty.

Blanchard, R. M., captain, left Fort Sheridan, Ill., to inspect the medical and hospital corps of the organized militia of the states of Ohio, Indiana, Illinois, Michigan and Wisconsin

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended March 29, 1911.

Stimpson, W. G., surgeon, granted seven days' leave of absence from March 25, 1911, under paragraph 189, Service Regulations.

McLaughlin, A. J., P. A. surgeon, directed to proceed to various places on the south shore of Lake Erie on special temporary duty.

Warren, B. S., P. A. surgeon, granted fifteen days' leave of absence from March 24, 1911, on account of sickness.

Stimson, A. M., P. A. surgeon, directed to proceed to Philadelphia on special temporary duty.

Pettyjohn, Joseph, P. A. surgeon, granted two months' leave of absence from March 23, 1911, on account of sickness.

Kearny, R. A., asst.-surgeon, directed to proceed to Astoria, Ore., and report to commanding officer of the Revenue Cutter *Manning* for duty.

Parcher, George, asst.-surgeon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Stiles, C. W., professor of zoology, directed to proceed to Wilmington, N. C., on special temporary duty.

Drs. George Parcher and Louis Schwartz, commissioned (recess) assistant surgeons in the Public Health and Marine-Hospital Service.

Boards of medical officers convened to meet on April 3, 1911, for the physical examination of candidates for appointment as cadet-engineer in the Revenue-Cutter Service. Stapleton, N. Y., detail amended as follows: Passed Assistant Surgeon W. A. Korn, chairman; Passed Assistant Surgeon E. A. Sweet, recorder.

Order convening board at Milwaukee, Wis., revoked.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

FINANCIAL PROBLEMS *

Charles Haase, M.D.,

ELMIRA, N. Y.

COLLECTING ACCOUNTS

Laying aside all sentiment concerning the practice of medicine that has been handed down from the past when physicians made no charge but accepted honorariums, the fact remains that the physician, like the business man, must keep his income equal to or above his expenditures in order to maintain his credit. The business man from whom he buys expects to be paid; so why should not physicians also expect to be paid for their services? If a physician collects a good share of his accounts each year, it not only enables him to keep his family comfortable, but it also enables him to buy journals, books, instruments and other accessories, that make it possible to render better services to his patients.

Physicians should endeavor to collect from all who are able to pay, even invoking the aid of the law when necessary; but always remembering to take care of those who are unable to pay. It is better to do less business at a proper remuneration than twice the work at half pay. The income will be the same and there will be more time for study and recreation.

The physician's worst enemies are those who have old, unsettled accounts; and these enemies can be changed into friends if they can be made to settle their indebtedness. A person who owes the physician money and does not intend to pay will be one of the first to knock him.

"Short accounts make long friends." By accustoming all classes of patients to an early rendering of accounts, while the amount is small and the service is fresh in memory and appreciation, the satisfaction of both patient and physician will be better assured, collection facilitated, and a better financial morale promoted. The regular collection of accounts has several good effects on a doctor's patients; it teaches them that he expects to be paid for his services, it prevents the bill becoming so large that they are unable to pay it, it weeds out bad payers early, and it avoids many losses due to removals and deaths. To avoid payment people go elsewhere. A good rule to follow is never to allow an account to get larger than a family can comfortably afford to pay. It is unquestionably easier for patients to pay and for a physician to collect $10 twelve times a year than $125 once a year—or even $30 four times a year.

Soon after services are rendered a statement should be rendered, and on the first or fifteenth of each month thereafter. In long-continued cases, the physician should try to collect something while attending the patient. Some men never present a bill but wait the patient's pleasure to pay. This is demoralizing, as it puts the physician in a wrong light. The patient gets the idea that the physician does not need the money and can wait, and he is then often forgotten. Others present bills only once a year, which plan is also open to objection, for the patient accidentally or intentionally forgets the circumstances surrounding a case or the items of the account, and disputes the bill. After sending two or three statements and receiving no response, nothing gives such good results as personal visits.

The accounts may be given to an attorney or a local collector. It is important that a physician keep his word with his debtor. If the physician states that he will sue after a certain date, if the individual fails to make a satisfactory arrangement about his account, then he must do it. The moral effect of a successful collection is of more value than the costs. Having people say: "Dr. Blank is a good doctor, but he expects his pay," is worth hundreds of dollars and the reputation can be acquired by a couple of years of close collecting.

FEES

The income from a medical practice rarely equals the income obtained by men of equal ability, whose education and capital are invested in commercial pursuits, notwithstanding the great responsibilities physicians carry which laymen escape. The principal reason for this is that physicians have a constant tendency to settle down to a level—and that the lowest level of professional fees—from which they find it difficult to rise. There is too much tendency to dull routine in charges. There should exist a wide range of charges for medical services, depending on several factors, such as the severity of the case, time given to it, the dangers to the physician and his practice, and the ability of the patient to pay. People should be impressed with the fact that the fee bill represents the minimum fee for ordinary services only, and that when special attention is required a fee in accordance with it should be expected. This is done in surgical cases: why not in medical cases?

The price of a visit does not necessarily pay for services rendered. When, therefore, physicians try to collect something for extra services they are invariably confronted with the settled price of a visit. Such a procedure by no means compensates the physician under all circumstances. A rich man will have his life saved for a thousandth part of what he will pay a lawyer to save his business, and then he will object to the physician's bill. The lawyer long ago learned to value and to charge for special services according to their value and according to the ability of the client to pay; he no longer charges so much a visit or consultation.

When a physician has saved a patient from death or from poisoning he should charge for a major operation, which is what has really been performed, and he should not send a bill for $2 for a night call. It is the medical profession's duty to educate the unthinking public to appreciation of the fact that it takes more skill and a finer quality of judgment to carry a patient through a long period of critical expectancy terminating in a successful accouchement, than to amputate an arm or a leg, and that physicians should be paid accordingly.

In attending contagious diseases, physicians incur danger to themselves, their family and their practice. They should be compensated for the risk and the loss sustained, by a reward at least double that received in ordinary cases.

There is no need of rendering an itemized account to patients. In making out a bill, medical men should take into consideration time, ability and service; nothing less than this will insure the justice that they deserve. Unless physicians come to some understanding of this kind with themselves, unless they ask for a professional fee in proportion to their service and without fixed rates, they will never be paid for what they do. For example, during certain stages of a case of pneumonia or diphtheria, it is important that they be able to watch the case very closely and adapt treatment to the varying conditions, instead of making a regular visit and going back to the office to await further summons. If a lump charge be made, they will feel at liberty to call as often as necessary.

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* Read at the Elmira Clinical Society, November, 1910.

The dead-level fee—the same price for everybody—for all kinds of cases—should have no place in medicine.

DISPENSING

It certainly pays to dispense: First, the patient has his treatment at once; second, he will return if he needs more medicine and the physician can see the effect of the medication and change, continue, or discontinue it as necessary; third, the patient cannot pass the prescription to his friends who are "just as he was." A physician who habitually writes prescriptions, or prescribes proprietary preparations, simply hands over to the public a part of his income. Hit or miss, the laity will essay to treat themselves and even their friends and neighbors by the name or number on the bottle or box. At times, when the physician has not the appropriate medicine, it will be necessary to write a prescription, but this will not happen often, if he learns thoroughly the action of the most important drugs and carries them in his case. Let physicians have printed on their prescription blanks, "Do not repeat" or "*Ne repetatur.*"

The New York Board of Health undertook to ascertain the extent to which substitution was being practiced in New York City, and sent out 373 prescriptions for phenacetin, with the result that only 58 were found to be pure phenacetin; in 315 there was substitution.

SUMMARY

To sum up: Let physicians collect while bills are small; educate the people that the fee schedule is only a minimum one; present bills in lump sums, and keep guard over prescriptions.

110 West Church Street.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—Second Weekly Meeting

Anatomy and Physiology of the Nervous System

Weight and size of the brain and spinal cord in infancy and childhood. Rate of growth.

Physiology of Nervous System: Instability of nerve centers: excessive irritability of motor, sensory and vasomotor nerves; marked effect of reflex irritations; grave permanent effects following slight lesions.

Diseases of the Nervous System

Convulsions: Etiology: Predisposing causes, instability of nerve centers, nutritive disturbances, constitutional diseases, heredity, etc. Exciting causes: (1) Direct irritation of cortex, meningitis, hemorrhage, abscess, etc.; (2) reflex irritation, digestive disturbances, injuries, phimosis, retention of urine, etc.; (3) toxic influences, uremia, asphyxia, acute infections, pertussis, convulsions associated with enlarged thymus. Idiopathic convulsions.

Diagnosis as to etiology.

Treatment in detail.

Tetany

Etiology: Age, sex, frequency. Rickets, gastro-intestinal disorders, bronchopneumonia, etc.

Symptoms: Onset of spasm, extension, duration. Reflexes, effect of local irritation. Pain.

Diagnosis.

Laryngismus Stridulus

Frequency, age, association with rickets. Symptoms and diagnosis.

REFERENCE BOOKS FOR THE NINTH MONTH

Holt: Diseases of Infancy and Childhood.
Koplik: Diseases of Infancy and Childhood.
Rotch: Pediatrics.
Starr: American Text-Book of Diseases of Children.
Taylor and Wells: Diseases of Children.
Pfaundler and Schlossman: Diseases of Children.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

District of Columbia: Washington, April 11. Sec., Dr. George C. Ober, 125 B St., S.-E.

Georgia Eclectic: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

New Mexico: Santa Fe, April 9-10. Sec., Dr. J. A. Massie.

Oklahoma: Oklahoma City, April 11. Sec., Dr. Frank P. Davis, Enid.

West Virginia: Huntington, April 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

Colorado January Report

Dr. S. D. VanMeter, secretary of the Colorado State Board of Medical Examiners, reports the written and oral examination held at Denver, Jan. 3-7, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. Nine candidates were examined, of whom 3 passed and 6 failed, including 1 osteopath. Twenty-nine candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Denver and Gross College of Medicine,	(1910)	80.1, 80.1, 82.8

FAILED

College	Year Grad.	Per Cent.
Keokuk Medical College	(1898)	58
Kentucky School of Medicine	(1898)	63.6
Barnes Medical College	(1907)	66.1
St. Louis College of Physicians and Surgeons	(1906)	65.7
Kansas City Hahnemann Medical College	(1910)	66

REGISTERED ON CREDENTIALS

College	Year Grad.	State Licenses
Georgetown University	(1899)	Kansas
Hahnemann Med. Coll. and Hosp., Chicago (1900)	(1907)	Illinois
College of Physicians and Surgeons, Chicago	(1889) (1905) (2, 1906)	Virginia; Illinois.
Northwestern University Medical School	(1897)	Illinois
Keokuk Medical College	(1896)	Missouri
College of Physicians and Surgeons, Keokuk	(1881)	Missouri
Drake University	(1897)	Wyoming
Sioux City College of Medicine	(1901)	Iowa
Kansas Medical College	(1898)	Kansas
University of Louisville	(1889)	Missouri
Tulane University of Louisiana	(1906)	Alabama
Baltimore Medical College	(1903)	Penna.
Marion Sims College of Medicine	(1898)	Oklahoma
Ensworth Medical College	(1895)	Kansas
St. Louis College of Physicians and Surgeons	(1893)	Kansas
American Medical College, St. Louis	(1908)	Missouri
University and Bellevue Hosp. Med. College	(1903)	Utah
Lincoln Medical College	(1901)	Nebraska
Long Island College Hospital	(1895)	New York
New York Homeopathic Med. Coll. and Hospital	(1903)	New York
Cleveland Homeopathic Medical College	(1909)	Ohio
Jefferson Medical College	(1887)	Penna.
University of Pittsburg	(1907)	Penna.
Medical College of South Carolina	(1902)	S. Carolina
University of Nashville	(1899)	Nebraska

The following questions were asked:

ANATOMY

1. Describe the radius, including muscular and ligamentous attachments. 2. Describe the sternum, including muscular and ligamentous attachments. 3. Describe the elbow joint. 4. Describe the ankle joint. 5. Give the origin, insertion and nerve supply of the following muscles: triceps, pyriformis, peroneus longus, levator ani, levator anguli scapulæ. 6. Name the supinators of the forearm and give the nerve-supply of each. 7. Name the branches of the internal iliac artery. 8. Give the collateral circulation that would follow ligation of the common carotid. 9. Describe the lumbar plexus. 10. Describe the right kidney, including its relations. Alternate question: Where are the cortical centers of the face, arm and forearm?

PATHOLOGY

1. Give the pathology of acute anterior poliomyelitis. 2. Describe the process of amyloid degeneration. 3. Describe the structure of sarcoma, giving the various types. 4. How would you make a Widal test? 5. How would you distinguish *B. coli communis* from *B. typhosus?* 6. Define (1) anaphylaxis, (2) tuberculin, (3) *Treponema pallida*, (4) Wassermann reaction, (5) leukopenia. 7. Discuss

uremia. 8. Describe the most common tumor found in bone. 9. Describe the changes undergone in the brain after cerebral embolism. 10. Give microscopic appearances of a gumma.

PHYSIOLOGY

1. Discuss metabolism. 2. Discuss digestion. 3. Discuss elimination. 4. Discuss respiration. 5. Discuss circulation (blood and lymph). 6. Give a physical description of the blood, with functions of its component parts. 7. Define reflex arc, give examples of reflex action. 8. Give in outline the sympathetic nervous system with functions. 9. Give distribution and function of cranial nerves. 10. Define hyperopia, myopia and astigmia, giving general principles involved in their detection and correction.

CHEMISTRY

1. What is indican, and what does it signify when found in the urine? 2. How would you determine the presence or absence of acetone in urine? 3. Define osmosis. 4. What are the chemical constituents of normal urine? 5. Give a concise description of a chemical examination of normal urine. 6. Name a chemical incompatibility, describing the reaction. 7. What chemical tests are used in the detection of occult blood? 8. Give a general definition of an ether. 9. Give the composition of water by volume and by weight. 10. What is a compound radical? Give examples, with the valence of each.

TOXICOLOGY

1. From a medical standpoint define toxicology. 2. In the event you were called to a case with the following symptoms—drowsiness, headache, giddiness, stupor, delirium, convulsions and paralysis, what would be your diagnosis? 3. What would be your treatment? 4. Give symptoms of poisoning by lead acetate. 5. Treatment and post-mortem appearance. 6. Give symptoms of poisoning by tartar emetic. 7. Treatment and post-mortem appearance. 8. Give symptoms of poisoning by corrosive sublimate. 9. Treatment and post-mortem appearance. 10. Give difference in symptoms of poisoning by corrosive sublimate and those of arsenic.

SURGERY

1. Give the causes of arteritis and describe the symptoms and complications. 2. What are the symptoms and causes of lymphadenitis. 3. Give the symptoms of a tubercular abscess. 4. Discuss sarcoma of the kidney. 5. Give the symptoms and causes of acute osteomyelitis. 6. Give some of the complications and consequences of fractures. 7. Give the symptoms of fracture of the surgical neck of the humerus. 8. Give the symptoms of tubercular arthritis of the elbow joint. 9. Give the symptoms of dislocation of the head of the femur on the dorsum of the ilium and what per cent. of hip dislocations does this form comprise? 10. Give the symptoms of strangulated hernia.

OBSTETRICS

1. Describe in detail your procedure after arrival at the lying-in chamber when the patient is (a) in the first stage of labor, (b) in the second stage, (c) and the third stage. 2. Describe the toxemias of pregnancy and tell what you would do to prevent or relieve same. 3. What is "morning sickness?" Give causes, duration and treatment. 4. What are the indications for the use of the obstetrical forceps? Describe their application. 5. Give directions for the care of a woman after delivery—(a) normal, (b) instrumental. 6. When should a lacerated perineum be repaired, and give technic? 7. What means would you employ to prevent laceration of the perineum when the head is well down on the perineum and labor pains are strong? 8. How would you treat a case of ophthalmia neonatorum? 9. Give symptoms of pregnancy and their relative importance. 10. Give method of procedure in case of retained secundines in four month abortion.

SYMPTOMATOLOGY

1. Describe, locate and give causes of the different heart murmurs. 2. In what order and at what time do the teeth erupt in childhood? 3. Give symptoms of tuberculous hip-joint disease. 4. Give cause and symptoms of multiple neuritis. 5. Give symptoms of scurvy in children. 6. Give cause, prognosis and symptoms of myocarditis. 7. Give symptoms of chronic appendicitis. 8. Describe your procedure in making a physical examination of the abdomen. 9. Differentiate between pyelitis and cystitis. 10. Give cause and symptoms of pulmonary edema.

Utah January Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, Jan. 4-5, 1911. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 8, of whom 7 passed and 1 failed. One candidate was licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern Univ. Medical School (1909) 80.8;	(1910)	76.5
Hahnemann Med. Coll. and Hosp., Chicago	(1910)	75
St. Louis College of Physicians and Surgeons	(1910)	77.1
Medical College of Ohio	(1902)	77.5
Jefferson Medical College	(1910)	84.4
Medico-Chirurgical College, Philadelphia	(1899)	79.3

FAILED

College	Year Grad.	Per Cent.
Gross Medical College	(1895)	45

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Northwestern University Medical School	(1909)	Illinois

Book Notices

DYKE'S AUTOMOBILE ENCYCLOPEDIA (1911). In 29 Parts, Including a Dictionary. Treating on Construction, Operation, Repairing of Automobiles and Gasoline Engines. By A. L. Dyke, E.E., Member Society Auto Engineers. Cloth. Pp. 407, with illustrations. St. Louis: A. L. Dyke.

It is not surprising that one edition of this book has been exhausted, for it is a most complete work. In twenty-nine instructions, or chapters, and with a profusion of illustrations, all well made and useful, the author endeavors to discuss the principles on which gasoline engines and automobiles are operated and built. He adheres strictly to the practical side of the subject, never indulging in theorization. The man who takes care of his own car will find this book full of useful hints and information. It propounds queries, such as are often put by a puzzled operator, and answers them. A separate chapter is devoted to "troubles."

OXYPATHIE. Von Dr. Wilhelm Stoeltzner, Direktor der Universitäts-Poliklinik für Kinderkrankheiten in Halle a. S. Paper. Price, 3 marks. Pp. 92. Berlin: S. Karger, Karlstrasse 15, 1911.

Stoeltzner proposes the term *Oxypathie* to cover all that is comprised in the French *arthritisme*, the English lithemia and the German *exudative Diathese*, and still further extends the ramifications of that very complex clinical picture. He finds these terms objectionable because they all unduly emphasize one aspect of the diathesis. The word *Oxypathie* conveys, furthermore, the idea that the essential condition in this diathesis is an acid intoxication of alimentary origin. Thus he maintains that the essential difficulty in feeding cow's milk to an infant lies in the absorption of phosphoric acid, a phosphoric acid intoxication, due to the liberation of a large amount of this acid from its normal combination with the large amount of calcium contained in cow's milk, because of the uniting of the large amount of fatty acids formed from the fat with this calcium. He believes a similar acid intoxication to be the basis of *Oxypathie* in general and finds the sovereign remedy in sodium citrate, which he considers almost a specific in infant-feeding with cow's milk, and even, under certain conditions, with breast-milk, in infantile atrophy, in infantile eczema (with almost unfailing results), in rickets, in scrofula, in asthmatic bronchitis, in lichen urticatus, cyclic vomiting, migraine, and also in the less definite manifestations, such as paleness, poor nutrition, nervousness, obesity, etc. Whether the reader will consider this new teaching as a stroke of synthetic genius, or as the elaboration of an idea dominated by an unconquerable bias, will make little difference in the enjoyment—and, we might say, profit—that he will obtain from a careful reading of the ninety-two pages of this rather startling little book.

THE PROPHYLAXIS AND TREATMENT OF INTERNAL DISEASES. Designed for the Use of Practitioners and of Advanced Students of Medicine. By F. Forchheimer, M.D., Professor of Medicine, Medical College of Ohio. Second Edition. Cloth. Price, $5. Pp. 172. New York: D. Appleton & Co., 1910.

This is a revision in fact and not merely a reprinting of the first edition. The aim has been to bring therapy up to date, to weed out obsolete and useless plans of treatment and to include whatever of the new appeals to the author because based on scientific principles, or endorsed by reliable men, or tried by himself and found acceptable. Several new chapters—some of them very short, we must admit—have been added, on such subjects as dysentery, Rocky Mountain fever, splenomegaly, tuberculous meningitis, etc. Serum therapy receives notice. Some chapters have been entirely rewritten. The sincere attempt to make a practical, scientific work on treatment seems successful. We might occasionally ask for a little more detail, as, for instance, how to use the quinin injections in amebic dysentery. Harm may perhaps come, it is said, from using too large an amount of water, but we are not told how much it is wise to employ; or whether in any case surgery is of avail.

Dead gonococci, the so-called vaccines, are mentioned as of service in gonorrheal arthritis. This is true, but their use is really limited to the chronic forms. Other articles are much fuller. We noticed particularly the discussion of diet in the treatment of obesity; also the treatment of chronic myocardial insufficiency.

The best feature of the book is that it contains the personal experience of the author; it is not a mere compilation from the literature. Every page bears the stamp of the practical physician who has tried nearly all of the plans of treatment recommended and knows whereof he speaks. The author's wide and varied experience, his sane judgment, and his ability to express his ideas clearly, forcibly and concisely, make the book a valuable addition to the library of the practitioner who is seeking aid in the treatment of internal diseases.

Medicolegal

Skill and Care Required in Making Tests to Ascertain Nature of and Treat Injuries—Error of Judgment

The Supreme Court of North Carolina considers test requirements in the malpractice case of Long vs. Austin (69 S. E. R. 500), where it affirms a judgment in favor of the plaintiff, who alleged that her shoulder joint had become dislocated by a fall, and that the defendant, on examination, failed to discover the dislocation and to apply such remedies as were necessary to restore the shoulder to its normal condition, which could have been done by the exercise of ordinary care and skill.

The court says that the mere use of approved tests, or those which have been found to be the best for the discovery of a dislocation or fracture or any other abnormal condition of the human body, is not all that is required of a surgeon or physician in the care and treatment of his patient. He must exercise that reasonable skill, care and proficiency in making the tests and in ascertaining from them the presence of any injury and generally in the treatment of his patient which a member of his profession of ordinary care and prudence should use under the circumstances. He is not bound or confined to any special treatment, but to an ordinarily careful and skilful one.

It was requested that the jury should be instructed that if they found that the defendant used the following tests: laying her right arm across her chest, placing her right hand on her left shoulder and pressing her right elbow against her chest, then placing her right hand on top or back of her head, and measuring both arms from the shoulder to the elbow and comparing the measurements, then the defendant would have used the proper tests, and if these tests failed to disclose the dislocation of the arm, then the jury should answer in the negative the question of whether the plaintiff was injured by the negligence or want of skill of the defendant, as alleged in the complaint. The court properly refused to adopt this language and to give the instruction as requested. The defendant's application of a test, even the ordinary and usual one, was not, by itself, a full compliance with the duty he owed to his patient. The requested instruction omitted any reference to the care and skill the law required him as a surgeon to bring to the use of the test and general treatment of the case. If he made the test and failed in other respects to exercise ordinary care, skill and diligence, he was just as liable for a consequent injury as if he had not applied the test at all.

The requested instruction was also deficient in not requiring the jury to find what was the proper test, especially as the evidence on this question was not all one way. A hypothetical question should contain all the facts essential to the expression of an intelligent opinion by the expert and of which there is evidence, and not a partial statement of the facts which could not present the entire matter to the witness, so as to enable him to give such an opinion as the law permits to be considered by the jury. The application of the ordinary test would be evidence on the question as to whether the defendant had exercised the care and skill required of him, but would not be plenary or conclusive proof or be fully determinative of the fact. He may not have applied the test properly, or, if he did, he may not have possessed the requisite knowledge and skill to understand the symptoms which it disclosed, or to apply the proper remedy. It was for the jury to decide, on the evidence and under the instructions of the court, whether the defendant possessed the requisite knowledge and skill and had carefully applied them in behalf of his patient.

Again, it was requested that the jury be instructed that if they found from the evidence that the defendant made a mistake or error of judgment only in his treatment of the plaintiff, they should answer "No" on the issue of whether the defendant was injured by the negligence or want of skill of the defendant, as alleged in the complaint. The instruction, as requested, was faulty in that it left out of consideration the material question as to the care and skill required of a physician when treating his patient. The jury were properly told that the defendant owed to the plaintiff that degree of care and skill which is ordinarily practiced and possessed by the average of his profession, and not the highest known to his profession. Where a physician exercises ordinary skill and diligence, he is not liable for a mere mistake of judgment. The law does not excuse an error of judgment if it occurs by reason of the surgeon's lack of that knowledge which he should possess in order to qualify him for the practice of his profession, or the failure to exercise the requisite skill and diligence.

Christian Science Healer a Practitioner of Medicine Amenable to Law

City Magistrate Freschi, of the City Magistrate's Court of the city of New York, First Division, Second District, holds, in People vs. Cole, on an application by the New York County Medical Society, that a warrant should be issued on an information charging the defendant, a Christian Science "healer," with practicing medicine without being duly qualified and licensed.

The magistrate says that he is of the opinion that the practice of the treatment of sickness and disease by inaudible prayer, as established by the evidence in this case, violates the law of New York State. The only theory on which the defendant could claim any right to practice as a "healer" of diseases and sickness was that the reservation, stated in the public health law of the state to the effect that it should not be construed to affect the practice of the religious tenets of any church, excluded him from the operation of the definition of the practice of medicine. It is, of course, true that the state constitution grants to every person freedom of conscience in matters of religion; but, on the other hand, it specifically provides that "the liberty of conscience hereby secured shall not be construed as to excuse acts of licentiousness or justify practices inconsistent with the peace or safety of this state." The public health and the treatment of diseases are matters of great concern to all states and the subject of proper public regulation in the exercise of their police powers.

From a study of a number of cases it must be ruled that religion is beyond judicial interference so long as one keeps it to himself and does not jeopardize others; but the moment there is an invasion of the rights of the state by some overt act or conduct that tends to affect the safety and future welfare of its people, then the civil government may intervene for its own protection and preservation. Religious belief is no excuse for an unlawful act. No person under the guise of the practice of the principles and tenets of any church may violate the law of the land. A thorough and prolonged search of all decisions in point rendered in the courts of our states fails to reveal that religion or its practice has even been construed to be a business.

The Christian Scientist has the right to believe that he can heal by prayers, but this court is of the opinion that if he carries and puts that belief into practice for hire and solicits patients by advertisement, then he exceeds his rights as an individual under the law and comes directly within the prohibition of the constitution. He must subordinate his beliefs to the rights of the community and of the state as an entity when the free exercise of such belief either impairs and endangers the health of the people or tends to place their health in jeopardy so that the safety of the state will be affected. Certainly the continuance of a practice or profession to heal as the defendant claimed could be done in this case ought to be the subject of judicial review of the higher and appellate courts.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
Am. Assn. of Pathologists and Bacteriologists, Chicago, April 14-15.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Arkansas Medical Society, Fort Smith, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
California, Medical Society of State of, Santa Barbara, April 18.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Georgia, Medical Association of, Rome, April 19-21.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Mississippi State Medical Association, Jackson, April 11.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
New York, Medical Society of the State of, Albany, April 18.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11..
Oklahoma State Medical Association, Muskogee, May 9-11.
South Carolina Medical Association, Charleston, April 19-21.
Tennessee State Medical Association, Nashville, April 11-13.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

TRI-STATE MEDICAL ASSOCIATION OF THE CAROLINAS AND VIRGINIA

Thirteenth Annual Session, held at Raleigh, N. C., Feb. 22-23, 1911

Officers Elected

The following officers were elected for the ensuing year: President, Dr. J. Howell Way, Waynesville, N. C.; vice-presidents: for North Carolina, Dr. Thomas E. Anderson, Statesville; for South Carolina. Dr. F. H. McLeod, Florence; for Virginia, Dr. W. E. Anderson, Farmville; secretary-treasurer, Dr. Rolfe E. Hughes, Laurens, S. C.; councillors: Drs. E. C. Register, Charlotte, N. C., W. W. Fennell, Rock Hill, S. C., Samuel Lile, Lynchburg, Va.

The next meeting will be held in Columbia, S. C., the third Wednesday in February, 1912.

The Hon. W. W. Kitchin, Governor of North Carolina, delivered the address of welcome.

President's Address: Preventive Medicine

DR. JOSEPH WHITE, Richmond, Va., delivered his address at a special evening session, and it was unanimously voted by the association that the address should be published, not only in the medical journals of the three states, but in some lay monthly magazine of large circulation in the South. He said in part:

The work of Pasteur, Koch, Ross and others in the last century has made possible such triumphs of modern medicine as the construction of the Panama Canal, the suppression of yellow fever in Cuba, the reduction of the death-rate from tuberculosis, the control of bubonic plague, the elimination of typhus fever, the prevention of rabies and the cure of syphilis. Preventive medicine has almost eliminated puerperal infection; has furnished specific treatment for diphtheria and cerebrospinal meningitis, and is waging a strong battle against ophthalmia neonatorum. Why should Virginia and the Carolinas be so far behind in the matter of registration of midwives? In some of our sister states this matter has been properly regulated. The medical inspection of school children and school hygiene are now recognized as the best means a state can adopt to insure good citizens in the future. The removal of tonsils and adenoids, the correction of defective vision and hearing, and the removal to outdoor schools of the tuberculous children in our schools is economy of the best sort and should be a matter of public concern.

Report on Some Patients Treated With Salvarsan

DR. LAWRENCE PRICE, Richmond, Va.: The method of preparation of the drug for administration was an adaptation of two of Ehrlich's methods combined with that of Junkerman. In five cases I used methyl-alcohol to dissolve the salvarsan. In all of the patients the drug was injected hypodermatically into the gluteal muscles. With four no alcohol was used, the drug being dissolved with warm sterile water. The administration in one case was subcutaneous; in three, intravenous. From experience with four out of nine cases, I concluded that the Wassermann reaction does not become negative under fourteen days, when the intramuscular method is used. I have not been able to notice any difference in the rapidity of the disappearance of lesions by one method over the other, though mucous patches clear up more rapidly than skin lesions. In all of the first eight cases I am administering by mouth mercurial treatment, and intend to continue so, regardless of the finding by the Wassermann test, for a period of five or six months. The method of administration, I think, should be governed by the stage and extent of the lesions, though from the patient's standpoint, the intravenous method is more desirable because of the absence of pain afterward; but the technic of administration by this method is rather dangerous, unless extreme care is exercised to avoid getting air into the vein; and, also, care that everything used from the beginning of the preparation of the dose to the dressing of the wound should be absolutely sterile, together with close attention to the technic of intravenous injection. I believe that the desired results can be obtained by the intravenous method if salvarsan be administered during the primary and very early part of the secondary stage, before any pathologic changes have taken place in the various tissues of the body, because of the floating action of the drug when thrown directly into the circulation. In the late secondary and in the tertiary stages, a more gradual and continuous action on the spirochetes is desired, so I advise the intramuscular method. In one case reported there were untoward effects which I believe were due to overdosing with chloral; in two others, the pain down the thighs and legs did not clear up entirely for two weeks. The curative effects of salvarsan in the treatment of syphilis during any of its stages is, in my opinion, unquestionably proved, if the drug is properly prepared for administration. I believe that many of the reported untoward effects and recurrences have been due to improper dispensing.

DISCUSSION

DR. TOM A. WILLIAMS, Washington, D. C.: The fact that we should diagnose tabes without a reaction is clear, and is illustrated by a case which I saw last autumn. There was a persistent negative Wassermann reaction, but the character of the distribution of a pain in the line of the distribution of the fifth lumbar root was so characteristic that in spite of bladder symptoms having been cleared up by proper treatment, I injected mercury and the pain cleared up in a few weeks. However, the man relapsed again in five weeks and showed positive reaction. I gave salvarsan intravenously; but the pain disappeared for only one week, the reaction becoming negative completely for one week only; the man is now taking mercury. It is a question if we should administer this drug in preference to mercury, which, properly used, can arrest lues, and even parasyphilis, as the cases of Dana and myself indicate in this country, following those of Babinski and his followers in France.

Diagnosis and Treatment of Tumors of the Breast

DR. J. SHELTON HORSLEY, Richmond, Va.: Knowledge of practical pathology is a necessity to any surgeon who operates on tumors of the breast. In many instances the diagnosis must be made at the operating table, as no tumor should be cut into for diagnostic purposes unless operation follows immediately. The surgeon should carry the pathology in his head and fingers and not in those of some one else. I follow the classification of Warren, dividing tumors into cancer and fibro-epithelial tumors. The latter class is subdivided into those in which the fibrous tissue predominates and those in which the epithelial tissue is most prominent. The last-mentioned tumors are likely to degenerate into cancer and usually occur late in life. I wish to emphasize two points in making the diagnosis of cancer: first, the detection of the slightest tendency to retraction; and, second, the absence of pain. The first symptom may be tested by moving the skin over the tumor, by moving the tumor within the breast substance and by moving the breast on the fascia of the pectoral muscles. The slightest limitation of motion is exceedingly suggestive of cancer. The patient should be stripped to the waist and sitting on a stool in a good light; if the shoulders are equal the nipple of the affected breast will be at a little higher level than the nipple of the healthy breast if the tumor is cancerous. If the tumor is a benign one, the nipple will be either lower or on a level with the nipple of the healthy breast. This is due to the fact that cancer cells form some product that is irritating to the tissue, and tends to cause contraction, just as contraction in cirrhosis of the liver is caused by irritation. In the majority of cases a correct diagnosis can be made in the early stage by the ordinary signs and symptoms without resort to incision; but the diagnosis should always be cleared up at once whenever a patient presents herself with a growth in the breast, as the chances for permanent cure in cancer of the breast mathematically decrease with each day of delay. I have never known of pain in any cancer of the breast in the early stage, though the laity and some physicians seem to think this a constant symptom. Pain is more likely to be present in a benign tumor than in a cancer, though it is not often encountered with in any tumor of the breast in the early stages. If incision is necessary for clearing up the diagnosis, the patient should be prepared for immediate operation, either radical or local, depending on the diagnosis that the incision will show. There is practically no danger in following an incision immediately by operation, but to incise a cancerous growth and operate a day or two later invariably results in recurrence. If the growth incised is a benign tumor, it will bulge into the wound and its capsule will retract. If it is cancerous, there will be no distinct capsule and the growth will lie flat as though the incision had been made into a piece of wax. If the growth is cystic and is cancerous, its contents will be either dark and grumous or bloody and the wall of the cyst will be thickened throughout or in patches. If the cyst is benign the wall is thin and its contents will be either clear or straw-colored. I advise local extirpation in benign tumors and radical operation in cancer, beginning at the axilla and excising all of the material with a wide margin of skin in one mass.

DISCUSSION

Dr. J. T. Burrus, High Point, N. C.: I am much interested in cancer, and spent the greater part of last year in a cancer hospital. I am convinced that to lower the mortality from cancer in this country we must make an early diagnosis and then do a sufficiently radical operation. There is nothing closer to criminality than to go into cancer substance. I remember a case of a melanotic sarcoma in which the surgeon had gone into the cancer substance, and in less than six weeks metastasis had developed in the supraclavicular glands and the glands of the neck, on both sides.

Dr. J. W. Long, Greensboro, N. C.: One phase of this subject which I think should not go unnoticed is the contagiousness of cancer. Just one illustration: It had been noticed that the fish in certain pools in the State of New York were subject to cancer of the thyroid gland, and this was observed so constantly that, in order to test the matter, young puppies were brought from another section of the state and allowed to drink water only from one of these pools that contained cancerous fish. In a short time every one of the puppies developed carcinoma of the thyroid.

Dr. G. P. LaRoque, Richmond, Va.: The best way to cure cancer is to prevent it, but if it has already developed we should remove it at the earliest possible moment. Therefore, every tumor of the breast, even when not obviously cancer, should be removed at once and subjected to microscopic examination by a competent pathologist. It seems to me a little illogical to make a diagnosis by the absence of anything, and especially by the absence of pain. A tumor which is actually of itself not painful may be complicated by traumatism or inflammation and become the seat of pain, even though cancer is not painful. As a matter of fact, a large number of cancers of the breast are secondary to mastitis and mastitis is necessarily painful.

The Cancer Committee

The association, through this committee, is waging active warfare against cancer in an effort to lessen materially the 80,000 deaths from this cause in the United States each year.

The present committee was unanimously continued for another year. This committee will be divided into sub-committees, with Dr. Horsley of Virginia, Dr. Rankin of North Carolina, and Dr. Williams of South Carolina, as chairmen, and the members will meet within these three states several times each year. They will prepare circulars and distribute them as widely as possible, the council being requested to furnish funds for this purpose. The boards of health have promised their cooperation, and each member of the association has been urged to do his part toward educating the public in the prevention of this disease. In addition, literature on the subject is to be sent to the members of the association, fully disclosing the plans and purposes of the committee, and the lines on which they will be asked to cooperate in educating the laity.

The Conservation of Sight

Dr. J. W. Jervey, Greenville, S. C.: The preservation of the public sight must be a great factor in the development of a people. Sins are daily being committed by a modern civilized people on a nation's eye-sight; but all the errors are preventable and many of them easily so.

The factors injuring vision are as follows: Ophthalmia neonatorum; pernicious activity of the so-called optometrists; the advertising eye doctor; the white incandescent mantle and electric bulb; badly printed newspapers and school books; badly lighted schools; unsuitable school desks; kindergartens; moving-picture shows; antipathy to the use of glasses.

DISCUSSION

Dr. Rolfe E. Hughes, Laurens, S. C.: I desire to emphasize especially one point: the prevention of ophthalmia neonatorum. I wonder why more obstetricians do not make it a rule to use a prophylactic remedy of from 1 to 2 per cent. silver nitrate. I have for years done that as often as I ligate the umbilical cord. And I might add, in the case of the male, a circumcision would be another good step at this time.

At the conclusion of Dr. Jervey's paper a motion was made, and unanimously seconded, that the Tri-State Medical Association request that Dr. Jervey's paper be published in one of the leading national weekly or monthly lay magazines, as a contribution from the association to the education of the people. The motion was adopted.

Rheumatism

Dr. J. N. Upshur, Richmond, Va., discussed the causation of rheumatism, his deductions from reports of investigations to the present day being that the causation of rheumatism from a germ has not yet been satisfactorily established, and clinical observation shows that the best results come from treatment on the old theory of unbalanced metabolism. He emphasized the use of alkalies, notably, bicarbonate of potash, until the secretions become neutral; following this up by the administration of some one of the salicylates, the best results are obtained, with much diminished risk of heart involvement. He recommended ammonium carbonate, in doses of from 5 to 10 grains every two hours, as a most satisfactory remedy in the treatment of endocarditis, minimizing the risk of emboli, and subsequent damage to the heart valves.

DISCUSSION

Dr. J. N. Walton, Richmond, Va.: It was shown more than thirty years ago that the combined Fuller, or alkaline treatment, with the salicylates would reduce the heart complications to the minimum. Bicarbonate of potassium or sodium, well diluted in water, should be given frequently enough to keep the urine alkaline; the nurse should be supplied with litmus paper and the urine should be tested for acidity several times a day. The salicylates are liable to ruin the digestion and the least objectionable is the effervescing salicylate of strontium to be given well diluted in cold water. In chronic rheumatism the treatment should be dietetic and eliminating, and experience has abundantly established the value of hydrotherapy and electricity over all other agents in the successful treatment of this type of rheumatism.

DR. DOUGLAS VANDERHOOF, Richmond, Va.: In this connection I would call attention to a paper published several years ago by Dr. T. W. Clarke, of the Lakeside Hospital, Cleveland, Ohio, in which he advocated the use of large doses of sodium salicylate at the onset of acute arthritis. He gives 30 grains of sodium salicylate every four hours for eight doses—half an ounce of the drug in thirty-two hours. In acute rheumatic fever this treatment promptly relieves pain, and also reduces the fever and the swelling of the joints, whereas in acute gonorrheal arthritis the symptoms are not so marvelously alleviated. In a rather large series of cases of acute rheumatic fever, these massive doses were found to be not injurious to the heart but rather served to protect that organ by cutting short the course of the disease. In my hospital experience I had good opportunity to prove the value of this procedure in the differential diagnosis of certain cases of acute arthritis.

ASSOCIATION OF AMERICAN MEDICAL COLLEGES

Annual Meeting, held in Chicago, Feb. 27-28, 1911

(Concluded from page 997)

Report of Judicial Council

The judicial council reported favorably on the applications for membership of the Medical Department of the University of Minnesota, Northwestern University Medical School, and the Medical Department of Syracuse University.

A number of recommendations made in this report were acted on in general meeting, and have appeared elsewhere.

Report of Committee on Medical Education

After considering the question of a five years' course, the committee did not deem it wise to present a schedule for consideration at this time. The present unsettled condition of medical legislation in the states of the Union, coupled with the uncertainties that exist among the colleges, has left the subject in a state of uncertainty which precludes the presentation of any schedule. The questions that confronted the committee were: 1. Shall the fifth year be a terminal one to the present four years' course and limited to clinical training, or shall a part of the time be given to the study of medical sciences in the beginning of the course? 2. In the states where legislative enactments have advanced the requirements beyond a high-school standard, no provision has been made as to whether the course shall be given absolutely in a literary college or as a preliminary course in a medical college. The trend of legislation, however, has been toward the literary training rather than increasing the medical curriculum. The difficulties in the way are that very few of the literary colleges are equipped to give a definite premedical course, and very few are willing to change their present curriculum to accommodate the medical colleges. The committee did not deem it wise for the association to adopt any prescribed schedule for a five years' course, but believes that the colleges in membership in the association should urge on their graduates the necessity for a hospital year before entering practice, and that proper inducements should be offered them to take the course.

With regard to the concentration method of teaching, no definite conclusions were given. Many colleges have already adopted the method in part, but none are ready to recommend or reject the system. At the suggestion of the committee, the matter was laid over for one year. The following resolutions were presented by the committee and adopted.

WHEREAS, The time devoted to the study of pharmacology, materia medica and therapeutics is necessarily limited, and

WHEREAS, The thorough knowledge of a small but representative group of medicaments is conducive to scientific progress in therapeutics; therefore, be it

Resolved, That the Association of American Medical Colleges commends to the attention of medical educators and examiners the limited materia medica lists published by the joint committee of the Council on Medical Education, and of the National Confederation of State Medical Examining and Licensing Boards, and the Chicago Medical Society.

Resolved, That the association urge on the colleges and the examining boards the necessity for the recognition of the principle underlying these lists, and for the early adoption by the boards of a materia medica list to which licensure examinations shall largely be confined.

The committee approved of and commended the suggestion made by the president in his address that wider cooperation of the members in the work of the association would be of benefit, and, further, that the president be authorized to appoint a representative from the association to attend all the conferences, public and private, of the Council on Medical Education.

The Fifth Year in Medicine: The Hospital Year

DR. F. F. WESBROOK, Minneapolis: In presenting the plan which has been adopted in Minnesota for a fifth or hospital year, it is apparent that the viewpoint is not simply that of the welfare of the medical college but that of the good of the people of the state. It is recognized that what may be advantageous for a state situated as is Minnesota may be quite unsuitable or impracticable for other states where conditions are radically different. In order to secure the opinion of those in Minnesota who are specially interested, written information as to the desirability of a fifth or hospital year was obtained from representatives of various hospitals, of the medical press, from influential members and officers of the Minnesota State Medical Society, members of the Minnesota State Board of Health, of the Minnesota State Board of Medical Examiners, medical officers of state institutions and other similar sources. The requirement was announced last year and goes into effect with the class entering college in September, 1911, which means that compulsory internships must be provided in 1915. This affords four years' time for the final perfection and announcement of methods. A committee of the faculty of the College of Medicine and Surgery has been appointed to perfect final arrangements. Since this committee has not yet reported, it is impossible at this time to give the details of the plan as it will be put into operation.

At present 90 per cent. of the students voluntarily take internships, so that the carrying into effect of the announced plan will mean simply the requirement of one more year of service for a few students. To make these requirements compulsory for all will, however, protect the state in a number of directions. The plan provides a further year of collegiate supervision for students before they are granted degrees. It protects the college and the state against the granting of degrees to those who may be satisfactory students but who may prove to be unfit, incompetent or unpractical in the care of patients. For the hospitals, advantage is secured in providing a stimulus to better work and sustained service on the part of interns, since the degree will be withheld unless the hospital service of the student is satisfactory to the proper authorities. For the successful carrying out of the work, the state university must establish a set of requirements as to the size and scope of hospitals, methods of organization, facilities for scientific work and case records, and such other details as may prove necessary to standardize the hospitals for the purposes of this fifth or clinical year of medical education. It is believed that hospitals so standardized will welcome affiliation with the university. The further opportunities it provides for medical and public health cooperation in the state and in furnishing an added stimulus for each hospital to become a scientific center for the physicians of the locality are apparent. The available internships in Minnesota will far outnumber the local candidates for the positions. The university hospitals, when completed, will provide a large share of the required positions. The Minnesota State Board of Medical Examiners, according to the law, does not require graduation but demands of its candidates for licensure four years of work in a recognized medical college and two years of premedical college or university work, which is equivalent to that provided by the University of Minnesota. These equivalents are determined for the Minnesota State Board of Medical Examiners, as in the case of students entering the College of Medicine and Surgery, by the Registrar of the University, or when necessary, by the Enrolment Committee of the College of Science, Literature and the Arts of the University of Minnesota. Whether the future graduates of the College of Medicine and

Surgery shall be required to take their examinations for license to practice medicine at the end of the fourth year or college course or at the end of the fifth year or hospital service has not been determined. Nor has it been decided whether it is desirable to substitute graduate research work for the hospital year in the case of those who wish to qualify, not for medical practice, but for teaching and research posts. It has seemed to the people of Minnesota that owing to the increase in present-day knowledge in chemistry, physics and biology, and in their increased applicability to the diagnosis, prevention and cure of disease, nothing less than seven years of university and clinical work should be demanded of candidates for a medical degree after graduation from an accredited high school.

DISCUSSION

DR. JOHN M. DODSON, Chicago: In schools which have the college requirement for admission, the time is ripe for the addition of the hospital year. Rush Medical College has had an optional fifth year for some time, but cannot make it compulsory because in Illinois a degree is necessary for licensure and the student must have a license in order to become an intern. The difficulty, however, is not in finding openings for the students, but to find students enough to fill the places. The chief difficulty would be on the side of the hospital, though this educational movement would be as good for the hospitals as for the students. Many hospitals are not adequately equipped and are not careful enough about having the work done properly. Interns are burdened with routine work and are obliged to look after too many patients. No intern should have more than twenty-five or thirty beds under his direction at one time, in order to make a proper study of his patients. In the University of Chicago, the intern is under the personal charge of some member of the faculty, who investigates the hospital and keeps in touch with the intern's work. The intern is also required to do some original work and present a thesis, which I regard as a most important thing, during his hospital year.

DR. F. C. WAITE, Western Reserve University: In Cleveland, we are able to place every man in a hospital, but we find that there are different grades of men as there are different grades of hospitals, and we propose to allow them to distinguish themselves in a way. The student will do a certain amount of work on which he is to report, and he must do something in the way of original work. When that is creditably done, he is to get an additional degree—Master of Medicine. His special work need not necessarily be medical, but may be laboratory or anything pertaining to his medical education. In this way we hope to induce men to go into hospitals.

DR. H. A. CHRISTIAN, Harvard University: It is desirable that every man who is to practice medicine should have practical experience in a hospital. Conditions in the east are not as they are in Minnesota. I would favor the plan outlined by Drs. Dodson and Waite. Unfortunately, the colleges of to-day are not in the position to assume the burden of a fifth year, and many schools would have difficulty in placing their students in hospitals because they do not control sufficient hospital positions. It would be well to await the outcome of the trial which is to be made by the University of Minnesota. The college may require five years, or it may furnish an incentive by offering an honorary degree for good work or make a practical degree necessary for licensure. That would give the student freedom in selecting his hospital. Many men go into laboratory work who would not be particularly benefited by hospital training, and yet the practical experience of hospital service is not to be undervalued. It seems desirable to require such a training of every man going into the practice of medicine, but not of the man preparing for work other than general practice. At the same time, I would favor the demand on the part of the licensing board of a practical hospital experience.

DR. EGBERT LEFEVRE, University and Bellevue Hospital Medical College: Everyone appreciates the need for the year of hospital work. In many localities it can only be postgraduate, as yet, and we can only recommend it as such. I am not in favor of having it made obligatory in the present state of control of hospitals. Hospitals are unwilling to consider themselves as adjuncts to the medical college, and until we have educated the hospital boards to the desirability of this close connection, we cannot require a fifth year.

What the Internist Wants the Anatomist and Physiologist to Teach

DR. BENSON A. COHOE, University of Pittsburg: The business of the medical school is to produce physicians who can heal the sick; the teachers of anatomy and physiology may direct their teaching toward practical ends or they may treat their subjects in a broadly scientific manner. An attempt has been made on the part of some medical schools to bridge over the more or less real gap that exists between the teaching of anatomy and physiology as pure science or in practical application to the clinical branches. Courses in topographic, applied, surgical and medical anatomy are offered by many schools, either as elective or as required subjects. Only two schools offer a special course in medical anatomy; one school offers a course in applied physiology; seven give courses in pathologic physiology; one school gives a course in medical technics. Clinicians desire that both anatomy and physiology be taught in a broadly scientific manner. The teaching of isolated facts of so-called practical value, at the sacrifice of fundamentals, would be a grave error. The most fitting place for the student to acquire a knowledge of anatomy for practice is in the dissecting room. The special course in medical anatomy, distinct from surgical anatomy, can be made of considerable aid, and should be taken up by the instructor in physical diagnosis. In such a course the living model should be employed.

To urge a greater practical application of physical facts is, under present conditions of physiologic knowledge and teaching, entirely unnecessary. A wise plan adopted in a few schools is to allow the student to choose some special field for exhaustive experimental work with the aim of teaching him thoroughness and initiative in his methods of work as a student and methods of precision in the study of his cases as a physician. The consensus of opinion is that that student is best prepared for the practice of internal medicine who has been trained in a school where these primary branches are taught as pure sciences, and where, not unmindful of their practical application, the imparting of the fundamental principles of these sciences is regarded as paramount, and in which no attempt is made at a short cut to the goal of medical learning by keeping practical facts ever in the foreground at the expense of pure science.

What the Surgeon Wants the Anatomist and Physiologist to Teach

DR. C. B. G. DE NANCREDE, University of Michigan: Those teaching in schools where the scientific side of the subjects under consideration are largely ignored in favor of the so-called practical aspects overlook or underestimate the fact that where the scientific side is not neglected better results are obtained. Yet it cannot be denied that there is room for improvement in securing the knowledge of anatomy and physiology which the surgeon needs. The advantages of the old system of acquiring anatomic and physiologic knowledge must not be overlooked. I would earnestly protest against curtailing the scope of instruction on these important subjects. It is not the fault of too much science, but too little, or at least the proper proportion at the proper time, and no amount of so-called teaching of practical anatomy will give the student such a spirit of catholic knowledge and interest in anatomy as a proper combination of the scientific with the miscalled practical. The surgeon wants anatomy taught with as broad a scientific foundation as feasible, supplemented by such a sharp presentation of the facts of general anatomy as will show what structures must be injured during any operation in a given region, what may be injured or destroyed, and what must not be injured, much less sacrificed. Would it not be possible to hold over the student's head the certainty that the internist and externist will hold an examination, the one on physiology, the other on anatomy, as part of the final examinations for a degree? In this way the advantages of the old and new methods would be combined. A proper knowledge of scientific as well as so-called surgical anatomy is of equal importance in the diagnosis of surgical conditions as in their treatment. The same is true of physiology. The surgeon needs these aids, while the teacher cannot successfully instruct when students do not possess them.

DISCUSSION

Dr. E. P. Lyon, St. Louis University: Anatomy and physiology should be taught from the scientific standpoint and not merely to point out the features thought to be of practical value. I believe that there should be in the medical school a man who has not the M.D. degree, but who is really well versed in one of these sciences. We need the trained anatomist rather than the physician who can teach anatomy.

Dr. H. A. Christian, Harvard University: We have too many separate courses in our curriculum to-day. It seems to me that it is not desirable to have separate practical courses in anatomy or physiology. The anatomist and physiologist must give his time to teaching the fundamental principles. The internist and surgeon must teach these subjects as applied sciences.

Dr. B. D. Myers, University of Indiana: It seems to me that applied anatomy is a very necessary part of the medical course. The student should have it as a foundation for physiology, medicine and surgery, and therefore it should be taught in the beginning of the course.

Dr. J. S. Ferguson, Cornell University: The anatomy from the side of the internist demands not so much the knowledge of the dissecting room as it does an accurate knowledge of the conditions in which the tissue exists in the body as shown first by the gross appearance; second, by its macroscopic structure, and, third, the application of the whole structure to the function of the organ.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

March 23

1 Popular Fallacies About Insanity. H. R. Stedman, Brookline, Mass.
2 The New England Pediatric Society. J. L. Morse, Boston.
3 When Shall We Remove Tonsils and What Type of Operation Shall We Do? E. A. Crockett, Boston.
4 Secondary Efforts to Hasten Healing After Mastoidectomy. H. O. Reik, Baltimore.
5 The Alleged Increase of Nervous Diseases. P. C. Knapp, Boston.

Medical Record, New York

March 25

6 *Injection of Drugs, Especially Salvarsan, Into the Lumbar Muscles. S. J. Meltzer, New York.
7 An Investigation of Recent Outbreaks of Typhoid in an Adirondack Camp, and the Discovery of a Typhoid Bacillus-Carrier. C. E. North, New York.
8 Principles Underlying the Surgery of the Spinal Cord and the Nerve Roots. R. S. Fowler, Brooklyn, N. Y.
9 The Roentgen Rays as a Means of Diagnosis of Carcinoma of the Stomach and Bowel. G. E. Pfahler, Philadelphia.
10 Nauheim Methods in Management of Cardiac Disease. L. F. Bishop, New York.
11 *Bilateral Fibromyoma of the Broad Ligament. E. H. Eising, New York.
12 *Diagnostic Value of Tuberculin as Shown by Nineteen Autopsies. G. W. T. Mills, Central Islip, N. Y.
13 Prophylaxis Against Uncinariasis Infection by Means of Efficient Shoes. W. F. Arnold, U. S. Navy.

6. **Injection of Salvarsan into Lumbar Muscles.**—On the basis of experimental observations, Meltzer offers: first, the suggestion in a general way, that in medical practice injections of drugs should be made into the lumbar muscles, especially in cases in which a rapid effective action is urgently needed. Second, he states specifically that salvarsan should be injected into the sacrospinal muscle. This muscle presents anatomically an exceptionally well-isolated, large, compact mass, densely packed with fine muscle bundles. Any solution or suspension injected strictly into this mass will remain there and not affect locally the adjacent tissues. Experimentally, Meltzer found that the absorption from this muscle is superior to that from the gluteal muscles and vastly superior to that from the subcutaneous tissue. Clinically, it was established in a limited number of cases of syphilis that salvarsan injected into this muscle exerts a fairly rapid, unmistakably beneficial influence on secondary and tertiary manifestations of syphilis and on the Wassermann reaction without causing pain and other ill effects deserving any serious considerations.

11. **Bilateral Fibromyoma of the Broad Ligament.**—The case reported by Eising is unique inasmuch as it is bilateral, and the masses were not cystic. Owing to the intimacy between the tumors and the body of the uterus, a hysterectomy was done, removing simultaneously the intraligamentous tumors. The patient made an uneventful recovery. The microscopic examination of the tumor showed it to be a fibromyoma. The dimensions of the entire mass including the uterus were: Laterally, 7¼ inches; vertically, 4½ inches; anteroposteriorly, 3¾ inches.

12. **Diagnostic Value of Tuberculin.**—Of 135 cases in which the eye test was made by Mills, nineteen came to the post-mortem room. There were ten cases of advanced disease. Of these, four cases can be considered. One gave absolutely no reaction, two gave only slight reactions, and the fourth gave a negative reaction on the first trial, a positive on the second, but this was in the same eye and is without value. The patients all died within a comparatively short time (from three days to thirty-five days), and the results correspond with the results of others and with those of the injection method, that is, in advanced or very active cases, especially just before death, the reaction is absent or slight. The other six cases were positive; all but one patient lived a considerable time beyond the test, and the disease was not in so active or advanced a stage at the time of test as in the four above described. In the one exception, the primary cause was Addison's disease. The next group included cases with scars and evidences of former tuberculosis, nothing of an active nature being present at death. In this group there were seven cases. Three of these were negative; one gave only a questionable reaction at the end of sixty hours, and three gave positive reactions. This proves conclusively, Mills says, that old, healed lesions can give positive reactions, and strongly positive ones, but at the same time shows that a negative reaction does not exclude an old lesion. The third group includes two cases with negative autopsy findings, and both gave negative reactions. Mills has found that from 20 to 25 per cent. of insane patients will react to the ophthalmotuberculin test, in whom no demonstrable lesions can be found, but it is probable that in all of them an old focus will be found post mortem. Therefore, a positive reaction in the absence of clinical signs is of no significance, but a negative reaction, except in advanced or very active cases, positively excludes tuberculosis. Mills regards the test as being as reliable as any other tuberculin test, more reliable than most methods, and easy of application in any class among the insane. With strict aseptic precautions, he believes the danger to be infinitesimal and so far has seen no injurious effects.

New York Medical Journal

March 25

14 The Problem of Prostitution and Venereal Diseases in New York City. F. Bierhoff, New York.
15 Simplified Treatment of Anorectal Diseases. S. G. Gant, New York.
16 Presence of Intestinal Parasites in Inmates of the Philadelphia General Hospital. R. C. Rosenberger, Philadelphia.
17 Zinc Oxid in Face Powder. S. S. Cohen, Philadelphia.
18 Hints for Mastoid Dressings. E. Amberg, Detroit.
19 Non-Suppurative Osteomyelitis. J. C. Stewart, Minneapolis.
20 Bismuth in Gastric Therapy. A. Goldman, New York.
21 Picric Acid, a Retrospect. A. Ehrenfried, Boston.
22 Vaccine Therapy. C. T. Russell, Jr., Philadelphia.

Lancet-Clinic, Cincinnati

March 25

23 Interpretation of Jaundice. C. N. Smith, Toledo, Ohio.
24 Anterior Poliomyelitis: Pathology and Bacteriology. W. H. Peters, Cincinnati.
25 Etiology of Epidemic Poliomyelitis and Its Possible Relation to Beriberi. O. v. Huffman, Cincinnati.
26 Clinical Manifestations and Medical Treatment of Poliomyelitis. M. Dreyfoos, Cincinnati.
27 Orthopedic Management of Paralysis Due to Acute Anterior Poliomyelitis. R. D. Maddox, Cincinnati.

Journal of the Missouri State Medical Society, St. Louis

March

28 Emergency Cases in Eye, Ear, Nose and Throat Work, with Suggestions for Their Care by General Practitioners. J. S. Weaver, Kansas City.
29 Convergent Strabismus. J. W. Sherer, Kansas City.
30 Progress in Surgery. H. L. Reid, Charleston.
31 Resection of the Large Intestine for Malignant Disease. C. M. Nicholson, St. Louis.

32 The Evolution of the Trained Nurse. M. A. Goldstein, St. Louis.
33 Gastroptosis. J. W. Ousley, Kansas City.
34 Modern Life vs. Longevity. E. C. Robichaux, Excelsior Springs.

American Journal of Diseases of Children, Chicago

March

35 *Physiology and Pathology of the Digestion of Fat in Infancy. F. B. Talbot, Boston.
36 *Bacteriology of the Blood in Early Life. F. S. Churchill and C. P. Clark, Chicago.
37 *Metabolism of Nitrogen, Phosphorus and the Purin Substances in the New-Born Infant. O. M. Schloss, New York, and J. L. Crawford, Troy, Texas.
38 *The Non-Specificity of the Cell Findings in the Spinal Fluid in Various Meningeal Conditions, Especially in Children. W. P. Lucas, Boston.

35. **Digestion of Fat in Infancy.**—Talbot points out that there is no doubt that large amounts of fat can do a great deal of harm to most babies. Such babies come under two classes—those which have a normal digestion and are unable to digest excessive amounts of fat, and those which have diminished powers of digestion and are unable to digest normal amounts of fat. So much attention has been paid to the few babies that are unable to digest fat, that one is apt to forget that most babies can digest fat within reasonable limits. In Talbot's experience, it has been safe to increase the percentage of fat gradually up to 4 per cent. in most normal babies whose digestive powers have not previously been lowered by gross errors in feeding or by infection. These children develop normally without any of the signs or symptoms of fat indigestion so long as their hygiene is perfect and they have no intercurrent infection.

36. **Bacteriology of the Blood.**—Churchill and Clark made sixty-nine examinations on sixty-four infants and children during life, and studied sixteen cases post mortem. The blood was obtained by the usual method—from the median basilic vein just above the elbow. In two cases of suspected typhoid it was obtained from the lobe of the ear, as recommended by Peabody. Various kinds of syringes have been used, but the Luer glass syringe has been the most satisfactory. The blood thus obtained has been mixed immediately at the bedside with various media; in most of the cases two tubes of bouillon, two of agar and agar plates have been inoculated. In five of the typhoid cases, ox bile has been used in the medium, with positive results in all. A case of suspected typhoid in which bile medium was used was negative, but proved later to be a case of tuberculous meningitis. In the sixty-nine examinations made, the authors obtained nineteen positive results. Combining Rotch's series, their own and a few scattering reports in the literature, the authors found thirty-one cases of typhoid fever, in twenty, or 66 per cent. of which, bacilli were found in the circulating blood. Furthermore, the bacilli were found as early as four days before the onset of symptoms and as late as the twenty-second day. These results were obtained with all kinds of media and at all periods of the disease. Of fifteen cases of lobar pneumonia and three of lobular pneumonia, four of the former were positive and one of the latter, the organism found being the pneumococcus in every instance. Thus in the eighty-five cases comprising their own and Otten's series, thirteen, or 15 per cent., showed pneumococci in the circulating blood.

In the group of rheumatic affections, they included cases of endocarditis, arthritis, tonsillitis and chorea, these manifestations occurring either singly or in combination with each other. There were seven cases of endocarditis; all had chronic endocarditis; in five of the cases, the cultures were taken during a febrile stage, due either to tonsillitis, arthritis, or to an unknown cause, possibly an acute exacerbation of the chronic endocarditis. There were two cases of chorea, and in both of these the temperature was normal when the cultures were taken. Cultures were negative in all seven of the cases. They examined four cases of meningitis with two positive results. In the tuberculous case the patient was examined on the tenth day of the disease as a suspected typhoid patient. One case each of pyelitis, erysipelas and acute nephritis gave negative blood-cultures. Catheterized specimens of urine from the cases of pyelitis and nephritis showed a streptococcus in the former and nothing in the latter. One case of acute lymphocytic leukemia showed the streptococcus in the blood one week before death.

They have reports on the bacteriology of the heart's blood in seventeen cases, of which thirteen showed positive results. Three cases of special interest were one each of hemorrhagic disease of the newly born, erysipelas and status lymphaticus. The hemorrhagic disease showed in the heart's blood the *Staphylococcus aureus*, the *Bacillus coli*, the streptococcus and an unidentified diplococcus midway between the pneumococcus and the streptococcus. Of the four cases with a sterile heart's blood, three were as follows: a pyelonephritis due to the *B. pyocyaneus*, an otitis with a general septicemia, but with entirely negative post-mortem results, and a meningococcic meningitis. The fourth case was endocarditis in which the antemortem blood was also sterile. The organisms recovered post mortem were as follows: the staphylococcus six times (*S. aureus* five times, *S. albus* once), the streptococcus eight times, *Bacillus coli* three times, the *Diplococcus lanceolatus* one time, and an unidentified diplococcus.

37. **Metabolism of Nitrogen.**—Uric acid infarct elements were present in the urine of each of nine new-born infants examined by Schloss and Crawford. They state that the uric acid output in new-born infants is both absolutely and relatively high. It is greatest during the first three days and then decreases. In cases in which the umbilical cord was ligated late, the output of uric acid was greater during the second and third days than in cases in which the cord was ligated immediately after birth. The quantity of the purin substances in the colostrum ingested is too small to explain the observed high uric acid output. The total phosphorus excretion was high during the first three days and then showed a sharp diminution. There is marked retention of phosphorus by the new-born infant. There is a moderate nitrogen retention during the first three days of life; later, nitrogen is retained in large degree. There is an inverse ratio between the leukocyte count and the elimination of phosphorus and uric acid during the first few days of life. In the light of present knowledge, the parallelism between the excretion of uric acid and phosphorus during the first three days would seem to indicate a common origin from cell nuclei. The greatest excretion of uric acid in the late ligation case suggests that the formed elements in the blood in some way serve as its origin.

38. **Non-Specificity of the Cell Findings.**—From Lucas' study, it is evident, first, that there are many conditions that give the same cytologic findings in the spinal fluid: (a) encephalitis, (b) epidemic myelo-encephalitis, (c) meningismus, (d) tuberculous meningitis, (e) syphilis of the central nervous system; second, that the presence of mononuclear cells, of lymphocytes, in the spinal fluid cannot be the basis for a diagnosis of tuberculous meningitis; third, that the recovery from animal inoculation, or the finding of the tubercle bacillus microscopically are the only positive means of making the diagnosis of tuberculous meningitis; fourth, that the study of the spinal fluid, although very important, must go hand-in-hand with more careful clinical studies of such border-lying cases as the ones shown in the different tables.

Journal of the Tennessee State Medical Association, Nashville

March

39 Action of the Arylarsonates on the Eye. E. C. Ellett, Memphis.
40 Foreign Bodies in the Eye. R. Fagin, Memphis.
41 Placenta Prævia. A. T. Clopton, Milan.
42 Sprained Ankle. D. Eve, Jr., Nashville.
43 Treatment of Acute Inflammations of the Middle Ear. G. C. Savage, Nashville.

Surgery, Gynecology and Obstetrics, Chicago

March

44 *Clinical and Pathologic Significance of Obliteration, Carcinoma, and Diverticulum of the Appendix. W. C. MacCarty and B. F. McGrath, Rochester, Minn.
45 Distention Changes in the Duodenum in Chronic Intestinal Stasis. W. A. Lane, London.
46 *Intestinal Obstruction Due to Kinks and Adhesions of the Terminal Ileum. C. H. Mayo, Rochester, Minn.
47 *Teratoma Testis and Its Derivatives. J. Ewing, New York.
48 *Osmosis as an Important Factor in the Action of Antiseptics. M. G. Seelig and C. W. Gould, St. Louis.
49 Hernial Tuberculosis. V. L. Schrager, Chicago.
50 Suppuration in the Retroperitoneal Space. R. H. Huggins, Pittsburg, Pa.

51 *Surgical Treatment of Undescended Testicle. C. Davison, Chicago.
52 *Case of Complete Amenorrhea, with Heredity as a Probable Etiologic Factor. A. R. Hoover and J. K. Marden, Marsovan, Turkey.
53 Operative Treatment of Difficult Cases of Palate Defect After Infancy. V. P. Blair, St. Louis.
54 Vertebral Fracture; Insertion of a Wire "Back-Stay." F. J. Cotton, Boston.
55 *A New Bag for the Hydrostatic Dilatation of the Cervix Uteri in Pregnant and Parturient Women. A New Hook for Decapitation. B. C. Hirst, Philadelphia.

44. **The Appendix.**—This series of cases studied by MacCarty and McGrath confirms the percentage of obliteration found in the appendix by other observers. Obliteration seems to occur as the result of an inflammatory process as shown by its histology, the time of occurrence, its irregularity of occurrence, the duration of the process, and the higher frequency in appendicitis than at necropsy is general. Many appendices become acutely inflamed during the process of obliteration and therefore an obliterated appendix should be removed, if possible. Carcinoma may occur at practically any age. It was impossible to make the diagnosis of carcinoma from the external appearance in 77 per cent. of the cases of carcinoma. The high frequency of carcinoma in obliterated or partially obliterated appendices may demand removal of all partially or completely obliterated appendices. Carcinoma of the appendix occurs in association with changes in the appendix which are related to the process of obliteration. Carcinoma of the cecum probably arises from the appendix only in a very small percentage of the cases.

46. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 298.

47. **Teratoma Testis and Its Derivatives.**—The conclusion drawn by Ewing from the study of teratoma testis would seem to have important bearing on the origin of tumors in general. It seems unlikely that the conditions surrounding the genesis of this group of tumors are wholly different from those prevailing with tumors in other organs, notwithstanding the fact that in the testis one has to deal with "totipotent" sex cells not occurring elsewhere. In the testis one encounters a wide variety of neoplasms, from the most undifferentiated, diffusely growing, highly malignant, round cell tumors, up to fully adult and harmless tissues and organs, all of which appear to have one and the same origin, the slow or rapid unfolding of original potencies of sex cells. These facts seem to Ewing wholly irreconcilable with any relation to any external parasite, but reveal in a striking manner that most important of all facts known about the origin of neoplasms—that embryonal cells possess more than any others the essential factors in the inception of tumors.

48. Abstracted in THE JOURNAL, Jan. 21, 1911, p. 218.

51. **Surgical Treatment of Undescended Testicle.**—The principle of Davison's operation depends on the direction of the spermatic vessels immediately above the beginning of the spermatic cord at the internal inguinal ring and the possibility of lowering the whole cord by the transplantation of these vessels. The operation consists of the following technic: The inguinal canal is exposed by dissection as in the Bassini operation for inguinal hernia. The testicle and cord are freed from the inguinal canal and ring and temporarily laid above the wound out of the operation field. The treatment of the posterior wall of the inguinal canal is very similar to that in the Fowler operation for inguinal hernia. After a preliminary double ligature of the deep epigastric hernia, an incision is made through the posterior wall of the inguinal canal, from the internal inguinal ring to the pubic bone just beneath the site of the external ring. This destroys the internal inguinal ring and exposes the peritoneum with the vas deferens and spermatic vessels lying on it attached by loose cellular tissue. When congenital hernia is present or the processus vaginalis is patulous, the peritoneal layer is carefully separated from the cord and cut across. The distal part is allowed to cover the cord and testicle. The opening in the peritoneum is closed. The reduplicated vas deferens is easily separated by gauze dissection from the peritoneum until the desired length is attained. The external edge of the cut transversalis fascia is sharply retracted outward, exposing the spermatic vessels for some distance. The preservation of these structures with the natural blood-supply gives the best prospect of the physiologic and functional development of the testicle.

A bed for the testicle is made in the scrotum. A silkworm-gut suture is passed through the gubernaculum testis and both ends are passed through the most dependent part of the scrotum. The testicle is located in the scrotum. The cut in the transversalis fascia (the posterior wall of the inguinal canal) is repaired. The cord is made to come through at the lower angle of the incision. The internal inguinal ring is closed. The conjoined tendon is sutured to the under side of Poupart's ligament above the cord. The fascia of the external oblique muscle is sutured to the edge of Poupart's ligament above the cord. The skin wound is closed. A strip of adhesive plaster is placed around the thigh just above the knee, with a flap on the inner side of the thigh. To this flap is fastened a thin rubber letter band. The suture through the bottom of the scrotum is tied to the rubber band with only sufficient tension to make the band taut. The usual aseptic dressings are applied. A light plaster-of-Paris body cast or starch dressing is used to prevent flexion of the thigh and intermittent traction on the gubernaculum testis. The operation should be performed by election at puberty.

52. **Complete Amenorrhea.**—The patient was a Greek woman, about 40 years old, in good physical condition, of average size and development of body, with no evidence of defects of any kind, and with good average intelligence. She made some very minor complaints suggestive of that train of nervous troubles frequently accompanying the menopause. During the examination the fact was brought out that the woman never had menstruated in her life, that she had given birth to eleven children, five of whom were living at time of this examination; further, that the grandmother of the patient had never menstruated in her life, that the mother of the patient had menstruated only once in every one or two years. Of the patient's children, one, a girl of 14 years, had not yet menstruated. The patient herself was married at the age of 15 and gave birth to her last child four years ago. Patient further said she had never had symptoms of a menstrual molimen of any sort whatever, no knowledge of when her menstrual time might be due, no malaise, no pain, nothing, in fact, saying that she simply lived like a man and didn't know what it was to be sick.

55. **Hydrostatic Dilatation of the Cervix Uteri.**—Hirst has had made two new bags in three different sizes, one a flattened hour-glass, for the effaced cervix, the other a spool-shaped bag for the uneffaced cervix; the first, 2 inches; the second, 2½ inches deep, both having minimum transverse diameters of 1, 2 and 3 inches. These bags are attached to the blood-pressure apparatus so as to measure, decrease, increase or maintain at one level the pressure exerted by them.

Virginia Medical Semi-Monthly, Richmond

March 10

56 Advantages of Appendicostomy and Cecostomy in Ulcerations of the Intestines. S. T. Earle, Baltimore.
57 Principles of Infant Feeding. E. P. Copeland, Washington, D. C.
58 Immunity—Simplicity of the Theory. W. P. Carr, Washington, D. C.
59 Injuries to the Sacro-Iliac Joint. S. B. Moore, Alexandria.
60 The Duty of the Profession. M. J. Payne, Staunton.
61 The Use of Salvarsan. T. B. Leonard, Richmond.

Mississippi Medical Monthly, Vicksburg

March

62 The East Mississippi Four-County Medical Association. R. M Boyd, Aberdeen.
63 Infantile Diarrhea. S. D. Austin, Durant.
64 Auto-Intoxication. E. J. Hudspeth, Pheba.
65 Malarial Hemoglobinuria. M. L. Pollard, Thornton.
66 Neurasthenia. J. W. Primrose, Clarksdale.

New York State Journal of Medicine

March

67 *The Ideal Medical Education for the General Practitioner and the Specialist. A. Duane, New York.
68 Localized and General Peritonitis. Shall We Ask Nature to Do Her Own Surgery? W. D. Ward, Rochester.
69 The Colon. C. E. Coon, Syracuse.
70 Rabies and Its Methods of Control in New York State. J. F DeVine, Goshen.
71 A Case of Hodgkin's Disease. J. A. Longmore, Brooklyn.
72 Chronic Gastro-Intestinal Disorders in Older Children. F. V. Bogert, Schenectady.
73 Neglected Points in Office Practice. G. E. P. Stevenson, Penn Yan.

74 Surgery of Neurasthenics. W. E. Ford, Utica.
75 Thoughts on Diagnosis. E. Munson, Medina.
76 Supervision of the Venereally Diseased. G. V. R. Merrill, Elmira.
77 *Varicose Ulcer and a Method of Treatment. F. W. Lester, Seneca Falls.

67. **The Ideal Medical Education.**—The propositions made by Duane are summarized in the following ideal sketch of what he hopes to see obtaining in the future:

1. The ideal medical course will be based on or rather will contain a large number of humanistic studies, comprising prominently Greek, Latin, English, history, economics, psychology and drawing.
2. These humanistic studies will be pursued side by side with the technical work and will be treated as of equal importance. This coordination of the two will be best effected by a combined liberal arts and technical course leading to the degrees of A.B. and M.D. This course will comprise sixty months of actual work which can well be compressed into six years.
3. For the ordinary medical student intending to become a general practitioner, some of the technical work now required (especially in the laboratory) will be eliminated—its place being taken by clinical work or by humanistic studies.
4. The medical course will begin and end earlier. This can be effected by making the work in the preparatory schools less diffuse and more thorough, and by lengthening the terms, both in the schools and in the university, from eight months to ten. In that case the student will begin his combined course at 16, get his A.B. at about 20 and his M.D. at 22.
5. Teaching, so far as possible, will be made individual. This will probably be best attained by the appointment of numerous preceptors. Each preceptor will have charge of four or five students, and it will be his business to see that they understand their work and that they do it properly. His relations with them will be intimate and informal.
6. The student will enter on elementary clinical work early in his course and even before he receives any didactic instruction on the theory and treatment of disease.
7. Clinical work will be graded. Step by step the student will learn to handle cases for himself. Under the guidance of his clinical preceptor cases will be put under his care, whose course he will follow day by day. As his experience increases he will be accorded more responsibility and a freer hand, until at the end of his course he will be competent to diagnosticate and treat any ordinary cases of disease. When he receives his degree he will not need a supplementary hospital course in order to qualify himself for practice.
8. The university will have its own hospital, which shall be completely under its control and which shall be officered by its own preceptors.
9. The university will provide all sorts of elective courses in all branches for undergraduate and postgraduate work. The selection of these by students will be strictly regulated, and only a very limited number can be taken by any one man before graduation. After graduation it will be possible for the student to get at his university the most detailed instruction and the fullest practical work in any medical subject.
10. The student will be systematically encouraged to do original work. Efficient aids to this end will be the plan of individual teaching and of individual clinical work here advocated, together with a wise application of the elective system.
11. The thesis will be restored as a requirement of graduation. In the combined course the student will present two theses—one on a non-technical subject for the degree of A.B., the other on a medical topic for the degree of M.D. In either case the thesis will count as the equivalent of an examination in a major subject.
12. The university will give ample postgraduate instruction in all departments of medicine: (a) For the benefit of graduates, especially those aiming to be country practitioners, who without desiring to be specialists, yet wish to be more or less conversant with several specialties; (b) for graduates who wish to pursue some special line of research or get special information in any field; (c) for those wishing to become specialists.
13. To the specialist the university will give an adequate, systematic and thorough training. It will require of him: (a) That he take certain specified electives either in the undergraduate course or in the postgraduate year; (b) that he spend at least two years after graduation in general medical and surgical work (preferably in a hospital); (c) that he afterward spend a full year in postgraduate work at the university in the theory and practice of his specialty; (d) that he present a thesis on some subject connected with his specialty; (e) that he pass a satisfactory examination in the theory and practice of his specialty.
14. On his fulfilling these requirements the university will confer on him the degree of Ph.D.

77. **Varicose Ulcer.**—The method to which Lester refers is as follows: Using adhesive plaster strips in lengths of from 12 to 18 inches, and from ¾ to 1 inch wide, envelop the leg in a net-work of the plaster strips, extending entirely around the leg, from the foot to just below the knee. These strips are applied tightly enough to ridge deeply into the edematous skin, and applied spirally, in both directions, so that when completed, the leg will present a checkered appearance and look as if small squares were attempting to burst through. The first strip encircles the foot itself, and extending in a spiral manner up the leg; the second, beginning on the opposite side of the foot and crossing the first strip, proceeding on up the leg, in a spiral opposite in direction to the first, so the strips are applied, about 1 inch apart, up the leg, crossing the ulcer as they happen to come, which, having been cleansed with pure olive oil or a solution of liquor cresolis compositus or phenol (carbolic acid), and dusted with calomel, is partially or entirely strapped under. Several thicknesses of sterile gauze may be then placed over the straps covering the ulcer, and a firm muslin bandage applied. The bandage should be removed and reapplied every morning, the gauze being renewed if soiled, but the straps left on for a longer period—from two to seven or eight days. The results of this treatment have been uniformly satisfactory to Lester, as a decided improvement may be noted almost from the first, and in a period of from two to four weeks, the ulcer is closed.

Medical Herald, St. Joseph

January

78 Simultaneous Rupture of the Quadriceps Extensor Tendon of One Knee, and of the Tendo Achillis of the Other Leg. J. E. Summers, Omaha, Neb.
79 A Table for Cystoscopic Examinations as Well as for General Purposes. T. M. Paul, St. Joseph, Mo.
80 The Tuberculous Factor in Phlyctenular Keratitis. J. M. Patton, Omaha, Neb.
81 Differential Diagnosis of Duodenal Ulcer and Gall-Stones—Einhorn Duodenal Pump. J. M. Bell, St. Joseph, Mo.
82 Prevention and Treatment of Septic Infections of Extremities. E. H. Ochsner, Chicago.
83 "Landry's Paralysis;" Acute Ascending Paralysis. C. B. Hardin, Kansas City, Mo.

February

84 *Convergence Insufficiency: Its Importance to the General Practioner, and Its Successful Modern Treatment. J. M. Banister, Omaha, Neb.
85 Artificial, Theoretical and Practical Infant Feeding. B. W. Christie, Omaha, Neb.
86 Prognosis in Heart Disease. J. H. Darey, Sioux City, Iowa.
87 Care of Mother and Child After Confinement. C. W. Pollard, Omaha, Neb.
88 The Indiana Plan. G. H. Bogart, Brookville, Ind.
89 Treatment of Syphilis with Salvarsan from Observation Made in Clinics in Berlin. G. A. Lau, St. Joseph, Mo.
90 Treatment of Some of the Principal Diseases of the Eye. B. Pitts, St. Joseph, Mo.
91 A Case of Carcinoma of the Breast Treated by the Roentgen Ray. J. N. Scott, Kansas City, Mo.

84. Abstracted in The Journal, March 26, 1910, p. 1075.

Canadian Medical Association Journal, Toronto

March

92 Malignant Disease in the Neck. A. Primrose, Toronto.
93 Experiences with Salvarsan. J. G. Adami, R. P. Campbell and F. S. Patch, Montreal.
94 Tuberculin in the Diagnosis of Tuberculosis. J. C. Meakins, Montreal.
95 Food Standards. A. McGill.
96 The Inflammatory "Pelvic Mass." W. W. Chipman, Montreal.

St. Paul Medical Journal

March

97 Municipal Sanitation with Special Reference to Present Conditions in St. Paul. B. Foster, St. Paul.
98 Mechanism and Significance of the Reflexes. L. M. Crafts, Minneapolis.
99 Advances and Improvements of the Medical Profession. E. Klaveness, Sioux Falls, S. Dak.

Journal of the Michigan State Medical Society, Battle Creek

March

100 *Tuberculosis in Children: Some Aspects of the Problem. H. M. Rich, Detroit.
101 Rupture of the Bladder. R. C. Stone, Battle Creek.
102 Lessons from Three Cataract Extractions. W. R. Parker, Detroit.
103 Non-Operative Treatment of Varicose Veins of the Legs. W. A. Hackett, Detroit.
104 Cerebrospinal Meningitis. C. H. Johnston, Grand Rapids.
105 *Immediate Versus Deferred Operation in Intra-Abdominal Hemorrhage Due to Tubal Pregnancy. H. W. Hewitt, Detroit.
106 *Interpretation of Gross Findings in the Urine. W. E. Keane, Detroit.

100. Abstracted in The Journal, Oct. 29, 1910, p. 1586.

105. Abstracted in The Journal, Nov. 5, 1910, p. 1676.

106. Abstracted in The Journal, Oct. 22, 1910, p. 1492.

Western Medical Review, Omaha

March

107 Management of Strangulated Hernia. B. B. Davis, Omaha, Neb.
108 Drugless Healing. L. A. Merriam, Omaha, Neb.
109 Present-Day Problems in Acute Intestinal Obstruction. J. S. Welch, Lincoln, Neb.
110 *A Case of Poisoning Following the Use of Coal-Tar Derivatives. A P. Overgaard, Fremont, Neb.
111 *Normal Saline Solution Given Through a Biliary Fistula. M. J. Ford, Omaha, Neb.

110. **Poisoning Following Use of Coal-Tar Derivatives.**—For four years, Overgaard's patient had been a constant user of acetanilid, and would use as many as a dozen 5-grain tablets in twelve hours. She procured 1,000 at a time, and in the four years had used several thousand. She suffered from severe

headaches and vomiting attacks lasting for two or three days and as a rule she would have to be in bed. About two years ago, she began the use of morphin together with the acetanilid and is now using as much as 2 grains of morphin a day to get relief. When first seen by Overgaard, she had been in bed for six weeks, was emaciated, no appetite on account of persistent vomiting, headache always present, slightly jaundiced with marked tenderness and dulness over the gall-bladder region, very constipated and suffering from tympanitis. Dr. A. F. Jonas drained the gall-bladder of dark, thick, stringy bile. She made a good recovery from the effects of the operation, and in three weeks was up and around a little. She stopped the use of any drug and in a couple of months was doing her work and feeling fine. In about a year and a half Overgaard was again called to see her and found her in bed suffering from headache, vertigo, faintness, tinnitus, psychic irritability, dyspnea, palpitation and edema. There was also tenderness over the gall-bladder region and large quantities of bile and mucus were being vomited. She was using coal-tar products and morphin to relieve the pain. Her lips and finger nails were blue. She had lost about 20 pounds in weight during from four to six weeks. Overgaard says that the thing for the profession to do is to enlighten the public on the bad results arising from the use of these coal-tar products and to discourage the continued self-medication of the laity by the use of all kinds of headache tablets and powders.

111. **Normal Saline Solution Given Through a Biliary Fistula.**—Ford reports a case of cholecystitis in which 2 pints of normal saline solution were given daily for a week through a biliary fistula. A diagnosis of gall-bladder disease was made from the findings. Ford operated. The gall-bladder was distended to twice its usual size. One inch from the fundus was what appeared to be a sort of a diaphragm of very thick adhesions—the trocar would not go through without using considerable force. There were no gall-stones, but the gall-bladder was full of black, tarry, ropy bile. Ford curetted the gall-bladder—put in a rubber tube drain and ordered the patient put to bed in Fowler's position and given normal saline by rectum. There was practically no drainage, just a little bloody pus. The patient grew persistently weaker, and could not retain saline by bowels which were moving involuntarily. Four days after the operation, Ford started to give saline solution through the drainage tube in the gall-bladder. It took three hours for the pint of normal saline to run in. Some time later the patient had considerable distress in the stomach which was relieved by lavage with a solution of sodium bicarbonate. On the following day 2 pints of saline solution were administered through the tube into the gall-bladder, one in the morning and one in the afternoon. The patient continued to improve from the first time the saline was given by the biliary fistula. The improvement was continuous and as the patient gained in strength the bile began to flow through the fistulous opening and continued for about four weeks when the fistula closed of its own accord.

Kentucky Medical Journal, Bowling Green

March 1

112 Criminal Abortion. M. H. Sutherland, Harrodsburg.
113 Reduction of Infant Mortality, Especially in Rural Districts. E. L. Gowdy, Campbellsville.
114 Remittent Fever. E. L. Palmore, Illseville.
115 Endocarditis. S. M. Hopkins, Demossville.
116 *Surgery of Musculospiral Paralysis. A. H. Barkley, Lexington.
117 Tuberculosis. R. N. Filiatrean, Knottsville.
118 Leukemia. M. A. Yelton, Falmouth.
119 Abortion. J. L. Wyatt, Buffalo.
120 Uncinariasis in the South and Its Neglect. W. F. Arnold, U. S. Navy.
121 Differential Diagnosis in Gastric Disease. J. H. Chrisman, Owenton.
122 Myocarditis. O. W. Brown, Lenoxburg.
123 Empyema Treated Without Rib Resection. A. M. Glass, Booneville.
124 A Case of Advanced Syphilis Treated with Salvarsan. J. A. Stuckey, Lexington.
125 Scorbutus. N. A. Jett, Brooksville.
126 A Peculiar Case of Dystocia. J. S. Tatum, Harreldsville.
127 Biographies of Members of the Central Kentucky Medical Society and Report of Its Last Meeting, Nov. 4, 1909. J. G. Carpenter, Stanford.
128 The Physician as an Educator and as a Sanitarian. G. J. Herman, Newport.
129 Typhoid and Its Proper Treatment. H. H. Stallard, Hellier.
130 Chronic Gastritis. T. O. Meredith, Burgin.

March 15

131 Pelvic Inflammation. L. Bloch, Louisville.
132 Atypical Pneumonia. W. F. Boggess, Louisville.
133 Chronic Prostatitis. H. Bronner, Louisville.
134 Rectal Cancer with Colostomy. G. S. Hanes, Louisville.
135 Fatty Tumor of the Gum. B. F. Zimmerman, Louisville.

116. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1221.

Ohio State Medical Journal, Columbus

March

136 Indications for Nephrectomy. E. O. Smith, Cincinnati.
137 *Pulmonary Manifestations of Syphilis. R. P. Daniels and H. W. Dachtler, Toledo.
138 Treatment of Mucous Colitis. W. Teachnor, Columbus.
139 *Phases of the Surgical Treatment of Gastric Ulcer. W. D. Haines, Cincinnati.
140 The Borderland of Sprain, Fracture and Periosteal Inflammation After Trauma. W. G. Stern, Cleveland.
141 What Should Be the Attitude of the Profession Toward the Non-Medical Cults? C. W. Moots, Toledo.

137. Abstracted in THE JOURNAL, July 16, 1910, p. 246.

139. Abstracted in THE JOURNAL, May 28, 1910, p. 1809.

Military Surgeon, Washington, D. C.

March

142 Blank Forms for Internal Administration of Army General Hospitals. T. L. Rhoads, U. S. Army.
143 Camp Wikoff, Montauk Point, New York, in 1898. I. C. Brown, U. S. Army.
144 Prevention of Typhoid. F. R. Keefer, U. S. Army.
145 *Ethics, Scope and Prerogative of the Army Medical Officer. L. M. Maus, U. S. Army.
146 Report on an African Trip. W. W. Roberts, U. S. Army.
147 A Case of Rabies at Camp Overton, Mindanao, P. I. O. Weston, U. S. Army.

145. Abstracted in THE JOURNAL, Dec. 17, 1910, p. 2173.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

March 4

1 Dilated Stomach. A. F. Hertz.
2 Prevalent Rain-Bearing Winds and the Milk Supply of Manchester During the Years 1896-1909. W. Gordon.
3 Diagnosis of the Commoner Causes of Chronic Jaundice. P. J. Cammidge.
4 The Urines of Marathon Runners. G. Chambers.
5 Intussusception of the Appendix. J. W. Thomson.
6 *Chronic Traumatic Mastitis. G. L. Cheatle.
7 *An Unusual Form of Perineal Hernia. A. G. Atkinson.

March 11

8 Common Injuries of the Knee-Joint and Their Consequences. W. A. Lane.
9 Injuries of the Lower End of the Humerus. C. H. Fagge.
10 Rheumatoid Arthritis. J. C. Briscoe.
11 Two Cases of Pernicious Anemia Treated by Salvarsan. B. Bramwell.
12 Operations for Calculus in the Male Bladder. W. F. Haslam.

3. **Chronic Jaundice.**—By a timely and correct diagnosis, such as is possible from a careful consideration of the clinical history and symptoms, and the information to be obtained by thorough analysis of the urine and feces, Cammidge says the complications and sequelæ likely to arise in cases of chronic jaundice—serious disease of the pancreas, cholangitis, cirrhosis of the liver, etc. may be avoided. Delay is always dangerous, and it is useless to await developments until the case is of interest only to a pathologist. The cause of the jaundice must be determined at the earliest possible moment and the treatment be based on the conclusion arrived at. A diagnosis of gall-stones obstructing the bile duct, made on the clinical data and confirmed by an examination of the excreta, calls for immediate operation, as the only likely spontaneous cure is Nature's crude and dangerous remedy of making a fistula by which the stone may escape into the duodenum, or elsewhere. Catarrhal jaundice frequently clears up spontaneously, but if after six weeks of rest in bed, with dieting and medical treatment, the jaundice persists and the urinary "pancreatic" reaction is positive, it is advisable to invoke the aid of the surgeon to perform a short-circuiting operation to avoid further damage to the pancreas. In the last stages of malignant disease operation is only likely to shorten the brief span of life still left to the patient, but in the earlier stages much may be done to make existence more bearable by a cholecystotomy or cholecystenterostomy to relieve the intolerable itching of which complaint is chiefly made. At the same

time it is well to bear in mind that in many cases diagnosed clinically as inoperable carcinoma of the pancreas, it has been shown on chemical examination of the urine and feces, and by the after-history, that the patients were suffering from chronic inflammation of the gland capable of retrogression.

6. **Chronic Traumatic Mastitis.**—As the main causes of this type of mastitis, Cheatle condemns the corset which has not been made on hygienic principles. Some patients realize that the corsets are causing the trouble, and come to the physician with the bones and steels bent, broken or removed; or have already adopted a form of corset designed to remedy the condition, after having consulted a corset maker. Most of the women, however, have no idea of connecting the cause and effect.

7. **Perineal Hernia.**—The hernia in Atkinson's case seems to have arisen from an abnormally deep vesico-uterine pouch, passing down between the urethra and vagina. From this the sac passed forward through the posterior wall of the urethra, being then extruded through the urinary meatus.

Lancet, London

March 11

13 *Association of Disease of the Mouth with Rheumatoid Arthritis and Certain Other Forms of Rheumatism. K. W. Goadby.
14 Principles on Which the Treatment of Resting Conditions of the Skeleton Is Based. W. A. Lane.
15 Education of the Deaf. M. Yearsley.
16 *Duration of Infectivity of Typhoid. A. Harris.
17 Sporotrichosis. E. von Ofenheim.
18 Treatment of Rodent Ulcer by Calcio-Phosphate of Uranium. A. Churchward.
19 *An Unusual Case of Intestinal Obstruction. E. A. Wright.
20 Infantile Scurvy in a Child Fed on Sterilized Milk. F. Brachi.
21 A Forgotten Prophecy of the Microbic Theory of Infectious Disease. C. Singer.
22 The Question of Compulsory State Insurance of Employers' Liability Under the Workmen's Compensation Act, 1906. A. Benthall.

13. **Disease of the Mouth and Rheumatoid Arthritis.**—In the diseases of the jaw, especially rarefying alveolar osteitis, Goadby has found a streptobacillus, pure cultivations of which inoculated into or around the knee-joints of rabbits have produced symptoms similar to and indistinguishable from arthritis deformans. In such disease of the mouth and jaws the treatment of the disease locally and by means of autogenous vaccine prepared from the streptobacillus has been associated with amelioration and disappearance of the arthritic symptoms in a greater number of instances than can be ascribed to fortuitous coincidence. Of patients so treated, twenty-three were cured, fourteen relieved, four received no benefit and six are still under treatment.

16. **Duration of Infectivity of Typhoid Fever.**—The stools of twenty-seven patients were examined by Harris and cultures made during the convalescent stage after the temperature had reached normal. In cases showing a positive result weekly examinations were made until a negative result was obtained. The results obtained are exceedingly variable and permit of no generalization or conclusions; it is shown, however, that the persistence of infection bears no relation to clinical signs; a patient, who showed typhoid bacilli in the stools seventy-eight days after the temperature was normal, had a mild case with little diarrhea. A consideration of the table tends to show that carriers do not have such a marked influence on the spread of the disease as might be thought possible, because "return" cases of typhoid are very rare, and as most hospitals discharge their patients without a bacteriologic examination of the stools a fair proportion must be sent home with typhoid bacilli still present in the intestines.

19. **An Unusual Case of Intestinal Obstruction.**—Wright's patient was suffering severely from symptoms suggestive of a fecal impaction. Abdominal examination revealed the presence of a hard rounded lump in the right epigastric region of about the size of an orange. This was tender to deep pressure, and did not move with respiration. By rectum a hard, small, nontender movable mass could be felt. The patient gave a history of a similar attack a year ago which was relieved by enemata. She had suffered from constipation with frequent attacks of vomiting for some years. The abdomen was opened. The lump previously felt was explored with the hand and found to be hard, smooth and rounded, and to extend a considerable distance upward and to the left. A firm lump about 3 inches long was found completely blocking the lumen of the small intestine; beyond this point the intestine, large and small, was quite empty. The obstructing mass was found to be hair, tightly matted together. The other lump was then examined and found to be in the stomach, which organ it completely filled. This also was found to consist of an enormous mass of tightly matted hair. The patient rallied well from the operation, and her condition on the following day was much improved. Six days after the operation the patient died. For many years she had been in the habit of pulling and biting at her hair when reading or when her attention was otherwise engrossed, showing that the habit had become almost an unconscious one.

Clinical Journal, London

March 8

23 When to Examine and What to Look For. A. E. Giles.
24 Modern Discoveries Regarding Plague. F. M. Sandwith.

Journal of Tropical Medicine and Hygiene, London

March 1

25 Experiments to Ascertain if Antelope May Act as a Reservoir of the Virus of Sleeping Sickness (Trypanosoma Gambiense). D. Bruce, A. E. Hamerton and H. R. Bateman.

Indian Medical Gazette, Calcutta

February

26 Sand-Fly Fever in Chitral. F. Wall.
27 *A Speculation on Diabetes Mellitus. T. H. Foulkes.
28 *Cirrhosis of the Liver. L. Rogers.
29 Pancreatic Cysts. O. G. Hassan Suhrawardy.
30 Treatment of Kala-Azar by Hypodermic Injection of a Solution of Quinin Sulphate. E. Muir.
31 Method of Performing Gastrojejunostomy and Intestinal Anastomosis by a Single Row of Sutures. J. R. Roberts.

27. **Diabetes Mellitus.**—The general idea of diabetes, according to Foulkes' theory, is as follows: There are two causes to consider. First, the cause of the disease, which is assumed to lie in the upper part of the intestine, mainly, no doubt, in the duodenum, preventing the absorption of sugar. Whether it is bacterial, hereditary, inherent weakness in the cells, or poisoning by dextrose, can only be guessed at. It is treated by dieting and, in suitable cases, may be cured in this way. Second, the cause of the symptoms, which is the result of the above, and is the one directly attacked by the treatment described. The sugar in the urine is entirely endogenous. The sugar formed from food is not utilized but acts as poison on the intestinal cells. It may be absorbed as alcohol, which would be a grim irony of fate in high caste men who are professedly among the most teetotal men on earth. It seems likely that a diabetic who developed a fistulous opening between the urinary tract and the intestine would become partially self-regulating, like a shunt-wound dynamo. Little mention is made of the pancreas by Foulkes. He assumes that the pancreas is not concerned in diabetes. It is true that if the pancreas is removed in animals, or if, in man, the pancreas is so grossly diseased as to amount to removal, a mimicry of diabetes occurs. Taking this fact together with the results shown of glucose injection in diabetes, it may well be assumed, he declares, that the normal action of the internal secretion of the pancreas is to react with dextrose in the liver acting there as a restrainer of the ferment action and allowing the liver to fix the dextrose as glycogen. The effect of removal or gross disease of the pancreas would be to interfere with glycogen storage in the liver, so that the circulation would be flooded with sugar after every meal with consequent glycosuria and starvation. It may be remembered that all the venous blood of the pancreas passes straight to the liver. The cases brought forward are few. The results, however, in every case are so constant and similar that it is believed by Foulkes that they are sufficient to exclude coincidence.

28. **Cirrhosis of the Liver.**—Rogers' conclusions are based on a careful study of necropsies: 1. Cirrhosis of the liver is several times as frequent in Calcutta among the natives of India as it is in a temperate climate; but is not especially common among European residents there. 2. Although the Mahomedans are forbidden the use of alcohol by their religion, cirrhosis of the liver is only slightly less frequent

among them than in Hindus in proportion to their relative numbers; not more so in fact than in the cases of abscess of the liver, in which alcohol is only a predisposing and not an exciting cause. For this and other reasons the increased frequency of hepatic cirrhosis in India cannot be explained on any theory which makes alcohol the most important exciting cause of cirrhosis. 3. One-fifth of the cases in Calcutta are secondary to kala-azar, being partly of the typical intralobular form described by Rogers, but also commonly of the ordinary portal or multilobular type or both combined. 4. There is no evidence that malaria ever produces a clinically evident cirrhosis of the liver in Calcutta. 5. Hanot's hypertrophic or biliary cirrhosis is rare in Calcutta, but a form of infantile biliary cirrhosis described by Gibbons of unknown origin is encountered. 6. In Calcutta, cirrhosis of the liver is so frequently associated with chronic dysentery, usually of the amebic type, as to suggest that the fibrosis of the liver is secondary to the bowel ulceration. 7. Chronic inflammatory changes due to bacterial infection or toxic absorption through ulcers of the gastro-intestinal tract is also a likely cause of cirrhosis of the liver. 8. Leukocytosis is common in the ordinary type of cirrhosis of the liver, a high degree being of very bad prognostic significance. On the other hand a leukopenia points to a cirrhosis being secondary to kala-azar.

Australian Medical Journal, Melbourne

January 20

32 A Review of Recent Clinical Methods in the Investigation of Cardiovascular Disorders. R. R. Stawell.
33 The Sino-Ventricular Connecting System of the Heart. J. H. Anderson and G. Lamble.
34 Anatomy of the Sino-Ventricular Connecting System of the Heart. W. D. Robertson.
35 Meningitis Associated with a Bacterium of the Influenza Group. O. A. Sayce.
36 Microscopic Diagnosis of Tumors at the Time of Operation. A. J. Trinca.
37 Skin Disinfection. W. H. Brown.

Practitioner, London

March

38 Cancer and the General Practitioner. A. P. Gould.
39 Obligation Imposed on the General Practitioner by Development of Experimental Investigation of Cancer. E. F. Bashford.
40 Diagnosis and Treatment of Cancer of the Breast. H. M. Rigby.
41 Absorption and Excretion of Drugs. W. E. Dixon.
42 *Clinical Uses of Sodium Salicylate. A. C. Stark.
43 Cases of Infective Endocarditis. C. O. Hawthorne.
44 Insidious Development of Aortic Valvular Disease in Cases of Atheroma. C. W. Chapman.
45 Vaccine Treatment of Seborrhea of the Scalp. A. F. Savill.
46 Vaccine Treatment of a Case of Malignant Endocarditis (or Pneumococcus Septicemia). S. A. Henry.
47 Nervous Phenomena Occurring in Chronic Mucous Colitis. J. Liddell.
48 Spengler's Differential Staining Methods for Tubercle Bacilli. R. C. Styles.
49 Athletics and the Medical Man. A. Abrahams.
50 Dr. Johnson and the Medical Profession. J. D. Wynne.

42. **Clinical Uses of Sodium Salicylate.**—Stark believes that there are some feverish conditions in which sodium salicylate appears to exert a specific effect. The first is nasal catarrh. The best prescription for it is, he believes, the following:

℞		gm. or c.c.	
Sodii salicylatis	gr. x.		66
Spiritus ammoniæ aromatici.......	ʒss	2	
Tincturæ belladonnæ	♏v		33
Aquæ chloroformi .... ad	℥i	16	

M. Sig. Every four hours.

In the most common type of influenza, with a very sudden onset, severe headache, acute pain in the limbs and a furred tongue, sodium salicylate is the best drug to use. Stark affirms, from frequent and severe personal experience of the disease, that to give quinin to a patient who presents the above clinical picture is to add to his discomfort. After a mercurial purge, administration of the following cuts short the disease in two days:

℞		gm. or c.c.	
Sodii salicylatis	gr. x.		66
Potassii bicarbonatis	gr. x.		66
Tincturæ nucis vomicæ............	♏x.		66
Aquæ chloroformi .... ad	℥i	16	

M. Sig. Every two or four hours.

It is a common experience of many practitioners to meet with cases, especially in children, in which the only symptom is sudden high temperature. Careful examination reveals nothing abnormal, and past and future history shows no cause for the pyrexia. Some of these cases are possibly rheumatic, but Stark believes that a considerable number are due to the absorption of some pyrexia-producing body from the intestinal contents. At all events, the administration of a few grains of sodium salicylate quickly restores the patient to the normal state.

Stark has used salicylate of sodium in six cases of comparatively mild forms of puerperal fever with most successful results. It was combined with strychnin to avoid the depressing action on the circulation. For the diarrhea and sickness of young children salicylate of sodium is almost a specific. Two grains may be given, in water, to a child of nine months, and repeated at intervals of from two to four hours according to the severity of the disease. The drug may be made palatable by the addition of a little saccharin and chloroform water. Vomiting in most cases ceases after the first two doses, and the stools rapidly become less offensive and abundant. There is no after constipation, as is so often the case when astringents are used, and the characters of the motions are not masked, as they are by the use of bismuth salts. Sodium salicylate is probably the most powerful of all the hepatic stimulants, forcing the liver to secrete more bile, rendering this more fluid, and assisting its absorption. These actions may explain its great value in relieving so-called "bilious headache." The following, taken at the onset of the headache, generally gives rapid relief:

℞		gm. or c.c.	
Sodii salicylatis	gr. x.		66
Potassii bromidi	gr. xx.	1	33
Aquæ chloroformi .... ad	℥i	16	

M. Sig. Every four hours.

In mumps attended by rise of temperature and severe pain, Stark considers sodium salicylate the most effective remedy; he has used it freely in two epidemics of mumps and has found it most valuable. Its excretion in the saliva, with its antiseptic action on the unknown bacteria of the disease, probably accounts for its action. It should be combined with an alkali as in:

℞		gm. or c.c.	
Sodii salicylatis	gr. v.		33
Sodii bicarbonatis	gr. v.		33
Saccharini	q.s.		
Aquæ .... ad	ʒss	8	

M. Sig. Every two to four hours.

Annales de l'Institut Pasteur, Paris

February, XXV, No. 2, pp. 97-192

51 *Experimental Research on Exanthematous Typhus. C. Nicolle, A. Conor and E. Conseil.
52 Collodion Filters for Colloidal Substances. J. Duclaux and A. Hamelin.

53 Factors in the Toxicity of Bacteria. I. C. Nicolle and G. Loiseau.
54 *The Bran of Rice in Prevention and Treatment of Beriberi. (Le son de paddy dans la prophylaxie de béri-béri.) Bréaudat and Denier.
55 Inherited Immunity of the Goat to Ricin. C. Truche and E. Alilaire.

51. **Exanthematous Typhus.**—Nicolle declares that the bodies described by Ricketts and Wilder are too rare in the blood of patients to be considered as the pathologic agents of exanthematous typhus. The disease can be transmitted to monkeys, he asserts, by inoculation of a patient's blood directly or by the intermediation of the flea. The virus is transmitted by the flea-bite from the fifth to the seventh day after the flea has fed on the infected individual. This time limitation seems to indicate, he states, that the unknown microbe of exanthematous typhus undergoes some special phase of development in the body of the flea, and his research seems to indicate, he believes, that the flea is the exclusive intermediate host. The blood of the infected person is virulent two days before the onset of fever and for two days after defervescence; the flea is thus able to infect itself not only on a febrile patient but on those entering and leaving the febrile stage. An active agglutinin for the micrococcus of Malta fever is found in the serum of patients with exanthematous typhus. Other facts brought out by the research reported are the susceptibility of children to the disease, its mildness in them and the immunity apparently enjoyed by young infants. It is possible that children may play an important part in the preservation of the virus, and this should not be forgotten in

prophylaxis. The cases of afebrile typhus which have been occasionally reported he regards as merely the stage of convalescence from an attack, the febrile phase of which escaped recognition. Another point which increases the difficulty of differentiating exanthematous typhus is its liability to be confounded with the eruptive forms of malaria.

54. **Rice Bran in Prevention and Treatment of Beriberi.**—Bréaudat and Denier report from the Pasteur institute at Saigon in Indo-China that rice bran seems to remove the cause of beriberi and prevent its development. They gave the bran in the form of pills mixed with syrup and peppermint, about 40 gm. of the bran being thus added daily to the ordinary food. It never caused any digestive disturbance while it had a marked curative action, equal to that of any drug. There were 210 native soldiers who took the pills in prophylaxis including thirty-seven who had had beriberi, and there were forty-nine who had had it in 311 controls. Between September 15 and February 1 no cases of beriberi developed among those taking the bran, while 17.4 per cent. of the controls had it. The action of the bran was less pronounced in those who had already had the disease.

Annales de Médecine et Chirurgie Infantiles, Paris

March 1, XV, No. 5, pp. 145-176

56 *Unrecognized Diphtheria. (Les diphtéries méconnues de l'enfance.) E. Terrien.
57 Poliomyelitis with Meningeal Symptoms. L. Benard and Maury.
58 Streptococcus Origin of Scarlet Fever. M. Thomas.
59 Insufficiently Fed Infants. (Troubles causés par l'hypoalimentation des nourrissons.) G. Variot.

56. **Unrecognized Diphtheria.**—Terrien thinks that in many cases of so-called malignant diphtheria the infection had been installed for some time in a more inaccessible region and had thus escaped discovery; only when it reached the throat was it recognized, and then it was in such full swing that no means were able to arrest it. Glatard, in 1902, was able to collect 333 cases of primary nasal diphtheria, in most of which the infection had escaped recognition. Faseuille has recently called attention to its frequency in infants, and warns that any rather severe and persisting coryza in an infant should suggest diphtheria, even when no false membranes can be discovered. Kuhn, Gallo and Abrand have each encountered a case in which the diphtheria persisted almost latent in a babe; one had only slight fever and sore throat but it finally sneezed a tube of membrane out of its nose. Schaps found a serous, blood-stained discharge from the nose and excoriation of the upper lip as the only manifestation of diphtheria in nine infants. In four cases reported by Dupont the membrane formation was restricted to the nasal fossæ and did not invade the throat. Adenoid vegetations may also be the primary and the sole seat of the diphtheria process; Rocaz has encountered ten such cases. This primary and localized diphtheritic adenoiditis seems to be unusually virulent; the extent of absorbing surface is exceptionally large and the general symptoms are severe, in contrast to the mild general symptoms with the primary nasal form. The unusual gravity, the rapid course, the difficulty of recognizing the affection, all conspire to enhance the danger of diphtheritic adenoiditis. It should be suspected when the child shows signs of adenoiditis, earache and hoarseness, the nose being stopped up but without the discharge of coryza. Then follow the general symptoms, such as extreme lassitude and pallor, swelling and tenderness of the glands in the neck and the rapid pulse even when there is no rise in temperature. The laryngoscope or bronchoscope was the only means of detecting the process in some of the cases cited. For bacteriologic examination the material must be taken from behind the velum, through the nose, inoculating several tubes.

Bulletin de l'Académie de Médecine, Paris

February 21, LXXV. No. 8, pp. 217-318

60 *Classification of Female Pseudohermaphrodites. Magnan and S. Pozzi.
61 *The Plague in Astrachan and in Manchuria. A. Chantemesse and Borel.
62 Malformations of the Breast and Tumors. (Malfaçons embryonnaires de la glande mammaire. "Dysembryoplasies" et "dysembryoplasmomes" du sein.) M. Letulle.

February 28, No. 9, pp. 319-334

63 *Preventive Vaccination Against Typhoid. H. Vincent.
64 Prophylaxis of Small-Pox in French Colonies in Africa and Indo-China. Kermorgant.

60. **Female Pseudohermaphrodites.**—In the case reported, the patient had been brought up as a man and was apparently happily married, when an ovarian sarcoma had to be removed. In discussing the case, Magnan and Pozzi suggest a classification for pseudohermaphrodites based on the feminine or masculine aspect. They suggest the term gynoid for the former and android for the latter, prefixing "andro" or "gyn" to designate the histologic sex. The irregular hypospadic andro-gynoid type is the most frequent, and is readily confirmed by discovery of the testicles. The gyn-android type is rare; the case reported is of this type with inversion of the genital sense.

61. **The Plague.**—Chantemesse compares the conditions in Manchuria now with those in an epidemic of plague thirty-two years ago in southern Russia. In the latter epidemic some villages along the Volga were affected with a strange disease, and after the death of the physicians and local authorities the terror-stricken peasants took matters into their own hands, shutting off the infected houses and permitting no one to enter or leave them or to enter the villages from without. These rude, illiterate peasants, in 1878, took instinctively the proper measures in regard to isolation, and the epidemic soon died out from lack of fuel. The dead were hauled with long-handled hooks to the pits dug for them, and any one suspected of having been in contact with the sick was not allowed out of the house for twenty days. By the time the national authorities took a hand in quarantining the villages the epidemic had died out after having caused 500 deaths. Far different are the conditions in Manchuria to-day. The people hid their sick when the plague first appeared among them, and thus the epidemic got a firm foothold in many places before its existence became known to the authorities. Trappers in the region east of Lake Baikal had collected a number of skins of the land otter, or tarabagan, common along the rivers of Siberia. Schottelius of Stuttgart, Germany, called attention some time ago to the peculiar susceptibility of this animal to the plague. [*Public Health Reports*, March 10, states that it is a marmot, related to the American woodchuck and the prairie dog, and that 10,000 trappers were in the field last year to get the skins.] Chantemesse says that the existence of the plague among these animals was known and also the fact that it assumed the pneumonic form in them. The hunters in question had collected a number of pelts; in October these hunters developed plague and it spread among the Chinese inhabitants of the region. The latter fled eastward in their fright, seeking refuge in Manchuria but concealing the fact of the infection until the epidemic had assumed extensive proportions. The infection is extremely virulent; Haffkine has been in Manchuria since December and he states that he has not known of a single recovery. None of the 130 persons he has vaccinated there against plague has contracted the disease although constantly exposed—omitting those vaccinated after the infection was already installed.

One of the principal questions still to be decided is the length of the incubation period. Winter is the plague season. Another remarkable feature of the plague, Chantemesse adds, is that when the disease is once installed in a place it seems almost impossible to eradicate it. In Egypt, for instance, notwithstanding the strictest measures, the disease maintains its foothold, and the number of cases has increased constantly from 99 in 1899 to 640 in 1906, and since then from 500 to 1,500 cases yearly, with 118 cases already in 1911, but the type of plague is mild there. In regard to the destruction of rats on shipboard, Chantemesse remarks that the results are exactly proportional to the zeal and conscience of those doing the work and proportional to the strictness of the supervision over them by the authorities in charge.

63. **Preventive Vaccination Against Typhoid.**—The Académie formally adopted a resolution advocating preventive antityphoid vaccination under certain conditions. The text of the resolution was given in the Paris Letter in The Journal, February 25, page 601.

Lyon Chirurgical, Lyons

March, V, No. 3, pp. 209-300

65 *Treatment of Megacolon in Adults. G. Gayet and M. Patel.
66 *Autoplastic Method of Treating Hypospadias. Cantas.

65. **Hirschsprung's Disease in Adults.**—Gayet and Patel warn that medical measures should not be continued too long if the patient is not improving, otherwise he will be in bad condition for an operation if this becomes necessary. The medical measures should be those for obstinate constipation in general except that drastic purgatives should be avoided. The only drug that seems to have done any good is morphin; this acts by abolishing spasmodic contraction. Seven different operations may be applied and the authors review series of cases of each type, totaling forty-one, some of them not previously reported. Sometimes an exploratory laparotomy reveals torsion and other mechanical conditions which it is easy to remedy without the knife or merely with a colopexy. This partial operation is liable to fail, however; probably many failures in this category have not been published. The best plan is to make an artificial anus at once. This can be done easily and rapidly, they say, if the appendix is utilized to make the new anus; this proved successful in two very serious cases in their experience. When the disturbances from obstruction have subsided, the way is cleared for radical operation on the enlarged colon. When the patient is robust and the colon is very much enlarged, they advise inserting the ileum in the terminal portion of the sigmoid flexure, excluding the abnormal part of the bowel altogether. Sometimes an abdominal tumor is the only finding. When the supposed tumor proved to be feces impacted in the enlarged colon, they have found it possible in some cases to manipulate the fecal masses toward the natural anus after the abdomen has been opened. If the masses are stony hard, this measure is not advisable as the intestine is liable to become injured thereby. Enterotomy should be reserved exclusively for cases of this kind unless enterectomy at once is deemed preferable.

66. **Autoplastic Treatment of Hypospadias.**—Cantas cuts a skin flap in the thigh, including in it a stretch of the internal saphenous vein. This flap is twisted around and the vein utilized to make the urethra. He reports a case in which this technic was successfully applied.

Presse Médicale, Paris

March 1, XIX, No. 17, pp. 153-160

67 Mechanism of Spasmodic Contracture. M. Noica.
68 Headache with Abnormally Low Blood-Pressure. (Cephalalgie des hypotendus.) A. Martinet.

Semaine Médicale, Paris

March 8, XXXI, No. 10, pp. 109-120

69 *Hexamethylenamin in Treatment of Acute Biliary Infections and of Typhoid Fever. (L'urotropine dans le traitement des infections biliares aigues et de la fièvre typhoide.) A. Chauffard.
70 *Should Women in Eclampsia Nurse Their Infants? R. de Bovis.

69. **Acute Biliary Infections in Typhoid Fever.**—Chauffard is convinced that if careful search were made for signs of acute infection of the gall-bladder and bile ducts in typhoid fever, infectious processes in this region due to the typhoid bacilli would oftener be discovered. He has encountered a number of such cases, as he relates in detail, and discusses whether it might not be possible to give some drug which is eliminated in the bile and might thus act directly on the angiocholecystitis. The latter condition is a frequent source of typhoid relapses and may leave the patient a chronic carrier. Recent research has shown, he says, that hexamethylenamin is eliminated in the bile and thus it can sterilize the biliary passages while it cures the bacilluria at the same time. He has been much impressed with the promptly favorable modification in typhoid fever which followed exhibition of 0.5 gm (7.5 grains) of the hexamethylenamin three times a day. One patient was a youth of 15 with chills and high fever, tenderness and discomfort in the right hypochondrium, all developing the twenty-second day of a mild typhoid. The temperature chart shows the prompt benefit which followed this medication.

70. **Should Women with Eclampsia Nurse Their Infants.**—De Bovis concludes from some recent reports that it is best to draw and throw away the milk of women with eclampsia developing after delivery as it is liable to prove toxic for the infant for a few days. After the toxins have been more or less perfectly eliminated the child can be put to the breast. It is probable, he thinks, that every parturient is in a condition of auto-intoxication to a certain extent, and it is possible that the milk attracts the toxins of eclampsia as it seems to attract arsenic. When the eclampsia develops before delivery, the toxins are more liable to be eliminated by the time the infant is ready to nurse than when the eclampsia does not come on until after the child is born.

Archiv für klinische Chirurgie, Berlin

XCIV, No. 3, pp. 481-709. Last indexed February 18, p. 545

71 Experimental Research on Pathogenesis of Round Gastric Ulcer. F. Rosenbach and Eschker.
72 Experimental Research on Tetany. N. Guleke.
73 Rectal Tumor from Non-Malignant Transformation of Epithelium. (Benigne Epithelheterotopie als Ursache eines Mastdarmtumors.) A. Cahn.
74 Technic for Extensive Resection of the Stomach. J. Schoemaker.
75 Appendicitis. (Zur Behandlung der acuten eitrigen Appendicitis mit circumscripter oder diffuser Peritonitis.) F. Sasse.
76 Mechanism of Dislocation of Joints with Single Axis. (Zur Mechanik der Luxation der einachsigen Gelenke.) H. Zuppinger.
77 Tincture of Iodin Superior to Alcohol for Sterilization. (Vergleichende Desinfectionsversuche mit Jodtinctur und Alkohol.) F. Drüning.
78 End-Results of Transplantation of Pedunculated Suprarenals. (Gestielte Nebennierentransplantation und ihre Endresultate.) H. v. Haberer.
79 Trigger Finger. (Der schnellende Finger.) K. Poulsen.
80 Prolapse of Fat Tissue Surrounding Kidney. (Prolaps des Fettlagers der Niere, eine Hernia lumbalis vortäuschend.) Duncker.
81 *Spontaneous Retrogression of Superficial Epithelioma. J. Bolognesi.

81. **Spontaneous Retrogression of Cutaneous Epitheliomas.**—Bolognesi gives illustrations of a case of multiple epitheliomas on the lips, cheeks and eyebrow of a woman of 72 which developed in the course of a year and a half and then gradually subsided, leaving for most of them merely a pinkish scar. Scraps excised at various times from the retrogressing tumors and excision of one in the brow showed the structure of Krompecher's baso-cellular epithelioma, Darier's epithelioma of the second class, nothing of the cancroid type.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIX, No. 1, pp. 1-335. Last indexed March 18, p. 855

82 *Induced Pneumothorax in Pulmonary Tuberculosis. III. L. Brauer and L. Spengler.

82. **Induced Pneumothorax in Tuberculosis.**—This volume of 336 pages contains the detailed account of eighty-three cases, bringing the total to 102 in which Brauer and Spengler have compressed the lung by an artificially induced pneumothorax in treatment of unilateral pulmonary tuberculosis. The work was done at the medical clinic at Marburg or the Davos sanatorium, and this forms the third memoir on the subject. The volume is dedicated to Professor Erb on his seventieth birthday. The material is arranged and numbered so that a complete oversight of the cases is possible in these and in future later reports. Complete recovery was obtained in a number of cases in which, they are convinced, it would have been impossible to realize similar benefit by other measures. They are becoming more and more certain that with careful selection, in the moderately severe cases this collapse therapy, as they call it, when conditions permit will give excellent results. As pioneers in this field, however, they feel bound to extreme caution and reserve and consequently they think the measure must stand its highest test in the severer cases so that its dangers and shadows may be fully appreciated. Then it can be applied in the milder cases with courage and confidence. A number of Roentgen-ray pictures and curves are appended.

Beiträge zur klinischen Chirurgie, Tübingen

February, LXXII, No. 1, pp. 1-264

83 Biology of Malignant New Growths. (Zur Biologie der bösartigen Neubildungen.) E. E. Goldmann.
84 *Hemostasis by High-Frequency Electric Current. (Blutstillung durch Hochfrequenzströme.) M. Hoffmann.
85 *Joint Lesions in Scarlet Fever and Measles. (Gelenkerkrankungen bei Scharlach und Masern.) K. Fritsch.
86 Determination of the Viscosity of the Blood in Surgical Abdominal Disease. L. Simon.
87 Tuberculosis of the Penis. C. Rose.
88 Experimental Inoculation with Echinococcus Disease. (Experimentelle Erzeugung des Echinococcus durch Keimpfropfung.) G. Hosemann.

89 *Thymectomy in Exophthalmic Goiter. W. Capelle and R. Bayer.
90 Pathology of Coxa Vara in Adolescence. P. Frangenheim.
91 Injuries of the Optic Nerve with Fracture of the Skull. (Verletzung des Nervus opticus bei Schädelfrakturen.) H. v. Tappeiner.

84. **Hemostasis by the High-Frequency Current.**—Hoffmann extols the advantages of obliterating the lumen of the smaller vessels by the high-frequency current applied in the form of the cold cautery. He ligates the larger vessels as usual but obliterates the smaller vessels by this rapid means, thus saving time, leaving no foreign body and sterilizing the tissues.

85. **Joint Lesions in Scarlet Fever and Measles.**—Fritsch analyzes a number of cases and comes to the conclusion that the scarlet fever germ is liable to induce joint processes but that these processes are always mild, with a purely serous although possibly copious effusion; generally they heal with a good outcome. When streptococcus infection complicates the scarlet fever, however, the streptococci invade the joints already suffering from the true scarlatinal process, and a lesion results which is liable to have serious consequences unless surgical aid is called in at once. Preisich's conclusions from study of 6.985 cases of scarlet fever also sustain this assumption that a distinction should be made between pure scarlet fever and that complicated with streptococcus infection to which scarlet fever patients seem exceptionally susceptible and which seems to develop with unusual virulence in them. In the pure form, the throat is red and swollen but there is no coating; the disease runs its course without complications, at most sometimes pain in the joints and moderate fever with slight swelling of the joints. Neither during life nor at necropsy could he find streptococci in the cases of this class. In the mixed cases or "septic scarlet fever," the throat is swollen much more and the tonsils are the seat of an active inflammation ranging from follicular tonsillitis to the ulcerative, membranous form with necrosis. The type of fever in this class is also much higher, running up rapidly at first and gradually declining. These are the cases with a fulminating course or suppurating processes. Fritsch adds that this hypersusceptibility to streptococcus infection which distinguishes scarlet fever may manifest itself during the phase of incubation. This explains why the streptococcus infection may manifest itself in the form of the tonsillitis even before the actual symptoms of the scarlatinal infection develop. He emphasizes the practical conclusion from the data presented that a suppurating scarlatinal joint affection demands surgical treatment from its first inception, and at any time in its course or convalescence, to prevent serious damage of the joint. It is a mixed infection with streptococci locating at the point injured by the true scarlatinal process, and the only effectual treatment is by operative measures. On the other hand the true scarlet fever joint process never suppurates and as a rule it heals spontaneously or it may leave contracture or dislocation on account of defective treatment or neglect. This form is by far the most frequent; Brade, for instance, found serous joint processes in 65 and suppurative in 4 of 868 scarlet fever cases; others report unclassified joint disturbances in 1.04 per cent. (Föhr) and 37.5 per cent. (Gerhard) of their total scarlet fever cases.

In the pure cases reported by Fritsch a number of joints were affected: not even the vertebral and sternoclavicular articulations escaped. Usually several joints were affected at about the same time, and there was no recurrence. The general health did not seem to suffer much except for the local pains which were sometimes intense. Nephritis was observed in nearly all these cases and endocarditis in a few. The joint trouble keeps up for about three days or a week and then subsides completely. A chronic form of the pure scarlatinal type has been observed, however, in a few cases on record. In this form the joint lesions do not develop until the fourth week of the scarlet fever, and the general health suffers materially; the later the joint trouble begins the severer its course as a rule. At the same time the final outcome is a complete recovery in all but a few cases in which the disturbance entails a flail joint or spontaneous dislocation which may require surgical intervention.

89. **Thymectomy in Exophthalmic Goiter.**—Capelle and Bayer advise thymectomy in case of persisting thymus in exophthalmic goiter, and report a case in which this was done; they report also extensive experimental research with thymus extract to determine its action on the blood, heart, etc. In the case reported, the patient was a girl of 22 who had had Basedow symptoms for six months. The exophthalmos, goiter and bulbar symptoms still persisted after the thymus had been removed but in an incomparably milder form, while there was no further tachycardia and the blood-picture returned to normal. This improvement became marked in the course of the following three months and sustained the assumption drawn from the experimental research that a persisting thymus is liable to aggravate the Basedow syndrome by its internal secretion which acts mainly on the heart.

Berliner klinische Wochenschrift

February 27, XLVIII, No. 9, pp. 369-412

92 Active Toxic Substance from Tubercle Bacilli. (Anaphylatoxin.) E. Friedberger and A. Schutze.
93 Mutation Phenomena in Strains of Cholera Germs. Baerthlein.
94 The Tryptophan Test for Gastric Cancer. (Diagnostischer Wert der Glycyltryptophanprobe bei Magencarcinom.) H. Pechstein.
95 Differential Diagnosis and Treatment of Diabetes Insipidus. Rosendorff and Unna.
96 Influence of Intravenous Salvarsan Injections on the Wassermann Reaction. C. Gutmann.
97 *Iodin in Exophthalmic Goiter. (Zur Jodbehandlung bei der Basedow'schen Krankheit.) F. W. Ohlemann.
98 New Tasks for Communal Hygiene. A. Lewandowski.
99 Pathology and Treatment of Hydrocele. C. Posner.

97. **Iodin in Exophthalmic Goiter.**—Ohlemann protests against the assumption that iodin is necessarily harmful in the Basedow syndrome, and states that he succeeded in practically curing it in himself years ago by prolonged iodin treatment, restricting himself to minute doses, such as 10 or 20 drops of a 20 per cent. solution of potassium iodid, once or twice a day, changing later to tincture of iodin of which he took 150 c.c. in the course of three or four years. He had an inherited tendency to the affection which had been aggravated by a mountain climbing trip.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

February 16, XIV, No. 2, pp. 49-80

100 Circumscribed Typhoid Intracranial Suppuration. (Hirnabscesse und sonstige umschriebene intrakranielle Eiterungen im Verlauf und Gefolge des Typhus abdominalis.) L. Melchior. Commenced in No. 1.

Correspondenz-Blatt für Schweizer Aerzte, Basel

February 10, XLI, No. 5, pp. 145-176

101 Ergot. (Die wirksamen Bestandteile des Mutterkorns.) E. Bernoulli.

February 20, No. 6, pp. 177-224

102 Physiologic Action and Therapeutic Use of Mineral Springs. (Heilquellen-Aktivität.) E. Sommer.
103 Roentgen Rays in Dermatology. H. Merz.

Deutsche medizinische Wochenschrift, Berlin

March 2, XXXVII, No. 9, pp. 385-432

104 Mechanism of Tuberculin Reaction. R. Kraus, E. Löwenstein and R. Volk.
105 Importance of Tuberculosis in the Etiology of Intra-Ocular Hemorrhages. Proliferating Changes in Retina and Retinal Periphlebitis in the Tuberculous. T. Axenfeld and W. Stock.
106 Jonnesco's Method of Spinal Anesthesia. (Die allgemeine Rachianästhesie.) T. Jonnesco.
107 Ankylostomiasis. H. Bruns.
108 Action of the Ultraviolet Quartz Lamp Light on the Blood-Pressure and in General Disease. H. Bach.
109 *Alcohol-Tannin for Sterilization of the Hands and Field of Operation. A. Zabludowski.
110 Improved Method for Sterilization and Preservation of Catgut. E. McDonald.
111 *Prophylaxis of Cholera in Finland. R. Sievers.

109. **Alcohol-Tannin Surgical Sterilization.**—Zabludowski reports comparative tests of various methods of sterilization and reiterates that a 5 per cent. alcohol solution of tannin surpasses all the other technics with the exception of tincture of iodin; it ranks with this while it is free from its disadvantages. The tannin solution is applied to the hands for two minutes and to the field of operation for one minute; the previous use of water does not affect it.

111. **How Finland Keeps Out Cholera From Russia.**—Sievers states that during the two great cholera epidemics in Russia Finland has kept its skirts free from contamination, although there was no interference with the intercourse between the countries, no quarantine and no special search for persons

from cholera foci. The main point was a numerous force of physicians and small hospitals at the points most threatened, inspection of everyone arriving by rail or horse, and of all ships and vehicles coming from regions where cholera was prevalent, isolation in hospitals of the suspects, sterilization of his baggage and inspection of all with whom the sick had come in contact. Correct and immediate notices of every case were published in the papers and the public was kept informed with articles in the papers and lectures in regard to the nature of cholera and the means to escape it. By these means the physicians, the populace and the authorities, national and communal, all worked in harmony. All the trains between Finland and Russia carried a hospital car, with from two to six beds. During the great epidemic in Russia last year there were only seven cases of cholera in Finland, all imported, and no epidemic developed from them.

Deutsche Zeitschrift für Chirurgie, Leipsic

February, CVIII, Nos. 5-6, pp. 429-626

112 Six Hundred and Forty-Seven Appendicitis Cases. (Beiträge zur Appendicitisfrage auf Grund der Erfahrungen der Göttinger Klinik in den letzten vierzehn Jahren.) A. Fromme.
113 Intravenous Hedonal Anesthesia. A. P. Jeremitsch.
114 Proteus Rib Abscess. (Proteus vulgaris, Erreger eines subperichondralen Rippenabszesses.) E. R. Flinzer.
115 Prolapse of Bladder in Female Infant with Pertussis. W. Hirokawa.
116 *Double Suppurative Pleurisy. M. B. Fabrikant.

116. **Bilateral Suppurative Pleurisy.**—Fabrikant discusses whether both sides should be operated on, whether it should be done at one time or with an interval and with aspiration on one side and a radical operation on the other. He was confronted with these questions when called to treat an 18-year-old bookbinder with suppurating pleurisy on both sides in 1897. The patient was extremely debilitated and semiconscious and puncture of the right side brought pus with the Fränkel diplococcus. The first symptoms had been observed nearly three weeks before, after sudden exposure to cold when heated. The puncture brought great relief but the accumulation returned and the process was opened by resection of the seventh rib. The subjective relief was marked but as fever persisted, the left side was punctured and a quart of pus aspirated. The secretion in the right side gradually subsided and by the twentieth day the wound was healing well. During this time the left side had required aspiration twice, each time a quart of fluid being withdrawn; the third time only a third of this amount was removed. The fever kept high, reaching 39 C (102 F.) and respiration became more difficult. As soon as the wound in the right side had healed, the left seventh rib was resected in the same way, under local anesthesia, and large amounts of pus and sponge-like masses of fibrin were removed as at the first operation. The temperature dropped to normal on the same day. The second day after the operation on each side it proved necessary to rinse out the cavity with salt solution as clots of fibrin clogged the drains. By the third day after the left operation scarcely a teaspoonful of a seropurulent fluid drained away and by the end of the month the patient had entirely recovered and is in good health at date of writing, fourteen years since his sickness. In 118 similar cases of bilateral suppurating pleuritis which Fabrikant summarizes from the literature, only seventy-four of the patients survived, the mortality being 37.2 per cent. These data permit a more encouraging view of bilateral purulent pleurisy than is generally accepted he thinks; even the lack of adhesions between the sheets of the pleura is not essential to vital functioning, as some patients recovered even when the lung collapsed. Hellin deduced the same conclusions from his summary of fifty-four cases in 1907. He even asserted that the ideas prevailing in regard to the mechanism of respiration must be erroneous as the bilateral pneumothorax in these cases did not prove fatal. The reason why bilateral pneumothorax does so often prove disastrous must be sought elsewhere, he affirms, than in differences in pressure. The experiences related by Fabrikant show that bilateral pleural empyema is most frequent in children and is very rare after 30. Pneumonia on one or both sides was the most frequent cause, but primary empyema is not rare. The mortality is not high when operative relief is obtained in time. Both sides can be operated on at one time if the patient's condition permits, but an interval of a few days is better. Puncture and aspiration are not sufficient; both sides of the chest should be extensively opened up. If the interspaces are wide, thoracotomy may be ample, but if not a rib should be resected. The operation can be done easily and painlessly under local anesthesia; he used the Schleich technic. In his case there was paralysis of the vocal cords, the nerves and veins probably being compressed by the edematous pleura.

Medizinische Klinik, Berlin

February 25, VII, No. 9, pp. 327-362 and Supplement

117 *Tabetic Atrophy of the Optic Nerve. (Tabische Sehnervenatrophie.) A. Elschnig.
118 Forensic Determination of Date of Conception. (Zur gerichtsärztlichen Beurteilung des Konzeptionstermins nach dem Entwicklungsgrade des Kindes.) O. v. Franqué.
119 Need for Standardization of Heart Stimulants. (Praktische Durchführung der Kontrolle eines Digitalis- und Strophantuspräparates im Hinblick auf die Gleichmässigkeit seiner kardialen Wirkung.) A. Bickel.
120 Etiology, Diagnosis and Treatment of Low Rectal Strictures. (Mastdarmstrikturen.) P. Dorsemagen.
121 Opsonin Therapy of Skin Disease. E. Saalfeld.
122 Commercial Foods in Infant Feeding. (Anwendung von Nährpräparaten im frühen Kindesalter.) P. Groner.
123 Lack of Phosphorus in the Centers in the Cortex as Cause of Migraine. W. R. Schottin.
124 Absorption of Soluble and Insoluble Salicylic Preparations in the Gastro-Intestinal Tract. K. Burow.
125 *Venous Thrombosis. E. Schepelmann.

117. **Tabetic Atrophy of Optic Nerve.**—Elschnig has encountered sixty-six cases of tabetic atrophy of the optic nerve in the last few years, including nine women. Only one of the latter had an acknowledged history of syphilis but the numerous abortions in all the cases testified to its existence. In only three of the total sixty-six cases had the syphilis been systematically treated, and in only a single case had the course of treatment corresponded to modern requirements. During the same period he has encountered 120 cases of reflex rigidity of the pupils or paralysis of the ocular muscles as one of the manifestations of tabes; except for those whose occupation induced a predisposition, none of the patients had been properly treated for their syphilis. In this group and also in the optic atrophy cases the deleterious influence of alcohol is most instructively evident, as the only cases in which mercury and iodid failed to display their usual efficacy were those in which the counteracting influence of alcohol was apparent. Barkeepers, acrobats and musicians seem to be especially predisposed to tabes by the fact of their occupation, judging from his experience. Elschnig's conclusions in regard to the prevalence of tabes among untreated syphilitics conflict with those of Silex, Winternitz and others who have reported 80 per cent. of well-treated patients among tabetics in their practice, but analysis of the records shows that the treatment was far from meeting modern requirements. The Wassermann reaction was positive in sixteen out of a series of seventeen tabetics with optic atrophy tested. Hecht has also recently reported that among twelve patients being recently treated by Kreibich for soft chancre, with negative Wassermann reaction, four have since returned with secondary manifestations of syphilis. There can be no question, Elschnig remarks, that the soft chancre is often the portal of entry for the syphilis germ. He draws the practical conclusion from his experience and study of the literature that the general practitioner and the dermatologist should pay more attention to the behavior of the pupils in syphilitics, and when there are pupil disturbances they should be referred to their true cause and the patients treated accordingly instead of ascribing the eye manifestations to other causes and neglecting intermittent antisyphilitic medication. He warns further that the rapid benefit under salvarsan in the primary phase of syphilis may mislead physicians and patients to neglect adequate mercurial treatment and thus allow the foundation for the parasyphilitic affections later to be laid. It is imperatively necessary on this account, he declares, to pay special attention in following years to those who have been treated with salvarsan—the hopes linked with the assumption of a possible "therapia sterilisans magna" have already melted away.

125. **Venous Thrombosis.**—Schepelmann reviews a number of important works on this subject that have appeared between 1841 and 1910, stating his conclusion that some lesion

or other disturbance in the intima of the vessel and some disturbance in the circulation of the blood are indispensable factors in the development of thrombosis. It has been encountered not only in the course of heart and vascular disease, marasmus, cancer, phthisis, syphilis and acute infectious disease, but also in acute and chronic suppurations, especially appendicitis and otitis, pyemia and poisonings. The localization and course of the thrombosis are peculiar in anemia, leukemia and chlorosis, as he shows by a number of examples from the records. By far the largest proportion of cases of thrombosis, however, develop in connection with operations and deliveries, but a few cases are on record of thrombosis following trauma, sometimes quite slight, and he reports an instructive case of this kind in a robust young man who had been riding an unruly horse. The strain on his arms was the probable cause of the thrombosis which suddenly developed in the left subclavian, axillary and brachial veins. Schepelmann assumes that the traction on the veins in the arm must have injured the intima; a predisposing factor existed in bradycardia from a slight cardiac defect; in youth the patient had had diphtheria, articular rheumatism and a furuncle in the ear.

Münchener medizinische Wochenschrift

February 28, LVIII, No. 9, pp. 441-496

126 Red Corpuscles as Complete Cells. (Der Säugetiererythrozyt als vollständige Zelle und seine Beziehung zum Blutplättchen.) V. Schilling.
127 Nervous Respiratory and Cardiac Disturbances as Consequence of Gastro-Intestinal Irritation. M. Saenger.
128 *Salvarsan in Non-Syphilitic Ulceration of the Mouth and Throat. P. H. Gerber.
129 Salvarsan in Syphilis. A. Sack.
130 *Induced Pneumothorax in Severe Unilateral Pulmonary Tuberculosis. L. Spengler.
131 Protection of Eyes in Glass-Works. (Augenschutz in Glashütten.) F. Koelsch.
132 Biology of Menstruation. (Zur Lehre von der Entstehung der Menstruation.) A. Theilhaber.
133 *Gonorrheal General Infection. W. H. Leede.
134 Urine Reaction in Disease of Central Nervous System. (Spezifische Bedentung der Harnreaktion mit Liquor Bellostii bei Paralyse.) F. Stern.
135 Harelip with Cleft Palate. (Behandlung der mit Wolfsrachen komplizierten einseitigen Hasenscharten.) R. Drenkhahn.

128. **Salvarsan in Non-Syphilitic Mouth Lesions.**—Gerber presents clinical evidence to show that not only Vincent's angina but numerous other inflammatory affections of the mouth and throat are the work of spirochetes. Not only gingivitis but simple and mercurial stomatitis, scorbutus and possibly noma are the result of invasion by the spirochetes when a path is opened for them by minute lesions. Drugs that act on spirochetes have a curative influence, as he shows by three cases reported in which salvarsan proved effectual.

130. **Permanent Cure of Tuberculosis with Induced Pneumothorax.**—Spengler has now fifteen patients who can be regarded as clinically cured by the artificially induced pneumothorax. From nine months to four years have elapsed since the close of the treatment and the patients have neither fever, cough nor sputum while all are in prime working condition. The ages ranged from 11, 16, 17 and 18 to 31, 34, 35 and 43. The pneumothorax was maintained for from two months to five months in two cases, in three from ten to fifteen, and in four from eighteen to twenty-four months. Compare with Abstract 82, above.

133. **Gonorrheal General Infection.**—Leede reports a case which resembles one of Jadassohn's in which the urethra seemed to be intact and the general infection occurred through an erosion in the skin. Leede's case is one of the rare instances of fatal gonorrheal arthritis. A purulent hemorrhagic lesion in the ankle was the main source of the intoxication; Leede ascribes the severe general symptoms to a peculiar iodiosyncrasy to the toxins generated by the gonococci. This was evidently responsible for the stupor, the cachexia, the extreme atrophy of the muscles, the desquamation and the fatty degeneration of the heart; the blood was constantly sterile. In another case the syndrome began about the same, the left elbow being the seat of the lesion. In this case he punctured the joint but without finding pus or effusion and then he opened the joint wide, allowing the escape of considerable edema fluid. This released the toxins in the focus and the patient soon recovered. No gonococci could be cultivated from the fluid in this last case. Leede's experience thus teaches the wisdom of ample opening up of the joint when gonorrheal arthritis is accompanied by great debility, emaciation, etc.

Gazzetta degli Ospedali e delle Cliniche, Milan

February 26, XXXII, No. 25, pp. 259-274

136 Paroxysmal Course of Certain Nervous Diseases. (Sul decorso accessuale di alcune malattie nervose.) F. Rivalta.
137 Treatment of Anthrax. (Terapia dell'infezione carbonchiosa nell'uomo.) R. G. Zoda.

Riforma Medica, Naples

February 27, XXVII, No. 9, pp. 225-252

138 Intrapontine Tumor. A. Rovighi.
139 Rapid Bacteriologic Differentiation of Cholera. G. Pollaci.
140 Comparative Tests with Antiformin for Tubercle Bacilli in Sputum. (Il metodo dell'antiformina per la ricerca del bacillo tubercolare nello sputo.) G. Mangeri.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

1910 Blue Book of Surgery. Technic of the Surgical Clinic, Anesthesia and Anesthetics, Preoperative and Postoperative Care of the Patient, and Diagnosis and Treatment of Some of the Most Important and Frequent Surgical Diseases. Compiled for the Interns, Students and Nurses of the College of Medicine and Surgery, University of the Philippines, and the Philippine General Hospital. Under the Direction of John R. McDill, M.D., Professor of Surgery, College of Medicine and Surgery, Univ. of the Philippines. By Hans E. Schiffbauer, M.D., Instructor in Surgery, College of Medicine and Surgery, Univ. of the Philippines. (Published in part in the Bulletin of the Manila Medical Society.) Cloth. Pp. 66.

The Treatment of Syphilis with Salvarsan. By Dr. Wilhelm Wechselmann, of Berlin, Medical Director of the Skin and Venereal Disease Section, Rudolph Virchow Hospital, Berlin. With an Introduction by Dr. Paul Ehrlich, of Frankfort-on-Main, Director of the Royal Institute for Experimental Therapeutics, Frankfort. Only Authorized Translation by Abr. L. Wolbarst, M.D., of New York, Consulting Genito-Urinary Surgeon, Central Islip State Hospital. Cloth. Price, $5. Pp. 175, with illustrations. New York Rebman Co., (1911).

A Handbook of Obstetric Nursing. For Nurses, Students and Mothers. Comprising the Course of Instruction in Obstetric Nursing Given to the Pupils of the Training School for Nurses Connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M.D., Formerly Obstetrician, Gynecologist and Surgeon to the Woman's Hospital of Philadelphia. Seventh Edition. Cloth. Price, $1 net. Pp. 272, with 61 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

A Handbook of Practical Treatment. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, Philadelphia, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. In Three Volumes. Vol. II. Cloth. Price, $6 net. Pp. 865, with 103 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Feeble-Mindedness in Children of School Age. By C. Paget Lapage, M.D., M.R.C.P., Lecturer in School Hygiene to the Manchester University. With an Appendix on Treatment and Training, by Mary Dendy, M.A. Cloth. Price, $1.60 net. Pp. 359, with illustrations. New York: Longmans, Green & Co., (1911).

Dyke's Automobile Encyclopedia (1911). In 29 Parts. Including a Dictionary. Treating on Construction, Operation, Repairing of Automobiles and Gasoline Engines. By A. L. Dyke, E. E., Member Society Auto Engineers. Cloth. Pp. 407, with illustrations. St. Louis: A. L. Dyke.

Technik der mikroskopischen Untersuchung des Nervensystems. Von W. Spielmeyer, Privatdozent und Assistent an der psychiatrischen und Nervenklinik in Freiburg i. Br. Cloth. Price, 4.40 marks. Pp. 131. Berlin: Julius Springer, 1911.

Cholera and Its Treatment. By Leonard Rogers, M.D., F.R.C.P., F.R.C.S., Physician, Cholera Wards, Medical College Hospital, Calcutta. Oxford Medical Publications. Cloth. Price, $4 Pp. 236. New York: Oxford University Press, 1911.

Die Akute Poliomyelitis bzw. Heine-Medinsche Krankheit. Von Dr. Ivar Wickman, Privatdozent am Karolinischen Institut zu Stockholm. Paper. Price, 5 marks. Pp. 108, with illustrations. Berlin: Julius Springer, 1911.

State Board Questions and Answers. By R. Max Goepp, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic, Second Edition. Cloth. Price, $4 net. Pp. 715. Philadelphia: W. B. Saunders Co., 1911.

Vicious Circles in Disease. By Jamieson B. Hurry, M.A., M.D. (Cantab.). Cloth. Price, $2 net. Pp. 186, with illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

Eighteenth Annual Report of the Board of Health of the Town of Westfield [Mass.]. For the Year Ending Jan. 20, 1911. Paper. Pp. 23.

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CHRONIC PANCREATITIS: ITS SYMPTOMATOLOGY, DIAGNOSIS AND TREATMENT

BASED ON A STUDY OF THIRTY-EIGHT CASES *

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PHILADELPHIA

In the domain of pancreatic disease there still remains much unbroken ground. Uncertainties in pathology, obscurities in symptomatology and difficulties in diagnosis beset us and render our clinical judgments difficult and our therapeutics far from satisfactory. Only by the accumulation of accurate observations can the subject be cleared up, and it is desirable that each should add his personal experience. With this in mind I have reviewed those cases of chronic pancreatitis which have come under my personal observation during the past few years and of which my records are sufficiently complete to warrant their inclusion. For the laborious task of collecting and analyzing the cases I am indebted to two of my house doctors, L. C. Kinney and LeFevre Stewart, and to my assistant, Dr. D. B. Pfeiffer.

Of the various affections of the pancreas, those composing the group due to inflammation and its sequels are the most frequent and important. By reason of its protected situation, direct injuries to the pancreas are uncommon. Likewise, while it is subject to the various neoplasms affecting parenchymatous organs, there is no such tendency toward tumor formation as occurs in certain other parts of the body. The observations of recent years, however, made chiefly at the operating-table, have made it apparent that inflammatory changes are much more frequent than anyone had hitherto surmised. It was but natural that the most extreme grades of inflammation were the first to claim attention, and since the pioneer work of Fitz, the acute and subacute forms of pancreatitis have been clothed with a fairly definite pathology and symptomatology, though it is but just to say that our knowledge even here lacks completeness; and in the individual case the difficulties are many.

It is, however, when we approach the consideration of the lesser degrees of inflammatory change of chronic nature with their less characteristic clinical declarations, that we feel our ground often slipping and insecure. Fitz wrote understandingly of chronic pancreatitis and the chief additions to our knowledge since then have been made by Körte, Oser, Lancereaux, Opie, Moynihan, Robson, Cammidge, Truhart and Lazarus. Still most clinicians are agreed that the diagnosis of chronic pancreatitis is exceedingly difficult. The extremes of opinion in this respect are those of Opie, who holds that "the lesion is seldom associated with such definite symptoms that it is recognizable during life," and of Robson and Cammidge, who state that, "from the information obtained by a careful examination of the patient, a knowledge of the history of the case, and the results of a chemical and microscopic examination of the excreta, a correct opinion may be formed in a large majority of instances." My own feeling in regard to this matter is located somewhere between these pessimistic and optimistic expressions. Certainly the diagnosis has been made a sufficient number of times to demonstrate that it is not too difficult to attempt; but it is equally true that our present criteria are too uncertain and inconstant to warrant a claim for great accuracy. We must aim to improve our methods and our understanding. There are no pathognomonic symptoms, no short cuts to the diagnosis of chronic pancreatitis. It is to be made only by the solution of an equation, the factors of which are obtained by three separate lines of inquiry, viz:

1. The anamnesis.
2. The physical examination.
3. The special tests designed to show disturbances of pancreatic function.

I have divided my cases into two groups, according to the presence or absence of gall-stones. Of the seventy-three cases, in thirty-five there were stones in some portion of the biliary passages, and in thirty-eight there were none at the time of operation.

In these remarks I shall restrict myself to the noncalculous group, believing that these cases will give a truer picture of pancreatic disease *per se*. The cases with stones will be considered at another time. The series is still not entirely pure, since twelve had demonstrable changes in the gall-bladder at the time of the operation. Hence a certain admixture of biliary symptoms may be present in this analysis.

A careful history is of the first importance. Habits of eating or drinking which set up chronic inflammatory changes in the stomach and duodenum will be found in certain cases; in others a history of the infectious conditions which are especially likely to be followed by disease of the biliary passages. Often a history of antecedent, disregarded and perhaps forgotten indigestion is obtained. If disease of the bile-ducts and gall-bladder have preceded the pancreatic inflammation, the early history will partake of the inaugural symptoms of that disorder, and perhaps frank attacks of hepatic colic have occurred.

The relation of sex to chronic pancreatitis as compared with cholelithiasis is reversed. There were twenty-two males and sixteen females. This corresponds with Opie's figures, who found seventeen males and thirteen females. Bohm's large statistics also show that 65 per cent. occurred in the male sex. In view of the preponderance of biliary infections in the female sex, this fact is significant as showing that there must be some essential difference in the factors which produce infection in the ducts of these closely situated viscera. According to Desjardins, the same infection arising in the intestine and traveling up the bile and pancreatic ducts will, in the former situation, induce a stone-forming catarrh, but in the pancreas will cause a chronic interstitial inflammation. The lack of parallelism in the two kinds of infection, while not conclusive, creates a presumption against such complete similarity of origin in the majority of instances.

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* Read before the College of Physicians of Philadelphia, March 1, 1911.

The incidence according to age is as follows:

Below 30	4
30 to 40	11
40 to 50	11
50 to 60	8

More than two-thirds of Opie's cases occurred between the ages of 40 and 60. In my series it is seen that the age is lower, two-thirds occurring between the ages of 30 and 50. This is accounted for by the fact that all but one of my cases were operative while Opie's statistics include post-mortem records.

The onset of symptoms is spoken of as sudden in twenty-five cases, gradual in thirteen; but these figures refer especially to exacerbations, premonitory symptoms being present in the majority of instances.

The leading and most constant symptom is pain, which was absent in only three cases. I am conscious of the fact that I am dealing with a series of cases that have been driven to surgical intervention. This magnifies the importance of pain as a symptom, for too frequently it requires suffering to bring a patient to the operating-table. The practitioner must see many cases of pancreatitis in which pain is absent or inconspicuous.

The pain of chronic pancreatitis, or its mild exacerbations, is not in itself characteristic. It varies from dull discomfort or ache to sharp lancinating or colicky pain quite like gall-stone colic. It may be merely a sense of fulness or oppression in the epigastrium. The pain was severe in twelve cases; moderate in twenty-one; in eleven it was colicky.

In the majority of cases when the pain was colicky in type the gall-bladder was diseased. In one instance several small stones had been passed *per vias naturales* a short time before, though none was found at the time of operation. It seems probable that by the dilatation of the ducts following passage of a stone, the gall-bladder had been enabled to empty itself of its calculous contents. From these observations I am inclined to interpret colicky pain, when present, as evidence of involvement of the bile passages. In seventeen cases the pain was located in the epigastrium; in fifteen beneath the right costal margin; in one beneath the left costal margin; in two it was lumbar, and in one severe exacerbation it was general. From the primary location radiation took place to the epigastrium in five; to the back in nine; to the right and left costal margin in eight and one cases, respectively, and to the right and left shoulders in nine and two cases, respectively.

No definite relation to eating or to any particular articles of food was brought out in this series. This seems to be of some value in differentiating pancreatic pain from that of ulcer of the stomach or duodenum and, to a less extent, from gall-bladder disease.

It has been observed that in some cases the carbohydrates are most likely to set up digestive disturbances and Sailer found that the administration of glucose for the purpose of testing the assimilation limit was particularly distressing to these patients.

But slightly less frequent than pain is the history of nausea or vomiting or both. Twenty-one of my patients had had attacks in which vomiting figured, while ten more had been nauseated without actually vomiting. Opie has called attention to the association of chronic interlobular pancreatitis and persistent vomiting, and cites four of his thirty cases, in which advanced chronic interstitial inflammation was found in individuals who during life had suffered with persistent vomiting. While I have not encountered vomiting lasting persistently over a considerable period of time, yet the prominence of nausea and vomiting occurring in attacks at variable intervals indicates its importance as a symptom of the more severe type of the disease.

In ten cases it occurred before the onset of actual pain. This may have been due to what Mayo has spoken of as "the association of surgical diseases in the upper abdomen," for we must always remember that pancreatitis is a disease which in the majority of instances is preceded by, or associated with, disease of the neighboring organs such as gastritis, duodenitis, or biliary catarrh. The vomiting of pancreatitis is non-characteristic, though often containing mucus and bile. Eructations of gas are common in this disease as in most other abdominal affections, and were specially mentioned as a distressing symptom in twelve cases.

The third important symptom is jaundice. This also, as a striking and intensely disagreeable thing for the patient, like pain, is apt to be magnified in importance in any operative series. It was present at the time of operation, or previously in twenty-four cases, absent in fourteen. Eleven patients were jaundiced when admitted. The mechanism of the production of jaundice is easily understood when it is considered that the common duct, in approximately two-thirds of all cases, courses through the head of the pancreas before reaching the duodenum. As this is the portion of pancreas which is most commonly affected by inflammation, it is to be expected that biliary drainage in a percentage of cases will be interrupted by tumefaction of the tissues embracing the duct. It is certain that many cases of so-called catarrhal jaundice are to be explained in this manner.

Owing to this inconstant relation of the choledochus to the pancreas, it is apparent also that a high degree of inflammation or sclerosis of the pancreas may be consistent with the absence of jaundice. All the cases of jaundice with pancreatitis are not to be explained on mechanical grounds, but a certain percentage are doubtless due to disease of the bile passages themselves or to extension of inflammation from a catarrhal duodenum. The jaundice may come on painlessly, as occurred in four cases. It may also be continuous, as in five cases. The surgical importance of these facts cannot be overestimated. When associated with rapid wasting and loss of strength, which may occur in this disease, the clinical simulation of malignant disease of the head of the pancreas is complete and patients have repeatedly been denied operation under the impression that it was useless; a fatal blunder. Here also I may say that the mistake is not always rectified by simple exploratory operation, for the hardened nodular pancreas of advanced inflammation may so resemble carcinoma as to defy differentiation by direct inspection and palpation. Even the glands of the neighborhood may be greatly swollen as though by extensive metastasis. Robson, Moynihan, Mayo, and other leaders in upper abdominal surgery, have more than once mistaken inflammation for carcinoma, and I own to the same error on a number of occasions. In one case not only was jaundice and wasting present, but there was marked ascites due probably to the biliary cirrhosis or to pressure of the thickened head of the pancreas on the inferior vena cava. The patient made a good recovery after operation.

I have in mind now a physician of this community on whom I operated within the past year and closed with a hopeless prognosis of pancreatic carcinoma. The subsequent course has led me to believe that in this case I was deceived.

More often jaundice is preceded by pain as in gallstone colic, though, as previously stated, the pain is apt to be less severe and not colicky in character. In the more acute forms of pancreatitis it is, of course, a well-known fact that the pain is of such agonizing severity as hardly to be compared with that of any other disease. Such an exacerbation may occur at any time in the course of chronic pancreatitis.

The combination of intermittent jaundice, pain and febrile attacks may also be perfectly characteristic of Charcot's hepatic intermittent fever. I have diagnosed stone in the common duct in such cases and when considering them later have been unable to find any reason why I should not do so again. I am not sure that a stone may not have been present and escaped shortly before operation, and I have referred to one instance above in which such was known to have been the case.

The degree of jaundice may vary from the slightest tinge to the "black jaundice" of the older writers, which was supposed to be diagnostic of malignant disease. Sialorrhea, though often mentioned, I have not observed.

General symptoms are usually well marked. The existence of chronic pancreatitis, to a degree that pancreatic function is seriously disturbed, is always associated with a loss of weight. This is due to several causes: First, to a restriction of the diet voluntarily or by advice of physician in the effort to control the symptoms of indigestion. At times impairment of the appetite is responsible for decreased intake of food, though loss of appetite is by no means a constant accompaniment of pancreatitis. In this series it is mentioned seven times. There is also no disgust for meat. The persistence of the appetite is a valuable point of difference from carcinoma. Second, it is due to malassimilation of the imperfectly digested food. Third, in the cases in which jaundice is present, to the influence of the biliary intoxication; and finally, in a few cases, to the absorption of the products of bacterial activity.

Loss of weight was noted in twenty-one cases. The state of nutrition at the time of operation was, in six cases, obese, in ten good, and in thirteen poor. Loss of strength follows loss in weight, and was complained of in ten instances. I have already referred to the rapid loss of weight and strength which may take place in some instances, particularly when jaundice is a marked symptom. The cachexia may be as rapid and extreme as in malignant disease. In the usual case such marked wasting does not occur.

In most instances fever was known to have been present and in five a history of chills and sweating was obtained. In one the temperature was slightly subnormal. In eleven at the time of operation it was between 98 and 99 F., in thirteen between 99 and 100 F., and in four between 102 and 103 F. Fever is not such a prominent symptom in the prolonged course of chronic pancreatitis as most figures would seem to indicate. As a rule the temperature is normal. Fever is present only during exacerbations. Between the attacks there may be non-committal indigestion. In thirteen cases of this series there was indigestion between attacks. The longest duration of the disease as estimated by symptoms was seventeen years; the shortest eleven days. Ten had had frequent attacks of varying severity.

The bowels, as a rule, are constipated. Nineteen patients suffered with chronic constipation, and in thirteen cases constipation was a feature of the attacks. In only five was there a history of diarrhea.

From this it will be seen that caution must be used in employing as an aid to diagnosis the classical description of "frequent bulky motions, pale in color, offensive and obviously greasy." As stated by Robson and Cammidge, such stools are present only in advanced conditions.

The physical examination rarely affords much positive information. It is of more value in excluding other abdominal conditions. During exacerbations there may be epigastric tenderness and rigidity. When this is true it is almost impossible to detect anything in the nature of a mass. During the intervals, in patients with thin flaccid abdominal walls, it is sometimes possible to palpate the swollen head of the pancreas. In three cases of this series a rather indefinable mass could be felt. More often a considerable degree of pancreatic swelling and sclerosis will defy appreciation through the body wall and overlying viscera. In the majority of instances the pancreas is well covered by the adjacent organs. Körte, who examined thirty cadavers with reference to this point, found that in twenty the pancreas was completely covered, while in ten some part of the gland was covered only by omentum. In six instances there was ptosis of the colon, with exposure of a portion of the head of the pancreas between the colon and liver. In two bodies it was exposed in the median cleft of the liver, and in two, which were the seat of marked gastroptosis, the pancreas could be palpated directly beneath the gastrohepatic omentum. In palpating through the body wall, however, these slight exposures of pancreatic tissue are rarely sufficient to give a definite sense of mass even to the tactus eruditus.

As most of these patients were operated on during or just after some exacerbation of symptoms there was a degree of tenderness present in most of them. In eight no tenderness was elicited. In the remainder tenderness was found below the right costal margin in twenty; beneath the left in three; in the mid-epigastrium in eleven; over Mayo-Robson's point in three, and in one more severe case it was general. Rigidity was observed in the right hypochondrium in nine cases and over the epigastrium in three. There was moderate distention in six cases.

Enlargement of the gall-bladder has been observed in a number of cases, but it was not felt prior to operation in this series. The liver, however, was noted as enlarged nine times.

The general examination at times may reveal loss of weight and jaundice as above stated.

The blood frequently shows a secondary anemia which is seldom grave. In about one-half of my cases the hemoglobin was below eighty and the erythrocytes below 4,000,000 per c.c. A moderate leukocytosis was present in a few of the more acute exacerbations. Generally the numerical ratio of the leukocytes was unaltered.

Now as to the various tests used to determine the functional activity of the pancreas and upper digestive tract: A gastric analysis was made in twenty-four cases. In two-thirds of these there was subacidity both of free hydrochloric acid and total acids. In no case was there a marked hyperacidity. In other respects the analysis was not abnormal. The great number of conditions associated with subacidity of the gastric contents deprives this observation of any diagnostic value.

Somewhat more information can be derived from examination of the stools. In ten instances they were clay-colored. It is well known that this characteristic does not depend so much on the absence of bile as on the presence of an excess of fatty acids or fat itself. The tests for stercobilin were positive in all of these instances, showing that bile was entering the intestinal tract. This is important and leads to the deduction that since the liver is functionating, the failure to digest the fats must be due to deficiency of the pancreas. An excess of neutral fat so marked as to be visible to the naked eye, i. e., steatorrhea, was present in only six cases, and an excess of soaps was found in five cases. In pancreatic disease the total amount of unabsorbed fat may reach 50 to 60 per cent. in cases of chronic pancreatitis, and even 75 to 90 per cent. in cases of malignant disease (Robson and Cammidge). Carnot says that after suppression of the bile alone, the feces contain 60 per cent. of fat; after suppression of the pancreatic secretion, 70 per cent. of fat; and after suppression of both bile and pancreatic juice, they contain 90 per cent. of fat. In health, according to Müller, "the unabsorbed fecal fats consist of approximately 20 to 30 per cent. of neutral fat and from 70 to 80 per cent. of split fat, which is partly fatty acids and partly soaps." R. Gaultier has shown that in cases of suppression of the bile there are found in the feces from 35 to 45 per cent. of the ingested fats; 63 per cent. of this exists as neutral fats, and 35 to 40 per cent. as split fats (21 per cent. as fatty acids, and 12 per cent. as soaps). He has found that, in cases of suppression of the pancreatic functions, 80 per cent. of the fecal fat is in the form of neutral fats, and only about 15 per cent. as split fats (10 per cent. as fatty acids, and 5 per cent. as soaps); and if both biliary and pancreatic secretions are absent, 90 per cent. of the ingested fat is recovered from the feces, of which 90 per cent. is in the form of neutral fats, and 11 per cent. as split fats (10 per cent. as fatty acids, and 1 per cent. as soaps). Müller found that in cases of pancreatic disease, even though the total percentage of fecal fat might not be increased above the normal, yet that the proportion of split fat is always decreased (averaging about 40 per cent. of the total fat), showing decrease in the digestive power for fatty food. It has been asserted by Katz that diminution of the split fat below 70 per cent. of the total fecal fat invariably signifies disease of the pancreas, except in nursing infants and patients with profuse diarrhea. It remains to be seen whether the quantitative relations of the fat and its derivatives in the feces will be of any great assistance. Since we have found practically normal stools in cases which presented very definite chronic pancreatitis, it is evident that a negative finding is not conclusive. Positive results, on the contrary, must be regarded as very suggestive, and the examination of the feces for its fat and bile contents constitutes a very important element in the diagnosis. Excess of muscle fibers could be found in those instances of palpably deficient pancreatic function, but was not a characteristic of this series. The digestion of protein material appears to be less helpful than fat digestion. Fitz has pointed out that the condition occurs "only when there is extreme diminution of the pancreatic juice, and is significant only when gastric digestion is normal, when the diet contains no excess of meat, and when there is no diarrhea" (Opie). In fact, the majority of stools showed nothing by which a presumptive diagnosis of lack of pancreatic secretion could be assumed. As Opie remarks, "in most instances a considerable part of the parenchyma is undestroyed, and is capable of performing, in part, at least, the functions of the gland." The characteristic stool of pancreatitis, when present, is of great value in the diagnosis, but when absent does not negative the existence of pancreatitis.

The examination of the urine has been given special prominence by the reaction of Cammidge, which has received the endorsement of such able surgeons as Robson and Moynihan. As is well known, this reaction consists in the demonstration in the urine, when treated by a rather complex chemical procedure, of certain crystals of a definite morphology and certain solubility characteristics, but of unknown composition, though it is thought to be a derivative of a pentose, probably an osazone.

A positive reaction is said to indicate the presence of simple pancreatitis. It has been found in a percentage of cases of carcinoma of the pancreas, which is explained by the originators as due to the presence of an inflammatory zone about the neoplasm. The improved or "C" reaction is now used to the exclusion of the old "A" and "B" methods.

The table published in Robson and Cammidge's recent book gives the reaction credit for accuracy rarely attained by any other laboratory method.

In sixty-seven cases of pancreatitis it was positive in every case. In sixteen cases of carcinoma of the pancreas it was found in four (25 per cent.). On the other hand, in fifty normal cases used as controls it was uniformly negative, while in 117 associated cases, in which there was no pancreatitis, it was positive only four times. This is a remarkable showing, and if obtained by others would almost obviate the necessity of obtaining a history, a physical examination or, indeed, seeing the patient at all. We have paid special attention to the Cammidge reaction in the German Hospital. Dr. Kinney has been especially interested in it, and his report of the first 154 "C" reactions appeared in the *American Journal of the Medical Sciences* (December, 1910). Following the cases included in his report we have had 197 additional cases, making, in all, 351, which constitutes a very fair experience by which to judge the merit of the test. While I am free to admit that the originator of the reaction can probably perform it best, yet his very detailed directions have been most carefully followed, and our results must certainly approximate the best obtainable under similar circumstances.

Of nineteen cases, in which the test was made in the present series, it was positive in four and negative in fifteen. This is a scarcely higher percentage of positives than we obtained in sixty cases in which the pancreas appeared to me to be normal to direct palpation at the time of operation. Ten of these sixty cases gave a positive Cammidge reaction. One-fifth positive in pancreatitis, as compared with one-sixth positive when no pancreatitis existed, does not inspire faith in the reaction. In fifty-five cases of chronic pancreatitis, confirmed at operation, some of which were complicated by other upper abdominal disease, there were eighteen positives (32 per cent.), a slightly better showing. Two acute cases were both positive. One case of pancreatic cyst was negative; one of pancreatic fistula was positive, and of eight cases of carcinoma of the pancreas, one-half gave the reaction. Roughly speaking, in all my cases in which the condition of the pancreas was determined accurately at the time of operation, this supposedly specific pancreatic reaction was obtained only about two and a half times as frequently when the pancreas was affected as when it was not. While this speaks for a degree of dependence on pancreatic disease, it does not, to my mind, indicate that that relation is by any means so intimate and constant as we had been led to hope.

The urine in suspected pancreatitis should be carefully tested for bile and sugar. Two cases in this series showed glycosuria. Sugar may appear in the urine during an exacerbation and clear up on subsidence of the inflammation. This is a threat of oncoming diabetes and should not be overlooked.

I have not used the Loew pupillary reaction, which consists in a dilatation of the pupil on instillation of epinephrin into the conjunctival sac. This is supposed to be due to some interrelation between the produce of the suprarenal capsule and the hypothetical internal secretion of the pancreas. Clinical reports do not accord it much value.

Nor have I had experience with the various methods of obtaining duodenal juice, either through the stomach or in the feces, and testing it for the presence of pancreatic ferments. It seems to me that as these ferments act in incredibly small quantities, so long as there is any pancreatic tissue functionating we would expect to get the reaction due to their presence. When they are absent the condition would probably be far advanced and capable of detection by simpler means.

The chief tests of this sort are as follows: Schmidt's test depends on passing a small piece of beef, enclosed in a silk bag, through the intestinal tract, and observing whether the muscles of the fibers showed digestion. Sailer quotes the work of Steele, who came to the conclusion that this was valueless.

Müller's test aims to demonstrate the absence or presence of a proteolytic enzyme in the feces, by observing whether digestion of blood-serum will take place when drops of fecal material, appropriately prepared, are placed on its surface.

Sahli's desmoid test consists in administering capsules, hardened in formaldehyd resistant to the gastric juice, but soluble in pancreatic secretion. In the capsule is placed a substance capable of rapid absorption and excretion in the urine, thus determining whether solution has been effected.

Solomon attaches great importance to the amount of lecithin in the feces, which is said to be increased in pancreatitis.

Fedeli and Romanelli have devised a test to measure the activity of carbohydrate digestion.

While it is too early to say that these tests have no value it is not likely that they will put an end to our difficulties in the diagnosis of chronic pancreatitis.

The appetite is usually fair or quite good. If nausea or vomiting occurs without severe pain, and if remittent jaundice comes on with distress, but without characteristic gall-stone seizures, the presumption is strengthened.

If the pancreas may be felt enlarged and tender, or the feces present the characteristic stool, the diagnosis can be made with a fair degree of certainty. It is often necessary to observe these patients over a considerable period of time to come to a definite conclusion. As this early non-characteristic stage is very like the non-characteristic beginnings of some forms of malignant disease in the upper abdomen, it is necessary to be guarded in the prognosis and the decision to delay operative treatment.

The chief conditions likely to be mistaken for pancreatitis are cancer of the pancreas, of the common bile-duct or the liver, gall-stones in the common duct, chronic cholangitis without stones, and chronic appendicitis of the type manifesting itself chiefly or solely by upper abdominal symptoms.

The treatment of chronic pancreatitis begins with the amelioration of the predisposing cause or causes, if they can be determined. When gastroduodenal catarrh is present as a result of vicious habits of eating or drinking, a reform must be instituted in these respects. When it is associated with disease of the biliary passages, treatment should be directed toward that condition. Wohlgemuth has shown that the pancreas responds actively to a carbohydrate diet, and that if rest for the inflamed gland is desired it is necessary to be sparing in articles of that nature. Carnot is enthusiastic in advocacy of supplying the missing elements of digestion by administration of a preparation of the gland. Sailer also reports good results in two cases treated on this basis. While such measures may suffice for mild cases, or at times for more severe forms, there are others that go from bad to worse on careful medical treatment. Continued loss of weight, persistence of indigestion, recurring exacerbations, jaundice or a lowered tolerance for carbohydrates as shown by transient glycosuria should cause the physician to advise operation. Epecially binding is this obligation if there be associated disease of the biliary tract.

In the surgical treatment of chronic pancreatitis, Mayo Robson occupies the same position as Fitz does to the development of our knowledge of the disease. He was the pioneer in showing that free drainage of the biliary tract, and through this outlet, drainage also of the pancreatic ducts, would in many instances enable the pancreas to cast off the infection and resume its normal function. This is, in a nutshell, the principle of the treatment, and though it may seem roundabout, its efficacy has now been demonstrated too often to admit of a question. The easiest and most advantageous method of providing drainage is by a cholecystostomy. If for any reason this is impracticable, drainage of the common duct should be done. At times when the closure of the common duct is complete and likely to be lasting, a cholecystenterostomy may be best, but as a general rule external drainage permits subsidence of the swelling of the pancreas and a reestablishment of the functions of the ducts. Drainage should be maintained for three or four weeks at least. It is difficult to keep the fistula from closing too soon, and in cases of marked pancreatic disease it is best to make a cholecystduodenostomy. Just how long this opening will remain patulous is a question, for I have reoperated in cases in which this operation had been performed, and have found the opening closed. It should not be forgotten, also, that cholecystduodenostomy is an operation of greater magnitude and slightly higher mortality than simple cholecystostomy.

The surgeon to-day makes the same plea for chronic pancreatitis as he made twenty years ago for appendicitis. Send patients early before complications create a mortality.

1634 Walnut Street.

A Funny Proposition.—The *Boston Transcript* makes the very pertinent remark that man is a funny proposition because, when he reads a medical book, he fancies he has every disease described; but when he reads the work of a moralist, all the faults that are pointed out he sees, not in himself, but in his neighbor.

INTESTINAL BACTERIOLOGY: A SUMMARY*

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It is the purpose of this paper to discuss certain factors of fundamental importance in determining the nature and extent of bacterial activity in the intestinal canal; to explain what these factors are and how they are arrived at; to indicate their significance and to point out how they may be applied practically in intestinal therapy. The results of which this paper is a summary were obtained chiefly by feeding animals (cats and monkeys) on diets consisting alternately of protein and carbohydrate. The alternations in diet were made biweekly. The object of these experiments was to determine the influence of diet on the character of the intestinal flora.

From the point of view of bacterial activity within it, the alimentary canal must be regarded as a wonderfully perfect incubator and culture medium combined—an incubator in which the range of reaction and diversity of foodstuffs is so great that practically all organisms capable of developing at the body temperature of the host can conceivably find some place suited for their development. It is necessary to keep this conception in mind, since the essential feature of the investigations about to be outlined consists of changing the food of the bacteria growing in this intestinal incubator in a perfectly definite manner and sequence, and observing the effects by studying the readjustments of the intestinal flora to meet the new conditions established as the food of the host changes.

The problem is one which must be approached from the dynamic rather than from the cultural standpoint, and the key to its solution must come from the biochemistry of the bacteria concerned in the process rather than from their cultural characteristics. As Dr. Theobald Smith has clearly and tersely expressed it: "It is what bacteria do, rather than what they are, that commands our attention, since our interest centers in the host rather than the parasite."

Before discussing the results in detail, it will be necessary to call attention to several features of the problem which are better mentioned here than later on:

1. In these experiments, the diet of the host was sharply limited to two classes of foodstuffs, and as a working hypothesis, it is fair to assume that the bacterial response to these dietary alternations would consist largely of alternations between proteolytic and fermentative types of organisms, respectively.

2. The intestinal flora can respond to these changes in diet in two ways: (a) the flora may become dominantly proteolytic, then fermentative, as the diet is changed, and (b) in addition to the alternations in bacterial types, certain organisms can actually change their metabolism to accommodate themselves now to a protein, now to a carbohydrate regimen.

3. The products of digestion of protein in the alimentary tract are far more numerous and varied in composition than are those of carbohydrate; consequently one would expect *a priori* that the protein flora would be more heterogeneous than that developed on a carbohydrate regimen. That such is the case is well illustrated by comparing the fecal floras of adults and nurslings. In the former, on a varied regimen, containing much protein, the flora is very heterogeneous, while that of the latter, on a monotonous diet in which protein is in the minority, and carbohydrate a prominent feature, the flora is relatively homogeneous.

The method employed in this work consisted essentially of inoculating the mixed fecal flora into suitable media and studying the resulting reactions in them. From time to time cultures of the prominent bacteria discernible in the fecal flora were isolated and compared with those growing in the cultures; by so doing it was possible to determine the suitability of these media for the purpose they were to fulfil, and to form a judgment of the character of the organisms which composed the fecal flora as well.

The media finally selected were gelatin (sugar-free), acetic acid-dextrose broth (N/5 acetic acid in 2 per cent. dextrose broth), dextrose, lactose and saccharose fermentation media and milk fermentation tubes (Smith). Each of these media presents certain specific advantages in addition to its general utility as a food for bacteria. Much valuable information was obtained from the study of Gram-stained preparations of the feces, fermentation tube sediments and from the growths in other media. It was possible to form a judgment of the suitability of the various media by comparing the prominent organisms in the feces and those in the media themselves.

These media could be divided, according to the kinds of bacteria growing in them into three groups:

Group 1: Gelatin: particularly adapted for the proteolytic forms.

Group 2: Acid dextrose broth: specific for certain fermentative organisms, chiefly of the *B. acidophilus* type.

Group 3: Fermentation media and milk: practically all the dominant bacteria represented in the feces grew well in these media, and consequently they were, in a sense, battle-fields in which the various types of organisms struggled for supremacy. The manner in which the mixed fecal flora acted in the media of Group 3 furnished a valuable clue to the dominant type of bacterial activity in the intestinal tract.

Turning now to the phenomena exhibited by the various bacteria of the alimentary tract as the diet was changed, it was found that as the protein flora became dominant, the Gram-stained fields prepared from the freshly passed feces contained many large and medium sized Gram-positive rods with rounded ends. Gram-negative forms similar to colon bacilli morphologically, and a few coccal forms also appeared. In addition, there were frequently moderate numbers of Gram-negative, thin rods.

Inoculated into gelatin, the mixed intestinal flora caused a decided liquefaction, which commenced as a rule within eighteen hours and continued until practically the whole medium was peptonized. In sugar broths there was a considerable volume of gas formed within eighteen hours, not infrequently 100 per cent. of the closed arm. The Gram-stained sediments from these fermentation tubes contained both the short, Gram-negative bacilli morphologically like *B. coli* and *B. proteus*, and also larger, longer and thicker Gram-positive rods which were morphologically similar to the so-called gas bacillus (*Bact. welchii*), but which were in reality organisms belonging to the *subtilis* group. It is noteworthy that the gas bacillus did not play any prominent part in the formation of gas in these media.

Acid dextrose broth remained unchanged, and there was very little growth in it.

Milk was vigorously attacked; the casein peptonized to a very considerable degree, and, usually from 50 to 8 per cent. of gas was produced, all within eighteen hours' incubation at body temperature. This rapid peptonization and gas formation in milk is a striking phenomenon, and deserves comment. The same action can frequently be brought about, although much more slowly, by inoculating milk contained in fermentation tubes with a culture of an organism belonging to the *subtilis* group, then, after peptonization has commenced, reinfect the medium with a pure culture of *B. coli* or *B. proteus.* Under these conditions the peptonization continues, and in addition, there is a voluminous liberation of gas. It is absolutely essential for the success of the experiment that the order mentioned be observed. If the colon bacillus is inoculated first, and then, after a preliminary incubation, the subtiloid organism be introduced, the phenomena mentioned will, as a rule, not take place. This is a true instance of symbiotic activity which is not confined to bacteria derived from the intestinal tract. I have encountered it in bacteria from meat and other albuminous products which have commenced to decompose. It should be stated that the combined activity of these two organisms is greater than the sum of their separate activities. The explanation that seems most thoroughly to explain all the facts is that the subtiloid bacilli first act, and, in the case of the milk, peptonize the casein, but do not attack the lactose; since this sugar is unfermentable by most subtiloid organisms. The solution of the casein in some manner makes the lactose more accessible to the action of the colon bacillus, and the alkaline reaction produced by the subtiloid bacillus tends to neutralize to a certain extent the acid produced by the fermentation of the lactose by the colon bacillus, so that the process can go much further than would be the case with the colon bacillus alone. On the other hand, the production of acid by the colon bacillus neutralizes the alkali produced by the subtiloid organism, thus preventing a too alkaline reaction, which would inhibit the activity of the subtiloid bacillus. In dextrose and lactose fermentation media, again, one sees the same phenomenon of unusual gas production when the same organisms are growing symbiotically. The explanation appears to be the same in these instances as well as in the milk.

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The organisms dominant on a protein diet, then, are of two principal types: liquefying and aerogenic bacilli, respectively. Of the former, the subtiloid bacilli appear to play the most prominent rôle, while *B. coli* and the various forms of *B. proteus* are the most commonly encountered aerogens. Anaerobes do not play an essential part in these processes.

A change in diet from protein to carbohydrate was associated with perfectly definite changes in the character of the fecal flora. The fecal Gram-stained fields became strongly Gram-positive in place of the more or less equal distribution of Gram-positive and Gram-negative organisms. The organisms were longer, more slender, and frequently were seen to be slightly curved. The flora was also much more homogeneous in appearance.

In gelatin there was very little growth when the carbohydrate flora became fully established, and the organisms which did develop were vestiges of the protein flora.

Acid dextrose broth on the contrary contained a good growth which consisted almost wholly of the rather long, slender curved organisms discernible in the Gram-stained fields of the carbohydrate fecal flora. These organisms were of the *B. acidophilus* type, and in consequence of the acidity of the medium (N/5 acetic acid) were in practically pure culture.

The sugar broths (dextrose, lactose and saccharose) and milk fermentation tubes were less visibly changed with the carbohydrate flora; the gas volume was very much diminished both in the sugar broths and milk, and the actual amounts of growth were also less than was the case when protein feces were inoculated. As a rule less than 10 per cent. of gas was produced in the sugar broths, the turbidity in the closed arms of the fermentation tubes was less marked, and the sediments showed both the long, thin Gram-positive organisms noted above (*B. acidophilus*) and similar, slender organisms, also Gram-positive with bifid ends. The latter organisms were found to be *B. bifidus,* organisms very common in the fecal flora of normal nurslings.

In milk there was no gas formation, and no peptonization. The milk, however, was firmly coagulated.

The significance of these changes appears to be explained by the fact that the fermentative organisms of the *acidophilus* and *bifidus* types produce acid rapidly from the time they are inoculated into the various media in which they thrive, and that this acid-production is so rapid and so intense that even the rapidly growing colon and subtiloid bacilli cannot develop in its presence. This is true, of course, only in those media containing fermentable sugar. In gelatin, which contains no sugar, or in plain, sugar-free broth, the fermentative organisms of the *acidophilus* and *bifidus* types will not grow, and one finds in such media the typical proteolytic flora—*B. coli* and *subtilis.*

To recapitulate: It will be seen that in experimental animals, alternations in diet between protein and carbohydrate are associated with rather definite changes in the character of the intestinal floras of these animals. These bacterial changes are demonstrable both by staining reactions and by the changes produced when the mixed floras are inoculated into media. These changes consist essentially of alternations between proteolytic and gas-forming bacteria on a protein diet, and acid-forming bacteria on a carbohydrate regimen. The absence of carbohydrate prevents the development of the acid-forming bacteria on a protein diet, and the excessive amounts of acid produced by the fermentation of sugar inhibits the growth of the proteolytic and aerogenic forms on the carbohydrate regimen.

THERAPEUTIC APPLICATION OF FINDINGS

Turning now to the practical application of these results to intestinal therapy, we may conveniently consider them in two groups:

1. Those cases in which there is an overgrowth of undesirable forms of the bacteria more or less commonly present in the intestinal tract. These organisms do not, as a rule, bring about appreciable lesions of the intestinal mucosa. The activity of these bacteria is limited to their more or less unrestrained growth in the intestinal contents, and their harmful effects are attributable to the absorption from the intestinal tract by the host of their products of metabolism. Some of these products have been shown experimentally to be actually harmful. These endogenous infections may cause diarrhea, as well as that rather indefinite chain of symptoms known as auto-intoxication of intestinal origin.

2. True exogenous infections, in which foreign bacteria such as the typhoid, dysentery and cholera bacilli gain and maintain a foothold in the alimentary tract. These organisms are able to penetrate the intestinal mucosa.

The treatment of these conditions, from the bacterial standpoint, involves the principles elucidated above. It was stated in the preceding paragraphs that not only do the *types* of bacteria change with a change of diet on the part of the host, but also that certain bacteria have the property within limits of accommodating their metabolism now to a protein, now to a carbohydrate regimen. These latter organisms, then, are facultative in their metabolism. This change in metabolism to meet dietary requirements is a very fundamental and important characteristic of many bacteria, and inasmuch as it plays a prominent rôle in the problems of intestinal therapy which are concerned with the activity of bacteria, it will be discussed in some detail.

A few examples will first be cited to indicate the effect which this accommodation of metabolism has on the host in which such bacteria may be living.

Dr. Theobald Smith has shown, in his classical researches on the production of diphtheria toxin in broth, that the presence or absence of fermentable sugar plays an important part. If utilizable carbohydrate is present in the medium in which the bacilli are growing, the organisms will attack the sugar in preference to the protein; if there is an excess of sugar, so that the bacilli form enough acid to prevent further growth before it is exhausted, very little toxin, comparatively is produced. If there is a lesser amount of sugar (0.2 per cent. or less), merely enough to cause the bacilli to grow well, this sugar is soon used up, and then the bacteria attack the protein vigorously and there is a simultaneous increase in the toxin production.

(In this discussion, no attempt is made to explain the origin or composition of the toxin other than to call attention to the fact that it is formed under the conditions stated in media containing protein, or protein decomposition products, and that the presence of more than minimal amounts of sugar in these media is sufficient to seriously inhibit its formation. The fact that toxin is apparently formed in appreciable amounts from such simple organic compounds as salts of aspartic acid has nothing to do with the problem under discussion, although it is very probable that even in these so-called synthetic media, the presence of sugar would act in precisely the same manner as it does in the more complex proteins.)

A certain minimal amount of sugar appears to be essential for the formation of a potent toxin, and Dr. Smith has suggested that one, or both, of two factors may explain this phenomenon. Either this small amount of sugar is an essential component of the food of the bacteria, or the slight amount of acid formed by the fermentation of this sugar prevents the accumulation of too much alkali until the toxin formation has progressed to a very considerable degree. It is not improbable that both factors are concerned in the process.

According to unpublished investigations made by Dr. Smith, the same phenomenon is exhibited by the gas bacillus (*Bact. welchii*). This organism, so Dr. Smith tells me, produces a toxic substance when it is grown in fermented (sugar-free) broth containing sterile tissue, but this toxic substance is not formed if the same organisms are grown in unfermented broth, with tissue.

Many other organisms act in precisely the same manner when they are placed in media containing sugar; the presence of the sugar appears to prevent the breakdown of protein, at least in any considerable quantities. Attention was called in a preceding paragraph to the fact that there was in the intestinal tracts of mammals and man a group of facultative bacteria which could accommodate their metabolism to either a protein or a carbohydrate regimen. These organisms act in the same general manner as the diphtheria, tetanus and gas bacillus under similar conditions.

Bacillus coli is a well-known example of this group, and inasmuch as it is an organism of great importance in the intestinal tract, it will serve admirably for an example. If this organism is grown in broth containing an excess of utilizable sugar on the one hand, and in broth of precisely the same composition and reaction, but without the sugar on the other, it will be found that the chemical products formed in the two media will be widely different in composition. In dextrose broth, for example, the odor after an incubation of a week will be agreeable, the reaction acid, and in addition to the gaseous products CO_2 and H_2, lactic, and smaller amounts of succinic and acetic acids will be found. It will be observed that products of protein decomposition are practically absent, on the other hand. This growth is therefore a fermentative process and not a proteolysis; merely enough protein has been metabolized to meet the nitrogen requirements of the bacilli.

In the broth containing no sugar, on the contrary, but of otherwise the same composition (plain nutrient broth), the odor will be found to be disagreeable, the reaction strongly alkaline and in addition, indol, skatol, aromatic oxyacids and other products of protein putrefaction will be present in considerable amounts. This is therefore a typical putrefaction.

The organisms mentioned above, then, diphtheria, tetanus, gas and colon bacilli, all react in a perfectly definite manner when grown in media with and without fermentable carbohydrate. If carbohydrate is present, these organisms form acid products which are non-toxic, while they attack protein vigorously in the absence of sugar, elaborating products which are frequently more or less harmful to their host. (It should be stated parenthetically that by "attacking protein," as used in this connection, protein of various degrees of degradation from native proteins is meant.)

Two important and general properties of bacterial activity are illustrated by these experiments:

1. Fermentation takes precedence over putrefaction; that is, carbohydrate shields or spares protein from bacterial attack. The same generality holds in the metabolism of the human body; carbohydrate spares protein.

2. Toxic substances are not formed to any extent in media containing more than minimal amounts of utilizable carbohydrate, so long as there is enough carbohydrate for the bacteria to act on.

When we remember that bacterial toxins are, so far as we know at present, associated with the breakdown of protein, the significance of this shielding action of carbohydrate for protein becomes apparent.

In those cases referred to above as endogenous infections, that is, in which there is an overgrowth of bacteria of intestinal origin, the most noticeable, or at least most common, pathologic result is the slow absorption of putrefactive products, which not infrequently are the results of a too liberal protein diet.

Metchnikoff has recognized this condition and his lactic acid therapy is designed to correct the trouble. His treatment consists essentially in cutting down the protein of the diet, pushing up the sugar, and administering lactic acid bacilli by mouth. He explained the beneficial results which frequently attended this treatment by the antagonism of his lactic acid bacteria to the putrefactive organisms in the intestinal tract. While his lactic acid bacilli do, as a matter of fact, act in a salutary manner, it must be remembered that there are also present in the intestinal tracts of most individuals normal lactic acid bacilli which also produce lactic acid. These latter organisms appear to thrive best in the large intestine, while the artificial cultures seem to find conditions most favorable for their growth in the small intestine. Hence, the normal lactic acid bacilli, fermenting the sugar which is intentionally added to the diet of the host, antagonize the putrefactive bacteria on their own grounds. Not only do the normal lactic acid bacilli proliferate under these conditions, but the organisms which are producing the bulk of the putrefactive products, at least indol and skatol, change their metabolism under the new conditions, and become fermentative instead of putrefactive in character. The indol and skatol are no longer formed under these conditions, and the condition of the patient appears to be improved. The colon and proteus bacilli, which are strong indol-formers, in other words, produce acids instead of proteolytic products so long as sugar is available for their use.

The same principle of changing the metabolism of bacteria may be made use of in the second group of intestinal infections, those of exogenous origin. The best-known examples of such infections are those of typhoid, cholera and dysentery. The latter only will be discussed, because the attempt has been made to utilize the principles outlined above in the treatment of this disease in infants. The Shiga type of *B. dysenteriæ* produces a powerful extracellular toxin, and the work of recent observers would indicate that it is formed only in broth having a strongly alkaline reaction. From what has gone before, it is obvious that this condition of a strongly alkaline reaction is realized only in the absence of fermentable sugar. It is equally true that the Shiga bacillus ferments dextrose, producing acid. It follows, therefore, that if this organism is fermenting dextrose it is not producing toxin, if our supposition is correct. The Flexner type of *B. dysenteriæ* agrees with the statements about the Shiga bacillus made above, except that this form does not produce an extracellular toxin. It does, however, elaborate an intracellular toxin apparently.

The intestinal flora of babies suffering from bacillary dysentery consists essentially of three organisms: *B. dysenteriæ* [Shiga, Flexner, or both], *B. coli*, and the streptococcus.

As a routine treatment, such babies are starved, and this starvation, together with the severe diarrhea, which is a feature of this disease, results in a very thorough cleaning out of the alimentary canal so far as food of any kind is concerned. This dysenteric flora, then, is living on the intestinal secretions in the absence of sugar (the sugar of the body is used up quickly, and the body then draws on its nitrogen to keep up the vital functions), and it is essentially putrefactive in nature. The dysentery bacilli are elaborating toxin, while the colon bacilli are forming putrefaction products, both of which must be harmful to the child. The colon bacillus aids the dysentery bacillus, and the host has to detoxicate such putrefactive products as are absorbed by the alimentary canal in the liver, and excrete them through the kidneys. This throws an additional strain on an already weakened organism.

The principle involved in the treatment of bacillary dysentery, from the point of view of the bacteria concerned in the morbid process, is to feed carbohydrate. This carbohydrate is intended primarily to change the metabolism of the organisms in the lumen of the intestinal canal from proteolytic to fermentative bacteria. These bacteria, therefore, so long as there is sugar present which they can utilize, no longer produce toxins and putrefactive products from the protein of the intestinal contents, but acids instead. The patient is at the same time obtaining a readily utilizable food with a minimal expenditure of digestive energy. Another advantage gained by this procedure is the readiness with which the baby takes the requisite amount of water. Experience has shown that it is very difficult to make infants take water, but the addition of the sugar makes it more palatable. This method of introducing fluid does away with the disagreeable necessity for saline infusions which are often a source of trouble.

It is not a matter of indifference which sugar is fed to these patients. Lactose appears to be the most advantageous for several reasons. In the first place, it is a sugar peculiar to mammals, and not many bacteria other than those normally present in the alimentary canal can utilize it. Consequently, if the digestion of the patient is weakened to such an extent that it can not even hydrolyze lactose, there is no great harm done because the exogenous bacteria cannot use the lactose as such. Again, lactose is physiologically the most easily assimilable carbohydrate.

If, then, lactose is fed to dysentery babies by mouth in small, often repeated doses, the bacterial changes following its administration are as follows: The colon bacilli and other lactose-fermenting organisms of the intestinal tract attack the sugar in preference to the nitrogenous substances, forming acids in place of putrefactive products. Lactic acid predominates among these acids, and this acid is apparently inimical to the development of the dysentery bacillus. The patient benefits in two ways from the change in metabolism of the colon bacillus—there is a diminished formation of putrefactive products, and in addition those dysentery bacilli in the lumen of the intestine are exposed to the lactic acid generated by the colon bacilli. Usually there are a few of the normal intestinal lactic acid bacilli left in the alimentary canal, and these too begin to proliferate and to form lactic acid; this increment in acid formation acts even more energetically in opposition to the dysentery bacilli.

Under these conditions the streptococcus tends to disappear, and this is a point of considerable importance, since the streptococcus frequently appears as the terminal infection in dysentery cases. The cause for this disappearance is at present unknown to me. It is a curious fact that one may recover cultures of these or similar cocci by growing the fecal mass in strongly alkaline broth ($N/5$ Na_2CO_3).

If the digestion of the patient is still active enough to break down the lactose, the dysentery bacilli themselves will become acid-formers instead of toxin-producers, because these bacilli can attack dextrose, which is one of the hydrolytic products of lactose. This applies principally to those bacilli which are found in the lumen of the alimentary canal; those in the mucosa would at first sight seem inaccessible, but the stream of sugar which is absorbed by the host passes through the mucosa, and in addition it is possible to restore the normal sugar content of the blood by transfusing dextrose. The sugar is carried to all parts of the body, and it is not at all impossible that some of it may even reach the invasive organisms, and be utilized by them.

It is clearly not the purpose of this paper to discuss the factors other than the use of sugar in the treatment of these cases; all that is hoped for here is to present the development of the subject of intestinal bacteriology in so far as I have had a hand in it, and to show that these purely laboratory studies can be made use of in the therapeutics of the intestinal canal.

It is obvious that this general principle of fermentation taking precedence over putrefaction can be made use of in many instances, both medical and industrial, in which bacterial activity plays a rôle.

THE TREATMENT OF SUPPURATIVE OTITIS MEDIA (SCARLATINAL) BY BACTERIAL VACCINES (BACTERINS)*

BASED ON ONE HUNDRED CASES OF PATIENTS TREATED IN THE PHILADELPHIA HOSPITAL FOR CONTAGIOUS DISEASES, BUREAU OF HEALTH

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The treatment of various subacute and chronic infections by means of bacterial vaccines has been successful enough to offer encouragement as a practical therapeutic measure, and we undertook the treatment of suppurative otitis media by this means. Of the sequelæ of scarlet fever, otitis media is one of the most troublesome and dangerous, both to the patient and the public health in general. Of 2,537 patients received in the scarlet-fever hospital from June 1, 1907, to June 1, 1909, 208 patients, or 8.2 per cent., developed suppurative otitis media. The usual treatment is unsatisfactory in many respects; the duration of otitis media is frequently prolonged; the contagium of scarlet fever, whatever it may be, seems almost certainly present in ear discharges; the dismissal of a patient with such aural discharges is thus dangerous to public health; therefore any treatment which will cure these patients more quickly and more satisfactorily than the usual methods will be certainly most welcome. The treatment of these infections by bacterial vaccines is based on good reason, although mostly theoretical. The results have been fairly satisfactory when a good technic has been followed, so that we commenced this work with the realization that of all forms of treatment, this is one of scientific aspect, and that results must be given in an impartial and scientific manner; in other words, the report is a plain statement of facts, whether such be favorable or otherwise.

The theory of the action of bacterial vaccines as promulgated by Wright is well known to every one. He has demonstrated the presence of a substance in the blood which prepares organisms for phagocytosis. These substances, opsonins, are normally present in the blood in varying amounts. They can be increased by the administration of an emulsion of bacteria which have been killed by heat at the minimum degree of temperature (vaccine). If the offending organism itself can be secured and used in the preparation of the vaccine (autogenous), better results will follow. The opsonins are probably formed in part by connective tissue cells, both generally, and locally at the site of injection. This is the reason for selecting the area of administration as near the lesion as possible.

The present study is based on the treatment of one hundred cases, extending over a period of nine months. Otitis media is a condition offering good hope for success by vaccine treatment, because the condition is local; the offending organisms can usually be easily secured; the infection soon becomes subacute and chronic and the results of treatment can be readily observed. The onset of the disease is frequently most insidious; a large number of children do not complain at all, and the first indication of trouble is the presence of discharge. On the other hand, many adults and older children suffer considerable pain. In a series of 406 cases the discharge first appeared on the following days of the illness, reckoning from the day of onset of the scarlet fever:

Day of Illness	No. of Cases	Day of Illness	No. of Cases
1 to 5	27	20 to 35	81
5 to 10	97	35 to 49	35
10 to 20	155	49 to 84	11

Patients suffering with severe throat symptoms are most likely to develop suppurative otitis media by direct infection through the Eustachian tube. On the other hand, cases are apparently produced either by general blood infection or by the toxins of the disease.

The first question is that concerning the best time for commencing vaccine treatment of cases of otitis media. Certain it is that a proportion of patients will recover in a reasonable length of time if left alone or given simple local treatment. It is equally certain that a proportion continue discharging for a long period of time, it may be for the remainder of life, the soft parts and finally the osseous tissue being involved. Experience has demonstrated that it is not wise to commence too early, and it is equally bad practice to wait too long, because long-standing cases are likely to be more refractory to treatment and the mechanism of hearing may be considerably damaged. During the acme and early decline of scarlet fever the patient may be having considerable fever; he may be toxic enough without the addition of vaccine or be suffering with acute nephritis and its accompanying toxemia; finally the general condition may be so poor and the body defences so busy combating the toxic condition that the administration of vaccine will evoke no favorable response, but produce injury by a prolonged negative phase, during which the organisms work increasing havoc. We commenced vaccine treatment in our cases according to the following table, reckoning from the first day of the onset of the otitis media as indicated by the presence of discharge:

Time of Discharge	No. of Cases
Third to seventh day	6
Seventh to fourteenth day	33
Second to third week	21
Third to eighth week	28
Eighth to fourteenth week	10
Four years	1
Ten years	1

According to our experience the best results were secured, considering all things, when cases were reported on the third day of the discharge. This enables one to watch the patient for a day or so; take a culture; consume five or six days in isolating the organisms and preparing the vaccine. If at the end of this time the patient's general condition was fair and he was free of fever, nephritis and toxemia, a dose of vaccine was administered. If his condition was not favorable, the vaccine was put aside in a refrigerator. If at the end of ten days his condition warranted commencing the treatment, we did not use the first vaccine, for frequently a reculture will show a different organism or the presence of an additional offender. A reculture is made from the discharge and another vaccine prepared.

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* For the sake of brevity references to the literature which appear in the author's reprints have been omitted in The Journal.

The following table is a list of the organisms isolated from cultures of the 100 cases. If the otitis media was bilateral a culture was taken from each ear. If two organisms were found, each was isolated and a separate vaccine prepared. When administering two vaccines to the same patient, the aggregate dose was that equalling the dose of one organism. The bacteriology was comparatively simple and isolation readily accomplished:

Staphylococcus aureus was found alone in 14 cases
Staphylococcus albus was found alone in 2 cases
Bacillus pseudodiphtheriæ was found alone in 35 cases
Bacillus pyocyaneus was found alone in 20 cases
Streptococcus pyogenes was found alone in 4 cases
Staphylococcus aureus and *B. Pseudodiphtheriæ* were found together in 9 cases
Streptococcus pyogenes and *B. Pseudodiphtheriæ* were found together in 4 cases
Bacillus pyocyaneus and *B. Pseudodiphtheriæ* were found together in 9 cases
Streptococcus pyogenes and *B. pyocyaneus* were found together in 3 cases

If no improvement was noted after the third dose of vaccine, or if ten days elapsed before vaccine could be administered to a case after culture had been taken, a reculture was made and a new vaccine prepared. In many cases, an ear cultured three to four days after the onset of discharge will show the *Staphylococcus aureus*, while on reculture at a later date the *Bacillus pseudodiphtheriæ* will be found. Most of the long-standing cases yield *Bacillus pyocyaneus*, and repeated culturing can secure nothing else. The following table gives the list of organisms secured by recultures:

Bacillus pyocyaneus was found alone in 20 cases
Bacillus pseudodiphtheriæ was found alone in 6 cases
Staphylococcus aureus was found alone in 2 cases
Bacillus pseudodiphtheriæ was found in combination with *Streptococcus pyogenes*; once with *Bacillus pyocyaneus*, and twice with the *Staphylococcus aureus*.

Cases cultured on the third or fourth day of discharge show the *Staphylococcus aureus* in many instances. A vaccine prepared of this organism usually gives good results. A week or ten days later it is often replaced by the *Bacillus pseudodiphtheriæ*, or this organism is found in addition.

It may be well to add here a few words in explanation of the term "pseudodiphtheriæ." We are aware that many opinions exist on what should be thus named. We apply that term here to a solid type of diphtheria-like organism resembling some of the solid types of true diphtheria bacilli, but without virulence or toxicity when tested in a reliable manner by animal inoculation.

We have frequently encountered, isolated, and cultured a short, thick, solid bacillus having rounded ends, with slightly marked median band, characteristic of the *Bacillus hofmanni*. We could never foretell by microscopic examination alone whether solid types of diphtheria-like bacilli were or were not virulent, but relied on an animal test for such information. We believe that a true pseudodiphtheria bacillus exists which belongs to the family of diphtheria bacilli, but have never been able to recognize it with confidence by mere microscopic examination. Twenty-two of the cultures were tested by guinea-pig inoculation and found negative. Two additional cultures, isolated from discharging ears in the diphtheria wards, produced most virulent toxins. Therefore, we believe that the presence of diphtheria-like organisms in the ear can be determined by microscopic examination, but only an animal test can determine whether or not the organisms possess virulence and are a menace to public health. The presence of this organism in 57 per cent. of the cases shows its important position in the etiology of otitis media and its relation to diphtheria of the ear.

The *Bacillus pyocyaneus* was found in 20 per cent. of cases discharging for four weeks or longer. This organism is believed by many to be a practically harmless saprophyte, feeding on tissues killed by some other organism. In 10 per cent. of our cases this was found alone or in combination with some other organism as early as the third to fourteenth day of discharge. The results of its vaccine were satisfactory in these early cases, and while the administration of a vaccine prepared from this organism may have been merely coincident to a rapid cure, yet we cannot agree with those who claim its vaccine to be practically without effect, for we believe that it is at least worthy of trial. On the other hand, of the fifteen patients dismissed from the hospital with persistent discharging ears, thirteen gave this organism in pure culture and its vaccine did not produce favorable results.

All of the various groups of streptococci are here listed under one name. A vaccine prepared from this organism gave quick and favorable results each time. It was found alone or in combination in 11 per cent. of cases.

We prepared and used autogenous vaccines for every case except one. This case was one of ten years' standing, following measles. The patient was admitted with scarlet fever and recovered in a satisfactory manner. He was detained, however, on account of the discharging ears, for although the otitis did not develop during the course of scarlet fever, yet his ear discharge was most likely infected, and therefore it was considered dangerous to dismiss the patient. Repeated cultures yielded the *Bacillus pyocyaneus*. A vaccine produced some improvement. Then a stock culture of *Staphylococcus aureus* and *Bacillus pseudodiphtheriæ* was tried. Granulation was rapid and all discharge ceased after the fourth dose. His ears were dry for ten days before dismissal from the hospital.

The question of dosage has always been one of paramount importance in vaccine therapy. Wright's technic for determining the opsonic index was received as being an exact guide to amount and frequency of dosage. There is considerable evidence to show that its practical value has been overestimated, and while in skilful and exact hands its results are of aid, yet the procedure consumes so much time and its results are apt to be so misleading, unless performed in an exact, patient manner, that it can be well dispensed with in ordinary practical work. We learned to rely more and more on the clinical aspect of our patients. It is very important to avoid producing a prolonged negative phase, or giving a dose of vaccine during this period. Careful opsonic work has demonstrated what usually occurs after the administration of a vaccine and the importance of avoiding this phase of the reaction. We have frequently seen the harmful effects of too large a dose at too close an interval between doses. The tendency is to give smaller doses with longer intervals between each. As a rule the sicker and weaker the patient, the smaller the dose. In this work no fixed rules of dosage were used. Each case is a law unto itself. Dosage must be controlled in each patient according to temperature reaction and the local and general condition of the patient. The initial dose for the average patient 10 years of age was about as follows:

Staphylococcus aureus and albus,	15 to 40 millions
Bacillus pseudodiphtheriæ,	30 to 50 millions
Streptococcus pyogenes,	5 to 10 millions
Bacillus pyocyaneus,	50 to 80 millions

It is well to give a small dose at first and note the extent of the reaction. This reaction will be a good guide for determining the size of the succeeding dose. Doses were repeated every five to eight days. In our earlier cases they were given at shorter intervals, but results did not warrant the continuance of the practice. Succeeding doses were increased by five to ten millions if necessary. Following the administration, the majority of patients develop a temperature varying from 100 to 102 F. in about eight hours, gradually reaching normal in twenty-four to thirty-six hours. We have seen the temperature fall a degree or so to subnormal after an injection, reaching normal at the end of twenty-four hours. A second dose should not produce so much fever, and when doses are properly selected, the temperature reactions are quite conspicuous, each being lower than the preceding, as the patient's system is charged with an increasing quantity of opsonins, until finally no fever follows the administration. The local reaction is usually quite typical. If one has succeeded in securing the organisms producing the infection its vaccine will produce an increased amount of discharge for twenty-four to thirty-six hours. This is of good prognostic value. The discharge may gradually diminish in amount or cease suddenly and entirely. The general improvement in health in many of the patients was indeed striking. It is difficult to decide what proportion of good may be ascribed to the vaccine, but certain it is that improvement in nutrition so frequently followed the administration of the vaccine that one was forced to notice the relation. It may be that the injection of the vaccine served as a stimulus to the increased production of receptors which were used in anchoring additional nutritive material. In addition to the temperature and local reaction the patient, if old enough to express himself, will sometimes complain of lassitude, sleepiness, slight headache, etc. We have been fortunate enough to escape abscess formation. Streptococcus vaccine in every case produced a local reaction of redness and pain at the site of infection, which passed away in twenty-four hours with rest and evaporating lotions.

As in all hypodermatic medication, it is necessary to use an accurate syringe. This is especially true in vaccine work because wasting even a few drops alters the size of the dose to an extent difficult to compute. We gave the injection in the loose areolar tissue over one of the scapulæ. Since children frequently sleep on the abdomen we made it a practice to administer the vaccine at night when the part could be cleansed and when the injection was given frequently without awakening the child. The temperature, pulse and respiration of the patients were taken every four hours for the first twenty-four hours, and longer, if necessary, until the normal was reached. Notes were made every other day on the progress of the case.

During the administration of vaccines every other form of treatment was suspended. Syringing the ears was especially interdicted, for unless it is performed in a skilful manner, and with a proper syringe, more harm than good may result by reinfection of healthy parts. Four of our cases were persistently refractory for over three weeks, when it was learned that the nurse in charge was syringing out the ears with great zeal through an oversight, not having been instructed to stop all treatment. These cases rapidly progressed in a favorable manner to ultimate cure when this local treatment was stopped. No treatment is given, except wiping away the secretions when discharged over the neck and cheek. The ordinary cotton plug in the canal frequently does no more than dam back the secretions. Once or twice a day the external auditory canal is gently cleansed with cotton and applicator to avoid inspissation and consequent plugging.

The following table shows the number of doses given to secure a favorable result, or convince one that vaccines were giving no aid:

16 patients received	1 dose	(13 cured; 3 died).
11 patients received	2 doses	(10 cured; 1 improved).
15 patients received	3 doses	(14 cured; 1 improved).
10 patients received	4 doses	(10 cured).
10 patients received	5 doses	(9 cured; 1 improved).
9 patients received	6 doses	(8 cured; 1 not improved).
4 patients received	7 doses	(4 cured).
4 patients received	8 doses	(2 cured; 1 improved; 1 not improved).
3 patients received	9 doses	(3 cured).
3 patients received	10 doses	(2 cured; 1 improved).
4 patients received	11 doses	(1 cured; 3 improved).
3 patients received	12 doses	(2 cured; 1 improved).
3 patients received	14 doses	(1 cured; 1 improved; 1 not improved).
1 patient received	15 doses	(1 not improved).
1 patient received	16 doses	(1 cured).
1 patient received	17 doses	(1 cured).
2 patients received	18 doses	(2 cured).

If the otitis has been present for a considerable length of time the bony parts are affected, and consequently the time required for cure will likely be longer. Even after the infection has subsided a discharge of necrotic material or secretions of granulation may be present for some time. On the other hand, there are cases in which suppuration will progress most actively despite all one may do. These cases have been repeatedly cultured, and as many as six vaccines prepared for each case but with no beneficial result. All such patients were in a poor physical condition.

It is a difficult matter to decide when an ear is cured. Often the discharge may cease entirely for a few days or a week, and then commence again. It is customary in the Philadelphia Hospital for Contagious Diseases to retain all such patients until the ears have been constantly "dry" for a week or ten days. If the time required for such a result reaches four months the patient is discharged, for while the ears may be suppurating, they are not likely to be contagious. Most of the cases under vaccine treatment progress gradually in a favorable manner, although many stop discharging quite abruptly with one or two doses of vaccine. It is necessary to guard against supposing an ear free of discharge when cerumen is plugging a perforation of the tympanum. The longer the time one can observe these patients after cessation of discharge the better will one be enabled to judge of what the ultimate outcome will be. Practically all patients with scarlet fever are detained in the hospital for at least five to six weeks. At the expiration of this time parents are very anxious to have their children returned, and if they are detained longer, as in cases of otitis media, this anxiety is often under high pressure.

We have always endeavored to watch a case for at least ten days after all discharge has ceased. Most of our cases were from the poorer crowded sections of the city where it is a very difficult matter to keep trace of them after dismissal from the hospital. The final test of value of any form of treatment can be judged only by results after a long lapse of time. The following table gives the number of days in which cases were "dry" preceding discharge from the hospital:

4 to 10 days	37 cases
10 to 18 days	27 cases
18 to 28 days	11 cases
28 to 42 days	6 cases
3 months	1 case

Each case was thoroughly examined by Dr. Woody, chief resident physician of the hospital, three times before dismissal.

As already stated, the real value of the vaccine treatment in these cases of otitis media can be determined only at a much later data. However no "return" cases have been traced either directly or remotely to any of these patients. At the present we can estimate the value of the vaccine treatment by considering the time required to accomplish a cure under the usual form of treatment and that required under vaccines; also by the number of patients dismissed at the expiration of three to four months with ears still discharging. To determine this the records of the hospital have been studied and the results tabulated (Woody):

The table is very important because it compares the percentage of patients who were cured under the usual treatment with those cured under vaccine treatment during an equal number of days:

Number of cases admitted to Scarlet-Fever Hospital from June 1, 1907, to June 1, 1909, 2.537.

Number of cases of suppurative otitis media developing during this period, 308, or 8.2 per cent.

	Usual Treatment.	Vaccine Treatment.
1 to 10 days	3.24 % cured	22 % cured
10 to 20 days	7.47 % cured	22 % cured
20 to 30 days	11.69 % cured	21 % cured
30 to 40 days	17.86 % cured	8 % cured
40 to 60 days	19.15 % cured	4 % cured
60 to 90 days	9.41 % cured	4 % cured
90 to 120 days	2.28 % cured	1 % cured
Dismissed with ears still discharging	13.96 %	15 %
Died ears still discharging	14.94 %	3 %

This table demonstrates that under vaccine treatment 21.99 per cent. of cases are cured in from one to thirty days as compared to 7.46 per cent. under usual treatment in the same period of time.

Of the fifteen patients receiving vaccine treatment and dismissed with ears still discharging, one was "running" six weeks, and five from twelve to fourteen weeks before vaccine treatment began:

4 received vaccine treatment on fifth to twelfth day of discharge.
5 received vaccine treatment on fourteenth to twenty-eighth day of discharge.
1 received vaccine treatment during sixth week of discharge.
5 received vaccine treatment during twelfth to fourteenth week of discharge.

It is reasonable to suppose that if vaccine treatment had been given to the six patients before the expiration of six weeks and longer, more favorable results would have been obtained.

No deductions can be drawn from the number of patients succumbing with ears discharging. Most of these deaths occurred during the year 1907-1908 when scarlet fever was unusually severe; during 1908-1909, the disease was quite mild, while during 1909-1910, scarlet fever was of moderate severity. In our series of 100 cases the three deaths were caused by the following conditions: two by acute nephritis and one by general toxemia of scarlet fever.

During this work, the following were considered as contra-indications to the administration of vaccines:

1. Cases of continued fever. This condition is frequently a part of the scarlatinal infection. The typhoid type of scarlet fever comes under this category. Such cases are usually of poor vital resistance and vaccines are likely to do more harm than good. However, in selected cases, by means of small cautious doses, the local condition may be held in abeyance or even cured.

2. Acute nephritis. This condition means decreased elimination and retention of toxins. To administer vaccine means adding fuel to a fire. Such cases very frequently show increased activity of the local infection, indicating a general decrease in local and general resistance. It is a safe practice to wait for ten days or two weeks after the total disappearance of albumin from the urine before administering vaccine.

3. The occurrence of other infections means cessation of vaccine treatment. Thus, a patient may develop measles, chicken-pox, diphtheria, etc. Our work was once practically stopped on account of vaccination during a small-pox epidemic, during which time it was found unwise to whip up a well-worked horse.

TECHNIC

The technic employed was essentially that used by Wright and his co-workers. We never administer a mixed vaccine but isolate each organism and make up standardized vaccines from each. As short a time as possible was employed in securing isolation for fear that frequent subculturing would lower the virulence of the organism. It is also necessary to kill the culture at the minimum degree of temperature at the minimum length of time to secure the most potent vaccines. Briefly, it is as follows:

The ear is cleansed of the excess of secretion by means of probe and cotton and then a culture is made in sterile bouillon by means of a sterile swab. This culture is then plated out by inoculating the water of condensation in successive large tubes of plain or gelatin-agar. This water is run once over the surface of the media. In twenty-four hours the colonies are well developed and usually well isolated. They are examined microscopically and subcultures made on large tubes or bottles of slanted agar. If the streptococcus was being cultured, glucose-gelatin-agar was used. At the end of twenty-four hours, the culture is examined microscopically for purity and morphologic characteristics of the organisms; subcultures are made on various media, and in case a diphtheria-like bacillus is present, a toxin is prepared by growing for forty-eight hours in alkaline (0.5 per cent phenolphthalein) bouillon to which is added 1 per cent. glucose. This is administered unfiltered, subcutaneously into the abdominal wall of a 250-gm. guinea-pig, the dose being 0.5 per cent. of the body-weight expressed in cubic centimeters. The cultures are washed off the surface of the medium with sterile normal salt solution, diluted with the same solution and counted by comparing the number of bacteria with human blood as a standard. For staining these slides it is very essential that the stain employed produce no precipitate. We used, and can warmly endorse, the method consisting of fixation for five minutes in a saturated solution of bichlorid of mercury, followed by washing and immersion in a solution of carbol-thionin for a few minutes. After counting, the emulsion is sealed in a drawn out test tube and heated in a water bath, fully immersed, for one hour at 58 to 60 C., never over 60. The tubes are then opened and cultures made on slanted agar.

The tubes are then sealed again and put aside in the refrigerator for twenty-four hours to await the outcome of the cultures. Streptococcic vaccine is always allowed forty-eight to seventy-two hours in determining whether it be sterile, because this organism grows so slowly. If sterile, the tubes are opened and the proper dose prepared by diluting with sterile salt solution, with compound solution of cresol added as a preservative. The dose is put up in amounts of one cubic centimeter in sterile ampoules or in a sterile stock bottle. When not in use they are stored away in a cool place.

CONCLUSIONS

We have tentatively drawn the following conclusions:

1. The best time, all things considered, for commencing vaccine treatment in cases of otitis media, is from the eighth to the sixteenth day of the discharge.

2. Continued high fever, nephritis, toxemia and various intercurrent affections are contra-indications to the administration of vaccines.

3. Under vaccine treatment, three times as many patients are cured within thirty days and permitted to go home as under the usual treatment. This means that the average residence of a patient in the hospital has been considerably decreased.

4. In general, cases of otitis media offer a fruitful and encouraging field for the employment of vaccine therapy.

MULTIPLE MYELOMA WITH ALBUMOSURIA

REPORT OF A CASE

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The first recorded case of albumose in considerable amount in the urine with accompanying destructive lesion of bone was reported by Henry Bence-Jones[1] of London, before the Royal Society of London, in 1874. The urine was from a male patient, a grocer, aged 45, who dated his illness from a violent strain in vaulting from a cavern, accompanied at the time by violent pain in the chest, and who, after sixteen months' illness, died. This case occurred in the practice of a Dr. MacIntire. At the autopsy Bence-Jones remarked, "I saw that the bony structure of the ribs was cut with the greatest ease and the bodies of the vertebræ were capable of being sliced off with a knife." Microscopically, their interior presented "granular matter, oil globules, nucleated cells, constituting the bulk of the mass—a few caudate cells and blood-disks extravasated largely among the other cells, and giving the red color to the gelatiniform mass." The post-mortem diagnosis was "osteomalacia fragilis rubra."

But few cases were recognized and reported up to 1890. Since that time an increasing number of cases has been recognized, but the condition is still far from common.

A large number of names have been given to the condition, the one of multiple myeloma, now universally used, having been given to it by J. von Rustizky, in 1873,[2] who, however, regarded the condition as simply over-growth of the cell-elements of the bone-marrow.

It attacks the old rather than the young, occurring in males more often than females, and usually runs its course within two years. The condition is one of primary tumor formation taking place in the red marrow of the bones. It is, therefore, most apt to occur in the sternum, ribs, vertebræ, and skull, although the long bones are by no means exempt. It usually appears simultaneously in several foci, often in bones widely separated. The growth resembles a small round-celled or lymphosarcoma, but differs from it in very seldom forming metastases, only one or two cases being reported,[3] and in not containing spindle or giant-cells. It forms soft, reddish masses, with yellowish or grayish streaks, is homogeneous in appearance, not sharply defined from the surrounding tissue, and replaces the normal red bone-marrow. The cortex of the bone is also usually very much thinned and bulging or broken through, and the tumor forms nodular masses on the surface or may even invade the neighboring soft parts by continuity of growth. Spontaneous fractures not infrequently occur. If the vertebræ are involved, curvature of the spine or kyphosis frequently occurs, with its accompanying pressure symptoms. In pure cases the affection is confined to the bony system, no enlargement of the spleen or liver, or involvement of the lymph glands taking place. In a considerable number of the reported cases enlargement of the spleen or liver or both has been noted.

The blood is markedly affected, resembling grave forms of secondary anemia, or a pernicious anemia. Leukocytosis is not common.

The best descriptions of the histologic structure are those of Henry A. Christian,[4] W. G. MacCallum,[5] and James Homer Wright.[6]

The tumor masses are very cellular in type, with a scanty, loose, wide-meshed connective tissue stroma, usually composed of very fine fibrils, in which loosely lie round or oval cells, sometimes polygonal in shape and interspersed with numerous large and imperfectly defined blood-vessels. Often many red blood-cells are seen scattered among the cells. These tumor cells are from 8 to 12 microns in length by 4 to 10 microns in width. The cell outline may be sharp, but there is not often a definite cell-membrane, and the cells are made up of a very finely granular slightly basophilic protoplasm, in which lies a rather large round or oval vesicular nucleus, often eccentrically placed, having a definite nuclear membrane. Two or three nuclei, each of the vesicular type, are not uncommon. The nucleus contains a chromatin network with chromatin masses usually peripherally placed. It also contains a nucleolus. No specific granulations are found. Much discussion has arisen as to whether these cells more nearly resemble and spring from the premyelocytes, or from the bone-marrow plasma-cells. The best evidence at hand seems to indicate that they are of plasma-cell origin.

In 1901 Hamburger[7] developed the clinical manifestations of the condition.

The chief clinical features are attacks of pain referred to some portion of the osseous system, often with the formation later of visible or palpable tumors, cachexia, and the presence of Bence-Jones albumose in the urine. Frequently the patient's first complaint is of rheumatoid symptoms; and stiffness of the small joints, as of the hands, may develop. Dull pain over the hips, patella, or vertebral column is also noted among the early symptoms, or perhaps sharp pain over a rib or the chest is the initial symptom, or the first complaint is of a seeming lumbago or sciatica. These painful periods often alternate with periods of comparative comfort, but any unusual muscular exertion or contusion of affected parts is liable to call forth a return of the pain. While pain is a predominant feature in many cases, in others it is entirely absent. As the disease progresses, visible changes in the bones are apt to appear. Bending of the vertebral column is common. The sternum also sometimes bends, and tumors on the ribs, sternum, cranium or about the joints are often present. Fractures, spontaneous, or caused by very slight injury, sometimes occur. In a considerable proportion of cases, no bone changes are demonstrable clinically. The *x*-ray may be a very great aid, showing rarefaction and thinning of the cortex of the bones, particularly the ribs, where a wavy outline may be made out.

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[1] Bence-Jones, H.: Phil. Tr. Roy. Soc., London, 1848, Part I, 55.

[2] Von Rustizky, J.: Deutsch. Ztschr. f. Chir., 1873, iii, 162.

[3] Tschistowitsch, T., and Kolessnikoff, H.: Virchow's Arch. f. path. Anat., 1909, cxcvii, 112.

[4] Christian, H. A.: Tr. Assn. Am. Phys., 1907, xxii, 145; Boston Med. and Surg. Jour., 1908, clviii, No. 19, p. 617.

[5] MacCallum, W. G.: Jour. Exper. Med., 1901, vi, 53.

[6] Wright, James Homer: Tr. Assn. Am. Phys., 1900, xv, 137.

[7] Hamburger, L. P.: Bull, Johns Hopkins Hosp., 1901, xii, 38.

With the progression of the disease the patient loses flesh and strength; the general health suffers; the appetite is poor; nausea sometimes occurs; and an anemia of the secondary type develops, gradually passing to a most severe type. Leukocytosis is not common, although it has been reported in some instances. In typical cases the spleen, liver, and lymph-glands are not enlarged.

The most distinctive sign, however, is to be found in the urine, in the presence of the Bence-Jones body, which is virtually diagnostic. It is not invariably present, but the exceptions are rare. As a rule it occurs early and persists until the end, although there may be marked remissions, and the percentage usually varies considerably from time to time. The amount of urine is usually increased, averaging about 2,000 c.c. daily, often slightly cloudy, very pale in color, either neutral or very slightly acid, and with a specific gravity averaging from 1,004 to 1,012. On applying Heller's test a white ring forms, and as the contained albumose is also thrown down by the Esbach reagent, it is often mistaken for ordinary albumin. When heated, however, it is found to become cloudy at from 50 to 60 C. This turbidity can be made to disappear by the addition of acetic acid; or by further heating to the boiling point it disappears in great part, to precipitate again on cooling. The urine usually gives a strong biuret reaction. Casts are seldom seen. Owing to the increased amount of urine passed, thirst is a rather common symptom. Peptonuria of slight degree is an accompaniment of many disorders, but the presence of albumose in so large amount as to alter the usual reactions of the urine is practically found only in distinctive lesions of bone, and then only in that particular lesion termed multiple myeloma. The percentage present in the urine varies greatly, from 0.25 of 1 per cent to 6.90 per cent., which high amount was reached in Bence-Jones' famous case. Its origin is unknown, although Weber[8] and others regard the bone-marrow as the seat of its production. It is often accompanied in the urine by traces of albumin. No other changes are commonly present.

The heart sounds may be accompanied by hemic murmurs, and while the condition does not usually give rise to pathologic changes in its musculature, attacks of angina have been reported in several cases.

Chilly sensations, fever and sweats and slight jaundice occur in some cases, but they seem to be the accompaniments of the rapid destruction of blood and blood-forming tissue, and not to be in any sense distinctive of this condition. So also, and from the same causes, serous effusions may occur.

If no demonstrable lesion is found in the bones, the physical examination is usually negative.

The diagnosis may be difficult, particularly if the Bence-Jones body, which is almost diagnostic, is absent.

Weber[8] gives a careful differentiation. Osteomalacia differs by more often attacking women during the child-bearing period, affecting chiefly the bones of the pelvis and lower extremities, giving rise to great deformity and bending of the bones, but not so frequently to spontaneous fractures.

Caries of the spinal column gives a more distinctly angular kyphosis, the ribs are not likely to be simultaneously affected, and the anemia is seldom so marked.

The presence of obvious bone disease, a leukocytosis of any degree, or of albumose in the urine, serves to distinguish the condition from pernicious anemia. Furthermore, the superficial fat is not well preserved, nor is there a lemon-yellow cast to the skin. From nephritis it is distinguished by a sufficiently careful examination of the urine.

The prognosis is bad, the patients having died in all recorded cases, generally within two years, although one patient is reported as having lived seven years from the first symptoms.

Treatment seems unavailing. Arsenic and the *x*-rays have been used. Only symptomatic treatment seems to be of any value.

The following case, while not a pure case of myeloma, in that it had a considerable leukocytosis together with hyperplasia of the spleen and liver, is yet to be classed among those of this tumor.

History.—E. J. A., male, aged 60, married, born in Canada of English parentage, a liveryman by occupation, first consulted me July 12, 1910, complaining of great weakness with inability to stand on his feet, with numbness in his legs, shortness of breath on exertion, fulness of the stomach after eating, and somewhat frequent urination. He had a wife, son and daughter living and in good health. His father died at 69, after a nine weeks' sickness of "paralysis of the lower limbs." His mother died at 88. One brother died in babyhood, a sister died of typhoid at 28, and two sisters, aged, respectively, 63 and 58, were living and in good health.

The habits of the patient were excellent. He had never had any venereal diseases, used no tobacco and only very occasionally took a glass or two of beer. He had suffered from the diseases of childhood, and stated that he had had typhoid fever three times, the last twenty years previously. In 1898 he was laid up three months with lumbago and "nervous prostration," but had fully recovered, and had been in perfect health for years. He gave no history of malaria or injury in the splenic region or elsewhere. He had suffered from an indefinite stomach trouble for some time. In September, 1909, he contracted what he thought was a severe bronchitis, with much cough and expectoration, which lasted for about three months, and reduced the patient somewhat in weight and considerably in strength. He at length recovered, however, and about Christmas felt fairly well.

In January, 1910, a sharp pain came on at the costal margin on both sides, made worse by exertion, lifting, etc., but especially by raising the arms. This attack lasted about six weeks. From this the patient did not fully recover; he never regained his normal strength. He had no fever at any time. This weakness increased, and about May 1 a dull pain came in the back, with numbness in the legs and inability to stand. Shortness of breath on exertion appeared about the same time and gradually increased. He did not now have any sharp pain, his appetite became poorer and he had distress in the epigastrium after eating. He gradually lost weight and strength, but no other symptoms developed prior to my examination on July 12.

Examination.—This revealed a man about 5 feet 10 inches tall, weighing 140 pounds, of large frame and much emaciated. He looked anemic, and the mucous membranes were very pale. The superficial fat was not well retained; there was no yellowness of the sclera. No cervical pulsation was noted, but the femorals were throbbing. No enlarged glands were noted. The pulse was not rapid, was very regular, but collapsing in quality. No abnormality was noted in the lungs. The area of cardiac dulness was not increased; the apex-beat could not be seen or felt, and the sounds were very weak. No murmurs were heard. The patient was tender in the upper part of the abdomen, and on examination it was found that the liver was palpable for 1½ to 2 inches below the costal margin, and that the spleen extended to the level of the umbilicus and the left mammillary line. When the patient arose in bed he held the spine rigid, as he also did in bending. No error in alignment of the vertebræ or tenderness on percussion was present. The pupils reacted normally to light and accommodation. The knee-jerks were lost, and most of the other deep reflexes of the body were feeble. Romberg's symptom was not present. The

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8. Webster, F. P.: Am. Jour. Med. Sc., 1903, cxxvi, 644.

patient reeled and complained of pain in the back when walking. He was very weak. Temperature was normal. The patient had at this time no cough or expectoration. Tuberculin tests were negative.

The blood showed hemoglobin, 20 per cent. (Dare): reds, 1,284,000: whites, 19,000. Stained specimens showed some poikilocytosis. No megalocytes were present, although there was some anisocytosis. Most of the cells looked small. Many normoblasts and some megaloblasts were seen, the latter showing all degrees of polychromatophilia. Some were absolutely basophilic.

A differential count showed polynuclears 23.5 per cent., small lymphocytes 50 per cent., large lymphocytes and transitionals and large mononuclears 21.5 per cent., eosinophils 3 per cent., basophils 2 per cent. For each 100 white cells there were sixteen nucleated reds, thus giving 3,040 nucleated red cells per cubic millimeter. Of these about 75 per cent. were normoblasts and 25 per cent. megaloblasts.

Several careful examinations of the patient's blood were made at intervals, but no marked change from this description occurred.

It was noted that the patient was passing large amounts of urine, a symptom of which he had complained, and on measuring, it was found to amount to about 2,000 c.c. daily. This was usually slightly cloudy, very pale, for the first week or ten days of observation slightly greenish in color, later becoming pale yellow. Its specific gravity was always about 1,008. It was very slightly acid in reaction. No serum albumin or sugar was present. When heated to about 56 C., however, it became opaque with the formation of a flocculent precipitate. This could be dissolved by the addition of acetic acid; if heated to the boiling point, it almost cleared, to again become very cloudy on cooling. When measured with an Esbach albuminometer this albumose was found to amount to 2 gm. to the liter. This Bence-Jones body varied considerably in amount, but was never absent from the urine during the remaining life of the patient, usually from 1 to 2 gm. to the liter. The urine was also found to contain enormous amounts of indican, and as the taking of methylene blue or other drugs, which might cause the urine to become green, could be absolutely eliminated, the color was supposed to be caused by the excessive excretion of this substance. It also blackened the precipitate of albumose on boiling. After passing the urine through the centrifuge a few hyaline casts could usually be found. After the discovery of the Bence-Jones body a very careful examination of the patient's bones was made, but nothing whatever could be detected, except a slight tenderness on percussion over the lower part of the sternum.

This condition continued without much change, except ever-increasing weakness, until the patient's death on July 28, due to his extreme anemia.

Necropsy.—This was performed nine hours after death. It revealed an emaciated man, about 60 years of age, 5 feet 10 inches tall, weighing about 125 pounds. There was no livor of the dependent parts. The superficial fat was not well retained. The cutaneous surfaces were very pale, but not jaundiced. The muscles of the abdomen and thorax were apparently normal. The cut surfaces of the costal cartilages appeared much whiter than usual. The sternum proved very fragile, and was broken twice in the attempt to remove it. There were slight recent adhesions in the right pleural cavity, but no fluid. The left pleural cavity was normal, as were also the lungs, with the exception of some hypostatic congestion at the bases. When the lungs were raised out of the chest the ribs were noted to have a wavy surface, caused by masses varying the size of from a pea to that of an almond. These masses were present on practically every rib, and looked as though the cortex had been bulged out in spots. The cortex was not broken anywhere. The ribs were very fragile and easily broken, and the sternum and ribs were easily cut through, showing a wavy outline, with the cortex very much thinned, and the medullary portion made up of a soft, moist, dark red tissue. This was continuous throughout the sternum, but alternating in the ribs with areas of grayish marrow, into which the reddish tissue insensibly merged. Examination of the right femur showed it to be normal. The bodies of the vertebræ were not sawn through, nor was the skull-cap removed. The pericardium was normal. The heart was normal in size, with normal endocardium and valves. The myocardium, however, showed fatty degeneration.

The liver was much enlarged, reaching almost to the level of the umbilicus. The gall-bladder was distended and fixed by firm adhesions to the liver. It could be emptied into the bowel by gentle pressure. No stones were present.

The mesentery of the transverse colon was firmly adherent to the under surface of the liver. On section, the liver was softer and paler than normal.

The spleen, which was very soft, measured 8 by 5½ by 2¼ inches, and weighed about 3¼ pounds, and had the appearance of a leukemic spleen.

The small intestines seemed very much contracted. No abnormalities were noted in their walls, and no ulcerations were present. With the exception of fatty degenerative changes, all the other abdominal organs were normal. None of the lymph-glands of the body were enlarged.

A section of rib, examined by Dr. Stanley P. Black, revealed the histologic structure to be practically that described by Christian.

AN EMERGENCY CULTURE MEDIUM FOR USE IN PRACTICE

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In general practice there are repeated demands for a culture medium which is, at the same time, cheap and easily prepared from the materials at hand. This is especially true when the physician desires to grow bacteria for the preparation of bacterial vaccines. The usual culture media are expensive and difficult to obtain, the apparatus necessary for their preparation is extensive, and the technic of preparation is long and tedious. Therefore, the demand for a special emergency medium is great.

Bacteria grow on ordinary artificial media under unnatural conditions and their character is often quickly changed by the new ingredients of the media. Some species cannot be grown without special care: this is true of the pneumococcus, the streptococcus and the gonococcus. These cocci do not grow readily; it is difficult to keep them alive, and their virulence is often lost after two days' culture, unless they are surrounded by the nourishment afforded by human secretions. The problem is to supply them with conditions as nearly as possible like those which they find in the human subject.

I experimented for several years with agar-agar, Loeffler's blood-serum, bouillon, milk and potato, and noted the effects of various salts and chemicals in solution on the growth of bacteria. I also followed the experimental work done in the physiologic laboratories: the use of normal salt solution to preserve skin grafts; the work of Dr. Loeb at the University of Chicago with amebas in salt solution; the power of salt solution to preserve the life of the cells in the blood-vessels and heart of the frog, and finally the suspension of the leukocytes in normal saline solution in performing the various experiments in determining the opsonic index. These studies led me to think that normal salt solution might keep bacteria alive. I found that if sufficient material from the site of the infection were added to 2 drams of normal salt solution, in a sterile bottle or test-tube, and incubated at body temperature, many of the ordinary bacteria could be grown and kept alive for weeks and even months, and that in some strains the virulence seemed to be maintained longer than when grown on the ordinary media.

This method can be used to transfer culture material from the office of the general practitioner to his laboratory or to that of the laboratory specialist, and will be found of distinct advantage in transporting infectious material over long distances. All that is needed is a sterile bottle containing sterile, normal salt solution, in which is suspended some of the discharge from the point of infection, the discharge having been obtained under aseptic precautions. It is important to obtain a liberal amount of the material from the site of infection, in order to furnish the infecting bacteria with sufficient provender.

There are some exceptions among bacteria; some will not grow in salt solution, and doubtless others will be found. Pneumococci can be kept alive in it only a very short time, and are completely dissolved (autolyzed) in four days, as noted by Rosenow. Streptococci do not grow well unless serum from the site of the infection be added, but this can easily be done. Staphylococci, *Bacillus typhosus, Bacillus coli communis* and *Bacillus pyocyaneus* can be readily grown. The gonococcus can be grown in salt solution by the addition of a liberal supply of human blood to a free supply of secretion from the infecting area. Diphtheria bacilli grow with difficulty, but can be grown in salt solution by the addition of a few drops of human blood-serum or sterile beef bouillon.

It will be noted that all these materials may be obtained at home and with but little trouble and expense. The tubes of cultures thus obtained may be incubated on the person of the doctor or of the patient, care being taken to see that they are well stoppered by stoppers rendered sterile by boiling or steam sterilization.

I offer this preliminary report to those who are interested in bacteriologic work and especially to workers in vaccine therapy, as a ready assistance in such work, with the desire that it may save both time and expense.

34 Washington Street.

SYSTEMIC BLASTOMYCOSIS

REPORT OF A CASE

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During the last decade, blastomycosis cutis has become a well-recognized, distinct, clinical and pathologic entity among dermatologists. Although it is not a common disease, it appears to occur more frequently in this vicinity than it does elsewhere. More cases have been reported from Chicago than from any other one locality, and it is largely to the thorough work of our Chicago confrères that we are indebted for our present knowledge of the disease. Prior to the work of Gilchrist and Stokes in 1896, the disease was mistaken for various other conditions that resemble it in certain respects. The three diseases which have given rise to most difficulty in diagnosis are tuberculosis, syphilis and carcinoma. Blastomycosis resembles very closely the verrucous form of tuberculosis and often a definite diagnosis can only be arrived at after microscopic examination of the tissues or the pus. The lesions of blastomycosis resemble somewhat those of the rarer vegetating forms of syphilis, and if the diagnosis is not established by microscopic examination, the clearing of the lesions under potassium iodid may still further confuse the physician. The resemblance of the lesions to carcinoma is only very superficial and should lead to no difficulty if the history of the case is carefully gone into.

The organism which gives rise to this disease is a fungus much resembling yeast. It is very readily demonstrated in the pus from the lesions by treating the material with liquor potassæ and examining under the microscope with a fairly high power. The organisms resist the action of the alkali and are thus easily distinguished from epithelial cells and pus cells. They are round, oval or slightly irregular in outline and have a well-defined double-contoured homogeneous capsule. The protoplasm is finely or coarsely granular and is separated from the capsule by a clear space of varying width. Budding forms are seen in all stages. No mycelium has as yet been demonstrated in the pus from skin lesions or deeper abscesses, but it is seen in cultures. The organisms grow very readily on artificial media.

The typical skin lesion is so characteristic that to one familiar with the disease, the diagnosis, as a rule, presents very little difficulty. The lesions are elevated from the surface; each has a well-defined border and is covered with irregular papillary elevations, separated by clefts or fissures, giving the whole a verrucous appearance. Portions of the surface are covered by crusts. The border is the most characteristic feature. It slopes abruptly to the normal skin and on close inspection it is seen to be set with a large number of minute abscesses. The pus from these abscesses contains the blastomycetes in large numbers.

The first case of blastomycosis to be recognized was one of systemic infection with the organism reported by Busse and Buschke in 1894. Credit belongs to Gilchrist and Stokes, however, for first describing the typical cutaneous lesions and properly classifying the parasite. Since these reports, a hundred cases or more have been recorded and no doubt many hundreds of cases have been recognized and treated which have not found their way into medical literature.

Recently a number of cases of systemic infection with the organism of blastomycosis have been reported. There are now on record twenty-nine in all; reports of twenty-seven of these were collected and published in a very exhaustive article two years ago by Montgomery and Ormsby. Since that time, one case, the first from the South, has been reported from Memphis, Tennessee, by Fontaine, Haase and Mitchell; and another case has been recorded by Hutchins. To this list I wish to add still another which has recently come under my observation at the Milwaukee County Hospital and which I was able to follow and study with the assistance of Dr. L. M. Warfield.

REPORT OF CASE

The patient was a German laborer, aged 70, who had resided in this country thirty-seven years and had been an inmate of the Milwaukee County Almshouse for four and one-half years. He was first admitted to the County Hospital March 1, 1909, on account of a sore on his right elbow. There was nothing of importance in his past history; he had had typhoid fever, but denied any knowledge of venereal infection.

The present illness dated from three weeks before his admission to the hospital. After a slight trauma, a lesion developed on his elbow. On admission, this lesion was about the size of a silver dollar and presented a purulent granulating surface, with a well-defined margin and somewhat raised above the surrounding skin. This lesion was on the right arm, just over the internal condyle of the humerus. The tissues surrounding this ulcer were edematous. The patient also presented at this time (March 19, 1909) over the vertex of the skull a soft, well-defined mass about the size of a hickory-nut. This was incised and pus evacuated. This pus was not examined. The wound continued open till the time of the patient's death, and necrosis of the outer table of the skull extended until an area 2 inches in diameter was involved. These two lesions, from the subsequent history of the case, were probably blastomycotic, although no definite proof that such was the case could be obtained. The lesion on the elbow slowly healed under local treatment alone. A section, taken from its margin, showed only granulation tissue. The patient was sent back to the almshouse in August, 1909.

Three months later, he was again admitted to the hospital. At this time there were present three lesions, which, from their clinical appearance and the microscopic findings, were undoubtedly blastomycosis. The most typical of these was situated above and to the right of the upper lip and was about the size of a fifty-cent piece. It was raised above the surrounding skin and partly covered by crusts. Along the margins were many miliary abscesses. There was a larger lesion involving the left cheek, which was concealed by his beard. A third and much smaller lesion occupied the outer half of the right lower eyelid. His general condition at this time was fairly good, although his voice was hoarse and there was some cough and expectoration. Examination of the lungs revealed dulness and moist râles at the left apex. The lymphatic glands of the axilla and neck were enlarged.

The patient was put on increasing doses of potassium iodid, and for a time the local condition seemed to improve. In fact, the lesion on the right cheek disappeared, but promptly recurred.

After about a month in the hospital, the patient began to show evident signs of decline. He lost weight rapidly; his cough and hoarseness increased. In December, 1909, he developed an abscess at the right sternoclavicular articulation which was evacuated. The pus contained blastomycetes in large numbers. Another much larger abscess then appeared on the left elbow. The old lesion on the right elbow was, at this time, practically healed. In February, a retropharyngeal abscess developed and was evacuated. Repeated examinations of the sputum for tubercle bacilli and blastomycetes were negative.

During February and March, the patient continued to lose ground. He became bed-ridden, ran a septic temperature and finally died April 13.

Necropsy.—Unfortunately, a complete necropsy was not permitted but sufficient examination of the contents of the thorax and abdomen was allowed to establish the diagnosis of systemic blastomycosis.

At autopsy, which was performed by Dr. Warfield, the most striking lesions were found in the lungs. These organs were voluminous and dark purplish in color. The glands at the root were rather large, but not caseous. The lobes of the right lung were bound together by tags of adhesions but the pleura in general was not thickened. The cut surface of both lungs showed a grayish finely granular appearance and over it were scattered small nodules, one at the base of the right lung, being about 2 mm. in diameter. Similar nodules were found in the spleen and liver, giving the organs the appearance of being filled with miliary tubercles. This resemblance to tuberculosis is a very characteristic feature of the disease.

The microscopic appearance of the lesions in the lungs also closely resembled miliary tuberculosis. The sections showed miliary abscesses, surrounded by varying numbers of giant-cells. The necrotic centers of these abscesses, together with the giant-cells, contain many of the characteristic organisms of blastomycosis. Very similar lesions are also seen in the sections from the liver, and thus establish beyond a doubt the diagnosis of systemic blastomycosis.

One interesting feature of this case is the fact that although repeated and thorough search was made, the sputum never contained any of the organisms in spite of the very extensive involvement of the lungs and the presence of symptoms pointing to pulmonary involvement ante mortem.

In other respects, the case resembles very closely the majority of those thus far recorded. In all the cases in which an autopsy was done, thirteen in all, the lungs were found to be more or less extensively involved. In several cases the lung symptoms were the earliest noted.

This very general involvement of the lungs would suggest the possibility that the respiratory tract may have been the portal of entrance by which the organisms gained access to the body. The symptoms referable to the lungs, however, have been mild in nearly all the cases, especially during the early part of the disease. The physical findings have not pointed to extensive lung involvement except in a few of the cases toward the end. The symptoms have resembled closely those of tuberculosis, although usually less pronounced than in tuberculous changes of equal extent and severity. Blastomycetes have been demonstrated in the sputum in seven of the recorded cases.

Another common and very pronounced feature of all the cases has been the formation of multiple abscesses, resulting often in sinuses and chronic ulcers. Some have healed, leaving scars. These abscesses have varied in size from minute, almost microscopic lesions to cavities large enough to hold a liter of pus. The miliary abscesses have been found most commonly in the lungs and spleen. The larger ones may invade the joints and cause erosion and caries of the bones.

These larger abscesses may be divided for descriptive purposes into two groups, superficial and deep. The deeper abscesses are, as a rule, larger and have been recorded in the abdomen, thorax, in the psoas muscle, in the retropharyngeal tissue and about the kidney. There is one deep abscess on record from which a quart of pus was evacuated.

Accompanying the formation of multiple abscesses, there are the symptoms which are usual in chronic pyemia—irregular fever, malaise, loss of strength and emaciation.

One point of interest is that in spite of the fact that extensive suppuration has been present in all the cases, in only three has amyloid degeneration been recognized. Characteristic cutaneous lesions of blastomycosis have been present in nearly all of the cases. In a few, the superficial lesions have taken the form of abscesses and superficial ulcers.

The prognosis in cases of systemic blastomycosis is exceedingly unfavorable. Of the recorded cases, only four have recovered. The course of the disease is essentially chronic. Most of the cases have lasted from one to two and one-half years. Only six of the cases have terminated in less than six months. Death has resulted in most instances from gradual exhaustion, due to chronic suppuration or to general dissemination of the disease through the various organs and tissues of the body.

From this very unfavorable record of results, it may be assumed that the treatment of the disease is not very satisfactory. The only drug which appears to have any specific action on the disease is potassium iodid. The patients who have recovered have received it in large doses.

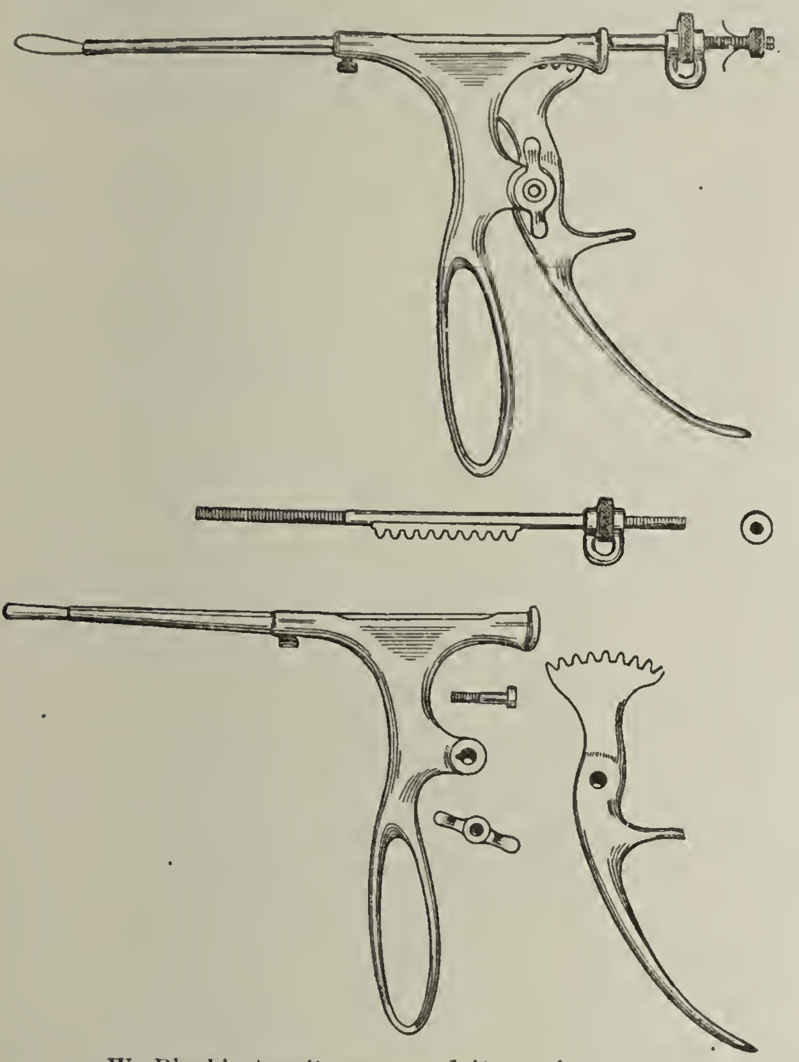
Locally, the lesions should be treated like those of the purely cutaneous form of the disease. One of the best local applications is 1 per cent. copper sulphate solution in conjunction with the use of the *x*-ray.

1242 Wells Building.

AN IMPROVED TONSIL SNARE

WILLIAM D. BLACK, M.D.
Ear, Nose and Throat Surgeon at Centenary, Osborne and City Hospitals
ST. LOUIS

The instrument and its various parts are so well shown in the illustrations that no further description is necessary. It is a more powerful instrument than the ordinary tonsil snare and does not get out of order like many others. It is simple in application, can be used a number of times without requiring a new wire, and, if properly adjusted, the wire cannot slip. It should be manipulated by a sort of forearm and wrist movement, instead of by the fingers, in closing it, so that the barrel will not be thrown out of line. It is made of solid brass with a heavy nickel coating. Number 7 or 8 piano wire should be used. I have used the instrument a number of times with excellent results. It is made by the O'Brien Worthen Co., Frisco Building, St. Louis.



W. Black's tonsil snare and its various parts.

220 Metropolitan Building.

A SIMPLE DROP METHOD OF GIVING RECTAL ENEMAS OF NORMAL SALINE SOLUTION

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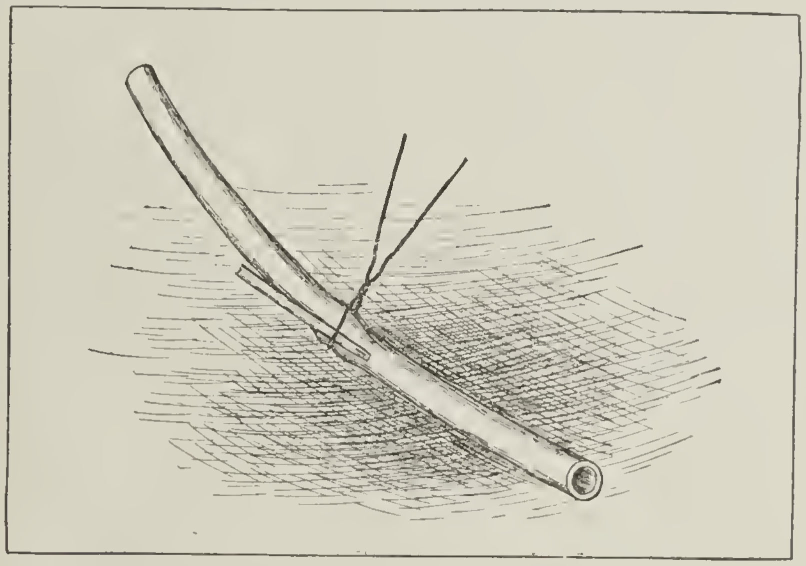
Nurses in hospitals often experience a good deal of trouble in giving patients normal salt solution by rectum. For various reasons it becomes intolerable to the bowel and is expelled. Sometimes the solution is too hot, sometimes too cold, but the most frequent trouble is that it is allowed to run into the rectum too rapidly. The reasons for this are as a rule, first, that the nurse has no efficient means of making it flow drop by drop, and secondly, that the douche bag or container is usually hung too high and the water pressure is too great. The container should be hung so that the solution is 8 or 10 inches above the level of the rectum. It should frequently be tested by a bath thermometer and the temperature kept about 100 F. A hot-water bottle on either side of the douche bag or the frequent addition of small quantities of hot saline solution will serve to keep the temperature up.

I have found that the most simple means of inducing the fluid to flow drop by drop is not a hemostat but a hairpin and a match. When the hemostat is clamped on the tube it invariably begins to cut into the rubber and probably five minutes after the solution has been flowing drop by drop it is running in a steady stream. A much better, simpler method, and one which will issue a steady drop by drop flow as long as is desired, is provided for as follows: An ordinary wire hairpin is passed about the rubber tubing so that one of its prongs extends on either side; the free ends are secured from spreading apart by a twist of the wire with the fingers. Three or four wooden toothpicks or a match trimmed down to a wedge-shaped point are induced between the wire hairpin and the rubber tube and gently pushed in until the flow is just as desired. As a rule it is not wise to attempt to give too much fluid at a time. I find that in the average case about 6 or 10 ounces every hour and a half or two hours will be sufficient and will be a little less than the patient will tolerate comfortably. In giving saline solution regularly over a space of more than twenty-four hours one will find that more is usually absorbed at first than later after the system has been saturated with fluid.



Method of regulating flow in rectal enema.

A soft rubber catheter in the rectum is better borne and causes much less irritation, as a rule, than a rigid nozzle. If this catheter is made after the type of the usual retention catheter or if it is secured in place by a strip of adhesive plaster passed across the buttocks the patient is saved from the annoyance of frequent introduction and removal.

Aside from the well-known value of saline solution by rectum in the treatment of shock, thirst and hemorrhage, it is perhaps of greater value still in the prevention of urinary irritation and suppression. Usually the operative patient is depleted of water by purgation and gets but little fluid for several hours prior to, during, and after operation. A considerable amount of toxic and highly irritant material is thrown undiluted on the kidneys and they may prove unequal to the strain. If these toxic bodies are highly diluted with water their elimination will be felt far less.

VENEREAL PROPHYLAXIS IN THE UNITED STATES NAVY

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CAVITE, P. I.

As the first requisites of a military or naval organization are health and efficiency, it is at once apparent that these two conditions must be maintained at the highest attainable point or disastrous results will ensue in time of war. The medical officers of the Navy are responsible for the physical condition of the personnel and it behooves them to safeguard this in every way possible.

One of the most recent steps toward this end is venereal prophylaxis, which is now in operation in the Navy, it having been officially adopted something over a year ago. Some of the naval medical officers, myself included, had recognized the value of the treatment, and were using it in some form or other, long before it was officially authorized. The method now used in the service is practically the same throughout, though there are, of course, slight variations, depending on the views of the several medical officers.

The treatment successfully employed at this station can be conveniently taken up and described under two heads, viz: (1) preliminary instruction, and (2) application of the treatment.

PRELIMINARY INSTRUCTION

On reporting for duty at a naval station, or on board a ship, as soon as possible I begin a series of lectures to the men, which cover the entire subject of venereal disease. These lectures are couched in simple language, and the men are urged to ask questions, if they do not understand any part of the lectures. Particular stress is laid on the danger of neglecting or concealing venereal disease. Venereal prophylaxis is thoroughly explained to them, the excellent results obtained are cited, and they are urgently requested to cooperate with the medical officer in this important work. Most of them do so willingly, as the American bluejacket is very intelligent, and once he realizes that the treatment is for his well-being he cheerfully does his part. Of course there are a few "sea-lawyers" who consider the treatment a joke, or of no value, and these men are the principal sufferers, as, in addition to their greater liability to contract venereal disease, they are punished for not reporting for prophylactic treatment, or for concealing disease, as men of this class frequently do.

To be absolutely certain that no man escapes, each is furnished with a typewritten slip covering the salient points of the lectures and of venereal prophylaxis. At this station slips are made out in English, Spanish and Tagalog (the native language), as there are several hundred Filipinos enlisted in the native auxiliary force, and the majority of these men do not understand English. These notices are also posted in their sleeping-quarters, and in the navy yard boat office where they are on duty.

These lectures are repeated from time to time, as the personnel of the ship or station is constantly changing and many of the new recruits have had no instruction in venereal prophylaxis.

APPLICATION OF THE TREATMENT

At all naval stations, and when a ship is in port, a certain number of men are allowed shore leave every day. This leave is generally from about two o'clock in the afternoon, until seven or eight the next morning. A list of their names is kept and they are checked off when they go, and when they return from shore leave. The medical officer is furnished with a copy of this list every day when the men go ashore. As soon as a man returns from shore he is ordered to report at once to the sick-bay for prophylactic treatment. On reporting there his penis is examined, and he is interrogated as to whether or not he indulged in sexual intercourse while on leave. If he replies in the negative, he is excused from treatment, but if subsequently a venereal infection develops, he is punished for lying. It would be well to state here that all examinations are, if possible, conducted in private so as to spare the feelings of the man examined. If the man states that he had sexual intercourse on shore, he is given the following treatment:

The entire penis is scrubbed with liquid soap and water for several minutes, and then washed well with a solution of mercuric bichlorid 1 to 2000 in strength. If there are any abrasions present they are sprayed with hydrogen peroxid from a hand atomizer. The man is then placed in a sitting position, well forward in a chair in front of a convenient receptacle, and given two injections of a 10 per cent. solution of argyrol. He is required to retain each injection in the urethra for five minutes. After taking the injections, the entire penis is thoroughly anointed with a 33 per cent. calomel ointment. He is told not to urinate for at least two hours and to allow the ointment to remain on the penis for some hours. A temporary dressing is now put on the penis to protect his clothes and he is excused.

RESULTS OF TREATMENT

The results attending prophylactic treatment at this station have been most gratifying, in spite of the fact that at Cavite, unlike all other naval stations, no regular checking list is kept of men on leave, and there is no means of insuring prompt reporting, after return from shore leave. Before venereal prophylaxis was instituted here, the percentage of venereal diseases of all classes among the men averaged from 25 per cent. to 30 per cent. annually, and at times was even higher, as Cavite and vicinity are notorious for venereal diseases, especially syphilis and gonorrhea. The percentage of gonorrhea has been reduced to 8 per cent. annually, and this percentage includes about thirty patients that did not report for treatment. Chancroid was reduced from 5 per cent. to 2 per cent., which includes two patients not reporting for treatment. Syphilis has been reduced from about twenty cases annually, to one case for the entire year 1910, and this patient did not report for prophylactic treatment. These results speak for themselves, and show the efficacy of the treatment, if properly and conscientiously given.

CONCLUSIONS

After an experience of several years, it has been found that if men report for treatment within twelve hours after contact, the danger of contracting venereal disease is practically *nil*. After twelve hours, the treatment fails in many cases. It appears to be of special value in syphilitic contacts. I believe it to be an absolute preventive if employed early. The treatment, to succeed, must be given early and thoroughly. My percentages of failure of treatment have never been over 2 per cent. of cases and sometimes there are no failures for months at a time. The best drug for injections is argyrol, as it is non-irritating, and in my experience a more efficient germicide than any other drug used in the prevention of gonorrhea. I have tried protargol, but to be effective, it must be used in a 2 per cent. solution, which in many cases causes urethral pain and discomfort for some hours after taking the treatment, and this tends to keep many men from reporting, except under protest, as they would rather run the risk of infection than suffer the discomfort often caused by the injection of protargol. It is believed that if all contacts reported for treatment within twelve hours, venereal disease would soon be a negligible quantity in the service.

It would seem that venereal prophylaxis could be advantageously employed in civil practice, if physicians in civil life would impress its value on their patients. This would take time, but a few concrete examples in each locality would have a far-reaching effect, and the laity would, in my opinion, eventually see the value of this treatment and act accordingly.

SOME ETIOLOGIC FACTORS AND TREATMENT OF FURUNCULOSIS

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As the general practitioner is frequently called on to treat cases of furunculosis, he realizes that the march of progress in treatment has advanced along more scientific lines, and many are now using the serum therapy, which has been greatly modified, simplified and perfected since Wright wrote his first article advocating the use of staphylococcus vaccines in the treatment of this disease. They realize that it is not necessary either to allow it to run its course or to try every drug recommended by the dermatologist or therapeutist. In former years, it was common practice for the physician to prescribe "blood tonics," sulphur in large and nauseating doses, calx sulphurata or even to substitute baked egg shells for that preparation.

Ichthyol is often used externally in treatment of this condition, but its efficacy has never been proved and patients justly object to its use as it is extremely dirty and foul-smelling.

The average case of furunculosis, under proper antiseptic precautions against further crops, will cure itself in from one to four months, but many factors enter into the causation of the disease, and one should inquire carefully into the patient's habits, occupation and mode of living; of first importance must be considered an existing diabetes, nephritis or transitory albuminuria. Disorders of the gastro-intestinal tract play an important part in the etiology, as does excessive sweating, friction, lack of, or even excessive use of soap and water. Men who work in paraffin or bar metal workers and those who are thrown in close contact with potassium permanganate, potassium iodid and the bromids are frequently affected.

When single the lesions are usually due to some local injury as blows, friction or from pressure exerted, shown by those who have a sedentary occupation, as tailors, who often have a succession of single or multiple boils on the buttocks. Boils frequently follow various eruptive fevers, especially variola, septicemia, pyemia, sewer-gas poisoning and may occur as complications of certain skin diseases—scabies, eczema, etc. Severe strain and mental worry which lower the vitality must also be considered. Pressure of the collar button may cause a furuncle. In some men, if the back of the neck is shaved when the hair is cut, a crop of small boils will always ensue; this is undoubtedly due to the loss of the protection the hair normally affords, and as there are always present on the skin numbers of staphylococci, the collar rubs them directly into the mouths of the hair follicles, and sebaceous glands and pustules result.

A large number of so-called blood purifiers and blood tonics depend on potassium iodid for the effect, and as this drug frequently produces a pustular eruption, their use naturally is often disastrous.

The pain is out of proportion to the size of the lesion, is worse at night and is of a burning, throbbing character which can only be relieved by evacuation of the pus, leaving an indurated nodule, very tender and frequently accompanied by intense itching.

TREATMENT

First and always the urine should be carefully examined for albumin and sugar and the patient warned against any habits or occupations that might have an influence on the condition.

For furunculosis not caused by any constitutional condition, I have found the following line of treatment of great service in a long series of cases: The end of a wooden applicator is sharpened to a fine point, wrapped with a small piece of raw cotton and dipped into pure phenol. Many men prefer the use of the knife, but the "phenol stick" accomplishes the purpose; being slightly anesthetic, it is much less painful and the resulting scar is smaller, which is an important factor should the condition occur on the face. The phenol stick is inserted carefully where pointing occurs, held for a few seconds to allow the phenol to produce its anesthetic effects and then very gently pushed into the cavity. Extreme caution is used not to go beyond any resistance or the protecting barrier that has been formed to limit the process will be broken down or a blood-vessel punctured. After an opening has been made sufficiently large to permit of drainage the following ointment is applied:

℞

Acidi salicylici	gr. xl vel lxxx
Petrolati	℥i

Sig. Apply twice daily.

At the same time the first injection of staphylococcus vaccine should be given—100,000 to 1 c.c.; at the expiration of four days the second injection of 250,000, in one week more 1,000,000 and again in another week the same dose. In extreme cases, the succeeding doses may be one billion to 1 c.c., but this is rarely necessary. The injections are given into the loose cellular tissue between the scapulæ and better results can be obtained if a dry cup is applied for five minutes before each injection. It will be noticed that the swelling at the point of injection is much more quickly absorbed by this method through the increased amount of blood brought to the part. This also has the effect of preventing, to a great extent, the discomfort that usually occurs after the first injection, as there is some headache, a feeling of lassitude and a slight rise in temperature, rarely above 100 F. These symptoms do not occur after the second and subsequent injections, as a rule.

The question of autogenous versus stock vaccines is a mooted one. I have always used the latter, and my knowledge of the former is only derived from cases reported by other dermatologists. Very few men have either the time, facility or laboratory training to make their own vaccines. If they are obtaining better results than those who choose the easier, quicker and to my mind, the safer way, their reports do not show it. In the past year I have seen three cases in which unpleasant, if not worse effects have resulted. In two, a marked cellulitis occurred, in one case the swelling was opened on a diagnosis of abscess, but no pus was found. In another case, after five injections of autogenous vaccine a carbuncle occurred and was treated surgically.

By referring to the histories of patients both in private practice and at the dermatologic department of the Jefferson College Hospital, I found a long series of cases that have been treated as outlined in the preceding—opened with the "phenol stick," dressed with salicylic acid ointment and staphylococcus polyvalent stock vaccine injected. A few histories follow.

Case 1.—A. B., dentist, aged 32, was in good general health, except for furunculosis, and the urine showed nothing abnormal. One and a half years ago he infected his finger while working on a patient. In the course of fifteen months he had between twenty-five and thirty furuncles in different parts of the body, some almost carbuncular, all of which were opened by the knife and dressed, but no other treatment was given for the first six months. At the expiration of this time he was given autogenous vaccine, four injections during one month, with little improvement and in a few days after the fifth injection a carbuncle formed and was freely excised, leaving a large scar. He stopped this line of treatment and continued to have one boil after another until three months ago when I advised the above treatment. After the first injection he noticed a temperature of 99.6 F. and some discomfort. After the second injection of 250,000, marked improvement was noticed in the degree of induration and in the absorption. The dose was rapidly increased to one billion to 1 c.c., repeated twice, and then dropped to one million and the man is now apparently perfectly well. In all, he was given fourteen injections, the largest number I have ever given to one patient.

Case 2.—T. P. B., male, aged 64, a merchant, was first treated for eczema of the face and neck. Urine showed no albumin at that time. When this condition had been cured under local and internal treatment, the latter being directed against constipation, the patient developed three boils on the back of the neck and the urine showed a trace of albumin but no casts then or later. The furuncles were opened with the "phenol stick" but no vaccine given until a felon appeared on the index finger of the right hand. This was opened with the knife and the first injection given the same day. Subsequent to the second injection, four days later, the improvement was very apparent, and after a total of six injections, the last four of one million to 1 c.c., the condition was cured and there has been no recurrence.

Case 3.—E. M. K., aged 27, salesman, had had four or five furuncles on the back of the neck during the preceding three or four weeks and he noticed that they started just after his neck had been shaved. The treatment consisted in opening with phenol stick, application of salicylic acid ointment and six injections of staphylococcus vaccine. The man has had no further trouble.

Case 4.—R. V., aged 30, female, for several months had been having a series of boils on both forearms. Urine examination was negative. This patient was treated as were all the others and required only four injections to effect a cure.

In addition to the four cases mentioned I have the records of forty-six others that differ only in the variation of the situation and the severity of the condition. The patients all received the same treatment, the number of injections varying from four to eight and in each case a cure was effected.

In none of these cases has the index been recorded at any time during the course of the disease, the treatment being guided entirely by the clinical manifestations. This may not be a strictly scientific means of procedure, but it is what the busy general practitioner must do and he is handling a remedy from which the risk is very remote.

CONCLUSIONS

Furunculosis showing no causative factor in any kidney complication can be successfully treated by being opened with a sharpened cotton applicator dipped in phenol, with injections of polyvalent staphylococcus vaccines and by applications of salicylic acid ointment from 5 to 15 per cent. strength.

The inability of the physician to prepare autogenous vaccines on account of lack of time, laboratory facilities and experience makes the stock vaccines prepared by reliable firms a much more desirable method of procedure in the average case.

The pain on opening a furuncle is much less than with the knife as phenol is slightly anesthetic.

The reaction is very slight after the first injection and is lessened by use of the dry cup.

It is not necessary to record the index, the dose may be regulated by the clinical manifestations.

2030 Chestnut Street.

AN EPIDEMIC OF TYPHOID FEVER WITH ISOLATION OF B. TYPHOSUS AND B. COLI FROM THE WATER-SUPPLY

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During April and May, 1910, an extensive epidemic of typhoid fever occurred among the inmates and officers of the Indiana Reform School for Boys at Plainfield. There were slightly less than 700 boys in the school at the time the epidemic occurred and ninety-one of them had typhoid fever. Nine other cases occurred in the families of the officers of the school. At least two persons who visited the institution at about the time the first case was reported are known to have developed the disease within three weeks after their visit. Among the 102 cases there were only two deaths, both deaths of boys who were members of the school.

Dr. Ernest Cooper, attending physician to the school, very kindly furnished me with a list of all the patients, with the date of onset of the disease in each case. The first patient, the superintendent's stenographer, was taken ill April 9. The second case appeared April 15 and the third on the eighteenth. From April 20 to May 11, one or more cases were reported every day, with the exception of April 25. The maximum was reached on April 29, when twelve new cases were received into the hospital. The next highest number for one day was eight cases on May 3. After May 11 the number fluctuated, but averaged about one case a day until May 24, when the last one came to the hospital. The number of cases received each day is shown in Chart 1.

The boys in the school are divided into twelve companies. Each company occupies a separate building, which is used as school-room and dormitory. All the inmates of the institution eat in a common dining-room, except the members of Company 12. The food of these boys is prepared in the common kitchen and is carried to the dining-room in the company's building. The boys are given milk two or three times a week.

Each boy spends a certain number of hours every day in school; the remainder of the time he works at whatever task he is detailed to do. Cases of typhoid occurred in every company, Companies 1, 2 and 6 being most affected, Company 10 least so. The number of cases in each company is shown in Table 1.

TABLE 1.—SHOWING NUMBER OF CASES OF TYPHOID FEVER AMONG MEMBERS OF EACH COMPANY

Company	Case No.	Company	Case No.
1	12	9	4
2	12	10	2
3	6	11	8
4	3	12	9
5	5	Officers and their families	9
6	12	Visitors	2
7	9		
8	8	Total	102

A sanitary survey of the institution was made May 2. The general situation was first examined and three important facts discovered, viz.: 1. Cases of typhoid fever occurred in the families of the officers of the school as well as among the boys. 2. The only things which the boys and the officers' families used in common were milk, and water from a spring, always designated as the "Big Spring," which was the main source of drinking-water for the entire institution. 3. It was also found that cases occurred in every company in the school, but that Company 10 had escaped with only two cases. On further inquiry it was learned that the boys of Company 10 used milk from the same source as the other companies, but obtained distilled water from the ice-plant for drinking-purposes. The two typhoid patients from this company, on being questioned, stated that they had been working away from their own company and had drunk water from various sources, including the Big Spring.

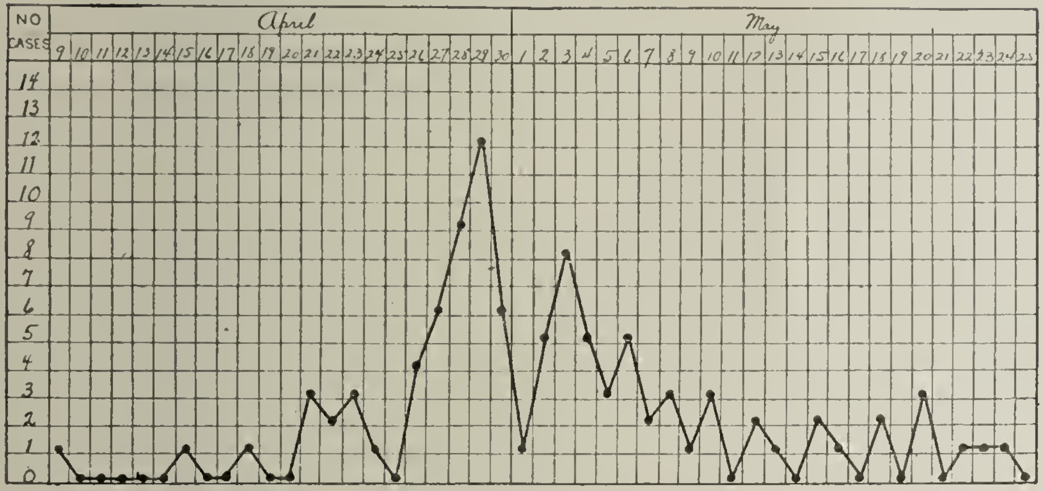

Chart 1.—Curve showing the occurrence of the cases during theepidemic.

Sanitary conditions in the dairy barn, milk-house, kitchen, bakery and ice-plant were found to be excellent. In the basement of each company building there are a number of shower baths, the water coming from a large open concrete reservoir. The water of this reservoir comes from two sources: at least one-half flows through a narrow chute from a pond or small lake which is fed by numerous springs; the remainder is pumped from a creek nearly half a mile distant. The pumping station on the creek was located, at this time, about one hundred yards below the outlet from a septic tank into which the sewage from eleven buildings was conducted. Later, the outlet from the septic tank was changed so as to empty into the creek several hundred yards below the pumping station. Water from the reservoir was examined bacteriologically a number of times. On May 2, when the creek was high as the result of a recent rain, the water in the reservoir yielded 30 per cent. gas in dextrose broth. At no other time did it yield more than 15 per cent., and once it yielded none.

The water-supply of the institution had for years come from a number of natural springs. Less than two years before the epidemic occurred the largest of these springs, always designated as the Big Spring, had been followed for some distance toward its head to the end of a series of jointed tiles put in position years before. From the end of the line of tile an iron pipe was laid to the former outlet of the spring (Chart 2). This pipe passed immediately beneath the toilet and sewer connection of the building occupied by Company 11, but all joints were carefully leaded and there was probably no leakage.

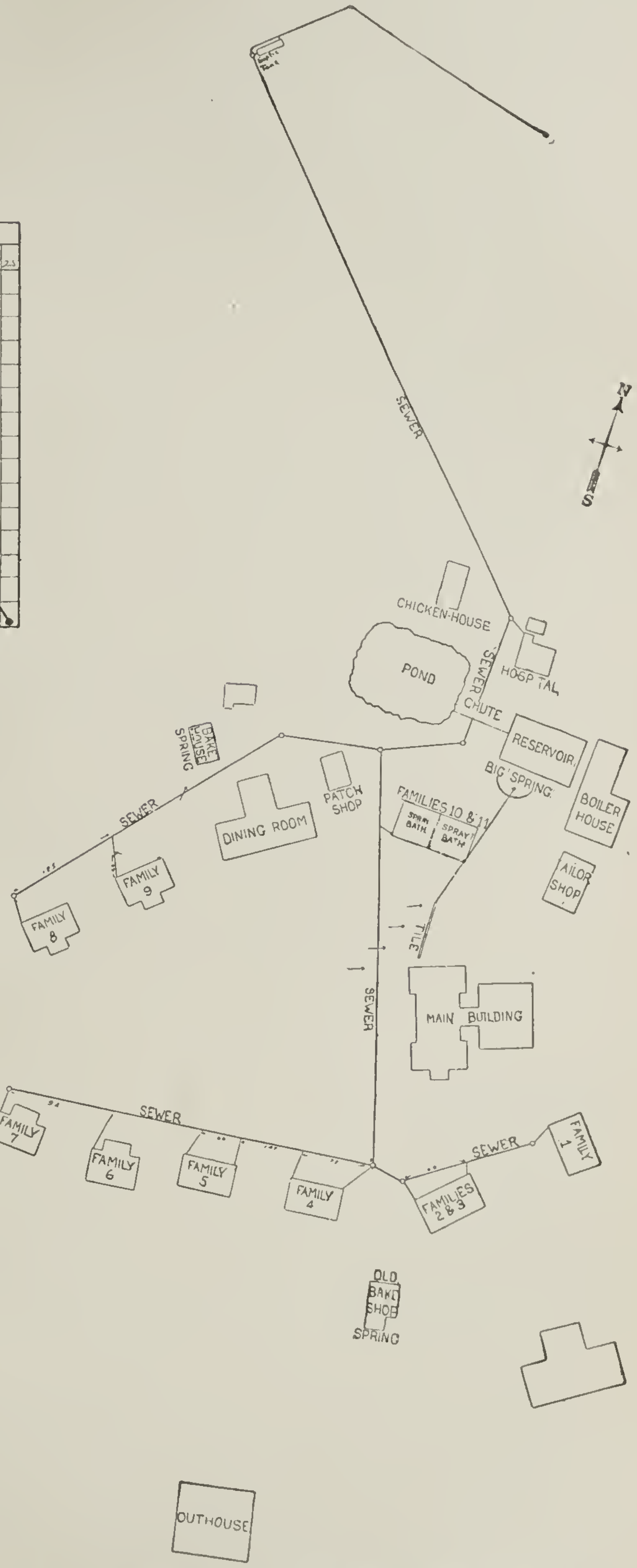

Chart 2.—Plan of the institution grounds, showing the location of buildings, dormitories, sources of water-supply, sewer system, etc.

In addition to this Big Spring, there was another in the basement of the bake-house which furnished water for cooling the milk and much of that used in the bakery, and in the dining-room and kitchen. A third spring, known as the Old Bake-house Spring was in the southern half of the grounds and was not used except when some of the boys in near-by company buildings surreptitiously got water there to avoid carrying it the greater distance from the Big Spring.

The main sewer-line of the institution runs northward near the center of the grounds. The Bake-House Spring is west of the main sewer-line, the side from which the flow in the spring comes. A branch sewer, however, runs just south of it and in a position which favors contamination. The Old Bake-House Spring is south of the whole system of sewers. The tile which conducts the water of the Big Spring runs nearly parallel to the main sewer-line at approximately the same depth and within 15 or 20 feet of it. The upper end of the tile is probably somewhat nearer the sewer. After the Big Spring had been virtually proved to be the source of the infection, it was learned that when the sewer was laid nine years before, the engineers had great difficulty for a distance of 50 or 60 feet on account of the abundance of water in the sand in which the sewer was placed. This 50 or 60 feet was exactly opposite where the tile pipe of the Big Spring now is and the flow of water in the sand was noted to be toward this spring. The sewer was made of 12-inch salt-glazed tile, the joints of which were cemented. It is quite evident, then, that the water flowing from the Big Spring percolated around the main sewer of the institution, and that this condition of affairs had existed for nine years without any untoward results.

About March 15, the sewers were flushed out for the first time in several months, and considerable force was used. This was about three weeks before the first case of typhoid occurred.

A systematic bacteriologic examination of all the water used at the institution was undertaken. The results of the fermentation tests are shown in Table 2.

TABLE 2.—SHOWING RESULTS OF FERMENTATION TESTS *

Source of Sample	Percentage of Gas from Samples on Different Days									
	4/29	5/2	5/7	5/9	5/10	5/11	5/20	5/20	5/20	5/21
Big Spring	0	25	0	30	0	15	0	0	0	42
Pond	0	18	..	..	..	..	..	..	..	..
Reservoir	0	30	15	..	..	..	..	..	..	..
Bake-House Spring	0	0	10	..	..	..	..	..	..	..
Inlet to reservoir (creek water)	..	15	12	..	..	..	..	..	..	..
Old Bake-House Spring	..	..	30	..	..	..	..	..	..	..
Old tunnel	..	..	..	..	..	..	2	0	0	30

* Water from the "old tunnel" is from the same original source as that in the "Big Spring." The sewers were flushed out on the mornings of May 2, 10 and 20; the samples were taken in the late afternoon of May 2 and 10. Those examined on May 20 were taken at 6 a. m., 12 m. and 6 p. m., respectively, and on May 21 at 6 a. m. The spaces left blank indicate that no specimen was taken from that source on that date.

April 29, a sample of water from the Big Spring gave no gas when inoculated into sugar broth. On the morning of May 2, the sewers were flushed out. A sample of water taken late in the afternoon of that day gave a very suspicious gas test. Samples taken on May 20, yielded no gas. On that day the sewers were again flushed and a sample taken at 6 a. m., May 21, gave 42 per cent. gas.

No attempt was made to make accurate bacteriologic counts after the first examination. Each specimen was first plated on malachite-green agar. The forty-eight-hour growth on this media was washed off with sterile salt solution and suitable dilutions plated on Endo's medium May 2 and 21, red colonies, which were proved by cultural tests to be *B. coli*, were isolated from the water of the Big Spring. May 2, an organism having all the cultural characteristics of *B. typhosus* and agglutinating with serum from one of the patients in a dilution of 1 to 50, was also isolated from the same source. This patient's serum gave a strongly positive agglutination test with a known culture of typhoid bacillus.

April 21, the boys were warned not to drink water from the Big Spring. How thoroughly this warning was obeyed is not known. About May 5, the Big Spring was sealed up so that no water could be obtained from it and the epidemic began at once to subside, the last patient entering the hospital May 24. The water-supply of the institution is now obtained from deep driven wells.

This investigation is interesting for the following reasons:

1. The close relation which had existed between the main sewer line and the chief water-supply of the institution for nine years without untoward results.
2. The evident relation between the flushing of the sewers and the amount of contamination in the water of the Big Spring.
3. The actual isolation of *B. coli* and *B. typhosus* from the water of this spring. The isolation of the latter organism from water is dependent largely either on luck or on an unusually heavy contamination. It was probably a combination of the two factors that brought success in this instance.

A RATIONAL INDICATION FOR BACTERIAL VACCINE IN TYPHOID FEVER

WITH A REPORT OF FOURTEEN CASES

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In the introduction to the study of infectious diseases, under the heading "Fever," Osler's "Modern Medicine" (Volume 2) says:

> The fever type is clearly associated, also, with the production of specific antimicrobic substances. In recurrent fever, the fall in temperature has been shown by Gabritschewski to be associated with the appearance of antibacterial substances that check the development of the spirilla; as these substances diminish, a new attack sets in. There is reason to believe that the fall of temperature with the crisis in pneumonia depends upon the somewhat sudden development of pneumococcidal and other reactions, because the pneumococci disappear, as a rule, from the circulating blood as crisis comes on.

This is quoted merely because it expresses broadly the general principle, which it is the purpose of this article to limit to typhoid fever, as the basis of a rational justification of vaccine therapy in this disease.

To go one step further, I may say that recovery from any infectious disease depends on two factors—the destruction of the causative organisms present in the body, and the elimination or neutralization of the toxins produced by them. With this as a working basis, a typical case of typhoid fever in a non-immune may be considered from its onset to a favorable termination with reference to these two factors alone, ignoring the well-known pathologic anatomy. Every non-immune or normal person must possess cell-receptors capable of combination with typhoid toxin, in order to present the typical symptoms of the disease. He must also possess either opsonin capable of actuating phagocytosis of the typhoid bacillus, or a bacteriolysin or agglutinin capable of accomplishing its destruction. In other words, a man who presents toxic symptoms as a result of typhoid infection, has killed enough bacilli to liberate their endotoxin. Let us follow this process.

Our subject secures a good dose of virulent typhoid bacilli. The first thing that happens is the destruction of a few of these organisms by the natural bacteriolytic forces, possessed by all individuals, with the liberation of their endotoxin. To this endotoxin the body reacts, producing a rise in temperature—very slight at first, because the dose of toxin liberated is small, on account of the feeble bacteriolytic power of the body. This toxin, besides causing a febrile reaction, excites the formation of a specific antibody to it and an antitoxin is produced, which, as it "fixes" the toxin present, causes a subsidence of the fever. If all of the bacilli of the initial infection were killed in one lot, our case of typhoid would end here. Unfortunately this does not occur. The infecting dose of organisms being more than the feeble natural defenses of the body can handle, they multiply rapidly, and if, on the other hand, body defenses were exhausted with the killing of the first lot and not reproduced, their rapid increase would result in mechanically obstructing the circulation. Fortunately, however, this also does not occur; for, besides the liberation of the endotoxin from within the cell capsules of the destroyed bacilli, substances exciting the production of both agglutinin and bacteriolysin are also liberated and the body is thus enabled to reproduce its antibacterial forces and attack the descendants of the unkilled bacilli of the initial infecting dose. The gradually rising temperature in the first week, then, may be said to be due to increasing doses of typhoid endotoxin liberated as the result of the destruction of increasing numbers of bacilli, by an ever-increasing bacteriolytic agent.

During the second week the condition reaches nearly a balance; that is, the production of antitoxin occurs nearly as rapidly as the toxin is liberated, but just enough later, or in insufficient quantity, so that the temperature remains practically uniformly high, on account of the abundance of bacteria from which the toxin is derived. During the third week, however, the bacteriolytic forces, which have constantly been added to, begin to assert themselves, and, either on account of their increased power, or a diminution in the virulence of the organism, the available supply of bacteria for the liberation of toxin diminishes. The doses of toxin then, after each bactericidal onslaught, are not so large nor so rapidly produced, in consequence of which, antitoxic action becomes more apparent. A dose of toxin produces a febrile reaction, which disappears as the toxin is neutralized; the temperature rises and then falls before another dose of toxin is produced to repeat the reaction; a remittent temperature results in which the reactionary rises have a tendency to become progressively less pronounced and the periods of remission progressively longer. The temperature therefore falls by lysis.

It will thus be seen that, during the third week, bacterial aggressiveness may be, figuratively, placed in one pan of a balance and the body defenses, consisting of bacteriolysin, agglutinin and antitoxin, in the other, the remittent temperature registering the tilting of the balance arm. The destruction of a group of bacilli and the liberation of their toxin are indicated by a rise in temperature, and the antitoxic action by a fall.

If the above paragraphs may be considered as detailing the toxin-antitoxin strife as it occurs, it is obvious that the introduction of any factor which would increase antitoxin formation would minimize the toxic symptoms of the disease; while the introduction of any factor which would increase bacteriolysis or agglutination would hasten its subsidence. Both of these conditions are fulfilled when dead typhoid bacilli are introduced into the body, in that the endotoxin is supplied without the necessary destruction of bacilli by the body, and the antitoxin, the formation of which it excites, produced in excess of that needed to neutralize it, becomes available to act on toxin produced from bacteria killed within the body; also the bacteriolysins and agglutinins, whose formation the dead bacilli have excited, are ready to act at once on living bacilli in the tissues.

That this does occur when antityphoid vaccine is used prophylactically is experimentally proved; and that the use of bacterial vaccine in clinical typhoid will start a prevailing tilt of the balance in favor of recovery, from the observation of several cases I cannot help but believe. In fact, as the cases herewith reported show, the duration of fever in the majority was below the average, while the average in all cases was materially reduced. In no case in which vaccine was administered did untoward symptoms follow, aside from the expected reactionary temperature rise; and even in cases not showing a decided result, the patients professed to feel stronger and better, and even asked that the dose be repeated.

A brief outline of fourteen cases of typhoid occurring in 1910, in which the vaccine was used therapeutically, after a positive diagnosis, is as follows:

CASE 1.—The patient was admitted August 9; Widal positive August 21; patient inoculated August 26 with 500,000,000 bacteria; no reaction after inoculation. Temperature fell to normal within seventy-two hours; remained normal forty-eight hours; then the patient had a typical relapse lasting three days. The fever including relapse lasted eighteen days. Recovery ensued.

CASE 2.—The patient was admitted August 11; Widal positive August 21; patient inoculated August 26 with 500,000,000 bacteria. The inoculation was followed by a sharp rise in temperature to 104.5 F. which responded to an ice bath. Thirty-six hours later it reached normal and remained there. This patient was severely prostrated; was in coma-vigil when inoculated. The symptoms abated as rapidly as the fever and in three days the patient was begging for beefsteak. The fever lasted nineteen days. The patient recovered.

CASE 3.—The patient was admitted August 14; Widal positive August 23; patient inoculated August 26 with 500,000,000 bacteria, and again on September 6 with 1,000,000,000 bacteria. The patient was all but abandoned as hopeless on two occasions following prodigious intestinal hemorrhages. There was no temperature reaction following either inoculation, but a decided clearing of the mental haze was apparent. The total duration of fever was thirty-two days. Recovery ensued.

CASE 4.—The patient was admitted August 15; Widal positive August 22. The patient was inoculated August 26 with 500,000,000 bacteria. The patient appeared moribund at time of inoculation; could not be roused and could not swallow nourishment. Urine and feces were evacuated involuntarily; very slight reaction followed injection. Within seventy-two hours the temperature was normal and a most startling improvement in every way was apparent. A second rise of temperature lasting forty-eight hours, after three days of normal temperature, was found to be due to an otitis media; paracentesis relieved it almost immediately. There were fourteen days of fever, exclusive of that due to otitis. The patient recovered.

CASE 5.—The patient was admitted August 15; Widal positive September 1; patient inoculated September 12 with 500,000,000 bacteria. This was a very mild case and several Widals were necessary to diagnose typhoid fever as complicating an acute bronchitis, which was present. Convalescence was well established when the patient was suddenly seized with a coughing fit and died in an hour of cerebral embolism.

Case 6.—The patient was admitted August 17; Widal positive August 23; patient inoculated September 6 with 500,000,000 bacteria, and again September 16 with 1,000,000,000 bacteria. No marked reaction followed either dose, though marked symptomatic improvement was apparent after each. After thirty days of fever the temperature fell to normal, remained so for two days, then rose to 102 following a chill and returned to normal within eight hours. This was repeated twice on two succeeding days, after which there were three days of normal temperature, and again three days of chill and fever. There was no history of malaria for over three years previously, but during the second set of chills a quartan plasmodium was found; the hypothesis being a triple quartan infection latent or by parthenogenesis. The case responded readily to quinin. Recovery followed.

Case 7.—The patient was admitted October 12 with tonsillitis. Temperature continued elevated after subsidence of throat symptoms. Widal positive November 6. The patient was inoculated Nov. 9 with 500,000,000 bacteria, and November 19 with 1,000,000,000 bacteria. The duration of fever, including severe relapse, was thirty-two days. The patient recovered.

Case 8.—The patient was admitted October 26; Widal positive November 6; patient inoculated November 9 with 500,000,000 bacteria; died November 19, after three days of continuous, profuse intestinal hemorrhage.

Case 9.—The patient was admitted October 27; Widal positive November 7; patient inoculated November 9 with 500,000,000 bacteria, and November 19 with 1,000,000,000 bacteria. At the time of the first inoculation the patient was comatose; some improvement in symptoms followed the first dose, though complete aphonia persisted several days after second dose. Duration of fever twenty-eight days. Recovery.

Case 10.—Patient admitted November 2; Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever seventeen days. Recovery.

Case 11.—Patient admitted November 5; Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever sixteen days. Recovery.

Case 12.—Patient admitted November 6; Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever eighteen days. Recovery.

Case 13.—Patient admitted November 12 from suspect ward. Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever ten days. Recovery.

Case 14.—Patient admitted November 12 from suspect ward. Widal positive November 15; patient inoculated November 15 with 500,000,000 bacteria. Duration of fever eighteen days. Recovery.

In the foregoing cases the diagnosis was based on the Widal reaction, the macroscopic method being used and the end titer of each patient's serum being obtained. Besides the Widal reaction, total leukocyte counts and differential counts were made on the same day as the Widal.

In no case was actual or polymorphonuclear leukocytosis present. The feces of each was plated on Endo's medium; all suspicious colonies were fished and planted in lactose-litmus agar. From these tubes, showing a characteristic reaction, the organism was transferred to plain agar, and as a plain agar culture, was agglutinated by a known typhoid immune serum.

It was noticed distinctly that the cases which gave the lowest serum titer in the Widal reaction were those in which the symptoms were most aggravated. On the other hand, the cases which gave an agglutination in a dilution of from 1:360 to 1:720 on the tenth day, ran a mild, short course. With the exception of three of the cases cited above, and five ambulant cases, which have not been reported, the degree of prostration and toxemia manifested by these patients within ten days of their admission was the most pronounced that I have witnessed in several typhoid epidemics. The contrast following a single inoculation was consequently most remarkable. In Cases 3, 5, and 7 the result was most startling. The entire picture was changed in forty-eight hours from that of a man whom the nurses were expecting to carry out any minute, to that of a patient distinctly able to take notice.

In conclusion it may be said that the therapeutic administration of antityphoid vaccine is attended with no bad results and does in no way increase the patient's discomfort. On the other hand, its use did, in all of the cases observed, improve the general condition of the patient; while in the three cases above referred to, its action was nothing short of marvelous. In view of these facts, and granting the correctness of the hypothesis advanced above, it would seem that vaccine in typhoid fever is certainly rationally indicated.

RESECTION OF THE SPERMATIC PLEXUS FOR THE RELIEF OF CERTAIN FORMS OF DYSMENORRHEA *

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Dysmenorrhea, or painful menstruation, is the bane of many a woman's life. To be obliged to keep in bed swathed in hot cloths and stupefied with drugs for from a day or two to a week or two out of every month is sufficient to drive almost any woman to distraction, yet such is the unfortunate lot of many.

The cause of the pain in these cases has been the subject of much discussion and the most divergent views have been expressed concerning it. Some writers hold that the pain is due entirely to local conditions of the pelvic organs, while others assert that local conditions have little or nothing to do with producing the pain, but that it is always the result of some general disturbance.

Theilhaber[1] says that only in a minority of the cases is the pain due to anatomic causes, while in more than three-fourths of the cases it is the result of functional disturbances. He believes that the pain is caused by a spastic contraction of the smooth muscle fibers forming the sphincter of the internal os uteri and has devised a special knife for cutting out a section of this sphincter.

Menge[2] divides the dysmenorrheics into two classes: those with hypersensitive nervous systems and normal pelvic organs—idiopathic dysmenorrhea; and those with hypersensitive pelvic organs and normal nervous systems—secondary dysmenorrhea; but he says that these two forms present such similarities that in their nature they must be related. He recognizes this relationship by stating that all dysmenorrheas must be referred to a "menstrual painfulness of the uterus," which practically amounts to saying that the patient has dysmenorrhea because she has painful menstruation.

It seems to me that there can be no disputing the fact that abnormal local conditions may cause pain during menstruation; likewise, that in neurotic or hysterical women, or in women with unbalanced or temporarily deranged nervous systems, the performance of a function such as menstruation may give rise to pain, which under similar conditions in women, with healthy, stable nervous system, would scarcely be felt.

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* Read before the North Texas District Medical Society, Dec. 14, 1910.

[1] Centralbl. f. Gynäk., xxv, 1339.

[2] Centralbl. f. Gynäk., xxv, 1367.

Menstruation is not a simple function but a very complex one in the performance of which are concerned, not only the general conditions of the body as a whole, but also the local condition of three organs, namely, the ovaries, the tubes and the uterus.

If general states of the body are instrumental in producing menstruation, derangements of these general states may produce deranged menstruation. If the ovaries, the tubes and the uterus take part in the function of menstruation, abnormal conditions of these organs may cause abnormal menstruation.

Based on the location of the cause, then, we may subdivide the dysmenorrheas into three groups: (a) those due to deranged general states; (b) those due to abnormal conditions of the uterus; (c) those due to abnormal conditions of the ovaries and tubes.

As will be seen, the ovaries and tubes are grouped together. The reason for this is that the inner three-fourths of the tubes and the ovaries have the same nerve supply, and painful sensations arising from them cannot, therefore, be differentiated.

It is not my intention to take up in detail the various pathologic conditions found under these three groups, but it is to the third or tubo-ovarian group that attention will be directed. Furthermore, it is not so much my desire to define the particular disease or pathologic condition giving rise to the pain as it is to establish the fact that the condition, be it what it may, may be confined to the ovaries or to the inner portion of the tubes or to both.

The lesions found are of two kinds: gross pathologic lesions such as ovarian or tubal abscesses or large ovarian cysts, and rather inconspicuous lesions such as the angiodystrophies of the ovaries, chronic interstitial salpingitis, and adhesions of the ovaries or tubes to the intestine, omentum or neighboring peritoneal surfaces.

It is the latter class, or the inconspicuous lesions that are responsible for the pain in that variety of dysmenorrhea called ovarian. I am aware that many writers have denied the existence of the so-called ovarian dysmenorrhea, but I am convinced that they are mistaken.

I think that all physicians of experience in this line will recognize a class of women who suffer intensely at the menstrual period, yet in whom the most careful examination fails to discover any general state or any disease of the uterus sufficient to account for the pain. These patients are frequently unmarried and often have had the dysmenorrhea throughout their entire menstrual life. Others are married and have borne children without any material change in the dysmenorrhea.

A characteristic feature of the pain is that it is mostly premenstrual, that is, it precedes the flow by from one or two days to a week and gradually subsides as the flow becomes established. The pain is usually bilateral, referred to the ovarian region or the lower abdomen. It may extend down the inner side of the thighs or the outer side over the hips and is so severe that most of the patients are confined to bed for a variable time each month. The ovarian regions are very sensitive on pressure. The women are frequently neurotics or have hypersensitive nervous systems, either primarily or become so by reason of the repeated suffering, and are the ones who resort to all kinds of anodynes, narcotics, headache powders, hot whiskey and gin drinking, etc., to secure relief from the pain. About the only thing discovered on examination is tenderness in the region of the ovaries, sometimes excruciating, which becomes more marked the nearer the time is to the next menstrual period.

It was in hope of relieving these patients that I conceived and carried out the idea of resecting the nerves which supply the ovary. These nerves, according to Nagel in von Bardeleben's "Handbluch der Anatomie des Menschen," arise from two sources: (1) from the plexus renalis; and (2) from the lower portion of the plexus aorticus abdominalis or, as Frankenhauser calls it, the plexus spermaticus, and they are purely sympathetic in their nature.

As a rule, there are two spermatic ganglia situated on either side of the aorta just above the promontory of the sacrum.

The plexus renalis lies in the angle formed by the renal artery and the aorta. From this point is given off a thick trunk which accompanies the spermatic vessels and receives several small nerves from the spermatic ganglia. These nerves, called the spermatic plexus or the plexus arteriæ ovaricæ, pass along with the spermatic or ovarian vessels through the infundibulo-pelvic or suspensory ligament of the ovary into the pelvis and distribute branches to the broad ligament, the ovary and to the ampulla of the tube and form in conjunction with uterine nerves a small ganglion situated in the neighborhood of the uterine attachment of the ligamentum ovariæ proprium. The ovary and the tube as far as the isthmus are, therefore, supplied by the spermatic plexus, while the uterus and the isthmus of the tube receive their nerve supply from an entirely different source, namely, through the hypogastric plexus. It is very evident, then, that any pain-producing irritation, having its origin in the ovary, or in the tube, can be transmitted centrally only through the spermatic plexus just described and a resection of these nerves must effectually cut off all sensation in these parts. A resection of these nerves is a simple matter if they be approached at the upper part of the infundibulo-pelvic ligament where they lie rather closely together accompanying the ovarian vessels.

The abdomen is opened in the usual manner. The infundibulo-pelvic ligament picked up with a forceps and made taut. An incision 3 or 4 cm. in length is then made through the peritoneum along the free border of the ligament beginning well up toward its proximal end. With the handle of a scalpel or any blunt dissector the two layers of peritoneum are freed from all the other tissues forming the ligament; a catgut ligature is passed around the proximal end of this mass and tied; a similar ligature is passed around the distal end and the intervening portion, usually from 2 to 3 cm. in length, is resected. The incision along the free border of the ligament is then closed with catgut and the operation is completed.

It will be readily understood that in the small mass of tissues removed are included all the nerves passing to the ovary as well as the ovarian vessels from which it is impossible to separate them. As the ureter enters the pelvis through the base of the proximal portion of this ligament, great care must be exercised not to include it in the ligature. Of course the resection is made bilaterally if the trouble is bilateral.

As these nerves are the only ones supplying the ovaries and the inner end of the tubes the effect of resecting them is, of course, to render those parts anesthetic so that they can no longer give rise to painful sensations.

It will be readily understood that the operation here recommended affects only those cases in which the pain is of ovarian or tubal origin. It does not relieve the pain when it is due to pathologic conditions within the uterus and it is necessary, therefore, to diagnose the cases correctly, and to make a careful selection of those to which the operation is suited.

That a multiplicity of causes of the pain may be present is self-evident from what has been said, and when this is the case the other conditions must be remedied if possible by proper general treatment and local operative measures if relief from pain is to be expected.

I shall not now enter into a detailed report of the cases in which I have operated, but will simply say that I have operated on over twenty women with gratifying results. I have seen women, who had spent from several days to a week or more in bed at every menstrual period, menstruate without pain and recognize its presence only by the appearance of the flow. Other patients have lost only the acute premenstrual pain, while in a few no benefit has followed, evidently owing to the fact that the pain had its origin elsewhere than in the ovaries or tubes.

No other effect than the relief of pain has been noted as the sexual and reproductive functions are not interfered with.

A CONVENIENT METHOD OF TESTING THE VISUAL FIELDS FOR COLOR WITHOUT THE USE OF A PERIMETER

FOR APPLICATION IN CASES OF SUSPECTED INCREASED INTRACRANIAL TENSION

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It was formerly supposed that inversion of the visual fields for blue and red was pathognomonic of hysteria, especially when, in addition, a contraction of the field for form was present. Not everyone is yet acquainted with the work of Babinski,[1] which has clearly shown that the perimetric examinations of hysterical patients, as ordinarily conducted, are redolent of suggestions, and that these very often influence the patient; so that the findings are not reliable except as indices of suggestibility. Thus, there is no characteristic visual field type in hysteria.

There are certain affections, however, in which the visual field is characteristically inverted or interlaced. This happens whenever the intracranial tension is increased to the point where there is an interference with the functions of the neurons which conduct visual impressions. This manifests itself most particularly, clinically speaking, toward the periphery of the retina, where the sensibility is feeblest; so that, as Bordley and Cushing[2] have shown, the red is perceived even sooner than the blue on approaching the center of the visual field in cases in which the intracranial tension is increased by edema of the brain, whether this is produced by a tumor within the cranium, by hemorrhage therein, or by some constitutional condition resulting from chronic nephritis, diabetes or other modification of the blood.

To measure this inversion or interlacement of the color fields accurately, a perimeter is of course required; but I have found that the inversion may be ascertained roughly by the following method:

The patient sits with his back to a good light, looking fixedly at a point in the distance. He is directed to signal as soon as he perceives any movement of the examiner's hand. The visual field is then approached by the observer's hand, which holds alongside and parallel two objects, colored respectively an intense, pure, bright red and a blue. After the patient signals, he is asked to signal again as soon as he perceives any color, while the center of the field is very slowly approached. The observer then stops the movement, and asks what color is seen. For corroboration, the movement is then continued until the other color is also seen.

In normal persons, blue is always seen before red. If this is not the case, increased tension may be suspected. In two recent cases, one of tumor and one of albuminuric retinitis, this method has been as positive as that with the perimeter.

If the test is performed with careful technic, it is reliable, and is a useful addition to clinical methods. Indeed, Cushing believes that when inversion of visual fields appears in the case of a tumor, operation should not be further delayed.

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[1] Babinski: La conception de l'hystérie, Paris, 1906. Williams: Papers on Hysteria: International Clinics, 1908, iii; Boston Med. Jour., 1909, i; Am. Jour. Med. Sc., August, 1910, etc.

[2] Bordley, J., and Cushing, H.: Observations on Choked Disc, The Journal A. M. A., Jan. 30, 1909, p. 353.

A SIMPLE METHOD OF CULTIVATING THE MORAX-AXENFELD DIPLOBACILLUS *

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This case report calls attention to the fact that the Morax-Axenfeld bacillus grows as readily and in as characteristic manner on Dorset's egg medium as on Loeffler's blood-serum. The comparative ease with which the former medium can be prepared should render this fact of value.

To cite an illustrative case:

Patient.—J. M. W., aged 34, a blacksmith, was admitted into the service of Dr. D. T. Vail on Oct. 24, 1910. He was suffering from double catarrhal conjunctivitis, which he thought had been acquired by using the towel of his roommate who had sore eyes.

Bacilli.—Smear preparations from the purulent secretion from each eye showed the presence of isolated diplobacilli lying between the polymorphonuclear leukocytes and apparently in pure culture. The diplobacilli measured 2.7 by 0.8 and the rods had rounded ends. They stained well with Loeffler's methylene-blue, but were decolorized by Gram's method. Slants of Dorset's egg medium and Loeffler's blood-serum were inoculated with pus from each eye. After twenty-four hours' incubation, numerous characteristically pitted colonies appeared resembling those described by Morax[1] and Pusey.[2]

The pits in Dorset's egg medium were not quite so deep and the diameter was less than those in Loeffler's blood-serum, and they did not become confluent on the former medium so rapidly as on the latter. Transplants failed to grow on the ordinary laboratory media.

Neurasthenia in Young Children.—A deficiency of nerve force may be present from earliest childhood, often as an accompaniment of the "neurotic" temperament, and occasionally with mental deficiency. Cases of this condition, which might be described as "neurasthenia minor," are generally the offspring of neurasthenic or neurotic parents, and may drift into more confirmed neurasthenia in later life.—C. Riviere, in the *Practitioner.*

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* From the Pathologic Laboratory of the Cincinnati Hospital.

[1] Ann. de l'Inst. Past., 1896, 10, p. 337.

[2] Pusey, Brown: The Diplobacillus of Morax-Axenfeld, July 28, 1906, p. 255.

Therapeutics

ANKYLOSTOMIASIS, UNCINARIASIS, OR HOOKWORM DISEASE

These terms may be regarded as practically synonymous. They are applied to a condition characterized by symptoms which are caused by the presence in the intestinal canal of the worms *Ankylostoma duodenale* and *Uncinaria duodenalis*, or *Uncinaria americana*, which, if not identical, at least closely resemble each other. They belong to the class of nematodes in which are included *Ascaris lumbricoides, Oxyuris vermicularis*, and trichinæ, all of which have recently been described in this department.

It has been comparatively recent that the economic importance and the frequency of the *Uncinaria duodenalis* has been recognized, although the symptoms produced by them have been considered a clinical entity for over a century. Early in the nineteenth century, a special form of anemia was recognized as affecting miners in Hungary. In 1838, Dubini found ankylostoma in the intestine of a girl who had died of progressive anemia. In 1851, Griesinger declared that this parasite was the cause of Egyptian chlorosis. But the clinical importance of the parasite was not definitely settled until, in 1882, Perroncito showed that the epidemic of so-called miners' anemia which occurred during the building of the St. Gothard tunnel was due to ankylostoma.

Since the occupation of Porto Rico by the Americans about twelve years ago, the disease has been thoroughly studied by American physicians, especially by Drs. Ashford, King, and Stiles. These men have proved the great prevalence of the disease not only in Porto Rico, but in the southern part of the United States; have pointed out its great industrial importance; and have demonstrated a simple and effective method of cure.

The male worm is about 11 mm. in length and about 0.5 mm. in width; the female is about 15 mm. in length and about 1 mm. broad. It is found most abundantly in the jejunum, but it may be found also in the duodenum and upper part of the ileum. It may be firmly attached to the mucous membrane, or may be imbedded in the mucus on the membrane, or may be free in the intestinal canal. The eggs are passed in large numbers with the feces, and under favorable conditions may retain their vitality for a long time. These favorable conditions include warmth, moisture and darkness. Sunshine and the incidental drying are destructive to them. After passing from the body of the host, especially when the soil is dry, they rapidly become scattered about.

Their most common attack on the human subject is through the feet. Both adults and children who run about barefooted in places where the disease is endemic suffer from a dermatitis which is caused by the action of the ova or eggs on the skin. They first produce a dermatitis and next an eruption of vesicles which are liable to be infected by various bacteria, producing pustules and ulcers of varying depth, which may persist for a long time, and which, when healed, usually leave discolorations. The ova pass through the skin and into the blood by which they are carried to the lungs. Here they escape into the bronchioles, migrate to the bronchi, thence to the larynx, and into the throat, from which they are swallowed.

The eruption caused by the ova and larvæ of the hookworm is known as "ground itch." It is possible that the disease may be brought on by the swallowing of the larvæ incidental to unclean habits, the food being infected by dirty hands, or by the drinking of water containing the larvæ, but it is commonly believed that the number of worms ingested in this way is very small, and it has been found that nearly all of the subjects of the disease have also been the victims of ground itch, therefore it is considered that this round-about route is the most common method of infection.

To those who live in the northern states it might seem that this is a subject of no practical importance and of very little interest. To those who live in the southern states where the disease is endemic it might seem that the disease is so common and so well known that it is not worth while for the physician to spend any time in reading or writing about it. To those who live on the borders of regions where the disease is endemic where occasional cases are likely to be seen, it certainly is of great importance to be familiar with the disease and the modern methods of treatment. To all physicians it is a matter of interest to know the symptoms which the disease presents, and how it may be cured.

It is common to describe three classes of cases: The mild cases are characterized by pain and uneasiness in the abdomen. These symptoms are commonly attributed to indigestion, and rather apt to be more prominent on the right side of the abdomen; they may be accompanied by tenderness in that region. The pains are sometimes increased and at other times relieved by taking food. The appetite in some cases is diminished, and in others is increased. There may be headache and dizziness, and there is usually indisposition to any exertion, either mental or physical.

In cases of moderate severity the pain in the abdomen may be more pronounced, and the headache is usually commoner and more severe. There is dizziness and often tinnitus aurium. The mucous membranes and the conjunctivæ are pale; the skin dry; the appetite impaired; and there may be nausea and vomiting. Breathlessness on exertion is common, and there may be palpitation. The patient complains of fatigue and indisposition to exertion, and there may be fever.

In the more severe and advanced cases the anemia is more striking; the patient presents a pallid appearance and the conjunctivæ may show an icteric tinge. Edema of the feet and ankles is common, and sometimes there is general anasarca. There may be extensive ascites. The palpitation of the heart is severe, and dyspnea, even on the slightest exertion, is considerable. The pulse is weak and compressible, and there may be pain in the precordial region. The dizziness and tinnitus are generally very troublesome. Dimness of sight is common, and the pupils may be dilated. Often there is sleeplessness. The muscles, though apparently plump and well-nourished, are weak, and the patient is absolutely unable to do anything. Often there is considerable fever, which is, as usual, higher in the afternoon.

The examination of the feces is of great importance, both from a diagnostic and a therapeutic point of view. While in regions where the disease is endemic the general symptoms, especially the anemia and the indisposition to exertion, may lead to a presumptive diagnosis which is generally correct, the only accurate diagnosis is based on finding the eggs or the worms in the feces, and these should be carefully examined in every suspected case. After the treatment has been carried out, the only way of definitely determining whether or not the cure is complete is by examining the fecal matter and determining the absence from it of both worms and eggs.

PROPHYLACTIC TREATMENT

The treatment may be considered under three heads. The prophylactic treatment is of great importance both to the individual and to the community. As has been stated, the disease is spread by neglect in providing for suitable disposal of the discharges from the rectum. In warm climates where the disease prevails among the poorer classes of society the methods of sewerage employed in cities are unknown, and the majority of people deposit their feces in whatever situation, in field or forest, they may happen to be when the desire comes on them. When sanitary legislation reaches the point that the transmission of infectious disease by the feces is almost impossible, there will be no further danger of the transmission of this disease to uninfected persons. This of course is an immense problem, but one which it seems likely will necessarily have to be met, even in country districts, sooner or later.

The second point in the prophylaxis is the prompt curing of all sufferers from the disease. When this has been accomplished, of course the necessity of the first will be less urgent, but the carrying out of one proposal is almost as difficult as the other, and the first proposition is the most important, because the improper care of the feces results in transmission not only of this disease, but also of several others.

The individual prophylaxis, to be observed by persons living in regions where the disease is endemic consists, in the first place, of protecting the feet and legs by wearing shoes which will keep the dirt and sand away from the skin. Of less importance, but still also to be observed are cleanliness of the hands, care in the preparation of food, and the avoidance of water which may be infected. This may be accomplished by using filtered, distilled, or boiled water.

MEDICINAL TREATMENT

Several drugs have been recommended in the treatment of this disease: the most important are turpentine, oil of eucalyptus, betanaphthol, and thymol. Of these the evidence is very strong that thymol is the most useful and safest, and is fairly entitled to be termed a specific. When this drug is used the patient should be prepared for the treatment by being compelled to fast during the greater part or the whole of the previous day. The previous night he should receive a sufficient dose of magnesium sulphate to produce several watery movements. In the morning, before food of any sort has been taken, the thymol may be administered. The dose may be divided into two or three parts, which may be taken at intervals of one or two hours. The whole amount administered in any one day should be 3.0 grams (45 grains). Two hours after the last dose, another dose of the sulphate of magnesium should be given. It will be found that the thymol, having attacked the worms, has either destroyed them, or at least lessened their vitality to such an extent that they have loosened their hold on the mucous membranes, and the final dose of the Epsom salt will carry them out of the intestine.

It is important that the intestine should be so far as possible empty when the drug is taken, and the preliminary dose of magnesium sulphate not only washes out the food debris, but also the mucus in the intestinal canal in which many of the worms are often imbedded. The action of the drug is desired on the worms in the canal, and it is in no way desirable, in fact it is undesirable, that the thymol should be absorbed. Consequently, no fatty food, alcohol or oil should be taken lest absorption be caused. Castor oil should not be given as a cathartic, although senna may be substituted for the sulphate of magnesium, but it is no better.

The treatment with thymol should be repeated at intervals of three or four days or a week. Stiles, who has given very explicit directions for the treatment of this disease, recommends that the treatment should be commenced on Saturday and carried out on Sunday, and that it should be repeated on successive Sundays until examination of the feces shows entire absence both of the eggs and of the worms.

Finally it remains to speak of the treatment of the results of the infection. It is surprising with what rapidity patients commence to improve after the worms have been removed by the use of thymol; however, the administration of iron will hasten the recovery from the anemia. No form of iron is more useful than the fresh Blaud pill (pilulæ ferri carbonatis) in a dose of 0.20 gram (3 grains) three times a day, after meals; or the reduced iron (ferrum reductum), in dry capsules, in dose of 0.10 gram (2 grains), three times a day, after meals; or the tincture of iron (tinctura ferri chlorid) in a dose of from 3 to 5 drops, in fresh lemonade or other sour mixture, three times a day, after meals; or the patient, if a young child, may be given an *Eisenzucher* tablet (saccharated iron oxid), each 3 grains, to chew up like candy, thrice daily, after meals.

The tincture of iron may be well ordered as follows:

℞	c.c.		
Tincturæ ferri chloridi............	5		fl.ʒiss
Syrupi acidi citrici...............	25	or	fl.℥i
Aquæ ....ad	100		ad fl.℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

℞	c.c.		
Tincturæ ferri chloridi............	5		fl.ʒiss
Acidi phosphorici diluti...........	10		
Glycerini	10	or	āā fl.ʒiij
Aquæ ....ad	100		ad fl.℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

Or

℞	c.c.		
Tincturæ ferri chloridi............	5	or	fl.ʒiss
Elixiris aromatici..............ad	100		ad fl.℥iv

M. et Sig.: A teaspoonful, in water, three times a day, after meals.

As has been repeatedly urged, there is absolutely no necessity for the administration of any other form of iron, than those above mentioned. No organic iron can possibly do the physiologic or therapeutic work of the above irons, or do it any more pleasantly. If one adds to the above list the syrup of the iodid of iron, no other iron preparation is needed in the Pharmacopeia, and it is probable that a small dose of sodium iodid, administered at the same time or during the same day as one of the above iron preparations, would do better iron and iodid work than the iron iodid, certainly as good.

THYMOL, U. S. P.: THYMIC ACID

Description.—*Thymol,* genitive *thymolis,* is a phenol obtained from the oil of thyme (*Thymus vulgaris*). It occurs as large, colorless crystals, insoluble in water, but soluble in alcohol and in oils. Thymol is incompatible with a large number of drugs, such as acetanilid, antipyrin, camphor, chloral, menthol, and quinin.

Action.—It is slightly irritant to the skin, and very irritant, in concentrated solutions, to mucous membranes. If taken in the form of crystals, it is very slowly absorbed, unless fat or oil is taken with it or soon after it. It acts externally and in the alimentary tract as an antiseptic. It is much less soluble than phenol (carbolic acid) in the fluids of the stomach and intestine, and therefore much less readily absorbed; however, when much is absorbed, the symptoms are those of phenol poisoning. It is excreted by the urine in combination with glycuronic and sulphuric acids. Part of it is oxidized. During the excretion it may cause considerable kidney irritation, and if in large amount, even inflammation of the kidneys.

Action of a Therapeutic Dose, or the Primary Physiologic Action.—There should be no evident action from thymol, except locally the action of an antiseptic and internally the lessening of bowel fermentation and putrefaction, and the killing or stupefying of intestinal parasites. Any systemic effects are undesired, and are those of depression or beginning poisoning.

A *toxic* dose or toxic absorption gives symptoms of circulatory and muscular weakness, tremblings, cerebral irritation, renal irritation, and collapse. The treatment would be washing out of the stomach; a brisk saline purgative, as magnesium sulphate; circulatory stimulation; and other treatments indicated in phenol poisoning.

Therapy.—Thymol is too expensive to use as a general external antiseptic, and too sweet in order for use on wounds, ulcers, etc., as its odor is very attractive to flies, which is, of course, very undesirable. It is antiseptic in 0.1 per cent. solution, and has been used in this strength and much weaker for mouth washes and gargles; also in oily solutions as sprays for the nose and throat. Unless the solution is a weak one, it is irritant to the mucous membrane. It may be used as an antiseptic gargle in follicular tonsillitis and diphtheria, but peroxid of hydrogen solutions are much better. Thymol ointments in strength of from 5 to 10 per cent. have been used in various skin diseases, especially when there is itching. Lotions in weak solution have been used with advantage in various forms of pruritus.

As an intestinal antiseptic in diarrheas and in typhoid fever thymol has been generally used. It has no advantage, however, over salol (phenyl salicylate), and may cause more general disturbance. The principal use for thymol is as a specific in uncinariasis. It has also been used as an anthelmintic against the tape-worm and the round-worm.

Official Preparations.—Thymol enters into the composition of *Liquor antisepticus* (U. S. P.), and *Liquor antisepticus alkalinus* (N. F.), both used as gargles and mouth washes. Both preparations should be diluted for use. The dose of thymol itself is 0.10 gram (2 grains), best administered in capsules and never taken on an empty stomach unless a large amount of water or other liquid is taken at the same time.

Administration.—As already stated, the principal use for thymol is against the ankylostoma or uncinaria. It is here given in large doses on the morning following brisk catharsis. The best method is to order it in capsules, and then have the patient uncap the capsule at the moment of taking, and take it with a cup of tea or coffee, without milk, or a cup of plain hot water. It is unwise to give the patient milk or any other food at the time the thymol is administered, as it is desired that the intestinal parasites shall partake of the thymol, and food might interfere with the object desired. For action on this parasite the drug may be ordered as follows:

R	Gm.		
Thymolis	5	or	gr.lxxv

Fac capsulas 10.

Sig.: Take three capsules, with plenty of hot water or other hot liquid, at once, and repeat in one hour.

As stated, it is presumed that cathartic action has taken place either early in the morning or during the night, and the first dose of the anthelmintic should be at seven, and the next at eight o'clock. In from two to four hours magnesium sulphate should be administered, and one hour after this saline, the patient may receive food. This treatment should be repeated in a week.

SOLUTIONS FOR USE IN THE EARS

℞	Gm. or c.c.		
Cocainæ hydrochloridi	0|20		gr.iv
Sodii boratis	0|50		gr.x
Solutionis epinephrin (1-1000).....	5	or	
Glycerini	5		āāfl.ʒiss
Aquæ camphoræ .... ad	50		ad fl.℥ii

M. et Sig.: Ear drops. Warm before using.

℞	Gm. or c.c.		
Cocainæ hydrochloridi	0|15		gr.iii
Acidi borici	0|25	or	gr.v
Glycerini	10		fl.ʒiii
Aquæ .... ad	25		ad fl.℥i

M. et Sig.: Ear drops. Warm before using.

R	Gm. or c.c.		
Acidi borici	2		gr.xxxv
Tincturæ opii	10	or	fl.ʒiii
Glycerini	20		fl.ʒvi
Aquæ .... ad	50		ad fl.℥ii

M. et Sig.: Ear drops. Warm before using.

℞	Gm. or c.c.		
Epinephrini chloridi	0|03		gr.½
Glycerini	20	or	fl.ʒvi
Aquæ .... ad	50		ad fl.℥ii

M. et Sig.: Ear drops. Warm before using.

EYE DROPS

℞	Gm. or c.c.		
Acidi borici	0|25		gr.v
Aquæ camphoræ	15	or	, fl.ʒv
Aquæ .... ad	25		ad fl.℥i

M. et Sig.: Eye drops.

℞	Gm. or c.c.		
Sodii boratis	5	or	ʒiss
Aquæ	100		fl.℥iv

M. et Sig.: Eye wash. Warm before using.

℞	Gm. or c.c.		
Zinci sulphatis	0|10	or	gr.ii
Aquæ	50		fl.℥ii

M. et Sig.: Eye drops.

FOR TOOTHACHE

℞	Gm. or c.c.		
Tincturæ opii	10		
Olei caryophylli	10	or	āāfl.ʒiiss

M. et Sig.: Rub on the gum, or apply with cotton to cavity.

Syphilis and Pauperism.—It is a matter of incalculable importance for society in general and for the community in particular to preserve the productive forces instead of losing them. Prevention, and prompt treatment of syphilis can save great sufferings and heavy expenses. It is much cheaper to treat syphilis promptly and thoroughly than to leave infected people uncared for, and thus wait until the affection becomes a permanent infirmity with the consequent disability. Preventive measures for diseases are indeed economical. These may be formulated in four paragraphs as follows: (1) Instruction and education increase the standard of morality and inculcate high respect for women. (2) Diminish the overcrowding in the tenement houses. In factories and establishments where girls and boys are employed, rules of strict respect for each other must be enforced. (3) Those who have been infected with syphilis must be treated. Hospitals should take care of venereal patients, and dispensaries should be within easy reach of everybody. (4) Prostitution should be under municipal surveillance, and infected prostitutes should not be allowed to remain at large, but should be confined in hospitals and kept under treatment until the manifestations of lues are no longer dangerous for transmission.—A. Ravogli, in *Interstate Medical Journal.*

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[*For other information see second page following reading matter*]

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ANCIENT EGYPTIANS AND MODERN MEDICINE

When, in 1907, it was decided to increase the height of the great dam at Assuan, the Egyptian government sought to lessen, as far as possible, the destruction of the monuments and relics of ancient life on the Nile, by securing for scientific study as much as possible of the most valuable material which would be submerged by the rise of the waters. Numerous cemeteries on both banks of the river were explored, and no less than 6,000 bodies, representing burials during a period of 5,000 years, became available for study. Dr. Elliot Smith, professor of anatomy in the medical school at Cairo, who had already done much work with similar material, was in charge of the anthropological investigations, and largely because of his understanding of pathology the results as reported contain much of medical interest.[1]

It seems that even six thousand years ago, in predynastic times, the population of the Nile valley was comparatively highly civilized, so that the history of civilization must go back much farther than the sixty centuries it can now be followed. During all that time man has been afflicted by at least some of the same diseases from which he now suffers, although perhaps not to the same degree. Professor Smith found no positive evidence of syphilis in the Nubians; tuberculosis was apparently uncommon, and the characteristic skeletal changes of rachitis were not observed. Rheumatoid arthritis seems to have been prevalent, especially in predynastic times. Urinary calculi were occasionally found, and one predynastic calculus analyzed by Shattock was found to be composed of a central body of urates and a shell of phosphates, indicating that six thousand years ago, as now, urate calculi caused cystitis and ammoniacal decomposition of the urine. The *Micrococcus ureæ* is probably quite as old as civilization. Fibrous adhesions around the appendix give the lie to jests about the "new-fangled fad of appendicitis." Gout left its traces in the form of "chalk stones" then as now; but caries of the teeth did not make its appearance until the early dynasties, first being found in the wealthier classes, and not becoming common to the masses until Christian times. Surely there was at this time no change from whole wheat to white flour—the cause to which our British colleagues are now ascribing the modern prevalence of dental troubles.

The chemists have also examined mummy material to some extent. Embalming as practiced by the Egyptians consisted simply in removing most of the viscera, pickling with salt, and letting the dry climate do the rest. Such preserved tissues, even after centuries, retain some of their original characteristics. When softened by soaking in weak alkali the different organs can be identified; the tubules of the kidney and the different layers of the skin are still recognizable (Ruffer).[2] A desiccated heart contained in a vase in the Louvre, and supposed to have been the circulatory center of Rameses II about thirty-one centuries ago, was found to show still the structure characteristic of cardiac muscle.[3] The fatty elements seem to resist chemical change especially well, and infiltrate the tissues in replacement of the decomposing elements.[4] The proteins remain in small part apparently unaltered and coagulable by heat, although they are largely decomposed into proteoses and other cleavage products. In the mummified tissues the usual amino-acids of proteins can be found.[5] It would seem that the biologic characteristics of the proteins are lost before the chemical, for most of the attempts to secure the precipitin reaction with mummy proteins have been unsuccessful. Only with the extremely delicate anaphylaxis reaction can the human origin of mummy tissues be established.[6]

INDIVIDUAL LIBERTY AND THE PUBLIC WELFARE

Legislation limiting women's labor to fifty-four hours a week is opposed by a representative of a manufacturers' association on grounds of pure chivalry—because this official is for woman, and believes in placing no restriction whatever on her activities. We are reluctant to align ourselves with those cynics who profess to feel suspicion when they see a representative of a manufacturers' association suddenly aroused to tender concern for the abstract rights of womanhood, or when they see the same association generously and disinterestedly engaged in vindicating those rights. Doubtless the members of the association are perfectly sincere in their belief that they know best what working women really want, and that they know better what is good for women than do the sociologists and physicians who have studied the question. We are even ready to credit these manufacturers with faith in the amusing arguments of their representative. The human mind is organized with a marvelous and almost unlimited capacity for belief.

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[1] The Archeological Survey of Nubia, 1907-8, vol. ii, Drs. G. Elliot Smith and F. Wood Jones. A full review is given in Nature, 1910, lxxxv, 310.

[2] Ruffer, M. A.: Histology of Egyptian Mummies, Brit. Med. Jour., April 24, 1909.

[3] Brit. Med. Jour., April 28, 1906.

[4] Schmidt: Ztschr. f. allg. Physiol., 1907, vii, 369.

[5] Abderhalden and Brahm: Ztschr. f. physiol. Chem., 1909, lxi, 4.

[6] Uhlenhuth: Ztschr. f. Immunitätsforsch., 1910, lv, 774.

The arguments in favor of "emancipating" woman by permitting her to work twelve, fourteen, sixteen or even eighteen hours a day if the fancy strikes her (and if she can find a kind-hearted employer willing to humor her little whim), seem good material for the cartoonists and paragraphers, but too flimsy to deserve refutation in a serious periodical; and, indeed, we should not mention them except that the underlying assumption is one which still has weight with many persons, and one on which the opponents of public health measures always rely. This assumption is that law is the only social agency which interferes with the freedom of the individual, and that a law prohibiting an individual from doing any act necessarily limits that individual's liberty. Compulsory vaccination, government supervision over foods and drugs, local option, the enforcement of quarantine, the compulsory reporting of contagious diseases—in fact, almost all measures for the public welfare—are bitterly decried in some quarters as infringements on the liberty of the individual. In the present instance, a few sorely misjudged philanthropists are determined that working women shall not be allowed to part with an unprofitable abstract right which the latter would like to exchange for more practical freedom.

It will be a gain for the world when the academic concept of absolute liberty departs at last to that limbo set apart for theoretical abstractions which have no relation to practical affairs. Absolute liberty is as impossible of achievement as a perfect vacuum, and as inconsistent with the conditions of life. We live in the midst of coercions, physical, social, economic and legal; and often a technical prohibition is actual release from oppressive compulsion. Effective freedom is built up as much of limitations as of opportunities. No one can draw breath and be entirely ignorant of this principle, yet so many disregard it that it is worth while for those who are working for reform in matters of public health and welfare to see to it that the public not only knows wherein its freedom consists, but realizes it.

THE EFFECT OF EXERCISE ON THE BLOOD-PRESSURE AND PULSE

A systematic investigation of the effects of various forms of exercise on the systolic, diastolic and pulse-pressures and on the pulse-rate has been carried out by Dr. O. S. Lowsley.[1] The observations were made on healthy men, mostly young athletes who were in training, and the results obtained were about what might have been expected. The blood-pressure and the pulse-rate were universally increased during exercise and were found to be above normal even at the end of periods of very exhausting work.

In this Lowsley's observations differ from those of certain other investigators, and he attributes this to the fact that he was able to take observations immediately after the cessation of exercise, before the subsequent subnormal phase had set in. After exercise there is a period of subnormal blood-pressure, and the more exhausting the exercise, the more marked and prolonged will this phase be. The rapidity with which the pulse-rate drops to normal is also determined by the degree of exhaustion. There is often observed, however, a secondary rise in rate during the period of subnormal blood-pressure. Very violent exercise of even a few seconds, as in the running of a hundred-yard dash, causes a much more pronounced and lasting negative phase than does more prolonged but moderate work. Gräupner has shown that mild rapid exercise causes a rise in blood-pressure in normal individuals which outlasts the period of acceleration of the pulse, while in individuals with weak hearts the blood-pressure falls before the pulse-rate has reached normal.

Lowsley suggests that the duration of the negative phase is a very fair index of the strain on the circulatory system and that the test might be used in determining the fitness of any individual for the performance of certain forms of exercise. He believes that if the negative phase lasts less than an hour it may be considered well within the "hygienic limit," but that if it lasts more than two hours it is a sign that the margin of safety has been exceeded. Physical directors have been obliged to depend largely on their general impression of the effects of races, games, etc., on their charges, except in the elimination of those who are obviously unfit, and such a measurable factor should be of considerable help to them in deciding the qualifications of those who are apparently sound.

SOCIOLOGY AND MEDICINE

The problems of sociology are, in most instances, problems of preventive medicine, and many of the problems of preventive medicine resolve themselves into sociologic questions. The cure of disease in its larger aspect lies in its prevention in the individual, the community, the state. Medicine in its practical application must inevitably become almost wholly a problem of prevention. This involves its operation on the mass rather than the individual, and, therefore, it becomes a sociologic problem, with the knowledge acquired through the study of pure science to aid in its solution. Waiting for disease to arise in the individual, and then attacking it, involves an enormous economic waste, a waste of time, energy, earnings, efficiency, of life itself, to say nothing of the suffering, which causes a waste of nerve force, or of the tax on those immediately surrounding the individual and charged with his care. Likewise, philanthropy, state or private, directed to the relief of individual suffering and disease due directly or indirectly to faulty sociologic or industrial conditions, even though at present commendable and necessary from the humanitarian standpoint, means a tremendous waste. The vast public appropriations for hospitals and sanatoriums for the care of individuals suffering from contagious and infectious diseases — tuberculosis for instance — when weighed against prevention really constitute a waste. Prevention means the saving of most of this waste.

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[1] Am. Jour. Phys., March 1, 1911.

As great strides are being made in the acquisition of ultimate scientific knowledge, so also real progress is being made on the side of preventive medicine involving sociologic questions. A mere enumeration of some of the enacted and proposed legislative measures along the lines of public health and welfare will illustrate the point. The national Food and Drugs Act, supplemented by state and municipal enactments concerning milk and other foods; quarantine laws, the reporting and supervision of epidemic and other contagious and infectious diseases; compulsory vaccination; the investigation and regulating of public water-supplies, sewage disposal, etc., and, coming more truly within the realm of the sociologic, child labor laws, and laws concerning minimum wage and minimum hours of labor for both men and women; employers' liability laws; laws compelling the employment of safety devices in industrial pursuits; laws against the use of injurious chemicals in the arts; the establishment of public playgrounds; laws regulating the building of tenements, factories, etc., providing for proper light and air space; school inspection and open-air schools; laws to secure better housing conditions, better hygienic conditions in prisons, etc., and for the regulation or prevention of the social vices—all of these are problems of preventive medicine. Many of these measures have been enacted into laws and carried into effect either nationally or locally, and most of these topics are at the present time the subject of active agitation in the newspapers, in the magazines, in medical and sociologic associations, in congress or in the legislatures.

Seemingly, a good deal has been accomplished along these lines, but really only a beginning has been made. The problems of prevention may never attain complete solution, just as medicine may never become an exact science; but in both we are surely progressing. The sociologic problems of preventive medicine which have attained partial solution so far have been solved by the strenuous fighting of the physicians—the scientists—aided by the sociologists, advanced thinkers, the so-called theorists or reformers, who have had to contend every inch of the way against the reactionaries who have failed to see their own real interests. More recently, however, the practical mind has been made to see the material advantage in measures that were formerly thought to be merely visionary; and so we find a more liberal and tractable attitude on the part of councils, legislatures and congresses, corporations and individuals along lines that make for the public health and welfare, such as improvement in factory and other industrial conditions, the prevention of injuries, first aid, sick benefits, workmen's compensation laws, shorter hours of labor, minimum wage questions, and better housing conditions; and, in addition, we have the tremendous public activity in general hygienic and health matters.

In many of these measures of prevention we are behind foreign countries, as in the protection of workmen from injury and from occupational diseases in industrial pursuits, and in employers' liability and workmen's compensation laws. But the importance and justice of these things are becoming recognized by the employers of labor here, who realize that they have no moral right to exploit their employees under unhygienic or dangerous conditions to life and limb, and throw on the community the burden of caring for incapacitated wage-earners or their dependents. The injustice of this policy has reached the point of national recognition, and the President in 1910 approved a resolution adopted by Congress, calling for an official investigation of this matter. Opposition to such beneficent measures will, of course, always exist, and reactionary measures will be attempted, as in the instance of the efforts to abolish the tuberculin test of cattle in Illinois and Wisconsin, and the recent opposition of the secretary of the Illinois Manufacturers' Association to the limitation of the hours of labor of women in all occupations in Illinois to fifty-four hours a week. But the tide of progress in these sociologic measures of preventive medicine cannot be permanently stemmed, and along with legislation for a national department of public health—another measure whose object is prevention—they will be adopted sooner or later. Progress in knowledge is never along direct lines, but always in zigzags, which nevertheless end farther forward than where they started.

Current Comment

NEW AND NONOFFICIAL REMEDIES IN THIS ISSUE

A little over six years ago the Council on Pharmacy and Chemistry was created. No medical organization or society has caused such a revolution as has this Council in the six years it has been in existence. The nature of this revolution is known to all readers of THE JOURNAL, and it is not necessary to enlarge on it. The work of the Council has been both critical and constructive. The constructive part has resulted in the publication of an annual known as New and Nonofficial Remedies, or, in brief, N.N.R. This annual contains a list of the preparations which have been accepted by the Council; in other words, the preparations which have complied with the ten rules adopted. Practically all these articles are proprietary preparations, and N.N.R. is the only book, so far as we know, to which a physician can go for accurate information, impartially presented, regarding such medicines. The manufacturers may be depended on to furnish the medical profession with plenty of statements of the optimistic kind, but the better class of medical men to-day are not so easily satisfied with such information as they were five or six years ago. In order that every reader of THE JOURNAL may have it on hand for convenient reference, N.N.R. for 1911 is sent as Part II of this issue. It is recommended that this book be examined critically, and especially is it urged that physicians read the rules, which are printed in the front of the book, bearing in mind that these rules represent the principles on which a preparation is accepted or rejected. Much thought was given to the preparation of these rules, and the Council believes that they represent just principles. If our readers agree with the Council, then they certainly ought to limit their prescribing to those proprietaries which have been accepted. The Council has decided favorably or unfavorably concerning practically all the proprietary medicines on the American market; hence it is safe to assume that those not included in N.N.R. have not been accepted because their manufacturers either could not or would not make them conform to the rules.

PENNSYLVANIA MILK INSPECTION

The state health officers of Pennsylvania are making the seventh inspection of the more than 40,000 premises producing milk for sale. This work in Pennsylvania is said to be done in a more comprehensive way than has been attempted in any other state. The inspection is not only extended to premises producing milk for wholesale or retail distribution, but is made on every farm producing milk for sale to creameries, butter-making establishments, cheese factories, condensories, etc., and even includes dairy farms where the product is worked up at home for sale in the markets. The health department's inspection is purely a sanitary one and deals with the cleanliness of the cow, of the stable, the cow-yard, the milk-house, with cleanliness on the part of the milker and the purity of the water used about the dairy farm and milk house. It is entirely different from that conducted by the state veterinarian, who concerns himself with the health of the herd, and that by the dairy and food commissioner, who limits himself to the use of preservatives and adulterants in the milk. These different forms of supervision of milk production and distribution should insure a vast improvement in the quality of the milk-supply and be reflected in the general health conditions in the state.

FACTORS IN RAILWAY ACCIDENTS

According to Accident Bulletin 37 of the Interstate Commerce Commission, the number of persons killed in train accidents during July, August and September, 1910, was 321, and the number of the injured was 3,892. "Accidents of other kinds" are said to have numbered 22,328—2,948 persons having been killed and 19,380 injured. This includes those accidents sustained by employees while at work, by passengers in getting on or off cars, by travelers at highway crossings, by persons doing business at stations, etc., by trespassers, and others; but excludes "industrial accidents" and accidents to employees resulting only in slight injury. These figures, which read like statistics from some seat of war, are, it should be remembered, for but one quarter of the year and for the single industry of transportation. Some accidents, as clearly appears from the bulletin, are due to the element of human fallibility, as, when an engineer fails to heed a signal, or an operator delivers an incorrect order. They indicate the need for installing, wherever possible, safety devices, in regard to which Europe is said to be far ahead of the United States. Another cause alleged by a practical railroad man[1] is a tendency among railroad employees to make haste by cutting red tape. A third cause is the deliberate, cynical disregard of human safety which foreign observers are prone to consider an American characteristic. This is a factor which is not evident in the accident bulletins; but that community is fortunate which has no witness to its presence. Chicago, for instance, has the notorious "death-strip," a section of double street-car tracks laid so close as barely to permit cars going in opposite directions to clear each other, thus sentencing to be crushed to death any unfortunate—young child, aged, infirm, uninformed or merely heedless person—who happens to be caught between two such cars. This particular strip was constructed with full knowledge of its possibilities, the street-railway companies offering the amazing extenuation that the public would "become educated" to the danger. This expectation, it may be added, has been justified; at least, those members of the public whose education has been finished on the "death-strip" would now fill a small cemetery. This is merely one example. There are others in other cities. When the people are awakened to the possibilities and the necessities of the whole situation there will be a change. The reputation of this country for carelessness with regard to human life is not an enviable one.

COMMERCIAL UNTRUTHFULNESS—A PASSING EVIL

Among Europeans it has long been held that exaggeration, hyperbole, even humbug, is a characteristic that finds its highest development in the United States. We have been told this so often that, as a nation, we have almost come to believe it ourselves. Particularly, it is alleged, has this trait been prominent in the commercial world. It is true that in the past the protection accorded the American consumer has been largely a matter of academic interest rather than of practical legislation. Even to-day the man in the street purchases as "all wool" clothes made of a mixture of shoddy and cotton. In matters more closely connected with his life and health, however, the American citizen receives a greater degree of protection than is accorded the citizen of any European state. The passage of the federal Food and Drugs Act and its enforcement by honest and efficient officials have done much to safeguard the American people from those who would jeopardize the health of the nation for their own financial advantage. In a field peculiarly its own, the American Medical Association through The Journal and the Council on Pharmacy and Chemistry, has undertaken a task such as has been attempted in no other country—that of giving reliable information regarding medicinal products of a proprietary nature used by the medical profession. Untruthfulness and even exaggeration regarding the virtues of products put out for the use of physicians in treating the sick, is a lesser evil in the United States than it is in any

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[1] Fagan, J. O.: Confessions of a Railroad Signalman, Houghton, Mifflin & Co., Boston, 1908.

European country. Yet less than a decade ago there was probably more fraud in the exploitation of proprietary medicines in the United States than existed anywhere else in the world. Thanks to a vigorous campaign carried on both by enlightened laymen and by the organized medical profession, the public consciousness has been awakened and the United States, instead of standing lowest in the scale of commercial probity regarding the sale of medicinal products, now stands at the head. That this fact is recognized by intelligent Europeans is evident from an editorial by Professor W. Heubner of Göttingen, a translation of which appears on another page.[1] We believe that, so far as pharmaceutical products are concerned, the American public is better protected, and the American medical profession more reliably informed, than is the public or the medical profession of any other country in the world.

ANIMAL EXPERIMENTATION BY CLERGYMAN SCIENTIST

According to a recent number of the Pittsburg *Christian Advocate,* the Rev. Maitland Alexander, pastor of the First Presbyterian Church of Pittsburg, is carrying on a series of experiments on monkeys in the hope of finding a serum for infantile paralysis. It seems that the Rev. Mr. Alexander has worldly possessions which enable him to interest himself in any avocation and that he has taken up scientific work, in addition to his professional duties, in the hope of helping to check the awful ravages of infantile diseases. The *Advocate* thinks it strange that some sentimentalists have not tried to create a public sentiment against Dr. Alexander and his associates for their use of monkeys. That this has not been done is truly surprising; doubtless the fact has not yet been brought to the attention of *Life.*

POSOLOGY

The determination of the proper dose of medicine is often a difficult problem; and the following from Manquat's "Principles of Therapeutics" is worth quoting:

> We should like to note that it is not good practice to seek to secure complete functional correction by means of drugs. If, through hygiene, the organism is placed under the conditions of optimum of function, a small dose often suffices to bring about restoration of the disturbed function. It is often better to be content with improvement and modestly live according to appropriate hygiene rather than to seek the medicamental triumph of complete functional restoration which will not last. A patient with mitral stenosis, for instance, who knows enough not to ask of his heart more than it can give, will have the greatest chances of continuing long without the aid of medicinal assistance; and when one is at last obliged to resort to digitalis, minute doses, as has been shown by Dr. Huchard, are to be prescribed. To content oneself with producing diuresis, through theobromin, in a patient suffering from renal insufficiency would be a reprehensible practice; it is better, first, to restrain all the endogenous and exogenous intoxications, and prescribe only small doses of the diuretic remedy, which can be repeated whenever necessary. The patient's mode of life and alimentation should first of all be adjusted to his functional forces; while medicinal intervention should be regarded as a therapeutic adjunct. There is a case, however, in which a large dose is demanded from the beginning; that is, in the presence of an accident menacing life, when an active medicament alone can restore the adequate function of the failing organ. Such is in particular the case in cardiac asthenia capable of endangering life, or in an alarming dyspnea, or in sudden anuria, in which large functional doses are necessary. There should then be no hesitation in seeking energetic action, unless some positive contra-indication exists. The patient's salvation may depend on such action.

The principles stated are correct. The drug is to be regarded only as a staff to assist lightly over the difficult places, and not as a strong crutch to bear the whole burden. First throw away the pack and the other impedimenta; give entire freedom of action to all the natural forces; assist by the staff only as actually needed and the steep will be surmounted. But when there is danger of falling over the precipice, then the most vigorous assistance must be supplied on the instant. The practical application of Manquat's plan, selecting in each instance the proper drug in the proper dose, and for the proper length of time, is a matter of knowledge, experience and the nicest discrimination.

UNIFORMITY IN DEATH CERTIFICATES

The increasing attention paid to vital statistics by the present Director of the Census cannot fail to be gratifying to physicians. For the accurate collection and tabulation of mortality statistics, not only is it necessary that uniform laws be adopted and enforced in the different states; it is also essential that local registrars, and especially physicians, follow a uniform system of nomenclature in filling out death certificates and reports. The American Medical Association for several years has had a Committee on Nomenclature and Classification of Diseases, which is cooperating with others, with a view to securing greater uniformity in terminology. Representatives of the various civilized governments (the United States included) have prepared an international list of causes of death which has been adopted by over twenty of the leading nations. In order to place this list in convenient form for ready reference by physicians, the bureau of the census is distributing to physicians, in large quantities, a pocket reference list in which are tabulated 189 causes of death, with notations showing the proper form in which the causes of death should be reported. The pamphlet also contains a list of undesirable terms and the history of the extension of the registration area in the United States. It is convenient in form and should be in the hands of every practicing physician. Any physician who has not already received a copy from the census bureau can secure one by addressing a postal card to the Director of the Census, Washington, D. C. General cooperation in the use of a uniform nomenclature will greatly increase the value of our vital statistic figures and reports.

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[1] Page 1155, this issue, abstract 106.

AN EARLY EXPONENT OF THE GERM THEORY

Long before Pasteur demonstrated the relation of germs to disease, and 163 years before the discovery of the tubercle bacillus by Koch, Benjamin Marten, M.D., of London, is said to have published a book in which he set forth in considerable detail a theory of disease that covers in a surprising way the present accepted germ theory. His book, dated 1720, is entitled "A New Theory of Consumptions, More Especially of a Phthisis or Consumption of the Lungs." A number of copies of this book are in existence, one in the British Museum, and the February issue of *Janus* contains a reproduction of the title-page, and an article by C. A. Singer, in which are quoted at length the exact words of Marten in which he elaborates his theory. Speaking of "consumptions" in general, he says: "The original and essential cause, then, . . . may possibly be some certain species of animalcula or wonderfully minute living creatures, that by their peculiar shape, or disagreeable parts, are inimicable to our nature," and they may gain access to our bodies by the air we breathe, the food we eat and the liquor we drink, or perhaps in other unknown ways, and "being there deposited in a proper nidus or nest and being produced into life, coming to perfection or increasing in bigness, may by their spontaneous motion and injurious parts . . . cause all the disorders that have been mentioned," viz., plague, venereal disease, measles, small-pox, the "common rheum" and leprosy. He then develops this theory so as to account for tuberculosis of the lungs, and states his belief that if he had had glasses strong enough he would have been able to see these minute organisms. He discusses the possibility of intra-uterine or hereditary transmission, remarks that it is reasonable to suppose that specific diseases are due to specific organisms, and considers epidemic diseases in the light of his theory. He calls attention to diseases that seem to be communicated by contact, and from the fact that scabies is transmitted in this manner and is due to a little animal that could be seen by the glass, thinks it reasonable to conclude that syphilis might be carried in much the same way, although the organism could not be seen. He did not believe that all diseases were due to such organisms, but that those named probably were. He advanced this idea only as a theory, and in it he foreshadows the theory of bacterial toxins, for in speaking of treatment he recognizes the difficulty of killing the germs in the body, saying that even that would not cure the disease, as "their pernicious effects could not be supposed to be thereby so immediately cured, any more than destroying a dog that had bit a man could be supposed to cure the wound he had made with his teeth." It is astonishing how well, under the state of scientific knowledge at that time, he had worked out even details of his theory and how closely he skirted the reality. He thinks it is reasonable and probable, and hopes it will "afford sufficient hints to some able hand to carry the theory much farther than I have done, and, it may be, bring it to absolute demonstration." It was over a hundred years before this was done by Pasteur and Koch.

THE REFORMED ALMANAC AS A HEALTH EVANGELIST

From time immemorial the almanac has been the special advertising prerogative of the "patent medicine" company. Who does not find among the earliest recollections of his childhood the almanac with its medley of calendar, astronomical events, weather predictions, old jokes, medical advertisements and patients' testimonials? At least one such almanac was to be found in every household and it was, perhaps, the most frequently consulted book in the family possessions. To it the children went to find on what day of the week Christmas, New Year's, the Fourth of July and the family birthdays occurred. Mother and the girls always went to it to find when Easter was to come that year. Father was careful to look for the phases of the moon before doing his spring planting and grandmother used it to verify her predictions as to whether next winter would be mild or severe. Its value as an advertising medium was recognized by innumerable nostrum firms, which for years issued almanacs by the million copies. One of our later-day state board of health secretaries[1] has realized that if an almanac is a good thing to advertise nostrums it is an equally good thing to advertise health. The January-February number of the *Virginia Health Bulletin* is issued in the form of an almanac. It has the calendar by months, the phases of the moon, the time when the sun and moon rise and set for each day, the important historical events and all the other time-honored earmarks of almanacs, but instead of the musty jokes and stereotyped testimonials of patients "pronounced incurable by the doctors," but cured by two bottles and a half of Indian Bitters, it has sanitary aphorisms such as "An open window is better than an open grave," "A dirty well is more dangerous than a dirty kitchen," "A good iron pump costs less than a case of typhoid," "Good water is one of the best insurance policies a family can carry," "Two dollars for a doctor is cheaper than a hundred dollars for a funeral," "If your milk man brings warm milk, make it hot for him," "Wire screens in the window keep crape from the door," "Typhoid germs are small in size, but they are more expensive to keep than blooded horses," "A light overcoat is better than a heavy cold," "Many a cough ends in a coffin," "It is better to sleep in the fresh air than in the fresh grave." A special subject is assigned to each month—small-pox to January, pneumonia to February, measles to March, infants' complaints to May, typhoid to July, colds and influenza to November, and consumption to December—with a page of common-sense advice, in plain, simple language, under each topic. The Virginia Department of Health deserves hearty congratulations for its success in reforming one of our oldest family institutions and converting it into an evangel of health.

Syphilis and Cardiovascular Disease.—Syphilis as a cause of cardiovascular disease does not receive the attention its importance merits. Endarteritis with its consequences even to the extent of complete obliteration of vessels, especially in the heart and brain, can be traced to this disease.—C. W. Chapman, in the *Practitioner.*

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[1] Dr. E. G. Williams, Richmond, Va.

Medical News

COLORADO

Personal.—Dr. Frank R. Spencer, Boulder, has gone to Europe.——Dr. Edward Delehanty has been elected president of the staff of St. Joseph's Hospital, Denver, vice Dr. Samuel D. Hopkins, deceased.

Medical Department of City Library.—El Paso County Medical Society is planning to put its library of text-books and periodicals into the public library of Colorado Springs so that the public may have access to this literature.

Charges Graft.—Dr. Elizabeth Cassidy, chairman of the finance committee of the board of commissioners of Denver County, claims that there has been great extravagance or graft in the management of the affairs of the county institutions and is said to have withheld monthly payments until thorough investigation has been made.

GEORGIA

State Society Meeting.—The Medical Association of Georgia will hold its annual meeting in Rome, April 19-21, under the presidency of Dr. Edward C. Davis, Atlanta. The headquarters of the association will be at the Cherokee Hotel, and the business sessions will be held in the superior court room.

State Tuberculosis Camp Opened.—The State Tuberculosis Sanatorium, Alto, was formally opened, March 21. Seven patients immediately availed themselves of the opportunity for treatment. The capacity of the institution is at present seventy, but the buildings have been so constructed that 300 patients can be accommodated at comparatively no additional expense.

District Society Meetings.—At the annual meeting of the Seventh District Medical Society, held in Cartersville, March 9, the following officers were elected: president, Dr. William J. Shaw, Rome; vice-president, Dr. Alfred B. Greene, Cartersville, and secretary-treasurer, Dr. Tanner Lowry, Eucharlee. Cartersville was selected as the next place of meeting.——The Fourth District Medical Society held its annual meeting in Carrollton. Drs. Joseph N. McCormack, Bowling Green, Ky., and Edward C. Davis, Atlanta, president of the state association, delivered addresses, and the following officers were elected: president, Dr. Charles A. Dexter, Columbus; vice-president, Dr. H. J. Goodwin, Roopville, and secretary-treasurer, Dr. Homer Boatright, Carrollton. The next meeting of the society will be held in Greenville, September 19.

Personal.—Dr. S. Wicks Merritt, formerly of Baltimore, has been appointed superintendent of the new tuberculosis sanatorium built by Atlanta and Fulton Counties.——Drs. John F. Harris, William E. Wood, Harlan L. Erwin and Jesse G. McAfee have been appointed members of the board of health of Dalton.——Dr. R. P. Sorrells, Athens, has purchased a large interest in Pine Ridge Sanatorium for Tuberculosis and has been elected secretary-treasurer and business manager of the institution.——Dr. R. J. Horne has been elected a member of the faculty of the Medical College of Georgia, Augusta, and Dr. Noel M. Moore has been reelected a member of the governing board.——The governor has reappointed Dr. Francis M. Ridley, LaGrange, a member of the State Board of Medical Examiners, and Dr. Jarrett W. Palmer, Ailey, a member to succeed Dr. Isham H. Goss, Athens.

ILLINOIS

Personal.—Dr. Harry S. W. Spencer, Kankakee, is reported to be seriously ill with pneumonia.——Dr. George C. Lewis, Fairbury, has retired after thirty years of practice.

Donates a Purse to Missionary.—The Waukegan Physicians' Club has made a liberal contribution which has been given to Dr. Margaret S. Grant who leaves in the early summer for China where she intends to make an exhaustive study of the pneumonic plague.

Legislation.—Senate Bill No. 235 has passed the senate and is now in the house of representatives. There is, apparently, organized opposition against the bill in the house and this is directed toward Section 6-A, which aims to give the State Board of Health jurisdiction in the matter of revocation, over all licenses issued since 1877. Under existing conditions, a physician licensed before July 1, 1899, may deceive and defraud the public, may commit any crime, may even be sent to the penitentiary, and yet remain a licensed physician, as under the decision of the Supreme Court, the State Board of Health has no jurisdiction over licenses issued prior to July 1, 1899. Under these conditions the board is unable to protect the people from the impositions of frauds, quacks, charlatans and impostors, and is rendered impotent in what was intended to be one of its most important functions, namely: "To detect quacks and to prevent them and all ignorant pretenders from imposing on the sick and helpless." The bill does not in any manner increase the requirements now demanded of medical colleges, but is a step in the direction of a higher, better, more practical and more thorough medical education. The bill has been amended so as to provide that a medical college, whose students shall be licensed to practice temporarily in a hospital under the direction of the college, shall require as a prerequisite to graduation, a course of study extending over at least five calendar years.

Chicago

Personal.—Dr. Rosa Engelmann has returned after a year in Europe.——Dr. and Mrs. Arthur R. Reynolds have returned from California.——Dr. and Mrs. Archibald Church and son have returned from Ocean Springs.——Dr. Ernest A. Loewinger was assaulted by unknown persons, April 9, but was not seriously injured.——Dr. Winfield S. Hall has been elected as head of the local branch of the National Health League.

INDIANA

State Conference of Charities.—The twentieth annual state conference of charities and corrections will be held in Indianapolis, October 28-31. Prof. W. G. Weatherly will preside, and the principal addresses will be delivered by Jacob Riis, New York City; Prof. W. H. Bailey, of Cornell University, and Miss Jane Addams, of Hull House, Chicago.

State Red Cross Report.—The Indiana branch of the American Red Cross reports that in the biennium, ended March 24, seventeen cases of tuberculosis among the deserving poor had been treated, at an average expense of $15 a week. These patients were housed in cottages near Danville. Not a single death occurred and cure is expected in all the cases. The association has erected six cottages at South Bend and expects to erect four more in that place, four cottages at Terre Haute, two at Vincennes and six at Indianapolis.

To Benefit Hospital Service.—The late Alfred Burdsall has left his entire estate, amounting to $700,000, to public and charitable institutions of Indianapolis, subject to a life interest for his wife. One-half of the amount is, eventually, to be given to the city board of health for the improvement and benefit of the hospital service of Indianapolis and to provide homes for incurables. His library and $5,000 in cash are bequeathed to the Indiana Tuberculosis Hospital, Rockville, for the erection of a library building, and the remainder of the estate is to be devoted to local charities and the department of public parks of that city.

Health Week at Fort Wayne.—Health week at Fort Wayne was inaugurated March 27, and, during the week, afternoon and evening lectures and demonstrations were held. Samples of tuberculous meats were sent daily from Chicago for demonstration. Among the speakers of the week were Dr. William A. Evans, Health Commissioner of Chicago; G. W. Porter, of the Bureau of Animal Industry of the Department of Agriculture; Dr. W. F. King, Assistant Secretary of the Indiana State Board of Health; Dr. Mazyck P. Ravenel, of the University of Wisconsin; Dr. Alice Hamilton, of Hull House, Chicago; Miss Lenna Cooper, a dietitian of Battle Creek, and Mrs. Caroline Crane, the sanitary expert of Kalamazoo.

Personal.—Dr. James M. Dinnen, Fort Wayne, has been recommissioned as a member of the State Board of Medical Examination and Registration.——Dr. Paul E. Bowers, Indianapolis, has been appointed physician to the northern penitentiary, Michigan City, vice Dr. J. W. Milliken, who has been made deputy warden.——Dr. John H. Alexander and wife, Greensburg, were assaulted and severely beaten by a drunken man, April 2.——Dr. Henry Gers, Washington, state senator, is in a serious condition as the result of a recent cerebral hemorrhage.——In the suit of Dr. Charles F. Cluthe, Evansville, against the Big Four System, in which $35,000 damages were claimed on account of the passing of the railroad through his property, the jury has awarded the plaintiff $1,500.

Violations of Pure Food Law.—During the past two weeks, the following violations of the State Food and Drug Laws have been decided: Three druggists in Indianapolis have been arrested and fined for failing to state the amount of alcohol in paregoric; one druggist in Indianapolis, for selling an impure drug; an individual in Bicknell was fined $25.00 for spitting on the floor in a food institution; in Nappanee a fine was imposed for selling spirits of camphor below the United

States standard; in Hammond, there was a conviction for selling oleomargarine for butter; in Gary, one for selling dirty milk in a dirty container; in Waveland, one for selling apple cider containing benzoate of soda; in La Fontaine, one for selling blackberry cider containing benzoate of soda; and, in Bicknell, the proprietors of an insanitary restaurant and slaughterhouse were fined.

IOWA

County Tuberculosis Hospital.—The Polk County Board of Supervisors has decided to erect a tuberculosis hospital at a site selected on the county farm. The plans provide for the erection of a large tent to accommodate twenty patients, and a permanent building to be used as a kitchen and dining hall for the inmates. During the summer the construction of a permanent hospital will begin. It is stated that residents of Polk County suffering from tuberculosis will be entitled to treatment without charge at the institution.

General Hospitals for Counties.—Two years ago the Iowa legislature passed a bill permitting counties to vote for the levying of a tax to build general hospitals and providing, also, for the erection of separate buildings for the care of tuberculous patients. At the November election eight counties voted on this question, but in only one—Washington County—was the vote successful. A tax of $25,000 was voted and the management was placed in the hands of a board of seven trustees, none of whom is a practitioner. A citizen of Washington donated a site containing 11 acres for the institution, and churches, lodges and private citizens have provided the furnishings.——At a special election, called March 22, Jefferson County voted to establish a general county hospital and voted $27,000 for this purpose. The Washington County hospital is expected to be ready before next winter. The credit for this good work should be given, largely, to the medical men in each county for their united action in the matter.

KANSAS

Personal.—Dr. Benjamin P. Smith, Miltonvale, has succeeded Dr. Chilton W. McLaughlin, Kansas City, as national medical director of the Sons and Daughters of Justice.——Dr. Josaphyne R. E. Davis, Ottawa, who has been under treatment in Kansas City, has returned and resumed her practice.

New Hospital for Kansas City.—The campaign to raise $200,000 for the new Bethany Hospital to be built on Mount Olivet, Kansas City, was started April 2. The territory included in this campaign consists of all of Kansas and all of Missouri south of the Missouri River, comprising the St. Louis conference district of the Methodist Episcopal Church.

Golden Belt Physicians Meet.—At the annual meeting of the Golden Belt Medical Society, held in Salina, April 6, Dr. Leonard S. Steadman, Junction City, was elected president, Dr. R. C. Brown, Kansas City, vice-president; Dr. L. O. Nordstrom, Salina, secretary, and Dr. John W. Neptune, Salina, treasurer. Dr. John G. Sheldon, Kansas City, Mo., conducted a surgical clinic for the society at St. Barnabas Hospital.

LOUISIANA

Personal.—Drs. Ralph O. Hollister, Augustus F. Gates and John L. Robinson have been appointed members of the Board of Health of Hammond.——Dr. Sidney D. Porter, Morcauville, medical inspector of the State Board of Health, has moved to New Orleans.——Dr. Sara Tew Mayo, New Orleans, has been awarded the *New Orleans Picayune* loving-cup which is donated every year to the citizen who shall be declared to have rendered the most signal and unselfish service to the people and best interests of the city.——Dr. Samuel A. Dickson, Shreveport, who has been critically ill is reported to be improved.——Dr. Charles A Schilling has been elected president, and Drs. Marion A. Young and Hartwell A. Eldredge have been made members of the Abbeville Board of Health.——Dr. William L. Grace has been elected president of the Plaquemine Board of Health.——Drs. Robert P. Jones and Tacitus W. Young have been appointed members of the Board of Health of Clinton.

MARYLAND

Baltimore

Operation on Dr. Barker.—Dr. Lewellys F. Barker was operated on for gall-stone disease by Dr. John M. T. Finney, April 10. The appendix was also removed. According to latest reports Dr. Barker is doing well.

Improvement in Marine Hospital.—Extensive improvements are being made in the United States Marine-Hospital. A new system of tuberculosis tents has been installed; a new electric lighting system has been put in operation; interior telephones have been placed and other minor improvements have been made.

Hospitals Benefit.—The Church Home and Infirmary is to receive, under the will of the late Miss Harwood, two-fifths of the estate which is appraised at more than $130,000.——The thirty day "Whirlwind Campaign" to raise $300,000 for additions to Mercy Hospital begins April 10. Cardinal Gibbons is at the head of the advisory board.

Portraits to be Presented.—At the coming meeting of the Medical and Chirurgical Faculty of Maryland, portraits will be presented of the late Dr. Francis Donaldson by Dr. William H. Welch and of Dr. Charles M. Ellis, Elkton, by Dr. Lewellys F. Barker. The annual oration is to be delivered by Dr. George W. Crile, Cleveland, O., and will be followed by a smoker. The scientific session of April 27 will be a joint meeting with the Maryland Pharmaceutical Association and will be addressed by Professor Charles Caspari, Jr., Pure Food Commissioner, and Mr. John B. Thomas of Baltimore.

MASSACHUSETTS

Prominent Dentist Dies.—Edward Walter Branigan, professor of clinical dentistry at the Tufts Medical School and for the past few months its acting dean, a trustee of the Forsyth Dental Infirmary, a member and former president of the National Association of Dental Faculties and a dental member of the American Medical Association, died in Charlesgate Hospital, Cambridge, March 23, from heart disease, aged 35.

New Talitha Cumi Home.—The New England Moral Reform Society, which maintains the Talitha Cumi Maternity Home, is marking its seventy-fifth anniversary by the erection of buildings for the home on Forest Hills Avenue, Boston. A tract of 3 acres of land has been secured and the first group of buildings, consisting of the waiting department, the maternity hospital and the foundations and basement of the industrial home, will be erected at a cost of about $62,000. In the waiting department about forty can be accommodated at one time and the hospital can provide for thirty patients.

Personal.—Dr. Louis E. Dionne has been elected chairman and Dr. Albert G. Blodgett secretary of the Board of Health of Ware, and Dr. Harry D. Gafney has been appointed town physician.——Dr. William H. Keleher, Woburn, has been appointed medical examiner of the district comprising Woburn, Winchester, Lexington and Burlington, vice Dr. Harrison G. Blake, Woburn.——Major Frank P. Williams, M.C., N. G., Mass., has been detailed to attend the maneuvers on the Mexican frontier.——Dr. Theobald Smith, professor of comparative pathology in Harvard University, has been appointed visiting professor at the University of Berlin for the second half of the academic year 1911-1912.

Success of the Worcester Movement.—The undertaking inaugurated in Worcester County twenty-eight months ago to attack tuberculosis in wage-earners by an agreement among merchants and manufacturers to provide curative treatment, has resulted in the restoration of the wage-earning ability of more than 200 working people, most of them factory girls. There are at present more than 400 other individuals similarly afflicted, who are undergoing treatment at the expense of their employers, with satisfactory prospect of cure. The movement has now extended throughout New England, has gone as far west as Ohio, and experiments are being made in Japan, Bulgaria, Great Britain, France and elsewhere.

MISSOURI

Sanitarium Burns.—The Moberly Sanitarium was entirely destroyed by fire, March 27, with a loss of $60,000.

Hospital Notes.—The Jane Chinn Hospital, Webb City, was formally opened April 2. This building has been given to Webb City by Mr. and Mrs. C. R. Chinn, at a cost of more than $40,000. The institution will accommodate twenty-three ward patients and ten private patients, and is thoroughly equipped.——The Christian Hospital Association, Kansas City, has completed the pledge of $150,000 made obligatory by the provisions of the gift of R. A. Long who agreed to donate $200,000 for the building and site, provided that $150,000 should be raised as an endowment for a non-sectarian hospital.——An appropriation of $50,000 has been made by Kansas City for the pavilion for tuberculosis patients at Leeds Farm, on which work will be started this spring.

St. Louis

Hospitals Consolidated.—The merger of the Christian Hospital and Centenary Hospital was completed April 1. The new institution will be known as the Christian Centenary Hospital and will be located in the premises at present occupied by the Centenary Hospital. The new institution will be able to accommodate about one hundred patients.

Summer School of Medicine.—The St. Louis University School of Medicine announces that it will establish a summer course of medical instruction, beginning May 30 and continuing until July 8. The course of study will cover both clinical and fundamental branches and is intended to provide facilities for medical graduates who wish to take additional clinical instruction or to review fundamental subjects, and for undergraduates who desire to complete laboratory subjects in advance.

NEBRASKA

Medical Society Meetings.—The Gage County Medical Society, at its annual meeting in Beatrice, April 6, elected Dr. Harry M. Hepperlen, president; Dr. Aleck V. Robinson, vice-president, and Dr. Louis E. Penner, secretary-treasurer, all of Beatrice.——The annual meeting of Burt County Medical Association was held at Tekamah, April 5. The following officers were elected: president, Dr. Cook Craig; vice-president, Dr. S. A. Swenson, Oakland; secretary-treasurer and alternate delegate, Dr. Merrit Wood, Tekamah; censor, Dr. Edgar A. Sears, Decatur, and delegate to the state society, Dr. Andrew D. Nesbit, Tekamah.——Butler County Medical Society, at its annual meeting, held in David City, April 5, adopted resolutions condemning contract practice, and elected the following officers: president, Dr. Thomas J. Vanderhoof, Rising City; vice-president and delegate to the state society, Dr. Edgar D. Banghart, David City; secretary-treasurer and alternate delegate, Dr. Harry E. Marselus, Octavia; censor, Dr. Riley G. Rich, David City.

NEW JERSEY

Fire in Insane Hospital.—Fire set by a patient in the New Jersey State Hospital, Morris Plains, March 21, caused a great deal of excitement, but prompt action by physicians, nurses and attendants prevented any serious damage.

Milk Bill a Law.—Following the public hearing, March 17, on the Meyer milk standard bill, Governor Wilson has approved it, thus making it a law. The bill reduces the quantities of solids required in milk from 12 to 11½ per cent.

Typhoid in State Prison.—Three cases of typhoid fever have been reported in the New Jersey state prison. The health and water department of Trenton will install a chlorid of lime plant to aid in the purification of the city's drinking water until the proposed filtration plant can be completed.

Personal.—Dr. Charles H. Mayhew, Millville, is reported to be seriously ill with diabetes.——Dr. James K. Pollock, Trenton, has been appointed physician of the Southeastern Hospital for Insane, Madison, Ind.——Dr. Thomas E. Dolan has been reelected president, Dr. Joseph Funk elected vice-president and Dr. Theodore F. Livengood, secretary of the staff of Alexian Brothers' Hospital, Elizabeth.

County Society Meeting.—At the annual meeting and banquet of the Morris County Medical Society, held in Dover, the following officers were elected: president, Dr. Theodore W. Bebont, Stirling; vice-president, Dr. Gustav A. Becker, Morristown; secretary, Dr. Henry W. Kice, Wharton; treasurer, Dr. James Douglas, Morristown; permanent delegate, Dr. Abram E. Carpenter, Boonton, and annual delegates to the state medical society, Drs. Clifford Mills, Morristown, and E. Moore Fisher, Morris Plains.

The Widener Home.—P. A. B. Widener of Philadelphia will erect at Longport, near Atlantic City, a summer branch of the Home for Crippled Children, which he maintains in Philadelphia. Last summer he erected several cottages and the children were sent to the shore in groups. The new building will accommodate as many as are cared for in the Philadelphia institution. There are now ninety-two children in the home. With the exception of the school rooms the establishment will be duplicated in Longport, the building occupying an entire block and but one story high. It will contain sun parlors, gymnasium, swimming pool, light and airy dormitories and apartments for physicians and nurses. It is said that it will cost $500,000, and that Mr. Widener's instructions are to make it ideal for its purpose, regardless of expense.

NEW YORK

New York City

New Pavilion for Thoracic Surgery Opened.—The trustees of the German Hospital and Dr. Willy Meyer have announced the completion of a pavilion for thoracic surgery. This pavilion was opened for inspection April 8.

Babies' Hospital Ready.—The new babies' hospital of the Brooklyn Children's Aid Society is ready for use when the organization opens its Seaside Home at Coney Island for the season on June 20. There are accommodations for 100 patients and all kinds of cases will be taken.

Medical Society Can Try Physician.—The injunction obtained by Dr. Louis A. Ewald, to restrain the county society from trying him on charges of having changed the records of Sydenham Hospital so that it appeared that he had performed more operations than he really had done has been dismissed by the Appellate Division of the Supreme Court, which held that the society had the right to try the physician on the charges.

Control of Venereal Disease.—At a recent meeting of the Board of Health a resolution was adopted which expressed the sense of the Board of Health that the early adoption of a comprehensive plan for the sanitary control of venereal diseases is necessary for the protection of public health and called on the medical advisory board to submit recommendations. The resolution has committed the Board of Health to a definite request that the city erect a public hospital for such diseases.

Lectures for Physicians.—The following lectures will be given in the auditorium of the Educational Alliance on East Broadway: April 9, Dr. Albert A. Berg on "Lodge and Contract Practice"; April 17, Dr. William K. Polk on "Medical Ethics and Their Application to Practice"; April 23, Dr. Joseph Brettauer on "The Secret Division of Fees," and April 27, Dr. Sigismund S. Goldwater on "Abuses of Hospital and Dispensary Practice." These lectures are for physicians only and will begin at 8:30 p. m.

Memorial Meeting to Dr. Janeway.—The regular meeting of the Academy of Medicine on April 6 was devoted to addresses commemorative of the character and work of Dr. Edward G. Janeway. Dr. Francis Delafield spoke of him as the "Physician"; Dr. William H. Welch as the "Pathologist"; Dr. Abraham Jacobi as the "Consultant," and Dr. Joseph D. Bryant as the "Colleague and Friend." It was suggested by several of the speakers that a fitting memorial of Dr. Janeway be placed in the Academy of Medicine.

Buffalo

Increased Salaries in Health Department.—The salary of the health commissioner has been increased to $5,000, and a total of $12,000 a year in increases in salaries has been allowed in the department.

New Buildings for Hospital.—Concerted efforts are being made to raise a fund of $200,000 for the erection of new buildings for the German Deaconess Hospital, and of this amount $40,000 has been subscribed up to date.

City Hospital Site.—The question of a site for the new city hospital is still undecided. An 80-acre tract at West Farm has been offered the city for $225,000, and a tract of the same acreage at the driving park, for $325,000. These offers are still under advisement.

Personal.—Dr. Roswell Park has returned home.——Dr. George B. Stocker has been appointed deputy medical examiner for Erie County.——Dr. John D. Howland has been appointed medical superintendent of the Erie County Hospital.——Dr. Arthur C. Schaefer, assistant health officer, has been appointed a member of the medical staff of the Seventy-Fourth Infantry, N. G., N. Y.

NORTH CAROLINA

Medical Society Moves.—The Buncombe County Society has moved its library and office furniture to the rooms of the Asheville City Health Department and has made arrangements to have the library and reading room kept open constantly.

Personal.—Dr. Peter J. Gorman has been appointed superintendent of the State Hospital for Curable Consumptives, Aberdeen.——Major Eugene B. Glenn, M.C., N.C.N.G., Asheville, has been designated to attend the army maneuvers in Texas and has left for the frontier.——Dr. Hubert A. Royster, Raleigh, has closed a successful campaign for securing $75,000 for the erection of a new Y. M. C. A. building in that city.——Dr. Jacob H. Shuford has begun the erection of a hospital at Hickory.

PENNSYLVANIA

New Members of Board.—Governor Tener sent to the senate, April 3 the following nominations: Drs. Winters D. Hannaker, Meadville, and George A. Knowles of Philadelphia, to be members of the Board of Medical Examiners, representing the Medical Society of Pennsylvania.

County Bulletins.—The twentieth in the series of county papers issued in Pennsylvania is *The Bulletin of the Lancaster City and County Medical Society*. The *Bulletin of the Allegheny County Medical Society* is not only to change from a monthly to a weekly, but is to reach members of medical societies in adjoining counties as well as its own.

Philadelphia

Corinna Borden Keen Research Fellowship.—Graduates of the Jefferson Medical College who may wish to compete in this contest, for which a fund of $1,000 is available, should apply to the dean, Dr. James W. Holland, Walnut and Tenth Streets, Philadelphia.

Fire at Blockley.—The laundry at the Philadelphia General Hospital which was badly damaged by fire on April 6, is already being rebuilt. The damage to the structure is estimated at nearly $200,000. The short-circuiting of an electric mangle is believed to have started the fire.

Quarantined.—The Italian liner *Verona*, with 797 passengers was detained at Lewes, for examination for small-pox. Four men broke quarantine and the Philadelphia police were asked to assist in capturing them. Two were caught and examined by Dr. Andrew A. Cairns, of the board of health, and found to have been vaccinated.

Gift to Hospital.—C. Hartman Kuhn has conveyed the property, 1713 Summer Street, which he recently purchased for $14,250, to the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases at Seventeenth and Summers Streets, as a memorial to his father, Hartman Kuhn. It is to be known as the Hartman Kuhn Memorial Building.

Former Foreign University Students' Meeting.—The Spring "Kommers" of the Philadelphia Branch of the Union of Former German University Students now residing in America will be held April 19 at the Hotel Walton. The guests of honor will be the members of the American Gastroenterological Association.

Personal.—Frederick W. Heyl, a druggist, has been appointed special examiner of drugs, medicines and chemicals.——Dr. Alfred Stengel, professor of clinical medicine in the University of Pennsylvania, was made professor of medicine of that institution April 4.——Dr. Henry K. Pancoast, formerly lecturer on skiagraphy at the University of Pennsylvania, has been appointed professor of roentgenology.——Dr. T. Turner Thomas, an associate in surgery, was appointed associate professor of applied anatomy.——Dr. Morris Longstreth will leave next month for a summer in Europe and on his return will make Boston his home.

Tuberculosis Conference.—The first Pennsylvania Conference of Tuberculosis Workers was held April 7 and 8. Dr. Charles J. Hatfield, Philadelphia, president of the Pennsylvania Society for the Prevention and Study of Tuberculosis, presided. The first session considered "A Program for an Antituberculosis Society which Employs no Paid Workers." The function of city, county and state in controlling tuberculosis was also a subject for general discussion and at the closing session, the "Opportunity and Need for Social Service in Antituberculosis Work" was discussed. The educational exhibit of the Pennsylvania society was presented for the visitors' inspection.

WASHINGTON

Protest Against Removal of State School.—At a meeting of the citizens of Medical Lake, a protest was made against the Bassett bill which provides for the removal of the State School for the Feeble-Minded to the west side.

Opposes Publicity.—The Spokane County Medical Society at its March meeting adopted a resolution requesting the lay papers not to publish notices of operations or personal items regarding physicians and their treatment of cases.

Nurses on Strike.—Refusal to grant an increase in wages to the nurses in the King County Hospital, Seattle, resulted in a strike of twelve nurses, which left the 250 patients in the hospital to be cared for by the superintendent and two nurses who declined to join in the strike.

Personal.—Dr. Alexander H. McLeish, Seattle, assistant superintendent at the Western Washington Hospital for the Insane, Fort Steilacoom, has been appointed superintendent of that institution and Dr. Albert C. Stewart, Tacoma, has been appointed the assistant.——Dr. Willis H. Corson, Seattle, has assumed charge of the King County Hospital.——Dr. William M. Newman has been appointed police surgeon of Spokane, vice Dr. John H. O'Shea

WISCONSIN

Counties Would Build Sanatoriums.—Winnebago, La Crosse, Marathon, Eau Claire and Kenosha counties are awaiting the action of the legislature relative to their right to erect sanatoriums for the care of patients with tuberculosis. La Crosse has already appropriated $5,000 for the erection of its sanatorium.

Personal.—Dr. Samuel G. Higgins, Milwaukee, assistant surgeon medical inspector, has resigned.——Dr. Albert J. Pullen has been elected president of North Fond du Lac.——Dr. Mazyck P. Ravenel, Madison, has been appointed by the United States Live Stock Sanitary Commission a member of the committee to investigate hog diseases, and especially hog cholera.——Dr. Frank A. Everhard has been appointed postmaster of Ripon.——Dr. and Mrs. Harry McElwee, Madison, have started for Europe.

GENERAL NEWS

Association on Medical Museums.—The fourth stated meeting of the International Association on Medical Museums was held in the Auditorium, Chicago, April 13, under the presidency of Dr. Alfred S. Warthin, Ann Arbor, Mich. The first part of the meeting was devoted to papers, and the second to a symposium discussion of the Experience Bulletin on the preservation of museum specimens in their natural colors, and this was succeeded by demonstrations of specimens and apparatus.

National Tuberculosis Meeting at Denver.—The annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held in Denver June 20 and 21. Members of the American Medical Association may find it convenient to attend the meeting in Denver on their way to the Los Angeles meeting. Denver may be reached by the way of the regular trains previous to the national tuberculosis meeting, and then the special trains provided for the Los Angeles meeting may be joined at Denver or at some other point in Colorado.

Proctologic Program.—The American Proctologic Society will hold its thirteenth annual meeting at Los Angeles, June 26 and 27, with headquarters at the Hotel Alexandria. The preliminary program includes eighteen titles. The subject of the presidential address by Dr. George J. Cook, Indianapolis, will be "Proctologic Recommendations." A symposium is to be held on "Constipation," taking up its etiology, physiology, bacteriology and urinary findings, pathology and diagnosis, sequelæ, including autointoxication, psychotherapy, mechanical, electric treatment and massage, non-surgical and surgical treatment.

Health Report of Philippine Islands.—The eleventh report of the Bureau of Health of the Philippine Islands, presented by Dr. Victor G. Heiser, U. S. P. H. and M.-H. Service, Director of Health, contains the following recommendations for the improvement of the health service of the Philippine Islands: that the legislature enact a law for direct insular control of the Municipal Health Service; that a law for the commitment of the insane be passed; that the Manila charter be so amended that the cost of the abatement of nuisances existing on the property of private individuals, companies or corporations may be assessed against such property and become a prior lien on the same until paid; and that an extensive laboratory and research study of cholera be made with special reference to the influence of bacilli-carriers on the propagation of the disease, and also as to other means by which its perpetuation might be secured.

Annual Meeting of Territorial Association.—The eighth annual meeting of the Philippine Islands Medical Association was held in the amphitheatre of the College of Physicians and Surgeons, Manila, February 22 to 24, under the presidency of Dr. Benito Valdez y Salvadore, Manila. The election of officers was as follows: president, Dr. Robert E. L. Newberne, Manila; vice-presidents, Drs. Henry A. Shaw and Fernando Calderon y Roca, Manila; secretary-treasurer, Dr. Vernon L. Andrews, Manila; and councilors, Drs. Richard P. Strong and Benito Valdez y Salvadore, both of Manila. The presidential address was on "Electricity as a Powerful Therapeutic Agent." Dr. Fernando Calderon y Roca gave an interesting paper on "Infantile Beriberi," illustrated with lantern slides. Each morning before the beginning of the scientific program, a surgical clinic was held in the Philippine General Hospital by Drs. John R. McDill and Hans E. Schiffbauer.

Australasian Medical Congress.—The ninth session of the Australasian Medical Congress is to convene at Sydney, Australia, September 18 to 23, 1911. The meeting is organized under the patronage of the governors of the various states of

Australia, New Zealand and other prominent officials and scientists, and is to have twelve sections, with committees to report on hospital abuse, on contract practice and on syphilis. The secretary is Mr. Arthur Palmer, 121 Bathurst Street, Sydney; Australia.

LONDON LETTER

(From Our Regular Correspondent)

London, April 1, 1911.

Death From Being Blown Into the Air

At Bradford, a girl, aged 16, met death in an extraordinary manner. While in the playground of her school she was caught by a veritable tornado which carried her into the air. When she fell she sustained injuries so severe that she quickly succumbed. At the inquest evidence was given by the assistant school caretaker that the playground is in a very elevated position and that on several occasions he had seen girls blown off their feet but never actually into the air. In his thirteen years' experience he had never seen wind so violent as on the morning of the fatal accident. Another witness who was waiting for a car in front of the school said that he saw the girl in the air, her skirts blown out like a balloon. She was from 25 to 30 feet in the air, just above the school balcony (the latter, the coroner remarked, was 20 feet high). The caretaker said that he had often seen girls blown down in the school-yard and pinned against the wall, and frequently had to assist them into the school. The physician who was called found the girl unconscious and pulseless, suffering from severe concussion of the brain and compound fractures of the lower jaw, right arm, wrist and thigh. It appeared that she was wearing a pair of bloomers with an ordinary skirt but without petticoats. The jury returned a verdict of "died as the result of a fall caused by a sudden gust of wind."

The Decline of Tuberculosis in Scotland

Prof. Matthew Hay, health officer of Aberdeen, states that tuberculosis has been declining in that city for fifty years, although a decline did not begin to be felt in Scotland as a whole until after 1870. It began earlier in towns than in the rural districts. The decline began long before the germ origin of the disease had been demonstrated by Koch, although the infectious character of the disease had never been without believers. A remarkable fact is that the rate of decline was almost as great before sanitary precautions were taken against infection as since they were taken. It was plain, therefore, that the ameliorating agencies had been of a general and not of a specific character. No disease is so amenable to general hygienic conditions as tuberculosis. Eminent authorities have attributed the fall entirely to the increasing segregation of consumptives in institutions. But this applies only to the second half of the period of the decline. It seems extraordinary that the professor in coming so near the explanation of which he was in search as to describe it as a "general ameliorating agency," should have missed it. The period of fifty years to which he refers corresponds with the "free trade" epoch of this country, during which, in consequence of the removal of all taxes from food and all other commodities, an enormous increase has taken place in the prosperity of the people. Cheap food and higher wages were the causes.

Typhoid Traced to Fish Contaminated by Sewage

That typhoid fever may be due to sewage-contaminated shellfish, such as oysters and cockles, is now well-known, but that vertebrate fish may be similarly contaminated is a new theory. Sir Shirely Murphy, the health officer of London, has presented a report confirming the suspicion that has been entertained for ten years that plaice, which is largely supplied in the fried-fish shops, is a cause of typhoid fever. The investigation has been performed by Dr. Hamer, medical officer of the county council for special purposes, and is a remarkable piece of careful work. In the autumn of last year an outbreak of typhoid occurred in the East End of London; about 300 cases were reported from the thirty-third to the forty-second week. Only about 100 could be attributed to the causes ordinarily operative at this time of the year and, therefore, it was inferred that the remaining 200 must have been due to some special cause. The 200 cases showed a tendency to develop in clusters or groups, of which there were thirty-three. Water, milk and mussels were excluded as causes. When more than one case occurred in the same household the dates of onset were within a few days of each other, suggesting that the infection had been introduced into the house at the same time. Among seventy-nine cases occurring in Pethnal Green (a poor East End borough) sixty-eight patients gave a history of having eaten fried fish. Within the month of the onset, and of fifty cases in an area of special prevalence all the persons had eaten fried fish. Within the special area there were twenty-seven fried-fish shops, and of these it was found that three had been specially frequented by the persons attacked. All these shops obtained their supply from the great fish-market of Billingsgate. The fish was plaice and what is known as "late steamer fish," i. e., the cheaper fish which remains after the higher-priced fish has been disposed of. This fish is usually bought by fish friers. In the fish trade of London there is no systematic control by the sanitary authorities, such as is regarded as necessary in the case of other foods, though action has been taken as regards shellfish when they were shown to be a source of typhoid. Plaice appears to be the only fish used by the vendors of fried fish which is not gutted as a matter of course at sea. This is largely due to the fact that as the food of the plaice is largely shellfish it is possible to retain the gut without injuring the fish. In recent years, the practice of gutting plaice is coming into vogue; but, as a rule, no attempt is made to gut small plaice. These are commonly caught in vast numbers in shallow parts near the coast and they sometimes enter tidal waters. The suggestion is made that they become infected by sewage in the estuaries of large rivers.

Severe Epidemic of Measles in London

A severe epidemic of measles has prevailed in London for some weeks and is the cause of nearly 200 deaths weekly. Indeed the records of deaths which extend back for seventy years show that measles has never before caused so many deaths. As measles is not among the diseases which are required to be reported, systematic attempts to deal with it are not possible on the same scale as other infectious diseases, such as scarlet fever and typhoid. The unusual course has been taken of admitting measles patients to the fever hospitals, where there are now 803 cases, but these form only a small fraction of the cases in the metropolis.

Hospitals and Tuberculosis

Measures for the state control of tuberculosis continue to increase. The notification of cases of the disease to the health authorities is not yet universally compulsory but local authorities have the power to make regulations rendering notification compulsory in their districts. In 1908, the government issued regulations providing for the notification of pulmonary tuberculosis occurring among the inmates of poor law institutions, or among persons under the care of district medical officers. An order has now been issued embodying further regulations to provide for the notification of pulmonary tuberculosis occurring among the in-patients or out-patients at hospitals or similar institutions for the treatment of the sick which are supported, wholly or partially, otherwise than by the contributions of the patients.

Bill to Insure Greater Safety in Coal Mining

Recent colliery disasters, particularly the one at Whitehaven, in which, as the result of an explosion, over 300 men perished (previously reported in The Journal), have directed the attention of the government to measures for ensuring greater safety. Mr. Churchill, the Home Secretary, moved in the House of Commons the second reading of a coal mines bill which has been agreed to without a division. He called attention to the fact that a modern colliery with its elaborate plans for getting coal and bringing it to the surface, and for transmitting power for a long distance underground, and for forcing great volumes of air through passages many miles in length is one of the most remarkable examples of human activity. There are employed in the coal mines of the United Kingdom over 1,049,000 persons, of whom 846,000 are employed underground. This accounts for a substantial portion of the whole of the inhabitants of the British Isles. His bill deals with the health and safety of that large number of persons and is the result of a government commission appointed in 1906, and composed of both miners and mine owners, which made a prolonged and exhaustive inquiry into the whole condition of coal mining. The bill also comprises a number of amendments suggested by the government mining officials. It is divided into eight parts: management, safety, health, accidents, regulations, employment, inspection and supplemental. The death-rate from accidents in coal mines, which has been going down for over half a century, ceased to fall five or six years ago and last year there was a grave rise, 1,620 persons being killed in coal mines. The bill deals with all the main causes of accidents. First there are the dangers that arise in the shaft from improper raising and lowering of the cage, or breaking of ropes and chains. These the bill proposes to meet by providing that no winding rope shall be used for more than three and one-half years, and that no rope which has been spliced shall ever be used for raising or lowering persons. Overwinding, the cause of many accidents, is provided against by a greatly improved system of controllers and brakes. Another important provision forbids materials and tools being carried at the same time as men are wound up and down. Provisions are also made for ensuring that the shaft is kept in good repair. To prevent accidents from defective signaling there is a provision which secures a uniform system throughout the country. Coming to the ordinary risks to which the miner is exposed, 234 persons were killed last year by accidents connected with hauling or being nipped between the trucks and the walls, or by being run over. The bill requires that adequate space be provided between the walls and the trucks and sufficient refuges prepared. There are various complicated provisions making the hauling of coal less dangerous. The haulage road is too often the reserve alley which is the sewer of the mine by which obnoxious gases escape. The bill provides that there shall be another means of exit, and that in new mines there shall be two inlets. one for haulage and one for traveling. Proper apparatus for extinguishing fires and preventing accumulation of combustible material must be provided. To prevent the danger from falls of earth and coal, to which one-third of fatalties in mines are due, no man shall be allowed to work under an unsupported roof. To prevent the danger of gas explosion no man shall be allowed to work in any part of a mine where there is more than 2.5 per cent. of gas. There is also a provision for compulsory searching for matches. The use of electricity in mines is prohibited where it would be attended with risk.

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, March 31, 1911.

The First Meeting of French Medical Journalists

This recent meeting was organized by the Association des journalistes médicaux français.

The first paper, by Dr. Ausset of Lille, was on the facilities which ought to be given to medical journalists in reporting congresses, etc. Resolutions were passed that summaries of the main addresses ought to be sent to all the journals eight days before the opening of each congress and that medical journalists should be given reduced rates on the railways.

Dr. Dieupart of Paris read a paper on the unauthorized assumption of the title of doctor by writers in the lay press, whose articles usually have an advertising purpose. A resolution was adopted warning editors against self-styled doctors. This resolution will certainly amuse the editors, who divide with such contributors the proceeds of their articles.

A paper was read by Dr. Vitoux of Paris on the unauthorized reproduction of medical articles. There are here medical journals which depend solely on reprinting articles without any authorization whatever. often even without credit. A resolution against the practice was passed.

It is too much to expect that this work will be of much use, since the Association des journalistes médicaux français is far from comprising the editors and publishers of all the most important publications.

Increase of Mortality from Diabetes

At one of the last sessions of the Académie des sciences, Dr. J. Le Goff of Paris called attention to the considerable increase of deaths from diabetes in Paris and in the department of the Seine. According to the *Annuaire statistique de la ville de Paris,* there were in 1880, 128 deaths caused by diabetes, or an average of 0.644 per 10,000 inhabitants; five years later, in 1885, the number of cases had doubled; in 1909 there were 525 or 1.93 per 10,000 inhabitants. Thus in thirteen years the number of deaths due to diabetes has quadrupled. The number of cases of diabetes in Paris has also increased considerably. It may be said, indeed, that formerly many cases of diabetes were not recognized. However, methods of analysis of sugar in urine have not varied for more than fifty years, and even before 1880 the pharmacists ascertained the presence and the amount of glucose by the Fehling method. This argument, therefore, has less value than has been attributed to it. If it be admitted that the number of cases has not varied for thirty years, it must be concluded that the mortality among the patients has quadrupled. Dr. Le Goff believes that the number of diabetics is increasing and the mortality among these patients is likewise increasing. To what should this considerable increase of a disease which was hardly known at the beginning of the last century be attributed? There are several causes. Persons who lead sedentary lives and take no physical exercise are most liable to become diabetics. Moreover, it is a question if the increasing consumption of sugar may not be regarded as one of the causes in the increase of diabetes. In fact, up to the seventeenth century, sugar was considered a medicament and was sold by pharmacists only. In the course of the eighteenth century, saccharose was obtained from the beet. The continental blockade gave a great impulse to the culture of this plant and during the whole of the nineteenth century, the consumption of sugar increased constantly. Thus in 1910, the amount consumed per person was 40.710 kg. in England; 31.4 kg. in America; 26.77 kg. in Switzerland; 19.11 kg. in Germany; 18.97 kg. in the Scandinavian countries; 17.68 kg. in Holland; 15.7 kg. in France, and 12.64 kg. in Belgium. It is in the countries in which the greatest amount of saccharose is consumed that the greatest number of diabetics is found.

Danger to Europe in the Defective Sanitary Condition of Russia

Dr. Lowenthal read a paper before the Académie de médecine on March 28, from which it appears that Russia is the only civilized country where cholera is endemic and epidemic. The epidemic of 1910 caused 130,000 deaths there. Preventable diseases affect one person out of four in Russia and a third of the patients die. In European Russia alone, there are more deaths from epidemic diseases than in the entire population of Europe, not including Turkey, which possesses no statistics. If the medical statistics on Russia and Japan are compared, the latter are seen to be much better, and this observation explains the difference of the sanitary condition of the two armies in the late war. The lamentable condition of Russia was due to the fundamental ignorance among the population, who did not understand the most elementary rules of cleanliness and hygiene. Moreover, while the rural population is entitled to free medical aid, the extent of the territory under the care of a single physician (on an average, 40,000 inhabitants scattered over 7,200 square kilometers or about 34,000 square miles), the distance of hospitals (sometimes by hundreds of kilometers), the absence of railroads, render this medical assistance precarious. Altogether, the sanitary condition of the Russian empire constitutes a permanent danger to Russia herself and a permanent menace for Europe and the entire world.

The Preparatory Schools of Medicine and Their Rôle in Medical Instruction

At the same session, Dr. Motais, professor at the Ecole preparatoire de médecine d'Angers, explained the advantage presented by the preparatory schools of medicine, of which there are twelve in France, at Amiens, Angers, Besançon, Caen, Clermont, Dijon, Grenoble, Limoges, Poitiers, Rheims, Rouen and Tours; there are altogether 641 pupils. Thus, there is no crowding in the ampitheaters of anatomy or the hospitals, consequently, these schools offer more favorable conditions for the first years of medical education than the more crowded scientific centers of the great cities. Professors Blanchard, Guyon, Gariel and Pouchet, of the Faculté de médecine de Paris, like Dr. Motais, believe in these provincial schools. Gariel and Pouchet declare that they have often given examinations in these schools and have observed the superiority of the candidates over the pupils of Paris. Dr. Bertrand, inspector general of the marine sanitary service, emphasized the services rendered by the schools of naval medicine, the suppression of which is demanded each year in parliament.

Reform in Medical Examinations

Up to the present the candidates at the various examinations of the Faculté de médecine were able, by consulting the announcements posted on the walls of the school, to learn at least fifteen days in advance the names of the members of the examining board. It will not be so hereafter, for the counsel of the school has decided that the names of examiners shall be hereafter kept secret. This reform has been undertaken to insure greater impartiality of examinations and to avoid abuse of the recommendations with which some candidates overwhelm the members of their jury, once known. Moreover, certain members of the examining boards, Professors Nicolas and Gariel, for example, who were known to be particularly severe, were avoided, many candidates failing to present themselves to undergo examination when they were to have these examiners. The students are much excited and have taken measures to obtain the reestablishment of the former state of things, but they will receive a categorical refusal.

Personal

At its session of March 28, the Académie de médecine elected a member in the section of pathologic anatomy to replace Professor Raymond, who died last September: Dr. Brault, physician of the Lariboisière Hospital, was chosen. Dr. Brault was one of the most active collaborators of the late Professor Cornil, and has published a number of works, especially on the pathologic anatomy of the kidneys, the liver and the arteries.

The Clinics of Industrial Accidents

In the last general assembly of the Syndicat médical de Paris, Dr. Pelisse read a report on certain so-called clinics of industrial accidents which do not confine themselves to receiving injured working men but employ very dubious expedients to invite such patronage. They are veritable shops with great show-windows decorated in extravagant colors to catch the eye of passersby, reinforced by striking radiographs, and sometimes harboring self-styled lawyers of more or less shady reputation who seek to extort from the insurance companies three or four times what they ought to pay. The most usual method of attracting patronage is to give each injured workman who comes to the clinic for the first time a certain sum of money. Another is to give a premium to everyone who brings there an injured workman.

After hearing Dr. Pelisse's report, the *syndicat* resolved that the attempt to attract victims of industrial accidents was reprehensible and unprofessional, and that every physician convicted of using such means should be excluded from professional societies.

Present Condition and Enlargement of the Beyrouth Medical School

In 1881 the French government and the superior of the Jesuit mission in Syria came to an understanding which resulted in the creation of the Faculté catholique et française de médecine et de pharmacie de Beyrouth. It was agreed that the Jesuits should have the direction and administration of the institution and that an annual allowance from the French government should guarantee the payment of the salaries of the professors and the maintenance of the laboratories and the library.

The diplomas are delivered and the control is assured by professors sent from France each year. The courses opened in 1883. The buildings, the teaching body and the equipment of the laboratories were planned for a maximum of sixty students, which no one anticipated would be exceeded in the future.

The school, however, has undergone considerable development. To-day, after twenty-seven years of existence, it has more than 250 students and, consequently, the buildings, equipment and faculty and, especially, the hospital facilities, are entirely inadequate. The administrators therefore have planned (1) to construct new buildings large enough to give 400 pupils the best and most modern medical instruction, and (2) to provide the hospital needed by the school with a sufficient number of beds for the general clinics of medicine and surgery and special services for children's diseases, cutaneous diseases, syphilis, diseases of the eye and an isolation pavilion for contagious diseases. The construction and installation of the new buildings will be undertaken by the school at its own expense; but it will be unable to do more. It therefore appeals for means to construct the hospital to the French government, which will probably respond favorably and will retain the control of the school.

Large Bequests to Scientific Institutions

In France, unlike the United States, scientific institutions are rarely aided by private gifts and bequests from rich men. A strong impression has, therefore, been created by the will of M. Loutreuil, a rich manufacturer who recently died leaving the greater part of his fortune to science. M. Loutreuil bequeathed $20,000 (100,000 francs) to the Institut Pasteur; $200,000 (1,000,000 francs) to the Caisse des recherches scientifiques; $500,000 (2,500,000 francs) to the Université de Paris. Moreover, desiring to contribute to the progress of the sciences taught or studied by scientists and independent investigators in other institutions of higher scientific culture, and being impressed by the meagerness of their resources in comparison with what they have in other countries, M. Loutreuil bequeathed $700,000 (3,500,000 francs) to the Académie des sciences, to be distributed to the best advantage.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, March 24, 1911.

Personal

Professor Lucae, formerly for many years director of the ear clinic in Berlin, died March 17, at the age of 76. In view of the present demand from many sources in Germany for a combination of otology and laryngology, it is of historic interest that Lucae in his thesis for the doctorate took as his theme the "Technic and Importance of the Laryngoscope Introduced into Medical Practice in the Year 1858." He entered his special field at the suggestion of Virchow. After he had worked in Vienna, chiefly with Politzer, and in London with Toynbee, he continued his studies in Berlin and became connected with the faculty here in 1866. He soon founded a policlinic for ear diseases, and in 1881 an otologic clinic. Lucae made important contributions to all departments of otology, of which his treatises on the origin and foundation of the subjective sense of hearing and the importance of sound conduction by the bones of the head are worthy of special notice. In his work he was materially aided by his unusual musical talent. Some years before his death he retired from his official position, but still took an active part in the transactions of the Berlin Otologic Society.

Berlin otology has suffered another loss in the removal from the city of the well-known Professor Hartmann, who has retired to his native place, Heidenheim in Würtemburg. As an evidence of the esteem and popularity which Hartmann has enjoyed in Berlin, a banquet was given in his honor.

Professor Busse of Posen has recently accepted a call as successor of Professor Schmidt in the chair of pathologic anatomy at Zurich.

The Berlin Medical Society on the Vaccination Law

As I mentioned in a previous letter, a motion has lately been introduced and discussed in the Reichstag to the effect that a conscience clause with regard to vaccination should be introduced, similar to that in force in England, namely, that anyone who shall declare to the judge that vaccination is contrary to his conscientious belief, shall not be compelled to have his child vaccinated. Correctly estimating the danger which this clause would bring to the vaccination law, the Berlin medical society at its last session adopted a resolution proposed by the well-known pediatrist, Professor Baginsky, which reads: "In view of the latest discussion in the Reichstag, the Berlin Medical Society declares its conviction that it is absolutely necessary to maintain the German vaccination law of April, 1874, intact, and that especially the introduction of the English conscience clause would be attended with the gravest danger to the German people." It is remarkable that none of the antivaccination physicians, who have formed themselves into a special society, were present at this meeting. The resolution was adopted unanimously without debate. To this antivaccination medical society, as a matter of course, belong only members who have always opposed the so-called "school medicine," and are partisans of the *Naturheilmethoden* or Nature cures. Presumably, they hope to do better business in this way.

Suicide in Prussia

Suicides increased in Prussia in 1909. There were 8,422 persons who took their own lives, as compared with 8,231 in 1908. Among these there were 6,466 men (in 1908, 6,371) and 1,956 (1,860) women. There were 21.6 suicides per 100,000, as compared with 21.4 in 1908, 20.2 in 1907 and 19.5 in 1906. The relative number of men was 33.6 (in the previous year 33.5), and of women 9.9 (9.6). The increase was much more marked among women than among men. There is a relative increase of suicide with advancing age. Among 100,000 persons from 10 to 15 years of age there were 1.7 (in 1908, 0.7) suicides; from 15 to 20, 16.9 (15.0); from 20 to 25, 27.3 (26.2); from 25 to 30, 20.7 (20.4); from 30 to 40, 24.2 (24.9); from 40 to 50, 37.4 (39.2); from 50 to 60, 59.9 (55.1); from 60 to 70, 56.3 (56.6); from 70 to 80, 55.8 (61.0); from 80 to 90, 54.1 (55.7). It may readily be seen from the figures that the number of youthful suicides has markedly increased since 1909. Indeed, while we find this increase in the period from 10 to 15 years in which with the small absolute number a few cases more or less may occasion a remarkable change in the relative figures, we find also that in the period of from 15 to 20 and from 20 to 25 years, where the numbers are larger, the relative figures are larger than they have been in any previous year. In accomplishing self-murder, hanging plays the principal rôle; 56.1 per cent. of men and 38.1 per cent. of women suicides hung themselves;

11.4 and 28.8 per cent., respectively, drowned themselves; 20.2 and 3.2 per cent. shot themselves, and 6.1 and 19.3 per cent. took poison. Poisoning and drowning, together with jumping from a height, are the modes of suicide more frequently selected by the female sex than by the male, while, on the other hand, six times as many men as women end their lives by shooting.

Thirty-Second Congress of Balneology at Berlin

RADIUM IN THERAPEUTICS

The importance of radium in therapeutics formed an especial subject of discussion at the thirty-second congress of balneology held in Berlin, March 2 to 6. The well-known physicist, Professor Marckwald, treated the subject from the physico-chemical standpoint. Of the three kinds of rays produced by radium, the alpha rays possess no power of penetration, the beta rays are cathode rays and have considerable penetrating power, while the gamma rays, which are similar to the Roentgen rays, have the greatest penetrating power. Radio-active elements are such as are in constant process of destruction. The most important forms of radium, especially with reference to balneology, are those which have the shortest life period. Dry radium salts give off no emanations, but they may become a source of emanations if one simply breathes on them. There are two radio-active families, those derived from uranium, and those from thorium. The former yield short-lived decomposition products or emanations, the latter long-lived; therefore, the uranium products are of greater therapeutic importance. Heretofore not enough attention has been given to the decomposition products in the measurements. The estimation of springs for their radio-active value should not be undertaken until after three or four hours. In conclusion, the speaker emphasized the necessity for a single and international standard of unit of measurement for radium. Kionka, professor of pharmacology in Jena, who has made a special study of radium, described its importance from a biologic and therapeutic standpoint. The tissues are markedly affected by radium, so that all forms of tissue irritation from simple reddening to necrosis can be produced on the skin.

RADIUM IN TREATMENT OF GOUT AND RHEUMATISM

The influence of radium on uric acid is therapeutically important, Kionka continued, as radium converts this substance from an almost insoluble into an easily soluble form. Further, under the influence of the emanations the purin metabolism is accelerated. These two properties of radium are of the greatest importance in the treatment of gout. The emanations seem to have no special affinity for blood, like that of oxygen for hemoglobin. The best form of introduction of radium is by inhalation, as the radium also leaves the body with the expired air. Drinking and bathing in radio-active water seem to be likewise effective, but far less than the inhalations. The strongest radio-active springs known to date are those at Landeck, Johannisthal and Gastein.

Dr. Fürstenberg, assistant at the university hydrotherapeutic institute, named as the chief indications for radium, gout and rheumatism. He has noted a hypnotic action of the emanation and a temporary slight increase in the body temperature. A Kreuznach physician, Dr. Eichholz, opposed the general view of the advantage of the inhalation method over the method of drinking. Dr. Ruhemann, a Berlin physician, has had radio-active biscuits made by incorporating a solution of 1.000 or 1,500 units of radio-active salts in zwieback, in which they could be demonstrated for three months. It was asserted by Dr. Plesch, an assistant of Professor Kraus, that the blood-pressure sinks in the emanatorium, during inhalation of the emanations, and that the emanation behaves in the blood as an indifferent gas. This gas is absorbed only to a very slight extent from the intestine, and does not reach the arterial blood, as it is immediately excreted by the lungs.

CARBONATED BATHS

Professor Goldscheider, the present director of the university policlinic for internal medicine, presented a communication on the action of carbonic-acid baths. He opposes the explanation of the action of carbonic-acid baths given by Senator and Frankenhäuser, as this theory does not take into consideration the action of carbonic acid on the nerve terminals, which has been discovered experimentally by him. Carbonic acid acts chemically as a gas on the endings of the thermal nerves and hinders the escape of heat from the skin. In the carbonic-acid bath the conditions are such that the water first affects the skin and withdraws heat from the body; then here and there bubbles of carbonic-acid gas take the place of the water, but do not remove so much heat from the skin. A certain contrast of temperature thus arises. But now the bubbles of carbonic-acid gas do not lie directly on the skin, but there remains between the skin and the carbon dioxid bubble a very thin layer of water, which is of very great importance for the whole question. If the Senator-Frankenhäuser theory was correct, an air bath would be similar in its action to a carbonic-acid bath. But this is not the case. The carbonic-acid baths have a peculiar action depending on the chemical properties of carbonic acid.

BRIEF HOT PLUNGE BATHS

Privat-Docent Dr. Determann, the well-known director of the sanatorium at St. Blasien, discussed hot plunge baths. Hot plunge baths at the temperature of 37 to 45 C. (98 to 113 F.) produce a marked stimulation of the functions of the organism, and most of all increase the capacity for muscular exertion. The physiologic action of hot baths of longer duration is thereby avoided. In the short hot plunge bath there occurs first a severe terrifying sense of pain, with a brief pallor of the skin, which is rapidly followed by hyperemia. The reaction in the hot bath follows without any active effort; patients have never taken cold after the hot plunge bath. These brief hot plunge baths are indicated in spinal neurasthenia, in certain forms of asthma in young people, and in conditions of peripheral irritation and pain, such as neuralgias, especially those on a hysterical basis.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, March 23, 1911.

Care of the Teeth of Schoolchildren

A movement has recently been initiated in this country, as in England and America, to have the teeth of schoolchildren cared for. A preliminary report by a committee authorized to make investigation showed that fully 80 per cent. of the large number of children examined had defective teeth. In our country we have compulsory elementary teaching; therefore all Austrian children between 6 and 14 years of age, except a very few, who are educated at home and have to pass their examinations in the public schools, may be found in the schools. These distressing data have suggested the formation in Vienna of a society for the care of the teeth of schoolchildren (Gesellschaft für Schulzahnpflege), whose aims are endorsed by the government and teachers as well as by the professors. Within a few weeks, many hundreds of members have been recruited, and the society has taken up its work. No treatment is given in the schools. The teeth of the children will be examined in each school periodically (every four or six months) and those found defective will be marked out. The parents will be informed of the result of the examination, and for those who are really poor, certain dentist surgeons have consented to perform the necessary dental operations free of charge. The teacher of each class will be authorized to see if the recommendations of the dental expert have been observed by the parents or the child. It is intended to have instructive lectures on the importance of healthy teeth, delivered twice a year in each class before the children, and also to award small prizes to those who, at the end of the term, have normal healthy conditions in the mouth.

Appointment of Professors to the Vacant Clinics

As has been mentioned in a previous letter, those two men who have been considered as being the most acceptable candidates, have been appointed ordinary professors in the Vienna medical faculty: Professor Ortner from Innsbruck who will succeed Strümpell as chief of the third medical clinic, and Professor Chvostek, who will be made head of a new, fourth, medical clinic. The latter clinic is a necessity, since the number of students and also patients has lately increased to such a degree that the old clinics have become absolutely inadequate. The fourth clinic will open at the beginning of the winter-term in October. Another vacancy is to be filled, that after Escherich. The medical faculty of the Vienna University has nominated as its candidates, Professor von Pirquet (who is at present in Breslau and was for some time in the United States), Professor Pfaundler, and Docent Dr. Hamburger of Vienna, in the order mentioned. All these men are Escherich's pupils and there is no doubt that the first-named physician will be appointed, while probably the third will be called to take a prominent place in a German university town.

Combating the Smoke and Dust Nuisance

On account of the increased traffic in and growing industrialization of this city, the amount of dust and smoke has become an unwelcome feature in Vienna. Especially the dust is a bad nuisance here. We have a large proportion of windy days, hardly more than 27 days out of 365 without wind. The material with which the streets are paved is a kind of granite, which is quickly ground into fine sharp dust under the stress of street traffic. These two circumstances have been for a long time held responsible for the frequency of tuberculosis in Vienna, but all the efforts of physicians to procure a more healthful or scientific pavement have hitherto been fruitless. At last, a large and very influential association has been formed consisting of high officials of the state, of physicians, bankers and industrial men. This society has already succeeded in inducing the local municipal corporation to pave all new streets with a special non-dust-producing asphalt, while the old streets will be gradually converted also into asphalt streets. Furthermore, throwing dust out of the windows into the streets has been prohibited now by order of the police. The collection of household refuse, hitherto a fruitful source of most dangerous dust-clouds, has been made the object of a very thorough investigation, and several methods of dust-free collection are at present on trial. The society also fights the smoke nuisance. It has in this line two very encouraging results, for an amendment to the new building act of the city requires the installation of smoke-destroying apparatus in all new houses built after July 1, 1911, and the gradual installation of such in all factories within the precincts of Vienna up till 1913.

Miscellany

Vaccination Effective in the Philippines.—Another timely contribution to the value of vaccination is found in the report on small-pox and vaccination in the Philippine Islands by Dr. Victor G. Heiser, Director of Health in the Philippines, which was referred to editorially April 8, 1911, p. 1041. Dr. Heiser's report follows: During December a person afflicted with small-pox was transferred from San José, Antique, to the Island of Caluya, which is a small isolated island south of Mindoro, the inhabitants of which have heretofore not been systematically vaccinated. An old woman took some of the contents of a pustule from the small-pox case shortly before death and vaccinated a number of the inhabitants. Small-pox in epidemic form soon resulted. The population of Caluya and nearby islands is about 2,000. Approximately, 1,000 cases of small-pox occurred before the facts became known to the outer world. Vaccinators properly equipped were immediately sent to Caluya. They vaccinated 800 of the remaining 1,000 persons. Of these, not one contracted small-pox who had a successful vaccination that was 2 weeks old. Dr. Victor G. Heiser, Chief Quarantine Officer, visited ten families, with from five to eight members. In six of these, every member was stricken with small-pox. Physical examination showed that they had no vaccination marks. In two other families six persons were stricken and two escaped. Physical examination showed that of the six stricken members not one had been vaccinated. The two remaining members had successful vaccination marks. On inquiry, it was learned that they had visited Calapan a year previously and were vaccinated while there. In two other families that lived in the midst of a small-pox-stricken village, there were no cases of small-pox. Examination showed that they had good vaccination scars. Further inquiry elicited the statement that they had but recently come from another island where they had been vaccinated. In one house, one person was found with varioloid. On inquiry, it was learned that he had been vaccinated during childhood. Net result: Community of 2,000 population: 1,000 unvaccinated persons contract small-pox; 400 die; 800 are protected by vaccination; no cases occur after the incubation period was passed; no deaths occur. The remaining 200 are semicivilized and fled from the vaccinators, and their condition is unknown.

Morphologic Changes in a Mouse Carcinoma.—A systematic microscopic study was made by R. Kilduffe of the different generations of a carcinoma transplanted into white mice. The original tumor had developed spontaneously in a mouse. The sections studied covered a period of experimentation with the tumor extending from March, 1907, to June, 1910, and comprised all generations produced in that time. The sections were divided into four groups according to the history of the tumor. (a) Sections of the original tumor transplanted without experimental interference or modification, "the unheated series." (b) Sections of the tumor which had been heated to 41 C. for varying periods of time before inoculation through successive generations, "the long-heated series." (c) Sections of the tumor which had been heated before inoculation for varying periods of time as in (b), but through a shorter number of generations, "the short-heated series." (d) Sections of tumors, of which some generations had been heated for varying lengths of time, and other generations had not been heated, "the mixed series." The object of this investigation was to determine what changes in the morphologic character, if any, took place as a result of the various manipulations to which the tumor had been subjected before inoculation. This tumor was but slightly, if at all, affected morphologically by the experimental manipulations to which it was subjected, for no permanent morphologic change was produced through the influence of the physically injurious conditions to which it was exposed before inoculation. Kilduffe emphasizes the fact that the experimentally produced decrease in the energy of growth of these tumors did not change the alveolar character to an acinous one. A return to an adenomatous structure, described as a result of weakening tumor growth through transplantation into resistant animals, was not observed after a direct weakening of the growth through the influence of physical agencies.—*Journal of Experimental Medicine.*

Liver Necrosis of Chloroform Poisoning.—G. H. Whipple and S. H. Hurwitz, in the *Journal of Experimental Medicine*, report experiments on dogs and summarize their results as follows: Chloroform anesthesia for two hours or more will cause more or less central liver necrosis in dogs, depending on the length of the anesthesia and the susceptibility of the animal. If the fibrinogen of the blood of such an animal be estimated at intervals, it is found that this proteid shows a drop corresponding to the amount of liver necrosis. By administering chloroform, the fibrinogen may be almost eliminated from the circulating blood, and the poisoned animal may bleed for hours from small skin pricks or cuts. The liver can recover from a grave injury due to chloroform and return practically to a normal condition in about ten days. The fibrinogen reappears in the blood as the liver effects its repair. It seems that the quantity of fibrinogen present is a good indicator of the liver efficiency and a fairly accurate index of the amount of liver injury. Shortly after the recovery of the liver from an injury due to chloroform, one may find an excess of fibrinogen in the blood. In severe cases of chloroform poisoning, the calcium of the blood was normal or slightly increased, and the thrombin was normal. These experiments give no evidence that the formation of thrombin or prothrombin is dependent on liver activity. The hemorrhages of chloroform poisoning are due not to lack of blood clotting but to inefficient coagulation. The clot has not the body and toughness supplied by the fibrinogen, and is, therefore, unable to check even capillary hemorrhage. Fibrinogen is either formed in the liver or is wholly dependent on liver activity for its production.

Effects of Mechanical Agitation on Complement.—Under certain conditions, according to H. Noguchi and J. Bronfenbrenner, mechanical agitation destroys the complementary activity of guinea-pig serum. It is most injurious when carried out constantly at a temperature of 37 C., but it is extremely insignificant at 10 C. After the first few hours at 37 C., the destruction of complement proceeded much more rapidly, and after six hours it was almost complete. On the other hand, within one hour, shaking had almost no destructive effect on complement, even at 37 C. From this we may conclude that the several shakings which are necessary for fixation experiments during incubation do not modify perceptibly the outcome of the reactions. The rate of destruction of the complement of guinea-pig serum at temperature above 45 C. is progressively greater as it approaches 55 C., at which temperature the activity is reduced in thirty minutes to from one-thirtieth to one-fortieth of the original strength of the unheated serum; but it is not completely destroyed, as is commonly assumed. The velocity of destruction of guinea-pig complement when exposed to 55 C. for various lengths of time is found to be quite irregular, and not proportional to the length of time. This irregularity, however, presents a certain rhythm, a period of greater destruction alternating with one of less destruction.—*Journal of Experimental Medicine.*

Mercury Bichlorid and Serodiagnosis of Syphilis.—H. Noguchi and J. Bronfenbrenner have made experiments to ascertain what effects a soluble mercurial preparation will have on the syphilitic antibody *in vitro*. As a mercurial preparation, they chose mercury bichlorid; and for the fixation test, the system of Noguchi. The effect of bichlorid of mercury was determined on (1) red blood-corpuscles, (2) complement, (3) antihuman amboceptor (rabbit), (4) syphilitic antigen (acetone insoluble tissue lipoids of human liver), and (5) syphilitic antibody. The hemolytic power of bichlorid of mercury was considerably reduced by mixing it with 0.05 c.c. of guinea-pig complement or with two units of the amboceptor serum on paper, but was not noticeably diminished by the antigen, which was used in doses of 0.0003 gram. It has no anticomplementary effect. On the contrary, the hemolysis was more complete and proceeded more rapidly in its presence. This is due to the injurious effect of bichlorid of mercury on the corpuscles, thus reducing the corpuscular resistance to the hemolytic action brought about by the complement and amboceptor. In the highest non-hemolytic quantity (0.0000025 gram) bichlorid failed to remove, to a noticeable degree, the syphilitic antibody, and the reaction in two strongly positive sera remained unchanged.—*Journal of Experimental Medicine.*

Neurasthenia in Children.—The "nervous," or "neurotic" child is, like the poet, "born and not made." He is often the child of neurotic stock, or his origin may be traced to alcoholism, tuberculosis, ill-health or poverty in the parent. Neurotics generally abound in families in which great ability or genius predominate, but also in those in which insanity, epilepsy and other neuroses are found. According to Riviere, in the *Practitioner*, the hall-mark of the "neurotic" seems to be an over-development of the emotional faculties; at the other end of the scale stands the "unemotional type," and necessarily all grades exist between these two extremes, so that the term neurotic may be qualified by "more" or "less," and, save in its higher grades, its possession may confer a blessing rather than a curse. To the higher grades of neurotic inheritance, however, a curse and a stigma attaches, and the penalty in sorrow and suffering greatly outweighs the reward, especially in childish years before the judgment comes into play.

Prognosis of Cerebrospinal Syphilis.—The prognosis of cerebrospinal syphilis is in general a serious one, owing to the frequency with which it resists treatment, and to the pronounced tendency to late recurrences and grave complications. Various factors affect the outlook. For instance, this is worse in cases in which the onset of the disease is many years after the infection, or in which other diseases or cachexias are present, particularly tuberculosis and alcoholism; it seems to be worse also in cases in which the early manifestations of syphilis were slight. Unfortunately there is not much reason to believe that thorough treatment in the early stages is a satisfactory guarantee against the later occurrence of cerebrospinal syphilis, but on the other hand energetic treatment at the onset of this certainly has an important influence on the course it will run.—E. Jones, in *Interstate Medical Journal.*

Cancer Investigation.—Experiment is rapidly advancing toward a stage at which the nature of cancer will be made clear, the influence of heredity, and of external factors, e. g., of all chronic irritants, defined; but a means of cure is not yet in sight. The only hope for the cancer patient still lies at present in the general practitioner being so suspicious of all lumps which cannot be explained that he will urge their removal as early as possible, and have them carefully examined by skilled microscopists. Here I would enter a protest against the snipping out of a little piece for diagnostic purposes, for experiment has shown how great is the danger of dissemination of cancer cells in the individual where they are "at home;" however difficult it may be to effect the transference of a cancer from one mouse, rat, rabbit or dog to another, the attempt always succeeds if the same individual be inoculated with his own tumor.—E. F. Bashford in the *Practitioner.*

Injection of Air in Treatment of Sciatica.—F. Ramond and his associates recently reported at the meeting of the Paris Société des Hôpitaux the results of different methods of treatment of sciatica as applied in sixty-five cases. Hypodermic injections of sterilized air were applied in thirty-three cases at the points where the pain was most intense, sometimes at the emerging point of the nerve, in the middle of the thigh, in the calf and occasionally a fourth injection at the sacro-iliac articulation. He injects about two-thirds of a liter of air at each point into the subcutaneous tissue, thus making a continuous emphysema from buttocks to ankle. The air is injected slowly and the relief from pain is immediate and usually constant; the pain returns, however, after eight or ten hours in the unsuccessful cases. The cure was permanent in four of the ten cases rebellious to other measures, and in thirteen of the twenty-three cases in which this was the first measure applied; four other patients were materially improved. A glass tube containing a little cotton is interposed in the rubber tube and bulb connected with the Pravaz needle. The only danger from this treatment is the possibility of air embolism, but this has never occurred, and it is easily prevented by injecting a little salt solution beforehand. If a little edema forms, this shows that the fluid has not entered a vein. The absence of blood if the syringe is pumped also shows that no vein has been entered. Ramond's conclusions from his experience with sciatica are that one method may succeed when all others fail, and that each should be given a trial.

Hematoma of the Adrenal Body.—This unusual case is reported by Case (*Proc. Path. Soc., Philadelphia*, December, 1910, p. 258), in a negress, aged 63, who was admitted to the Philadelphia General Hospital Dec. 29, 1909, and died Jan. 8, 1910. She suffered, while in the hospital, with mitral regurgitation, aphasia, paralysis of the left arm and incontinence of urine and feces. The most interesting finding at autopsy was the left adrenal which was about the size of a goose egg. It was dark red in color, with here and there patches of yellow, much divided and separated cortex, showing beneath the capsule. This enlargement involved approximately two-thirds of the organ, and was due to a comparatively old hemorrhage into the medulla, with here and there areas of fresh blood-clot. In addition, the microscope revealed a moderate proliferation of connective tissue about the clot, with thickening of the capsule. The kidney was arteriosclerotic and the aorta atheromatous.

Humidity in the Problem of Ventilation.—Air is more essential to life than food; good air is as essential as good food, and plenty of air has the same merit as plenty of food, says D. D. Kimball (*Annals American Academy of Political and Social Science*, March, 1911). In the process of respiration, oxygen is reduced in amount while the carbonic acid and water vapor are largely increased. Neither water vapor nor the carbonic acid, due to respiration, is injurious; but as an increase of carbonic acid in the air of an apartment is usually accompanied by a decrease in the amount of oxygen and an increase of water vapor, the percentage of carbonic acid is an index of the quality of the air. Apparently it is not altogether the chemistry of the air but its temperature, humidity, motion and, possibly, other physical properties unknown, which are the attractive features of outdoor air. It is becoming generally believed that when air contains a normal proportion of oxygen its temperature and humidity are of greater importance than the absence of carbonic acid. The proper control of the temperature of a room is not only conducive to health and comfort, but means a substantial saving in fuel. Headaches, dizziness, sickness, etc. are often symptoms of bodily heat retention due, chiefly, to high room temperature and lack of humidity. The relative humidity of outdoor air at other times than during storms varies from 50 to 80 per cent, and in the most arid desert is rarely as low as 30 per cent., while a relative humidity of 48 per cent., that of Denver, is considered very dry. Air at zero F. and 50 degrees of relative humidity contains less than ¼ of a grain of moisture per cubic foot. The same air warmed to 70 F. without the addition of moisture would have a relative humidity of but 3 per cent. Its absorptive capacity is, therefore, immensely increased. If air at zero F., with a relative humidity of 50 per cent. is raised to 70 F. the relative humidity of the air in a house will be from 10 to 20 per cent. drier than the air of the driest desert known. If a room at 68 F. is not warm enough for a healthy person, we may be sure it is because the relative humidity is too low. With a zero temperature and 50 per cent. relative humidity out of doors, the proper ventilation of a school room containing forty pupils would require, approximately, 38 pounds, or about 5 gallons, of water each hour to give them the proper humidity. The remarkable avidity of dry warm air for moisture causes it to extract moisture from everything with which it comes into contact, and when the tissues and delicate membranes of the respiratory tract are subjected to this drying process a large increase of work is placed on the mucous glands. This unnatural stimulation may result in an enlargement of the gland tissues, just as constant exercise increases the size of any part of the animal organism. The membrane itself may become thickened and harsh, and the surface prepared for the reception of disease germs, which tend to develop under exposure to the constantly changing percentages of humidity. Not alone are the throat and lungs affected; the tongue, lips and skin become feverish and parched, the eyes redden and smart, the ears are unnaturally dried; catarrh is induced, or is aggravated if already existing. In children predisposed to lung diseases, a serious hacking cough is apt to result. Over-dry air causes headaches, robs all of vitality, and in every way lowers the vital powers. Generally speaking, dry air is an excitant, sometimes causing sleeplessness and irritability, while moist air seems balmy and has a soothing effect which tends to produce restfulness and sleep.

Association News

THE LOS ANGELES NUMBER

The Annual Convention Issue of The Journal to Contain Full Details of the Meeting

Commencing in February, and continuing at various intervals since, The Journal has printed in this department various details concerning the next annual session of the American Medical Association to be held at Los Angeles, June 27-30. Railroad rates, list of hotels with rates, list of meeting places, details of special trains and attractions en route have been given. These details will be repeated in the Los Angeles Number of The Journal, which will be issued May 20. There will be a special illustrated article on Los Angeles, describing its attractions, and showing many pictures of its fine buildings and scenery and vicinity.

One feature of the annual session is the reunions of various colleges and classes. Announcements of some of these have already been received, and more will be welcomed. These announcements are always made at the session, but it will be advantageous to have them made public in advance, so that all interested may plan to attend, if possible, and may know just what to expect. Announcements of this kind should be sent to us early for inclusion in the issue of May 20.

Marriages

James Roy Davis, M.D., Chardon, O., to Miss Emma Russell of Cleveland, Oct. 13, 1910.

Frederick J. Combe, M.D., San Antonio, Tex., to Mrs. Carrie Moore Fordtran, at San Antonio, March 21.

Elmer H. Henderson, M.D., to Miss Laura B. Owen, both of Louisville, Ky., at Springfield, Ill., April 4.

Capt. Ralph S. Porter, M.C., U. S. Army, to Miss Jane H. G. Kilgour of Glen, near Rockville, Md., at Chicago, March 23.

Deaths

Frank Anthony, M.D. Rush Medical College, 1881; one of the most esteemed and best beloved practitioners of northern Illinois, died in Augustana Hospital, Chicago, April 8, from cirrhosis of the liver, aged 53. After his graduation, Dr. Anthony returned to his home city, Sterling, where he practiced with his father and later succeeded to his practice. He was a member of the American Medical Association, American Association of Railway Surgeons, Association of Military Surgeons of the United States, Western Surgical and Gynecological Association, and was at one time president of the Whiteside County Medical Society. He was local surgeon to the Chicago and Northwestern Railway for more than twenty years, and was also surgeon to the Sterling, Dixon and Eastern Electric Railway Company. Dr. Anthony was one of the pioneer members of the medical department of the National Guard, and was for many years a major and surgeon of the Sixth Infantry. He served throughout the Spanish-American War as major and surgeon Sixth Illinois Infantry, U. S. V., in Porto Rico. He had also served the city of Sterling as health officer and Whiteside County as county physician. While he claimed to be nothing more than a country practitioner, Dr. Anthony was a surgeon and gynecologist of no mean ability. In addition to being a physician and surgeon of high attainment, Dr. Anthony had a most lovable personality and his death means a distinct personal loss to his many friends.

Henry Gradle, a pioneer ophthalmologist and otologist of Chicago, a lifelong student and scientist, died at his winter home in Santa Barbara, Cal., April 4, from carcinoma of the bladder, aged 55. He was born in Frankfort-on-the-Main, Germany, came to Chicago when a young child, and received his education there. He graduated from Chicago Medical College in the class of 1874, and at once began practice of his specialty. From 1879 to 1883 he was professor of physiology in his alma mater, and since 1898, has been professor of diseases of the eye and ear. His society membership included the American Medical Association, Heidelberg Ophthalmologic Society, Chicago Ophthalmological Society, and Chicago Laryngological Society. He was attending eye and ear surgeon to Wesley Hospital, and consulting eye and ear surgeon to Mercy Hospital. He was a frequent contributor to the periodicals dealing with his specialty. He was also the author of "Bacteria and the Germ Theory of Disease," which appeared in 1883, and a "Text-Book on Diseases of the Nose, Pharynx and Ear," which was published eight years later.

James Evelyn Pilcher, M.D. Long Island College Hospital, Brooklyn, 1880; major, U. S. Army retired, for many years secretary of the Association of Military Surgeons of the United States, and editor of the *Military Surgeon*, died at his home in Carlisle, Pa., April 9, from diabetes, aged 54. He entered the medical corps of the army in 1883, and five years later was promoted to captain. During the Spanish-American War he served as major and brigade surgeon, U. S. V., and was retired on account of disability in line of duty, Oct. 31, 1900. Since that time he has lived at his old home in Carlisle, Pa., excepting for about two years in Richmond, Va. He suffered for many years from diabetes and was totally blind for the last few months of his life. In addition to his membership in the Association of Military Surgeons of the United States, Major Pilcher had been president and secretary of the Cumberland Valley Medical Association, and was a member of the American Medical Association.

Adolph Gustav Hoen, M.D. University of Maryland, Baltimore, 1873; a member of the Medical Society of Virginia; from 1894 to 1897, in charge of the photo-micrographic laboratory of the anatomical department of Johns Hopkins University; from 1898 to 1900 director of the clinical laboratory of the Suffern (N. Y.) Sanatorium; since 1900, director of the Pasteur Institute, Richmond; and since 1903, lecturer on biology, and director of the histological laboratories of the University Medical College; died at the family homestead in Waverly, Baltimore, March 29, from carcinoma of the stomach and liver, aged 62.

William E. Wilson, M.D. New York University, New York City, 1853; a member of the Colorado State Medical Society, and its president in 1892; a member of the Colorado State Board of Medical Examiners from 1886 to 1888, and its president in 1886 and 1887; assistant surgeon and surgeon of the Tenth Illinois Volunteer Cavalry during the Civil War; professor of materia medica and therapeutics in the University of Denver from 1883 to 1896, and emeritus professor thereafter; a trustee of the University of Denver; died at his home in that city, April 2, from cerebral hemorrhage, aged 78

Horace G. Cates, M.D. Minnesota Hospital Medical College, Minneapolis, 1887; of Los Angeles, Cal.; a member of the American Medical Association, and Pacific Association of Railway Surgeons; for four years coroner of Los Angeles County; district surgeon to the Southern Pacific System; for ten years chief surgeon of the Pacific Electric Company; superintendent of the Crocker Street Hospital, Los Angeles; died in that institution, March 27, from septicemia, due to a pin scratch received while making a surgical dressing, aged 47.

Charles Henry Lewis, M.D. Bellevue Hospital Medical College, 1884; of New York City; a member of the American Medical Association, New York Academy of Medicine, and National Association for the Study and Prevention of Tuberculosis; one of the founders of and visiting physician to the Columbus Hospital, and St. Vincent's Hospital, and president of the medical board; clinical lecturer on medicine in the University and Bellevue Hospital Medical College; died in St. Vincent's Hospital, March 31, from cerebral hemorrhage, aged 53.

Charles Talbot Poore, M.D. College of Physicians and Surgeons, New York City, 1866; a member of the Medical Society of the state of New York; surgeon to St. Mary's Free Hospital; consulting surgeon to the Hospital for the Ruptured and Crippled; a member of the board of governors of St. Luke's Home and of the Woman's Hospital; author of a work on the correction of congenital deformities; a member of the orthopedic faculty of the College of Physicians and Surgeons; died at his home in New York City, April 4, aged 71.

Charles Louser Miller, M.D. University of Pennsylvania, Philadelphia, 1889; a member of the Medical Society of the State of Pennsylvania, and for four years connected with the skin and medical clinics of the Philadelphia Polyclinic; and later ambulance physician of the Good Samaritan Hospital, Lebanon, and a member, secretary and president of the local board of pension examining surgeons; died in the Lebanon Sanatorium, March 24, aged 45.

William D. Stewart, M.D. University of Wooster, Cleveland, 1874; a member of the American Medical Association, and chairman of the medical section of the Toledo Academy of Medicine; twice president of Toledo Medical Society; for twenty-one years a practitioner of Toledo; for more than eighteen years a member of the surgical staff of St. Vincent's Hospital; died at his home in Toledo, March 28, from septicemia, aged 63.

John B. Stewart, M.D. Cincinnati College of Physicians and Surgeons, 1877; a member of the Missouri State Medical Association; formerly a member of the pension examining board of California, Mo.; founder of Clarksburg College; a member of the legislature in 1905; died at his home in Clarksburg, March 17, from cholecystitis, aged 73.

John W. Van Deusen, M.D. New York University, New York City, 1884; a member of the Brooklyn (N. Y.) Medical Association; attending physician to Kingston Avenue Hospital for Contagious Diseases; for twenty-four years an inspector of the department of health; died at his home in Brooklyn, March 28, from nephritis, aged 48.

William C. Karsner, M.D. Jefferson Medical College, 1853; assistant surgeon United States Army during the Civil War; state weigher-of-grain-in-general for Maryland in 1891; for several terms president of the board of commissioners of Chesapeake City, Md.; died at his home in that place, March 26, from heart disease, aged 79.

William E. Norton, M.D. College of Physicians and Surgeons, Baltimore, 1893; of Savannah; a member of the Medical Association of Georgia; local surgeon for the Seaboard Air Line and the Savannah Electric Company; died at Cornwall-on-the-Hudson, N. Y., March 28, from pneumonia, aged 40.

George Benjamin Haines, M.D. Dartmouth Medical School, Hanover, N. H., 1871; of Valley Falls, R. I.; a surgeon-apprentice in the United States Navy from 1862 to 1869, and a fellow of the Rhode Island Medical Society; died at his summer home in East Providence, Oct. 10, 1910, aged 67.

Reynold James McCormack, M.D. New York University, New York City, 1886; a member of the American Medical Association; and a member of the medical staff of the Nursery for Blind Babies; died at his home in Roxbury, Boston, March 29, from chronic nephritis, aged 48.

Robert Percival McKenzie, M.D. McGill University, Montreal, 1904; a member of the British Columbia Medical Society; medical health officer of Rossland, and local surgeon of the Spokane Falls and Northern Railroad; died at his home, January 24, from pneumonia, aged 34.

John A. Bouse, M.D. University of Pennsylvania, Philadelphia, 1875; for many years a practitioner of Harrisburg, Pa.; special medical inspector of the State Department of Health; died at his home in Old Orchard, Harrisburg, March 29, from heart disease, aged 58.

Benjamin Shields Barnes, M.D. University of Pennsylvania, Philadelphia, 1859; a surgeon in the Confederate service throughout the Civil War; died at the home of his daughter in Suggsville, Ala., where he had practiced since the close of the war, March 9, aged 72.

John W. Alexander, M.D. Starling Medical College, Columbus, O., 1872; a veteran of the Civil War; for thirteen years a member and for most of that time secretary of the Licking County Board of Pension Examining Surgeons; died at his home in Newark, O., March 16, aged 65.

Thomas H. McCormick, M.D. Medical College of Fort Wayne, Ind., 1881; a veteran of the Civil War; and for several years a clergyman of the Church of Christ, Marion, which he founded in 1876; died at the home of his daughter in Fort Wayne, March 21, aged 70.

Fenton L. Fulgham, M.D. Kentucky School of Medicine, Louisville, 1880; a Confederate veteran; for fourteen years physician to Mississippi Baptist Orphanage, Jackson; died at his home in Jackson, March 29, from cerebral hemorrhage, aged 70.

William Truman Sexsmith, M.D. Baltimore, 185.; a surgeon in the Confederate service during the Civil War;formerly a member of the Kentucky State Medical Association; died at his home in Yuma, Ariz., February 19, from cancer, aged 73.

William Hannah Austin, M.D. Rush Medical College, 1869; for forty years a practitioner of Abilene, Kan.; a surgeon of volunteers during the Civil War; died at his home in Long Beach, Cal., Dec. 22, 1910, from cerebral hemorrhage, aged 73.

John Lemuel Thompson, M.D. Jefferson Medical College, 1894; for five years a member of the board of pension examiners of Clarion County, Pa.; and for five years county coroner; died at his home in Washington, March 20, aged 50.

Elizabeth Mabel Henderson, M.D. Queen's University, Kingston, Ont., 1892, and gold medalist of her year; a member of the Hamilton (Ont.) Medical Society; died at her home in that city, March 26, from heart disease, aged 45.

George W. Fels, M.D. Medical College of Ohio, Cincinnati, 1877; a member of the Ohio State Medical Association; died at his home in Cincinnati, March 30, from pneumonia, following an attack of influenza, aged 60.

Albert Richard Gumberts, M.D. Evansville (Ind.) Medical College, 1878; of Rochester, N. Y.; a specialist on diseases of the stomach and intestines; died at his home in that city, March 15, from angina pectoris, aged 53.

Hana Abé, M.D. Laura Memorial Woman's Medical College, Cincinnati, 1896; in charge of a charity hospital in Japan until 1907; died at her home near Westdale, N. Y., February 15, from tuberculosis, aged 39.

J. A. Forgus (license, Arkansas, years of practice, 1907); a Confederate veteran, and mayor of Marked Tree, Ark.; died in St. Joseph's Hospital, Memphis, Tenn., March 25, from septicemia, aged 69.

Doctor Solomon Pearce, M.D. Vanderbilt University, Nashville, Tenn., 1894; a member of the State Medical Association of Texas; died at his home in Westhoff, Nov. 3, 1910, from cholelithiasis, aged 40.

Charles H. Bernstoff, M.D. Marion-Sims College of Medicine, St. Louis, 1897; of St. Louis; died at the American Hospital in that city, April 2, from appendicitis, aged 45.

William Inglis Bradley, M.D. McGill University, Montreal, 1888; gold medalist in chemistry of his year; of Ottawa, Ont.; died in the Royal Victoria Hospital, Montreal, March 23, from tuberculosis.

Anna Sophia Kenney Patch-Lindquist, M.D. Tufts Medical College, Boston, 1896; a member of the Massachusetts Medical Society; died at her home in Boston, March 18, aged 47.

Norman O. Greer, M.D. St. Louis College of Physicians and Surgeons, 1904; of Dupo, Ill.; died in a hospital in St. Louis, March 30, after an operation for appendicitis, aged 38.

Jonathan A. C. Hower, M.D. University of Maryland, Baltimore, 1854; a deputy sheriff for many years; died at his home in Martinsburg, W. Va., March 28, aged 84.

Leon A. LaPalme, M.D. Victoria College, Coburg, Ont., 1878; one of the early residents of Lewistown, Mont.; died at his home in Montreal, Dec. 28, 1910, aged 58.

Richard W. Padgham, M.D. Eclectic Medical College of the City of New York, 1889; formerly a clergyman; died at his home in Geneva, N. Y., March 1, aged 61.

Martin Phifer Crawford, M.D. New York University, New York City, 1881; of Lancaster, S. C.; died in Dr. Prior's Hospital, Chester, S. C., January 11, aged 53.

Herbert Franklin Brethour, M.D. University of Toronto, 1899; of Hamilton, Mont.; died in a hospital in Butte, Mont., March 28, from septicemia, aged 34.

Arthur L. Kendall, M.D. McGill University, Montreal, 1901; of Vancouver, B. C.; died in the Vancouver General Hospital, Oct. 8, 1910, from typhoid fever.

Cain C. Godshaw, M.D. University of Louisville, Ky., 1874; fell from the window of his office in Louisville, April 3, and was instantly killed, aged 55.

Joseph B. Allen (license, Iowa, years of practice, 1886); a practitioner for sixty-five years; died at his home in Hillsboro, Ia., April 7, aged 88.

Lucius D. Huffman, M.D. Jefferson Medical College, 1885; died at his home in Covington, Ky., March 24, from chronic myocarditis, aged 56.

Samuel P. Goudy, M.D. Columbus (O.), Medical College, 1881; died at his home in Jamestown, Pa., March 17, aged 63.

Ingraham Bill Freeman, M.D. Jefferson Medical College, 1856; died at his home in Bridgetown, N. S., February 27.

Alexander C. Scott, M.D. Savannah (Ga.) Medical College, 1867; died at his home in Jacksonville, Fla., March 11.

Gideon Barnaby, M.D., Harvard Medical School, 1872; died at his home in Granville Ferry, N. S., January 10.

J. S. Wilson, M.D. Kentucky School of Medicine, Louisville, 1879; of Macy, Ind.; died at Peru, Ind., March 10.

Franklin Winger, M.D. Jefferson Medical College, 1886; died at his home in Ephrata, Pa., March 15, aged 47.

"The Propaganda for Reform"

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

BENETOL

During the last few months sensational and ridiculously misleading articles have appeared in the daily press regarding a proprietary preparation called Benetol. The nostrum seems to be advertised by the direct method only to physicians; to the public it goes via the special newspaper article route, as a "marvelous medical discovery." It is but fair to say in this connection, that the newspapers which have published these articles seem to have done so in good faith and in total ignorance of the fact that they were giving the Benetol Company a large amount of free advertising. It is evident that the press agent's work was well done.

Here are a few claims that are made, either to the medical profession or to the public, for Benetol:

> "A new germicidal antiseptic marvel."
> "The only safe germicidal antiseptic."
> "It will cure any germ trouble it can reach."
> "Is beneficial rather than dangerous in overdoses."
> "The only germicide that can follow and kill germs."
> "A laboratory product of the University of Minnesota."
> "A chemical which destroys the germs of tuberculosis, typhoid and cancer."
> "Ten drops allowed to remain a short time in a gallon of infected water will make the water not only safe to drink, but will make it beneficial as a medicated water."

In the newspaper write-ups on Benetol, its discoverer is given about the same degree of publicity as the drug. Benetol is said to have been "dicovered" by "Prof. H. C. Carel, Head of the Department of Medical Chemistry and Toxicology, University of Minnesota (Retired)."

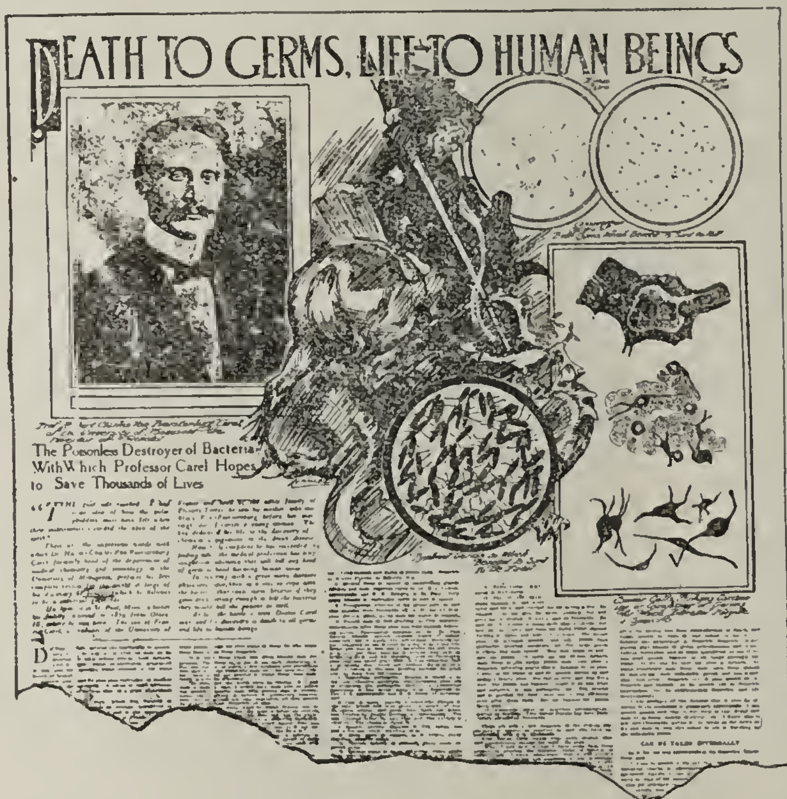
In many of the newspaper articles it is implied that Carel is still a member of the faculty of the University of Minnesota. The facts are, Carel has not been connected with this institution for some years. His connection with the university ceased at the time he exploited a hair restorer—"Hygenol." In selling his cure for baldness, he attempted then, as he is attempting now, to make capital out of the good name of the university—and the board of regents saw to it that Carel's connection with the university was severed. The attempt, therefore, to exploit Benetol as "a laboratory product of the University of Minnesota," is both an outrage on an institution of learning and a fraud on the purchaser.

In one of the press-agent notices on Benetol, the claim is made that the War Department has investigated Carel's "New Discovery" and that the heads of the department have urged the government to secure the "sole information and ownership" of Benetol. As a clincher it goes on to say:

> "An emissary is being sent to Prof. Carel to enter into negotiations, and for the first time in its history the United States government may go into the germicide business."

An inquiry at the War Department, regarding the veracity of the statements given in the exploitation of Benetol, brought the following statement from the office of the surgeon-general:

> "As you have surmised, there is no foundation of truth in the statement which you inclose with reference to the use of 'Benetol' by the medical department of the Army. This office has not authorized the purchase of any 'Benetol' nor has it investigated its merits."



DEATH TO GERMS, LIFE TO HUMAN BEINGS

The Poisonless Destroyer of Bacteria With Which Professor Carel Hopes to Save Thousands of Lives

Greatly reduced photographic reproduction of a full-page newspaper write-up of Benetol. Under the portrait of the "inventor" of Benetol appears the statement "Prof. Herbert Charles Von Fuerstenburg Carel, of the University of Minnesota, the inventor of Benetol." This write-up appeared in the Philadelphia *North American*, a paper that treats "patent medicine" fakers with scant courtesy. It was the appearance of such an article in a paper of this type that caused us to investigate the method by which the exploiters of Benetol got their product into the newspapers in this form.

Nor was the army alone the only department of the government that was credited with waxing enthusiastic over Carel's nostrum. It was claimed that the stuff had been tested in the navy. An inquiry addressed to the Bureau of Medicine and Surgery of the Department of the Navy brought the following statement:

> "This Bureau has never issued 'Benetol' for use in the Navy and does not contemplate doing so, having no knowledge of, nor interest in, this preparation."

In view of the claims that have been made for Benetol its composition is a matter of interest. What is this marvelous germicide; this "chemical," which destroys the germ of cancer; this wonderful discovery which "for six years Prof. Carel toiled night and day" to produce; this potent typhoid destroyer, 10 drops of which in a gallon of infected water will make the water not only safe but beneficial; what is this new medical wonder? This inquiry was referred to the director of the Association's Chemical Laboratory and secretary of the Council on Pharmacy and Chemistry, who replied:

"Chemical examination of benetol shows that it is a solution of alpha-naphthol containing about 18 gm. of the substance in 100 c.c. The solvent appears to consist of water, glycerin and soap. Alpha-naphthol is a well-known substance, closely related to, but not identical with, beta-naphthol which is official in the United States Pharmacopeia. The claim made in the advertising matter for Benetol, that it is a newly discovered compound is absurd. It is not a chemical compound but a simple solution of the well-known substance alpha-naphthol in the still better-known substances, glycerin, soap and water."

Treatment by New Remedies

In his new "Pocket-Book of Treatment," Ralph Winnington Leftwich, M.D., has the following to say about "the very latest" in therapeutics:

"The young practitioner purrs when he is told he is up to date. When he becomes more experienced he will have discovered that it is safer to be, say, six months behind the times. In fact, the up-to-date physician may be defined as a man who experiments on his patients. Leaving on one side remedies which are introduced to the profession for purely commercial reasons, a new remedy, or a new application of an old one, is to its discoverer what a new baby is to its mother—wonderful and unparalleled! In both cases, and without any dereliction from good faith, the judgment is biased. The remedy is introduced with a fanfare of trumpets loud in proportion to the status of the originator. Chemists [druggists] stock it, and other manufacturers not only imitate it, but puzzle their brains in coining fresh trade-marks which they hope will induce the public to think that theirs is the real original product,- *et puis bon soir!* For, twelve months afterward, it is forgotten by all but the exasperated chemists [druggists] who have stocks of it left on hand. Sometimes, as in the case of a well-known preparation of arsenic, it is found to be downright dangerous.

"No, except for incurable cases, it is time enough to prescribe a preparation when it has stood the test of ample independent trials. Let others do the experimenting. New preparations are sometimes made in this way: A manufacturer, running his eye down a book on therapeutics, finds, perhaps, seven different drugs recommended for a certain disease. He makes a kind of canister-shot by combining the whole of them under a trade-mark name, introduces it to the profession, and gets it more or less widely recommended. He then feels strong enough to spend thousands on advertising it to the general public, and the latter complacently dose themselves with it. Such preparations must be left severely alone; for every physician should be equal to making any necessary combinations in a prescription. A proprietary medicine is like a ready-made suit: a prescription is 'made to measure.'

"In a different and often very useful category, are some of those synthetic products which, based on sound chemical reasoning, are tested first on animals and later only on patients."

Correspondence

Uncinariasis in Students in Texas

To the Editor:—The Journal, March 18, 1911, contains the following erroneous statement under the heading of "Medical News":

"Recent investigations among the students of the medical branch of the University of Texas, at Galveston, revealed the fact that 43 per cent. of the students are afflicted with uncinariasis."

In 1901, while Dr. Allen J. Smith was professor of pathology in the University of Texas, he examined the stools of eighty-six students in this institution and found eight of them, or 9.3 per cent. of the number examined, infested with hookworm. He described these results in full in his paper on "Uncinariasis in Texas" published in the *American Journal of the Medical Sciences* for 1903, Vol. cxxvi, pp. 768-798.

Last year, Dr. James Greenwood, Jr., demonstrator of medicine, in the routine laboratory course in clinical medicine, requested those members of the junior class who found an excess of eosinophils in their blood to have their stools examined. He found six cases of uncinariasis in a class of fifty-six During the present session, he made a similar request but found only one case among forty-four students. He did not examine the stools of all of these students, but only of those who had eosinophilia. He has never found uncinaria without eosinophilia, although the latter may exist in other conditions than uncinariasis. This gives an average of seven cases of uncinariasis among 100 students examined by Dr. Greenwood, which is about the same ratio as that found by Dr. Smith.

It is of special interest that in no one of these seven cases found by Dr. Greenwood had the individual any symptoms which would cause him to suspect that he had intestinal parasites or any condition affecting the general health. The parasites were found by accident in a routine examination. In one case, there were some anemia and emaciation, which conditions improved after successful treatment. In the others, the general health and nutrition had not suffered.

On the same page of The Journal is the following statement:

"The Medical College of the University of Texas, at Galveston, is asking the legislature to grant the use of the quarantine fees at Galveston for the establishment and maintenance of a hospital in connection with the quarantine station at that point."

This statement is in danger of creating the misapprehension that a request has been made to use the quarantine fees for the current fiscal year, or for fees that may be collected in the future.

A bill was introduced in the last legislature providing for the transfer of a balance in a special quarantine fee fund at Galveston, amounting to about $13,000, to build pavilions for isolating and handling cases of contagious diseases. This fund was created in 1907 for building a residence for the state quarantine officer and repairing the quarantine station at Galveston. The balance remained after the completion of the improvements contemplated in the special appropriation of 1907 and could not be diverted for any other purpose except by act of the legislature.

William S. Carter, Galveston,
Dean of the University of Texas.

Nail in Chicken Gizzard

To the Editor:—The following account may prove of interest:

I have before me, on my desk, a dried chicken gizzard which has been opened and cleaned in the usual manner. Through the thick part of one half is a round aperture, ⅛ of an inch in diameter—in the dried specimen—at the internal opening and ¼ of an inch in diameter on the external surface. Through this aperture extends a six-penny box nail, its head being on the internal surface of the gizzard. The head of the nail and the portion of it within the wall of the viscus are much corroded.

The history of the curiosity, given me with the specimen, is as follows:

The fowl from which the organ was taken was one of a flock of three dozen slaughtered at the age of about five months. Under ordinary observation with the rest of the flock no signs of indisposition had been noted, this fowl coming with the rest to each feeding and behaving in a normal manner. When slaughtered it was found, however, to be "light and poor" instead of fat as were the others. When opened for cleaning the bowels were found to be "black" and covered with a dark, thick fluid. The liver was hard and "black," there were adhesions about the "gizzard," and the nail was visible, protruding through the wall of the viscus about "¾ of an inch."

To me the points of interest are the facts that the fowl could have swallowed the nail in the first place; and that it could have survived resulting injury so long without greater disability, for that the nail had been present for some time is evidenced by the degree of emaciation of the fowl and the extent of corrosion of the nail—granting that the nail was not previously corroded, which from the appearance of the specimen is a possibility only.

H. La Mont Youtz, Willow City, N. Dak.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FETAL HICCUP

To the Editor:—Please give me the etiology, and significance, with relation to viability, of fetal hiccup. Also give me the references to articles bearing on fetal hiccup and other fetal movements.

I have a patient in the thirty-sixth week of a second pregnancy who directed my attention to a regular throb, beat or tap produced by the fetus; it is strongest in the region of the mother's navel, occurring with remarkable regularity about eighteen times a minute, and occurring about half the time, both day and night. Along with this throb are the other fetal movements—squirming, leaping, etc. The first pregnancy in this patient was normal in every way, and the baby normal for the first forty-eight hours, after which convulsions began, ending in death after six hours. The cause of these convulsions has never been clear to me nor to the men associated with me on that case, unless they came from some cerebral trauma during birth. The mother is very anxious for a child and more than usually apprehensive over abnormal conditions, and therefore called my attention to the throbbing described above.

It was new to me, and I found no enlightenment either from questioning my multiparous patients, or in the authorities, except in Edgar. In his second edition, discussing "quickening," p. 130, he says: "Among fetal movements should be included fetal hiccup." I did not find elsewhere in his book any explanation of fetal hiccup—hence my inquiry. "Fetal hiccup," if it were a true name, would seem to me to be a dangerous phenomenon—for hiccup means contraction of diaphragm muscles followed by inspiration. If a fetus really hiccuped wouldn't it draw in amniotic fluid, and by constant repetition completely fill the lungs with fluid, and therefore be drowned before having had a chance to breathe?

R. H. Brooks, Claremont, N. H.

Answer.—During the last twenty years several writers have reported cases of fetal hiccup. The movements that have been ascribed to hiccup-like contractions of the fetal diaphragm have been noticed in the latter part of pregnancy and generally can be felt by the mother. They are felt as sharp, quick impulses, about fifteen to twenty a minute, and lasting usually for a minute or two, when a quiet interval occurs. Sometimes they continue uninterruptedly for ten minutes The impulse can be felt by the hand placed on the abdomen and heard by the ear or phonendoscope. They are generally best heard in one of the lower uterine quadrants over the chest of the child. Ahlfeld, who has studied these movements with a kymographion and made numerous investigations, believes that they are more frequent in the early part of pregnancy and can be heard even before the heart-tones.

The cause and significance of this phenomenon are related to the question of fetal respiratory movements, which has been studied by Ahlfeld. The best discussion of this subject, as well as that of singultus, is in a paper by him in the *Monatsschrift für Geburtshülfe und Gynäkologie,* 1905, page 143, in which references to the cases reported up to the date of the article are given. Ahlfeld finds regular movements of the child which register on the kymographion from sixty to eighty a minute, which he holds must be due to fetal respiratory movements. The object of these movements is the preparation of the respiratory muscles for their function, which is exercised as soon as the child is born. The respiratory movements also help in the development of the ribs and the joint surfaces connecting them with the spinal column. Preyer in his "Physiology of the Embryo" says: "The new-born moves itself immediately after birth as it was accustomed to move before birth, with the exception of breathing and trembling." Ahlfeld completes this law as follows: "The new-born child makes only such movements as it has already made in the uterus. These movements are, of course, modified by the changed condition of the new-born." Ahlfeld regards the usual physiologic fetal inspiration as only superficial, as that is all that is necessary to the development of the respiratory organs. Probably the inspired fluid does not reach beyond the bifurcation of the trachea. How fetal hiccup is related to fetal respiration, and also how it is related to the common post-natal hiccup, Ahlfeld does not attempt to explain. He believes, however, that it occurs as a physiologic function of the diaphragm in practically all persons. Ahlfeld's theory of intra-uterine respiration and singultus has not been generally accepted, nor has it been satisfactorily refuted.

FORMULAS FOR ASTHMA REMEDIES

To the Editor:—Please give me a formula for an asthma remedy to be ignited under a paper cone or other convenient apparatus, and inhaled by the patient. There are a number of so-called asthma cures on the market, all of which have a similar composition (lobelia, stramonium, digitalis, hyoscyamus, tobacco, potassium nitrate, etc.), and one afflicted with asthma sooner or later finds one that affords him temporary relief. Kindly refer me to some work where I can find the formulas that have given the greatest satisfaction.

M. H. Farmer, M.D., Virden, Ill.

Answer.—A French asthma cigarette contains the following ingredients (Yeo):

Belladonna leaves	5½ parts
Hyoscyamus leaves	2¾ parts
Stramonium leaves	2¾ parts
Phellandrium aquaticum	1 part
Extract of opium	⅛ part
Cherry laurel water	a sufficiency

The dried leaves are cut small, mixed well and moistened with the opium which has been dissolved in the cherry laurel water. A small amount of potassium nitrate is added in order that the cigarettes may burn readily.

Some patented preparations contain lobelia, and something similar to Himrod's "cure" is as follows:

Powdered lobelia.
Powdered black tea.
Powdered stramonium leaves, each 1 ounce.

On this is poured 2 ounces of a saturated solution of potassium nitrate, which is thoroughly mixed and allowed to dry (Yeo). Portions of this are then burned and the patient inhales the fumes.

℞.

	gm.		
Potassii nitratis	15		
Pulveris anisi	15	or āā,	℥ss
Pulveris stramonii	30		℥i

M. et fac pulverem.

Sig.: Ignite a thimbleful of the powder and inhale as directed. (The Journal, Jan. 2, 1909, p. 51.)

℞.

Pulveris belladonnæ foliorum	
Pulveris hyoscyami foliorum	
Pulveris stramonii foliorum	
Potassii nitratis	āā℥i

M. et sig.: Half a teaspoonful to be burned at one time.

℞.

Stramonium leaves	ʒiv
Green tea	ʒiv
Lobelia	ʒjss

Mix and pour on the mixture enough saturated solution of potassium nitrate to wet it. Dry it and keep in closely stoppered bottle.

℞.

Daturæ tatulæ	ʒij
Stramonii foliorum	ʒij
Cannabis indicæ	ʒij
Potassii nitratis	ʒij
Olei eucalypti	ʒss

Mix thoroughly.—(An Index of Treatment: Hutchinson and Collier, p. 80.)

Cigarettes made of paper soaked in a solution of nitrate of potassium and belladonna may be smoked or they may be made in the following manner:

℞.

Belladonnæ foliorum	40	gr. vj
Hyoscyami foliorum	2	gr. iij
Stramonii foliorum	2	gr. iij
Extracti opii	015	gr. ¼
Aquæ laurocerasi		q.s.

M. These various leaves are broken up like commercial tobacco and moistened by adding the cherry-laurel water, which should contain the opium. Finally, a whole leaf soaked in the same fluid is used as a cover, or a piece of cigarette paper may be employed in the same manner. (Hare's Practical Therapeutics, p. 619.)

LITERATURE ON MUNICIPAL SANITATION

To the Editor:—Can you give me information or cite literature on the subject of municipal sanitation? I am particularly desirous of suggestions as to some method of dealing with stables and stable manure in order to diminish the propagation of flies.

C. A. Woodard, Durham, N. C.

Answer.—As is well known, stable manure is one of the most frequent breeding-places for flies, and probably the most practical method of preventing them from propagating would be stringent regulations requiring the daily cleaning of stables and the storing of the manure in closed or carefully screened bins, with frequent removal of the manure.

The prevention of flies in cities, of course, involves the prevention of the accumulation of other sorts of waste, including garbage, in which flies may breed. Numerous editorials and articles have appeared in The Journal concerning flies as carriers of disease, and their prevention, and on other phases of municipal sanitation. A list of these, together with some books on municipal sanitation and hygiene, will be found below:

Editorial: Abating the Fly Nuisance, The Journal, Aug. 20, 1910, p. 700; this issue of The Journal also contains an editorial on the hypochlorite method of purification of water and refers to an article on this subject (Paper 229; U. S. Geological Survey, 1909).

Editorial: The Fly and Typhoid Fever, THE JOURNAL, Nov. 19, 1910, p. 1812.

Flies as Carriers of Infection, London Letter, THE JOURNAL, Oct. 15, 1910, p. 1390.

Orton and Dodd: Transmission of Bacteria by Flies, etc.; *Boston Med. and Surg. Jour.*, Dec. 8, 1910; abstracted in THE JOURNAL, Dec. 24, 1910, p. 2267.

Felt, E. P.: Methods of Controlling the House Fly, etc., *New York Med. Jour.*, April 2, 1910; abstracted in THE JOURNAL, April 16, 1910, p. 1335.

Beyer, H. G.: Dissemination of Disease by the Fly, *New York Med. Jour.*, April 2, 1910; abstracted in THE JOURNAL, April 16, 1910, p. 1335.

Editorial: Sanitary Side of the Garbage Question, THE JOURNAL, April 30, 1910, p. 1447.

Dutton, W. F.: Bluebottle Flies as Carriers of Infection, THE JOURNAL, Nov. 6, 1909, p. 1561.

Utilization of Garbage, Department of Queries and Minor Notes, THE JOURNAL, April 2, 1910, p. 1157; in this article are references to works on sanitation.

Disposal of Garbage and Filtration of Water-Supply, Department of Queries and Minor Notes, THE JOURNAL, July 3, 1909, p. 43.

Articles on Disposal of Excreta, U. S. Public Health Reports, Aug. 19, Nov. 11, Nov. 18, and Dec. 16, 1910.

Chapin: Municipal Sanitation in the United States, Providence, R. I., 1910, the Providence Press.

Goodrich: Disposal of Refuse, Wiley, New York, 1901.

Baker: Municipal Engineering and Sanitation, New York, 1902, Macmillan Co.

Godfrey, H.: The Health of the City, Houghton, Mifflin & Co., Boston, 1910.

Primer of Sanitation, World Book Co., Yonkers, N. Y., reviewed in THE JOURNAL, Feb. 19, 1910, p. 642.

Prudden, T. M.: Dust and Its Dangers, G. P. Putnam's Sons, New York, 1910.

FETAL CIRCULATION

To the Editor:—1. What causes the pulse-wave in the umbilical cord? 2. Is this wave toward or from the child? 3. Is the circulation of the fetal blood caused by the fetal heart or is it maternal? 4. Does any maternal blood enter the fetus? 5. Can the placental souffle be heard after the death of the fetus?

ANTONIO D. YOUNG, Oklahoma City, Okla.

ANSWER.—1. The pulse-wave in the umbilical cord is caused by the beating of the fetal heart.

2. The pulse-waves are essentially arterial impulses and pass from the heart to the periphery along the arteries. Therefore the pulse of the umbilical cord is in the artery and the wave passes from fetus to placenta, "from the child."

3. The circulation of the fetal blood is caused solely by the contractions of the fetal heart.

4. No maternal blood enters the fetus. The maternal blood circulates through sinuses of the placenta, bathing the villi within which the fetal blood circulates. Through the thin-walled membrane of the villi the oxygen of the maternal arterial blood diffuses and combines with the hemoglobin of the fetal blood, after which it returns to the fetus through the umbilical veins. It may be said in passing that the umbilical artery carries impure blood from the fetus to the placenta, where it is purified first through the loss of carbon dioxid, and, second, through the diffusion of waste products into the maternal blood, where it is oxygenated as described above and replenished by the diffusion of food materials from the maternal blood into the fetal blood.

5. The placental souffle or murmur is sometimes called the uterine souffle and is heard over the site of the placenta. It might be mentioned that the uterine souffle may also be heard over uterine fibroids, which fact necessitates some care in discriminating between a fibroid tumor and pregnancy. The placental souffle may be heard after the death of the fetus. The term "souffle" is also applied to a murmur that is heard in the umbilical cord. This is called the fetal souffle. If the cord should become looped around the neck or leg of the fetus, and thus become constricted, a souffle may be heard. This fetal souffle, due to the pulsation of fetal blood through a constricted segment of umbilical cord, will of course cease the moment the fetal heart ceases to beat.

ACUTE TONSILLITIS

To the Editor:—1. What are the causes of acute tonsillitis?

2. What is the proportion of cases due to non-microbic factors?

3. Is the ordinary iron mixture or any astringent beneficial in the acute stage, or should the use of such preparations be confined to the later stage in which the tonsils have been freed of all exudate?

4. What is the pathology of the white cheesy exudate?

By answering these questions you will help me to understand an illness which is common but not entirely clear to me.

SAMUEL LEVINE, M.D., Brooklyn.

ANSWER.—1. The principal causes of acute tonsillitis are exposure to cold and sudden thermic changes, especially in persons of rheumatic diathesis. Tonsillitis is frequently associated with menstruation. Among other causes, we may mention traumatism such as irritating fumes and vapors. Predisposing causes are nasal or postnasal irregularities, general lowered systemic tone, and various gastro-intestinal disturbances.

2. A definite answer cannot be given. There are a great number of microbes in the fauces continually, either in well or ill people. What the influence of these microbes may be in the development of the inflammation has never been definitely determined.

3. The iron mixture and other stimulating or astringent applications are often beneficial in the early stages of the disease, more so than in the later stages. In the late stage, tonics are useful. In the early stage, the inflammation may sometimes be aborted by stimulating applications. The most satisfactory consists of equal parts of guaiacol and almond oil to be used as a spray once a day. This causes intense burning for about a minute, but afterward gives great relief from pain for hours and in a considerable percentage of cases, will materially cut short the attack.

4. These cheesy masses consist of fibrinous exudate, necrotic epithelial cells, bacteria and the earthy matter from the ordinary secretions of the tonsils.

REMOVAL OF FOREIGN BODIES FROM THE CONJUNCTIVA

To the Editor:—I recently ran across an extraordinary statement in Berry's "Manual of Practical Ophthalmology," Lippincott, 1905. It is part of the subject matter "Foreign Bodies in the Conjunctiva" page 132. Speaking of removing them the author says: "Attempts at removing them, without eversion, with a camel's hair brush or the tip of the tongue passed below the upper lid, should not be made."

Such surgical technic is beyond my comprehension or imagination. Why a modern text-book should have such stuff incorporated in its text goes beyond me.

W. L. MOORE, Honolulu, H. T.

ANSWER.—The removal of foreign bodies from the external ocular apparatus by the laity as well as by some members of the medical profession is, to say the least of it, often an extraordinary procedure. In certain countries the attempt by the former to dislodge foreign substances from the conjunctival sac with the tip of the tongue is a common experiment, while the camel's-hair brush is not infrequently employed (beneath the uneverted lid) by inexperienced physicians for the same purpose. Consequently Berry's reference is to some extent apropos, although he might have elucidated the rather obscure allusion to these attempts.

A layman realizes, of course, that the important thing is to remove the foreign body. In the process, however, considerable damage is often done to the conjunctiva. It might be well for the laity to know the value of a saturated solution of boracic acid, which is very soothing after a foreign body has been taken from the eye. It has most of the merits of the many eye nostrums on the market, as boric acid is the chief constituent of many of them. Such a solution is kept on hand in many households, and it ought to be a more common adjunct of the family medicine chest. It would help to alleviate the trauma often caused by well-meaning but unskilful attempts at removing the offensive foreign body.

SODIUM GLYCOCHOLATE AND CHOLESTERIN TESTS FOR SYPHILIS

To the Editor:—Please give me information about sodium glycocholate and cholesterin tests for syphilis or tell me where I can procure the desired information, including the technic.

J. D. REENG, M.D., San Francisco.

ANSWER.—The tests referred to have not proved specific and, we believe, are now generally abandoned. Descriptions of them may be found in the articles by W. J. Butler, "Serum Diagnosis of Syphilis," THE JOURNAL, Sept. 5, 1908, p. 824, and "The Serum and Precipitate Reactions for Syphilis and Their Clinical Value," THE JOURNAL, April 2, 1910, p. 1115. Other references to the subject are the following:

Wassermann: Berlin. klin. Wchnschr., 1907, lxiv, 1599.

Landsteiner, Müller and Potzl: Wien. klin. Wchnschr., 1907, xx, 1564.

Levaditi and Yamanouchi: Compt. rend. Soc. de biol., 1907, lxii, 741.

Fleischmann: Berlin. klin. Wchnschr., 1908, lxv, 490.

Sachs and Altmann: Berl. klin. Wchnschr., 1908, lxv, 494, 699.

Porges: Wien. klin. Wchnschr., 1908, xxi, 206.

Nobl and Arzt: Wien. klin. Wchnschr., 1908, xxi, 287.

Fritz and Kren: Wien. klin. Wchnschr., 1908, xxi, 386.

Eisler: Wien. klin. Wchnschr., 1908, xxi, 422.

Kraus: Wien. klin. Wchnschr., 1908, xxi, 206.

Porges and Meier: Berlin. klin. Wchnschr., 1908, lxv, 731.

Klausner: Wien. klin. Wchnschr., 1908, xxi, 213.

Klausner: Wien. klin. Wchnschr., 1908, xxi, 363.

Mefford: New York Med. Jour., Oct. 31, 1908.

POEHL'S SPERMIN IN ARTERIOSCLEROSIS

To the Editor:—In a recent number of the *Gazette méd. belge*, xxi, No. 43, p. 424, I read a detailed report of five cases of arteriosclerosis in which the patients were all markedly improved and some of them apparently cured by a course of "Sperminum Poehl," an advertised remedy which I have always distrusted and never prescribed. I am now suffering myself from a somewhat advanced case of arteriosclerosis and would like to try this remedy if the Council has learned anything in favor of it and if there is no reason to fear bad effects from it.

X. Y. Z.

Answer.—Apparently the exploitation of Poehl's spermin passed several years ago from the domain of experimental medicine to that of nostrums advertised to the laity. So far as we know, it has received no recent discussion from reliable clinicians or experimenters. In some medical journals, as also in lay journals, it is true, one still reads that Poehl's spermin is successfully applied in "neurasthenia, senile marasmus, anemia, rachitis, gout, chronic rheumatism, syphilis, hysteria, tuberculosis, typhus, diseases of the heart, nephritis, tabes dorsalis, paralysis, neurasthenic impotence, overwork, acute diseases, and for convalescents." Few quack advertisements would differ much from this puff of Poehl's spermin. So far as we know, there is no reason to fear injurious results from the use of the remedy; neither might any good be expected from its use in arteriosclerosis.

The Public Service

Medical Department, U. S. Army

Changes for the week ended April 8, 1911.

Thomason, Henry D., captain, ordered to proceed to Jefferson City, Mo., on official business relative to the reorganization of the sanitary troops of that state.

Chase, Chauncey L., M.R.C., ordered to active duty and assigned to station at Fort Oglethorpe, Ga.

Davis, Arthur O., lieut., ordered to proceed from Fort Oglethorpe, Ga., to San Antonio, Texas, for duty with maneuver division at that place.

Wales, Philip G., M.R.C., reported for temporary duty at Fort Miley, Cal.

Bourke, James, captain, in addition to his duties at Fort Crockett, Texas, will report to the commanding general, first separate brigade, for duty as medical supply officer of that brigade.

Wing, F. F., D.S., reported for temporary duty at Fort Robinson, Neb.

Bourke, James, captain, will, in addition to his other duties, perform the duties of medical superintendent, transport service, at Galveston, Texas.

Moncrief, William H., captain; Pyles, Will L., captain; Casper, Joseph, lieut., and Sherwood, Joseph W., M.R.C., will proceed to Galveston, Texas, and report to the commanding general, first separate brigade, for duty.

Nichols, Henry J., captain, detailed to represent the medical department of the Army at the eighth annual meeting of the American Society of Tropical Medicine, New Orleans, May 18 and 19, 1911.

Craig, Charles F., captain, will proceed to Montgomery, Ala., for the purpose of delivering a lecture, April 18, before the medical officers of the Alabama National Guard on the subject of malarial disease.

Le Hardy, Julius C., M.R.C., on completion of such duty assigned him by commanding general, department of California, will proceed to Fort Ward, Wash., for duty.

Medical Corps, U. S. Navy

Changes for the two weeks ended April 8, 1911.

Haynes, J. P., P. A. surgeon, ordered to the naval station, Olongapo, P. I.

Huff, E. P., asst.-surgeon, detached from the naval hospital, Canacao, P. I., and ordered home.

Michaels, R. H., A. A. surgeon, ordered to the marine recruiting station, Chicago.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended April 5, 1911.

Wasdin, Eugene, surgeon, placed on "waiting orders," effective Sept. 22, 1911.

Cumming, H. S., surgeon, directed to proceed to Fisherman's Island, Va., on special temporary duty.

Foster, M. H., P A. surgeon, directed to proceed to Bureau for consultation. Relieved from duty at Ellis Island, N. Y., and directed to report to the commissioner of education, department of the interior, for duty in Alaska. Granted seven days' leave of absence from April 3, 1911.

Billings, W. C., P. A. surgeon, directed to proceed to Ellis Island, N. Y., and report to the chief medical officer for duty.

Earle, B. H., P. A. surgeon, leave of absence for thirteen days from March 1, 1911, amended to read "ten days from March 2, 1911."

Chapin, C. W., asst.-surgeon, granted seven days' leave of absence from March 22, 1911, under paragraph 191, Service Regulations.

Draper, W. F., asst.-surgeon, directed to report to the commanding officer of the Revenue Cutter *Bear* for duty.

Schwartz, Louis, asst.-surgeon, directed to proceed to Seattle, Wash., and report to the commanding officer of the Revenue Cutter *Tahoma* for duty

Moorer, M. P., A. A. surgeon, granted ten days' leave of absence from March 28, 1911.

Story, H. C., A. A. surgeon, granted thirty days' leave of absence from May 1, 1911.

Board of medical officers convened to meet at the Marine Hospital office, customs house, New Orleans, on April 3, 1911, for the physical examination of candidates for appointment as cadet-engineer in the Revenue-Cutter Service. Detail for the board: Passed Assistant Surgeon A. D. Foster, chairman; Acting Asistant Surgeon J. T. Scott, recorder.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

INDUSTRIAL DISEASES AND PHYSICIANS

JOHN B. ANDREWS

Secretary, American Association for Labor Legislation

NEW YORK CITY

The average American feels the magnitude of the national growth; he sees something of the result of the combined labor of millions of workers; he realizes, to some extent, that his country has leaped into the van of civilization, and he believes implicitly in his country and in himself. But the average man is an empirical observer. So far as mere physical achievement goes, he sees aright. His perception of the magnitude of individual and national effort, his knowledge of the volume of production, is right. But he fails utterly to understand that the tremendous social forces that have been evolved, and that have made these things possible, have necessarily wrought profound changes in social relations, in social needs, and in the relations of the individual to society.

Of all professional men, perhaps the most definitely social in his service is the physician. His duties bring him into the most important and intimate human relations. His knowledge is purchased only by many years of highly specialized training, and the medical profession, as a natural result, becomes the guardian of the public health. The average modern man does not stop to reflect that he is impossible without the physician, who attends his entry into the world, keeps him in it as long as is humanly possible, and in the end sees him out of it.

But the contrary is equally true, for the physician is possible only because of the modern man, to understand whom the physician needs a clear knowledge of his patient's normal environment, and this the physician does not require as part of his necessary training. An examination of the overcrowded medical curriculum gives no indication of the fact that we live in an industrial society. The result is that a large percentage of physicians fail to realize the occupational source of many diseases, as has been shown by investigations.

An enormous range of diseases is directly attributable to the patient's work. The disease is contracted by him as an immediate result of his occupation, or his occupation produces conditions that foster the contracting of diseases, such as tuberculosis, neurasthenia and anemia. The bald statement of this fact is but a truism, known more or less definitely to every physician. It assumes vast proportions, however, when it is clearly recognized that the population of our country is a working population, and that there are few if any occupations that a man or woman may follow that do not, without careful regulation, produce sickness in one form or another, or contribute conditions that make the worker liable readily to contract disease from which he would ordinarily be immune.

The conditions under which the people of this country work produce in their aggregate the problem covered by the term "industrial hygiene," a problem of comparatively recent recognition among us. We have been so busy making profits that we have had no time to inquire how they are made or what their making entails. We are therefore obliged to go abroad to countries that have studied the subject in order to acquire scientific foundations on which to base our plans for improvement.

Germany and Great Britain have, perhaps, done more than other countries in this direction; and, characteristically, the German investigations are the more complete and systematic.

For want of American data we may base our estimates of the extent of sickness due to occupational conditions on the careful results of German experience. That experience shows that the number of cases of actual sickness is equivalent to 40 per cent. of the number of persons exposed to risk. If, therefore, we take the number of persons engaged in gainful occupations in the United States in 1910 as 33,500,000, we may present the following table, taken from the Memorial on Occupational Diseases presented to President Taft on September 29 last:

Estimate of Sickness and its Cost Among Occupied Males and Females in U. S., 1910 (33,500,000)

(a) Estimated number of cases of sickness on the German basis of 40 per cent. of the number of persons exposed to risk, 13,400,000.

(b) Estimated number of days of sickness on the German basis of 8.5 days per person *per annum*, 284,750,000.

(c) Estimated loss in wages at an average of $1.50 a day for 6/7 of the 284,750,000 days, $366,107,145.

(d) Estimated medical cost of sickness at $1 a day for 284,750,000 days, $284,750,000.

(e) Estimated economic loss at 50 cents a day for 6/7 of the 284,750,000 days, $122,035,715.

(f) Total social and economic cost of sickness *per annum*, $772,892,860.

(g) Estimated possible economic saving in the health of individual workers on a basis of 25 per cent. reduction *per annum*, $193,223,215.

Objection to these figures may be urged on account of the differences that exist between industrial conditions in Germany and in America. The differences are admitted; but the figures here given would beyond doubt have to be increased on every count.

This country's industry is, to a large extent, innocent of the devices long in general use abroad, and particularly in Germany, for safeguarding the health of the workers. The occasional voluntary efforts of employers are far too spasmodic and unscientific to be regarded as important factors in this connection. The body of factory legislation in America is also pitifully slight, and noteworthy in the main for its lack of scientific knowledge and method. And, when even poorly conceived laws are enacted, the machinery provided for their enforcement is ludicrously insufficient. Industrial regulations in America, as they affect the health of the workers, are as unscientific and chaotic as in any country in the world that claims to possess the elements of western civilization. We have each year about 500,000 industrial accidents, one-half of which might be prevented. We have in our midst every year at least 13,500,000 cases of industrial sickness, involving a loss to society of $772,892,860, and of all this loss we can save at least 25 per cent.

We have, then, to devise means for securing accurate and complete information on the incidence of industrial disease. On this immediate and preliminary necessity, Professor Charles R. Henderson said recently, speaking at the fourth annual meeting of the American Association for Labor Legislation at St. Louis:

> In the social conflict with communicable diseases (scarlet fever, diphtheria, etc.), reports to health authorities are found essential to success. Hidden disease works all the greater damage because it is in the dark. What is brought to light can be fought in the open.
>
> The same is true of occupational diseases. So long as their nature, ravages, causes are concealed, the medical profession is deprived of information it needs, workmen die in ignorance of what kills them, public sentiment on the subject does not exist, legal regulation is not enacted or not enforced.
>
> It is now generally recognized that the members of the medical profession have a special duty to the community in the matter of reporting diseases and facts for vital statistics. They alone have the information; they have received much of their education at public expense in public or endowed schools, laboratories or hospitals; and they are supported by the public; they are excused from various duties which fall to other citizens.
>
> If they neglect this professional duty, misery and death will result.
>
> If they make their reports as perfect as possible, science will be advanced, legislation will be wiser and more effective, and public wealth and happiness will be increased. How many physicians recognize the occupational origin of certain diseases? The investigations of the Illinois Commission on Occupational Diseases have disclosed the unfortunate fact that many physicians do not know the shop origins of certain maladies.
>
> The records of death in the offices of health authorities, coroners, the records of public hospitals, of insurance associations, even when made by medical men, yielded but little information as to the working place and its conditions, the essential matter.
>
> Various diseases of the central nervous system, muscular and respiratory systems give very little direct clue to the causes of such disorders.

The statistical and other precise information that would be made available by the systematic reporting of cases of disease due to occupation would be of the utmost value, and, indeed, would be essential to intelligent action. But the mere classification of diseases does not provide a means for their elimination or diminution. It is necessary that the influence of the physician be felt in the actual place of work.

Adequate factory and workshop inspection is essential, and while it is true that in many branches of this work non-medical men are quite competent, in some of the most vital branches medical men are essential. "Medical men alone," said Dr. William C. Hanson, of the Massachusetts Board of Health,[1] "are in a position to make the best use of facts obtained concerning the sanitary condition of premises where men and women work; to study the possible injurious effects of certain injurious processes on the health of the person engaged therein; to inspect devices designed to protect the employees against injurious and dangerous substances, and to judge of the effects on the health of operatives of such substances, as well as to detect pathologic signs or symptoms of certain poisons, dusts and fumes incident to some occupations; to inquire as to the health of employees, both for the purpose of aiding those found in ill-health or physically unfit for work, and for protecting others from infectious diseases; to make physical examination of minors, and, whenever possible, of adults engaged in trades or occupations deemed to be injurious to health; and to collect and make proper use of all facts and data, including morbidity and mortality statistics, pertaining to occupational hygiene."

It is frequently urged in opposition to the demand for such efficient factory inspection and the necessary legislation, that conditions in America are not nearly so bad as in Europe, and that, in any event, European conditions cannot be regarded as giving a clue to conditions in America. That, however, is mere childishness. No reasonable human being could take seriously the argument that although lead poisons English workers or German workers it does not necessarily poison "American" workers. Such beginnings of scientific investigation as have been conducted in America give us a picture of conditions that constitute a widespread and persistent menace to the national health.

Thus the investigation into phosphorus poisoning in the match industry, carried out in cooperation with the United States Bureau of Labor, produced facts that call for immediate Federal legislation. An intensive investigation in the homes of the workpeople of but three of the sixteen American match factories yielded a total of eighty-two cases of phosphorus poisoning. Detailed investigation in fifteen factories showed that of the 3,591 persons employed, 65 per cent. were working under conditions exposing them to the fumes of phosphorus and the dangers of phosphorus poisoning. Here, as in many other industries, the ignorance or self-interest of many employers prevented them from properly instructing their workpeople concerning even the elementary and at best inadequate precautions against contracting this peculiarly loathsome disease.

The claim made by Dr. Ivy, dental examiner for the Pennsylvania Match Company, that under the present tariff and labor conditions, matches cannot be produced from sesquisulphid of phosphorus by manufacturers in this country in competition with foreign manufacturers[2] is absurd. Match manufacturers representing more than nine-tenths of the total output in America, in their desire to abolish "phossy jaw," have voluntarily gone on record in writing as follows:

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[1] Proc. Fourth Annual Meeting, American Association for Labor Legislation.

> In the event of the prohibition of the manufacture of white phosphorus matches, we have no doubt of our ability to supply a strike-anywhere match which will be satisfactory.

It is interesting to recall that the treasurer of the match company which employs Mr. Ivy said in a letter to the U. S. Bureau of Labor (Bulletin 86, p. 131):

> So far as we are concerned, one thing is sure, if there is any substitute for white phosphorus that would eliminate the danger, even if it would cost more money, and considerably more money, I know that our people will be only too glad to adopt it.

Attempted regulation has been abandoned in one country after another after a fair test, and absolute prohibition of the use of poisonous phosphorus in match-making is now recognized as the only sure remedy for this horrible and wholly unnecessary disease.

The report of the Illinois Commission on Occupational Diseases, already referred to, shows the existence of similar dangerous conditions. Twenty-eight trades were investigated, in all of which lead-poisoning may occur, and 578 individual cases of lead poisoning were secured from the records of physicians during the past three years. Physicians will understand that this number is a minimum, because records are not consistently kept by private practitioners, and only recorded cases are included.

A striking illustration of what stringent workshop regulation can do toward decreasing the amount of sickness in occupations is given by Dr. Alice Hamilton. The figures given in her report are further emphasized by the fact that in one place investigated by Dr. Hamilton, where only thirteen men are employed, fifty men are engaged in the course of the year to maintain the minimum staff force. Another place engages 300 men to maintain a force of fifty. Still another, with a payroll of from 450 to 600, loses from 20 to 40 per cent. of its workers every pay day. In all these cases, the men drop out as they become "leaded."

A preliminary investigation into mercurial poisoning in New York and New Jersey produced in three months a record of sixty cases in the hatting industry. In Great Britain, on the other hand, where every case is immediately reported, only ninety-four cases for all industries have occurred in twelve years.

With the exception of phosphorus, lead and mercury poisoning, little, if any, investigations of value have been made in this country into the vast question of industrial poisoning. That extensive investigation carried out by competent authorities is urgently needed can be seen from the following list of poisons that are in every-day use in our industries:

Alcohol, Amyl
Alcohol, Methyl
Ammonia
Aniline
Antimony
Arsenic
Arseniuretted hydrogen gas.
Benzol
Carbon dioxid
Carbon disulphid
Carbon monoxid
Chlorid of lime
Chlorin
Chromium
Dinitrobenzol
Formaldehyd
Hydrochloric acid
Hydrofluoric acid
Lead
Manganese
Mercury
Nitrobenzene
Nitrous gases
Phosphorus
Picric acid
Prussic acid
Pyridin
Sulphur chlorid
Sulphuretted hydrogen
Sulphurous acid

This list does not, of course, exhaust the conditions to be found in industry that are detrimental to health. Dr. Thomas Oliver treats the subject of occupational disease under five general heads: (1) diseases due to gases, vapors and high temperatures; (2) diseases due to conditions of atmospheric pressure; (3) diseases due to metallic poisons, dusts and fumes; (4) diseases due to organic or inorganic dust and heated atmospheres; (5) diseases due to fatigue.

When the wide range of factors affecting detrimentally the health of the workers of America is realized, together with the fact that practically no scientific measures are in operation for their relief, it becomes evident that the problem of industrial disease is one that calls for immediate investigation. The success of such an investigation, and the measures to be taken following it, depend very largely on the cooperation of the medical profession. Physicians can furnish the knowledge that enables the subject to be intelligently and scientifically handled, and on them must devolve the responsibility of reporting to appointed authorities all cases of sickness due to the patient's occupation.

To secure this necessary preliminary step, the American Association for Labor Legislation has introduced into the legislatures of the principal industrial states a uniform bill providing for the reporting of occupational diseases by physicians. The essential parts of this uniform measure are as follows:

> Every medical practitioner attending on or called in to visit a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury or their compounds, or from anthrax, or from compressed-air illness, contracted as a result of the nature of the patient's employment, shall send to the Commissioner of Labor a notice stating the name and full postal address and place of employment of the patient and the disease from which, in the opinion of the medical practitioner, the patient is suffering.

It is, of course, recognized that a national investigation of occupational diseases is needed. A most valuable aid in this work would be a clinic for the study of industrial diseases, such as has been established recently at Milan, Italy. Such an institution would be valuable in affording ideal conditions for the study and prevention of occupational diseases, and in connection with a scientific system of recording, it would immeasurably increase the social service of physicians.

Metropolitan Tower.

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[2] Ivy, Robert H.: The Prevention of Industrial Phosphorus Poisoning, The Journal A. M. A., April 8, 1911, p. 1018.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—Third Weekly Meeting

Diseases of the Nervous System (Continued)

Chorea

Etiology: Age, sex, season. Relation to rheumatism. Overwork in school, anemia, ocular defects. Heredity. Exciting causes.

Symptoms: Onset of spasms, character, intensity. Course of spasm. Endocarditis. Mental condition. General condition. Duration.

Treatment: Hygiene, diet, control of patient. Medicinal treatment, arsenic, sodium salicylate, antipyrin, strychnin, etc.

Acute Meningitis

I. Cerebrospinal Meningitis

Symptoms: Clinically may be (a) hyperacute, (b) usual, (c) mild, (d) chronic in form. Onset, vomiting, convulsions, chill, pain, muscular rigidity. Eruptions on skin. Fever. Headache, pain in neck, hyperesthesia. Delirium, apathy, coma, muscular rigidity, opisthotonos. Kernig's sign. Eye and ear symptoms. Respiration, pulse. Blood-count. Course, duration and terminations.

Treatment: Medicinal treatment. Serum treatment, technic, results.

II. Simple Acute Meningitis

Etiology: Pneumococcus, streptococcus and staphylococcus, colon bacillus, etc. Secondary to acute infections.

Diagnosis: History of previous disease, onset of brain symptoms.

Medical Education and State Boards of Registration

COMING EXAMINATION

GEORGIA ECLECTIC: State Capitol, Atlanta, about April 20. Sec., Dr. C. W. Miller, 192 W. North Ave.

South Dakota January Report

Dr. F. W. Freyburg, Secretary of the South Dakota State Board of Medical Examiners, reports the written examination held at Aberdeen, Jan. 11-12, 1911. The number of subjects examined in was 15; total number of questions asked, 125; percentage required to pass, 75. The total number of candidates examined was 32, of whom 29 passed and 3 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Northwestern University Medical School, (1899) 90.3;	(1909)	84.7;
(1910) 85.6.		
American Coll. of Medicine and Surgery, Chicago..	(1907)	81
College of Physicians and Surgeons, Chicago, (1908) 76.2;	(1910)	
83.6, 88.5.		
Rush Medical College.............(1895) 75.1;	(1908)	87.7
Hahnemann Medical College and Hospital, Chicago.	(1901)	75
Drake University ....(1902) 76;	(1910)	81.8
State Univ. of Iowa, Coll. of Med...(1902) 80.9;	(1910)	82.1
Keokuk Medical College, Coll. of Phys. and Surg..	(1900)	80.6
University of Michigan, Dept. of Med. and Surg..	(1909)	87.7
University of Minnesota, College of Medicine, (1908) 75.9;	(1909)	
80, 80.4; (1910) 82.9.		
Ensworth Medical College.....................	(1909)	79.4
St. Louis College of Phys. and Surg..(1909) 79;	(1910)	77.6
Cornell University Medical College..............	(1899)	83.6
Jefferson Medical College.......................	(1910)	87.2
Milwaukee Medical College.........(1905) 85.7;	(1910)	83.3
University of Toronto, Ontario......(1907) 81.2;	(1908)	83.5

FAILED

Bennett Medical College..........................	(1909)	66.1
Drake University	(1902)	73
Creighton Medical College........................	(1907)	71.9

The following questions were asked:

BACTERIOLOGY

1. What kind of bacteria are most commonly found in suppurative processes. (*b*) Describe them. 2. What are the three sub-divisions of the colon typhoid bacillus group. 3. What do you understand by (*a*) Phagocytes. (*b*) Blastomycetes. (*c*) Thermal Death Point. (*d*) Antiseptics. (*e*) Disinfectants. 4. Describe a diphtheric throat. How would you obtain a culture? 5. How would you dispose of the excreta of (*a*) typhoid patient. (*b*) tubercular patient.

REGULAR THERAPEUTIC AND PRACTICE

1. Describe three of most common intestinal worms and give treatment for one kind. 2. Describe and treat rickets. What is marasmus and scorbutus? 3. What are the contra-indications of veratrum viride? What is its therapeutic value? 4. How would you distinguish between autotoxemia and acute ptomaine poisoning? 5. Describe symptomatic difference between tetanus and strychnin poisoning. 6. Differentiate acute alcoholism, apoplexy and epilepsy. 7. What is arthritis deformans? Give diagnosis and prognosis. 8. Describe and treat hemicrania. 9. What are the differences in the physical signs of initial incompetency and functional systolic murmurs? 10. Define briefly: Aphasia, apoplexy, thermic fever, myalgia fever, parotitis, septicemia, pyemia, pachymeningitis.

MEDICAL JURISPRUDENCE

1. Give signs of death by drowning. 2. What are the duties of a coroner upon receiving notice that a dead person has been found in his jurisdiction? 3. State the method of procedure, in this state, to procure the commitment of a person to the hospital for the insane. 4. In making a microscopic examination of blood-stains, what characteristics would lead you to believe they were produced by human blood? 5. What conditions, from a legal standpoint, would justify the induction of premature delivery?

PHYSIOLOGY

1. What action has the gastric juice on the carbohydrates and fats? 2. Give the composition, reaction, and uses of blood. 3. Describe the red blood-corpuscles and give their best known and most important function. 4. Describe the fetal circulation. 5. Name the erectile tissues of the body, and explain their function. 6. What digestive changes take place in the (*a*) small intestines? (*b*) In the large intestines? 7. Describe the sphygmograph and state its use. 8. How do arteries, veins, and capillaries differ as to function and structure? 9. Define emulsification, and saponification, and give examples of each. 10. What is an (*a*) efferent nerve? (*b*) afferent nerve? Give illustrations of each.

ECLECTIC MATERIA MEDICA, THERAPEUTICS AND PRACTICE

1. Define the terms diaphoretic, narcotic, and poison, and give examples of each. 2. Name several of the best stimulants, and give dose of each. 3. Name some of the best intestinal antiseptics, and doses of same. 4. Give the specific indications for hydrochloric acid, sodium bicarbonate, belladonna, aconite, and dose of each. 5. Diagnose and treat a case of pneumonia. 6. Give differential diagnosis between appendicitis, and gall-stones. 7. What do you know about infantile paralysis—its cause, symptoms and treatment? 8. What are the earliest symptoms of poisoning from the external use of carbolic acid. 9. Give symptoms and treatment of perforation of bowels resulting from typhoid fever. 10. Write a prescription for a good general tonic.

CHEMISTRY

1. Give a test for sugar in urine. 2. Give a common name for the following formula: H_2O_2, C H C_{13}, CH_4O, C_2H_5OH. 3. In what different compounds is sulphur found in nature? 4. What decompositions occur in the preparation of chlorin from rock salt? 5. Give chemical name and formula for lunar caustic.

EYE, EAR, NOSE AND THROAT

1. Diagnose and treat case of iritis. (*b*) Diagnose and treat case of keratitis. 2. Name and describe four errors of refraction and treat each. If lens is prescribed be definite. 3. Give treatment and prognosis of severe burn of eye involving lid and ocular conjuctiva. 4. Give treatment in well marked case of hypopyon. 5. Differentiate between diphtheria and follicular tonsillitis and treat case of follicular tonsillitis. 6. Diagnose and treat a case of hypertrophy of pharyngeal tonsil. 7. Describe the Eustachian tube, giving anatomy and function. 8. Draw diagram illustrating cross section of nose showing turbinated bodies, and treat a case of hypertrophy of inferior turbinate. 9. Give etiology, symptoms and treatment of empyema of frontal sinus. 10. Give three common causes of deafness and treat a given case.

OBSTETRICS

1. How would you treat vomiting of pregnancy? Give etiology. 2. Tell what you know about toxemia of pregnancy. 3. Diagnose and treat a case of placenta prævia, being called after mother is in labor. 4. Make an accurate diagnosis of a vertex presentation. 5. Give three main rules for the treatment of uterine inertia in labor. 6. Give immediate diagnosis and treatment of lacerations of perineum after labor. 7. How and when would you be justified to induce labor? 8. Describe the application of forceps. 9. What is a cystic mole? Give cause for its formation. 10. When would you use chloroform in labor?

ANATOMY, HISTOLOGY AND EMBRYOLOGY

1. Give a histological description of a hepatic lobule. 2. What is the embryonic origin of (*a*) the kidney, (*b*) the lungs, (*c*) the eyeball. 3. Describe the pancreas. 4. Give histological description of pulmonic alveoli. 5. What displacement occurs in a fracture of the femur at the junction of the middle and lower thirds? Why? 6. Describe the ankle joint. 7. Describe the diaphragm. 8. Describe the small intestine. 9. Name the muscles of respiration. Give origin and insertion of any two. 10. Name the abdominal viscera that are (*a*) completely, (*b*) partly, (*c*) without peritoneal investment.

SKIN AND GENITO-URINARY

1. Give symptoms, diagnosis and treatment of a beginning erysipelas of the scalp in an infant one year old. 2. Diagnosis and treatment of erythema multiforme. 3. Diagnosis and treatment of lupus vulgaris. 4. Diagnosis and treatment of perniones. 5. Etiology, diagnosis and treatment of acne vulgaris.

PATHOLOGY

1. What are lymphocytes, poikilocytes, blood-plates? 2. Give the blood changes in myelogenous leukemia. 3. What conditions are induced by (*a*) atrophy and (*b*) hypertrophy of the thyroid? 4. Give the pathology of cancrum oris. 5. Differentiate septic intoxication and bacteremia. 6. What are local infections? 7. Describe the intestinal lesion of typhoid. 8. What is an antitoxin? 9. The pathology of psoas abscess. 10. Define immunity.

DISEASES OF WOMEN

1. Give causes and treatment of pruritus vulvae. 2. Differentiate appendicitis and ovaritis. 3. Etiology, diagnosis and treatment of pyosalpinx. 4. What are the indications for hysterectomy? Describe one operation. 5. Give in detail your treatment for complete rupture of the perineal body with accompanying rectocele and procidentia uteri, in a woman past the menopause.

HOMEOPATHIC THERAPEUTICS AND PRACTICE

1. Outline your treatment of typhoid. 2. Name two of the most frequent complications of scarlet fever, with treatment of either one. 3. Give the indications for two remedies useful in the treatment of chorea. 4. Etiology, diagnosis and treatment of Bell's paralysis. 5. What symptoms would lead you to prescribe arsenicum, rhus toxicodendron, and sulphur in skin diseases. 6. Give symptoms, diagnosis and treatment of broncho-pneumonia. 7. Differentiate digitalis and aconite in heart disease. 8. Indications for two remedies in acute gastritis. 9. How would you treat hypostatic congestion of the lungs. 10. Outline your treatment of infantile convulsions.

HYGIENE AND SANITARY SCIENCE

1. Give in detail the method you would use as health officer in controlling diphtheria epidemic. 2. Is infantile paralysis infectious? If so, give rules for protecting the community. 3. Give incubation period of (*a*) scarlet fever, (*b*) diphtheria, (*c*) variola, (*d*) measles. 4. Give hygiene and general care of the patient to prevent infection of attendants and others in close contact with patient suffering from pulmonary tuberculosis. 5. Give general directions for the care of public schools, and care and inspection of school children.

SURGERY

1. Give diagnosis and treatment of strangulated inguinal hernia. 2. Diagnose and give treatment for cholelithiasis. 3. Diagnose and treat simple fracture of clavicle. 4. Diagnose and treat fracture of femur at the junction of upper and middle thirds. 5. How would you manage case of fecal fistula following appendiceal abscess? 6. Give diagnosis and treatment of hemorrhoids. 7. Given severe crushing injury of leg with shock—give treatment in detail. 8. Give diagnosis of and treatment for postoperative ileus. 9. Give diagnosis and treatment of carbuncle. 10. Give diagnosis and treatment of acute suppurative appendicitis; in case you operate, what incision would you make, and why?

Book Notices

THE PROCEEDINGS OF THE CHARAKA CLUB. Vol. III. Cloth. Price, $3 net. Pp. 174, with illustrations. New York: William Wood & Co., 1910.

In this volume of the "Proceedings of the Charaka Club," of twenty-one papers whose titles are given as having been read since the publication of the second volume, twelve are printed with many rare and interesting illustrations.

Dr. Dana contributes a study of the canticles of old anatomists called "When Apollo Strikes the Lyre," which recalls the days when the scientific world united in the familiar medium of the Latin tongue to celebrate the glories of their contemporaries in verse. When a distinguished professor died or had a festal day his admiring friends and pupils sent him verses from all parts of Europe. Even the works of the great anatomists were celebrated with song. A certain John Antoninus wrote a *carmen* addressed to the ghosts of the gentlemen whose remains had been dissected by Fabricius of Aquapendente, congratulating them on their good fortune in having been dissected by such a master of the art, and assuring them that the repose of their souls had been attended to. Spigelius had a whole *funiculus* of songs contributed to encourage him in his work. Antonio Scarpa, professor in Padua, received the tribute of twenty-five Latin verses written by his pupils and friends. Through three centuries these curious songs were the fashion; even Harvey, Sydenham and Radcliffe in England were celebrated in memorial verses. While the poems do not take high rank as works of art, still they have a great deal higher literary value than the conventional "resolutions" passed by moderns to signify respect for a distinguished departed brother. The custom has passed away, because, as Dr. Dana says, "the learned world has dropped its Latin without having picked up Esperanto;" and, while not maintaining that the formal praise adds anything to the real achievements of the profession, he hints, nevertheless, that physicians might have a better scientific imagination if they were to indulge their sensibilities a little, and not be so technical that they cannot enjoy the esthetic side of life.

Dr. Pearce Bailey makes a delightfully logical diagnosis of what has been known as Flaubert's epilepsy. From the manner in which Flaubert, as well as his friends, describes himself, and from what the novelist records of his peculiar psychology in the romance of "Madame Bovary," Dr. Bailey concludes that the famous fits were not epileptic, but convulsive attacks following emotional crises. Flaubert's physicians left no records of his case. They evidently did not understand it. Some bled him, one threw up his hands and prescribed quinin, another told him to stop smoking, and still another—Hardy, the dermatologist, we understand—called him a hysterical old woman to his face. This is the literary post mortem which Dr. Bailey, more sympathetically, sets forth.

In a paper by Dr. Smith Ely Jelliffe there appears a copy of the first illustration of the fissure of Sylvius, as presented by Franciscus Sylvius in the seventeenth century. So vague were ideas about the work of this remarkable anatomist that the honor of the name of the fissure had often been attributed to Jacobus Sylvius, who lived two centuries earlier. Study of the references makes it possible to trace the picture of a well-descended and highly endowed youth, who studied in Parisian, German and Dutch universities, till at the mature age of 23 he was crowned with laurels, received his cap, ring and book, and was sent forth with a kiss of peace to be one of the most distinguished lecturers and popular physicians of his day. It was said of him that when at 27 he went to Amsterdam the inhabitants acted as though Apollo had descended from Olympus to cure them.

No one reading Dr. Arpad G. Gerster's charming sketch of "Surgical Manners and Customs in the Time of Henry de Mondeville," can fail to appreciate the stages through which surgery has struggled from the middle ages, when it was considered a degrading manual trade, to the present day of luxurious nicety. It is interesting to find this clever old French fourteenth-century bachelor with a big practice grumbling thus: "Sometimes in a whole day I cannot manage to write a single line, being obliged to attend to my lectures, and having in addition to run hither and thither the whole day long to earn my bread, because I must earn everything I need, for myself and my household, by my own work."

De Mondeville's quaint, piquant Latin abounds with caustic humor, and shows deep insight into the devious ways and the cunning of charlatans and tricksters, who "though ignorant, thrive and are magnificently exalted by their practice, while the well-instructed, truth-telling and expert are oppressed, and frequently have to live the life of paupers and mendicants." So little change has there been in human nature, Dr. Gerster says, that "in one of his treatises we find the tricks of the present-day Christian Science beautifully delineated;" and truly, to read the arguments of the monks, concerning the divine nature of health, which de Mondeville satirizes, gives us a feeling that the benighted superstition of the middle ages is flourishing to-day.

To possess this little volume is to loiter at will with the medical great of forgotten ages, or to share the keenly humorous view of the writers of the papers concerning modern situations in medicine.

TEXT-BOOK OF NERVOUS DISEASES FOR PHYSICIANS AND STUDENTS. By Prof. H. Oppenheim of Berlin. Fifth Edition. Authorized Translation by Alexander Bruce, M.D., Physician to the Royal Infirmary, Edinburgh. Volumes I and II. Cloth. Price, 2 guineas. Pp. 1424, with 432 illustrations. Edinburgh: Otto Schulze & Co., 20 S. Frederick St., 1911.

To commend the work of Oppenheim seems like approving a Rembrandt or complimenting a Newton. For years this text-book has been by far the best one in any language. To review it is to recite a catalogue of excellencies. English readers unfamiliar with German are therefore deeply indebted to Dr. Bruce and his Scotch publisher.

The first volume, 602 pages, embraces two parts: a general part (92 pages) and a special part (510 pages). The first, on mode of examination and general symptomatology, contains a wonderful fund of information remarkably well condensed. The second covers diseases of the spinal cord and peripheral nerves, including 147 pages on anatomy and physiology of the cord, localization in the spinal cord (eleven most valuable pages), vessels, etc.

The second volume (819 pages) is devoted to diseases of the brain, the neuroses, diseases of the sympathetic, angioneuroses and conditions of intoxication in which the nervous system is affected. This includes sixty-six pages on the anatomy and physiology of the brain and seventy-two pages on the general symptomatology of brain diseases.

The entire work is a storehouse of thoroughly digested information. The author long has been a contributor to almost every department of the science of neurology and the art of the neurologist. His erudition, keen discernment and practical balance are apparent in the work before us. Every chapter—yes, every page—bears the stamp of the author's keen scrutiny. The field of nervous diseases is covered more completely than by any other treatise on the subject. Affections in which surgical therapy is of importance seem to be particularly well handled. We might instance tumors of the brain and of the cord, dislocation and fracture of the spinal column and the late stages of poliomyelitis.

In many of the better works on diseases of the nervous system the neuroses receive rather scant or, at least, inadequate attention. One might expect this in a German product, but the expectation is not fulfilled in this work. Functional nervous diseases receive consideration satisfactorily full and particularly sane. We especially commend the sections on conditions of anxiety and imperative ideas.

Perhaps it is unnecessary to note that, while the large subjects in neurology receive the most comprehensive treatment, the lesser ones are not neglected. Indeed, often it is these lesser maladies or symptoms which loom large to the patient and to the practitioner who is unfamiliar with them and who fails to find them on a hurried hunt through his library. For instance, erythromelalgia, cephalic, hydrophobic, paralytic and bulbar tetanus, facial hemiatrophy, pachyacria, astasia-abasia, akinesia algera, glossodynia and the cerebral softening of gas poisoning might easily elude the practitioner who has no work like this on his shelves. We approve, too, the introduction of a chapter on general paresis.

The author's extensive and catholic knowledge of the literature is also worthy of note. Americans often have just cause of complaint against their European colleagues, because the latter incline to neglect or underestimate the value of American work; but such complaint cannot be lodged against Oppenheim. A few minutes' glance sufficed to find twenty American names. Indeed, scarcely a neurologist of note in this country has failed of mention in this work. Writers of other countries have received like attention, credit and courtesy.

While the book is satisfying in almost every respect, possibly a more extensive and minutely classified index would have made it more easily useful to some readers. The index, however, is unusually good for a German publication.

In conclusion, we have to record our sincere pleasure in a translation which is a real interpretation: neither a labored effort to transplant foreign idioms bodily, nor a fluent composition lacking in precision. We miss alike the routine phraseology of the hack and the absurd inaccuracies of the technically ignorant. When we say that the translation is fully worthy of the original, we consider that we have rendered full measure of commendation. The numerous illustrations are extremely well done; in some instances better than in the original.

A Text-Book on Disease-Producing Microorganisms. Especially Intended for the Use of Veterinary Students and Practitioners. By Maximilian Herzog, M.D., Professor of Pathology and Bacteriology in the Chicago Veterinary College. Cloth. Price, $4.75 net. Pp. 644, with 238 illustrations. Philadelphia: Lea & Febiger, 1910.

This book, according to the title, treats of disease-producing microorganisms, and is especially intended for the use of veterinary students and practitioners. According to the material discussed, it seems to be intended for veterinarians, physicians, bacteriologists, pathologists, dairy students, etc. This multiplicity of subjects is a serious drawback, in our opinion, and the book would be more useful if the author had confined himself to the subject of veterinary bacteriology. This part is comprehensive and instructive.

Unfortunately, many errors and misstatements have found their way into the text. Some typographical errors and misspelled proper names have been overlooked. The composition is often not quite clear, and occasional contradictions exist. A few of the erroneous statements are these: The author says that invertase splits saccharose into dextrose. The fact is, however, that dextrose and levulose are the splitting products. Two quarts should read "nearly equal to 2,000 c.c." rather than "1,000 c.c."; and *B. diphtheriæ* is stated to produce gas in the presence of glucose—a serious error.

The chapter on the preparation of culture media is not quite up to date. Agar-agar can be filtered readily within a few hours by using folded filters made of good filter-paper; the author, however, says that it takes several days. It is stated that gelatin must be sterilized in the Arnold; but in modern laboratories the autoclave is used with good success. The clarifying process by the use of egg-albumin is entirely omitted. The author uses litmus as indicator for titrating media; phenolphthalein is more accurate and more modern.

The subject of immunity is not clearly elucidated, especially the part dealing with Ehrlich's side-chain theory, and the description of preparing and testing diphtheria antitoxin is not correct. In the chapter on milk the lactic acid bacteria are hopelessly confused and the term is not used in the usually accepted sense. In discussing the thermal deathpoint of tubercle bacilli in milk, the author does not seem to consider the exact work of Theobald Smith, Rosenau, and Russell and Hastings worthy of mention. The objections enumerated against the pasteurization of milk are erroneous without exception, and the author utterly ignores the most up-to-date work on this subject. The statement that Rochester, N. Y., has experienced a deterioration of its milk-supply through pasteurization seems contradictory to an utterance of the health officer of Rochester, Dr. Goler, that there never was an appreciable amount of pasteurized milk in that city.

Animal diseases and the parasites causing them are treated well. In the preface it is stated that there is no text on veterinary bacteriology in the English language. If this book had been devoted to this subject *exclusively*, therefore, it would undoubtedly have been an unqualified success.

The Racial Anatomy of the Philippine Islanders. Introducing New Methods of Anthropology and Showing Their Application to the Filipinos with a Classification of Human Ears and a Scheme for the Heredity of Anatomical Characters in Man. By Robert Bennett Bean, M.D., Associate Professor of Anatomy, Tulane University of Louisiana, New Orleans. Cloth. Price, $2 net. Pp. 236, with 26 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

This book is a compilation, with modifications, of a series of articles published in the *Philippine Journal of Science* on the racial anatomy of the different peoples of the Philippine Islands. The author has studied the living form rather than the skeleton as a method of segregating the different types, of which he defines seven, into which all the peoples of the island may be classified anthropologically. The three principal types are the Primitive, which represents most nearly the original or the oriental type; the Iberian, which conforms to a type representing the admixture with Spanish blood, and the Australoid, representing the primary negroid element. The others are not so important, and represent various blends and mixtures of the three principal types. The studies of Filipinos from all parts of the Archipelago show that probably a third of the population is Iberian, owing to Spanish interbreeding over a period of several hundred years. These are more susceptible to tuberculosis, which is quite prevalent among them, whereas the original Filipinos, or the Primitive type, are comparatively free from this disease. The author believes that the Iberian will ultimately disappear, leaving new combinations and blends unlike the original types. The Chinese and Japanese have left their impress on the types, as have also the Indians, whom the author says, no doubt swarmed over the Philippines for many more centuries than did the Spanish. In pursuing his studies and establishing the types the author has made hundreds of observations and measurements of Filipinos, both those in the schools and the natives in the country. He has laid especial emphasis on shape of head, character of nose, teeth and ear, comparative length of limb, character of skin, hair, etc., and position of the umbilicus, which latter the author presents as a point of significance in anthropologic study. The book contains many photographs of Filipino types and the author draws many interesting conclusions as to the place of origin and distribution of the different races of mankind. The work is an interesting contribution to anthropology.

The American Year-Book. A Record of Events and Progress, 1910. Edited by S. N. D. North, LL.D., Under Direction of a Supervisory Board Representing National Learned Societies. Cloth. Pp. 867. New York: D. Appleton & Co., 1911.

This volume is the first of a projected series of annual publications intended to fill a place distinct from others already in the field. Statistical matter is not given so abundantly, but the attempt is made to give something like a survey of general progress in the lines of "Comparative Statistics," "History and Law," "Government and Administration," "Functions of Government," "Economic and Social Questions," "Industries and Occupations," "Science and Engineering," "The Humanities," and "Current Record." Arrangement is topical, with cross-references and an analytical index. The work seems to be well done in the main, much of the information being presented in a more interesting and available form than is usual in such works of reference.

So far as preliminary examination shows, the only decidedly disappointing feature is the subdivision of "Literature and Language" under "The Humanities." Considering the fact that almost no attempt is made to give the most notable original works of the year in any language, or in any department of pure literature, the general reader will probably grudge the space given to language text-books, and wonder that it has been thought necessary to mention translations into English of foreign works possessing neither timely interest nor transcendent importance.

In the section on medicine and hygiene, covering twenty pages, Alexander Lambert briefly reviews the progress in medicine, surgery, public health, medical education, nursing, vital statistics, etc., and gives a list of the important medical books published during the year. Most attention is given to tuberculosis, poliomyelitis and others of the infectious diseases, the important discoveries and developments in research and the provisions made by endowment for the promotion of these. Among the many things worthy of mention the author, with judgment and discrimination, has selected those most important and of largest bearing, and has editorially commented on them in an interesting way. The article fairly reflects the status of those subjects at the end of the year.

The Diseases of China, Including Formosa and Korea. By W. Hamilton Jefferys, M.D., Univ. of Pennsylvania, Medical Missionary in China, and James L. Maxwell, M.D., London, Medical Missionary in Formosa. Cloth. Price, $6 net. Pp. 716, with 360 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

This book will be of value to medical missionaries or practitioners wishing to take up the practice of medicine in China. It does not purport to be a complete text-book on the diseases of the East, but reviews and compares interestingly the prevalence of many of the world-wide epidemic diseases, as plague, cholera, malaria, tuberculosis, syphilis and gonorrhea. The differences in the requirements of practice in China as compared with Western countries are pointed out, and the authors draw from their long experience in their presentation of the subjects. The greater prevalence of tuberculosis is noted, the opium habit is interestingly discussed, hospitals throughout China and Formosa, their equipment, and their work, are pictured and described, and the needs of the country in a medical way are set forth. The affections peculiar to the country, and unusual forms of more or less familiar diseases or lesions, as of elephantiasis, various tumors, syphilis and skin affections, and also of gynecologic and other surgical affections, due largely to neglect of proper treatment, are described. Metazoan and protozoan diseases are given considerable space.

Perhaps the most valuable suggestion in the book is as to the immense field offered for research and comparison of diseases occurring in new environment and among peoples with different habits, diet, etc. The experience of the authors as described in this book will undoubtedly be drawn on in future studies of many diseases.

An Anatomical and Surgical Study of Fractures of the Lower End of the Humerus. By Astley Paston Cooper Ashhurst, M.D., Prosector of Applied Anatomy in the University of Pennsylvania. The Samuel D. Gross Prize Essay of the Philadelphia Academy of Surgery, 1910. Cloth. Price, $2.75 net. Pp. 163, with 150 illustrations. Philadelphia: Lea & Febiger, 1910.

The subject-matter of this little volume is divided into two parts; the first deals with the anatomy, mechanism, complication and treatment of these fractures, and the second contains the clinical histories in detail of the fifty-six cases which form the basis of this study. The first part shows that the author has done a great deal of original work and has devoted much time and study to the elucidation of the pathogenesis of these fractures.

The method of making a proper examination of the elbow for diagnostic purposes and the method of interpreting skiagraphs of this region are very lucidly explained. The author earnestly advocates the hyperflexed position in the treatment of most of the varieties of fracture involving the lower end of the humerus, and his arguments in favor of this position are quite convincing, provided one remembers the most important rule in this connection, which is not to maintain the arm in any position without change sufficiently long to permit of fixation of the point in that position.

Fractures of the elbow are so common in children and the results following are so frequently not what they should be, that a careful study of this little volume is earnestly recommended to all who treat these conditions.

Lessons on the Eye. For the Use of Undergraduate Students. By Frank L. Henderson, M.D., ex-President of the St. Louis Medical Society (1905). Fourth Edition. Cloth. Price, $1.50 net. Pp. 238, with 138 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

This little book, after briefly taking up the anatomy of the eye and the surrounding structures explains in an elementary way the physics of light, of prisms, lenses, etc.; it explains refraction and the various errors of refraction, describes disorders of the ocular movements, and discusses the diseases of the different structures of the eye, and their treatment. The author states that the book is intended as a substitute for the students' class-room notes, and it serves that purpose very well. The book is well illustrated, and should prove an aid to the medical student.

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minn., 1905-1909. Cloth. Price, $5.50 net. Pp. 668, with 228 illustrations. Philadelphia: W. B. Saunders Co., 1911.

This collection of the papers of Drs. William J. and Charles H. Mayo and the other members of the staff of St. Mary's Hospital, previously published elsewhere, brings into compact form in one volume a mass of material on surgical subjects, and investigations of the pathology of surgical diseases treated in that hospital from 1905 to 1909. It is indexed as to authors and subjects, and affords a convenient source of reference to those wishing to look up what has been done at St. Mary's.

Medicolegal

When Expert Witnesses are Entitled to Special Compensation

The Supreme Judicial Court of Maine holds, in the consolidated cases of Gordon, O'Neil and Twitchel vs. Conley (78 Atl. R. 365), that, under certain circumstances, expert witnesses are entitled to reasonably special compensation. Here the plaintiffs were employed by the defendant or her attorneys to make an examination of her physical condition for the purpose of enabling them to qualify as medical expert witnesses for her in a personal injury case she had against a railway company. They were not summoned, but appeared voluntarily at the request of counsel, without any agreement as to their compensation, and by special request remained in court three days to listen to the experts on the other side, and testify in rebuttal, if necessary. The defendant contended that they were entitled to only the statutory compensation of ordinary witnesses.

It will be observed, the court says, that the question raised was not whether an expert witness can be summoned into court in the regular way, and be required to give in evidence all the knowledge he may have acquired as an expert on a particular subject under investigation, for the regular witness fee, but whether, having been employed by a party to give special attention to the investigation of a matter out of court, and then to appear in court, not only to testify as an expert witness, but to remain in court for a specific length of time with loss of regular occupation, not by order of the court, but by request of the party employing, a witness is entitled to receive reasonable compensation beyond the regular witness fee for such services. If a party saw fit to summon an expert witness to testify in court without any knowledge as to what he might say, whether the witness would be required for the usual fee to give all the expert knowledge he might have on the subject under investigation did not arise here. That was not the case before the court.

A witness under subpena after testifying for an hour or half an hour might be excused by the court and enabled to pursue his ordinary occupation, instead of losing three days. He is under no contractual obligation whatever to the party calling him. He cannot even be unwillingly interviewed before testifying. He takes the stand, testifies, and leaves it. That is all he is required by law to do. The court, of course, could require him to remain in attendance, but it is an unusual case in which an expert witness, capable of earning perhaps $100 a day, would be required to remain at $1.50 per day for the benefit of private interests. Hence it appears that a witness summoned into court, and for non-appearance subject to contempt, stands in an entirely different relation to the court and the parties from the witness who appears in court without summons, but on a special agreement not only to prepare and testify, but to remain in court for the special benefit of the party calling him. Such a witness performs services outside the statutory requirement, and is entitled to whatever his services are reasonably worth above the legal fee due ordinary witnesses. The plaintiffs rendered bills for $50 per day, but the jury allowed them $37.50 per day, which, in view of their reputation and skill, is deemed entirely reasonable.

Requisites for Holding Brothers and Others for Bills—Inadmissible Evidence

The Supreme Court of Rhode Island holds, in Churchill vs. Hebden (78 Atl. R. 337), that, the evidence failing to prove either an express or implied promise of the defendant to pay for an operation for appendicitis performed on his brother, a verdict was properly directed in the defendant's favor. It appeared that the patient was a man 29 or 30 years of age, who lived with wife and children in one city, while his brother, the defendant, was a resident of another city. The family physician testified that he telephoned to the surgeon who performed the operation, and made arrangements for it, but did not remember that any thing was said about the fees or who should pay them. The patient testified to having objected to having the operation performed and having asked the family physician about the cost, stating that he was the one who would have the bill to pay, and being told not to mind about the bill, it being a little matter that could be fixed up afterwards. The surgeon who performed the operation died before the trial of the case, which was revived in the name of his executrix, so that his testimony was lacking. There was, however, no denial that the operation was performed, or that the charge for it was $500, but only as to this defendant's ability—a denial that he had agreed to be responsible for the payment for the operation.

With the sole question thus being whether the defendant had employed the surgeon, or had agreed to pay for his services rendered to his brother, a question for the jury to pass on, the court holds that there was no error in refusing to admit in evidence the surgeon's books of account. The burden of proof was on the plaintiff to satisfy the jury by a fair preponderance of the evidence of the employment of the surgeon by the defendant. To show the entry on the books would merely show the deduction reached by the surgeon through his sources of information as to the circumstances surrounding the transaction. Those circumstances were to be submitted to the jury, who were entitled to consider them without knowledge of the inferences drawn therefrom by either party to the transaction. The parties necessarily took an interested view of the situation. The jury should consider the same without prejudice.

Nor was there error in excluding evidence as to other contracts or payments made by the defendant, as, for example, who paid the nurse for her services, or whether the defendant engaged or paid the hospital wherein the operation was performed.

There being no testimony of an express promise to pay, the jury were correctly instructed that, if the plaintiff was entitled to recover in this case, it must be by virtue of certain circumstances by which the law would imply a promise on his part to pay for the services. For instance, if a husband calls a physician to attend his wife, being under obligation to take care of his wife, the law would imply a promise to pay for those services, even though he made no promise. If a father calls a physician to attend his minor son, he being under obligation to take care of that minor son, the law would imply a promise to pay for those services. But where a mere stranger —and brothers are strangers in that respect—where a mere stranger calls on a physician to attend a third person, whom the one calling the physician is under no obligation to take care of, then the law will not imply any promise to pay for the services rendered to the third person

Powers of Courts on Appeals from Board Decisions Refusing Licenses

The Supreme Court of Washington, In re Littlefield (112 Pac. R. 234), determines the powers, under the 1909 statutes of that state, of the courts on appeals from decisions of the State Board of Medical Examiners refusing licenses to practice medicine and surgery, and affirms a judgment directing the board to issue the license applied for in that case.

The record, the court says, showed that the license was refused by the board principally for the reason that the applicant did not obtain a rating equal to 60 per cent. on the subjects of histology, pathology and general diagnosis, which he was required to obtain under the statute before a license could issue to him. The first contention on the part of the board was that the court had no jurisdiction to hear this case; that it could not administer the provisions of the medical act as applied to appeals from orders of the board denying a license after examination, because, it was asserted, it is familiar law that, if the court cannot administer the law on a subject brought before it by virtue of the appellate statute, the court has no jurisdiction, to sustain which announcement of the law many cases were cited. But this was assuming the very question at issue. It seems to the Supreme Court that under the statute the court has the right to administer the provisions of the medical act, for the statute specially provides for an appeal from the decisions of the board. Section 13 of the act provides that, "In any case of the refusal or revocation of a license by the said board under the provisions of this act, the applicant whose application shall be so refused, and the licentiate whose license shall be so revoked by said board, shall have the right to appeal from the decision so refusing or revoking such license within thirty days after the filing of such decision * * * to the superior court," etc. And provision is made for an appeal from the decision of the Superior Court to the Supreme Court.

It was contended that, if this statute was to be given force at all, it must be construed to the effect that the appeal is not from the facts in the case or the merits of the case, so far as the examination is concerned, but only for the purpose of having determined any questions of law arising on the examination or in connection with the same. But the statute is a general one, and confers the general right without any limitation of this kind. So far as the statute itself is concerned, it does not remove from the operation of the appeal questions of fact, any more than it does questions of law.

But it was insisted that it must be construed with reference to the asserted fact that it would be a travesty for the superior court to undertake to pass on the qualifications of applicants to practice medicine; that it would resolve itself simply into the hearing of expert testimony on questions brought before the court. Difficulties of this kind are presented in the trials of many cases. A common instance is where a defense is based on the alleged insanity of a defendant in a criminal action. The testimony of alienists and other scientists is the controlling testimony in the case. The legislature evidently was not willing to leave the exclusive and final determination of this question to the discretion of the examining board, but evidently thought that justice and public policy demanded that there should be a review of the action of this tribunal.

It is true, there are some inconsistencies in the act; one of which is the fact mentioned by the board, that there may be an oral examination which it would not be possible to transmit in the record. But that it was intended by the legislature that the evidence generally should be transmitted to the Superior Court is evident from the provisions of the statute, for the law requires that the secretary shall within ten days after the service of such notice of appeal, transmit to the clerk of the Superior Court to which such appeal is taken, a certified copy, under the seal of said board, of the decision of said board, and the grounds thereof in the case of the refusal of the license; that the clerk of the court shall docket such appeal cases, and that they shall stand for trial in all respects as ordinary civil actions, and like proceedings be had thereon. It also provides that on said appeals said causes shall be tried *de novo* (anew), which excludes the idea advanced that only questions of law shall be passed on by the Superior Court. It provides that the examination papers shall form a part of the records of the board, and shall be kept on file by the secretary for a period of one year after each examination. All these and other provisions of the statute tend to show that the preservation of such records is in the interest of appeal.

Again, it was contended that, if the statute is to be literally construed, the proper procedure was not followed in this case, for the court only passed on the question in the main as to whether the applicant had been properly rated in his examination on the subjects of histology, pathology and general diagnosis, while the other subjects on which he was examined were not examined by the Superior Court; that a trial *de novo* is a trial anew, and that a trial anew means a trial of all questions that were involved in the case below. But it seems to the Supreme Court that this is not a broad view of this statute. Undoubtedly a trial *de novo* does mean, and is generally understood to mean, a trial anew; but it means anew, of course, only as to the questions in issue. In this case, so far as the applicant was concerned, he was satisfied with the rating he received on the other subjects of examination, and there was no objection made to them by the board, so that they were really not in issue in the case, and the case was tried *de novo* (anew) so far as the issues were concerned.

Finding no reversible error, the judgment directing the issuance of a license is affirmed.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

Alabama, Medical Society of the State of, Montgomery, April 18.
American Gastro-Enterological Assn., Philadelphia, April 19-20.
Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Arkansas Medical Society, Fort Smith, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
California, Medical Society of State of, Santa Barbara, April 18.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Georgia, Medical Association of, Rome, April 19-21.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
New York, Medical Society of the State of, Albany, April 18.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
South Carolina Medical Association, Charleston, April 19-21.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

MEDICAL SOCIETY OF THE MISSOURI VALLEY

Twenty-Third Semi-Annual Meeting, held at St. Joseph Mo., March 16-17, 1911

The President, Dr. Donald Macrae, Council Bluffs, Ia., in the Chair

The Present Status of Salvarsan

Dr. Alfred Schalek, Omaha: It is premature and risky to let a patient with syphilis go with one or only a few treatments with salvarsan. Syphilis is still a serious disease which requires prolonged and thorough attention. Salvarsan has not yet been proved to be greatly superior to mercury, and, while it acts more rapidly on small lesions and may be of benefit in cases in which mercury is powerless, only time can tell whether or not the results will be more permanent.

DISCUSSION

Dr. C. A. Good, St. Joseph, Mo.: Salvarsan quickly causes disappearance of the primary chancre and mucous patches, but it is doubtful whether or not it will drive the spirochetes completely from the body. Two or three interesting observations have been made of children with congenital syphilis who were given salvarsan and later died, and it was found that the organisms had practically disappeared from all the internal organs where usually they are found in abundance, with the exception of one instance, in which they were found in the lungs.

Dr. T. M. Hall, St. Joseph, Mo.: There has been a tendency to promise a syphilitic that one injection of salvarsan will practically cure him. This is unfortunate, because, if later the disease is not annihilated by one injection, the man is imbued with a false idea as to his true condition.

Dr. F. S. Mason, New York City: While salvarsan may not be so good as mercury, when it is used the acute symptoms are relieved quickly. A woman who had the acute lesions of syphilis and was attending to her business received injections of salvarsan and within a week practically all the lesions disappeared, so that she could not infect anyone else.

Difficulties Encountered in Late Operations for Intestinal Obstruction

Dr. Herman E. Pearse, Kansas City, Mo.: By the following procedures patients with late cases of intestinal obstruction can be saved: 1. Empty the bowel at first operation and allow time to recover from toxemia before resection is practiced unless gangrene should forbid (ten-minute operation). 2. Do this by employing the long intestinal tube and emptying the distended bowel as the first step after finding the obstruction; close the wound after providing escape. 3. By the use of the glass tube of Paul or the rubber tubes with depressed external grooves, as advised by Marro, the toxic fecal matter may be conveyed beyond the wound, thus securing primary union and safety from abscess. 4. The bowel edges may be brought out of the incision beyond the skin and the open treatment by a nurse and water washing may be substituted for the closed method of filthy gauze and pads of cotton. 5. A second and even third operation may be done to complete the work when the patient has recovered from the effects of the obstruction and vomiting.

DISCUSSION

Dr. John E. Summers, Omaha: Sometimes in cases of strangulated hernia, when gangrene is present, one can establish an artificial anus by cutting into the gut and allowing this opening to remain until the circulation is reestablished; then an operation may be done later. If drainage is carried out, it is wise to wash out the gut through a tube.

Dr. C. Lester Hall, Kansas City, Mo.: I differ with Dr. Pearse in regard to making the incision. We can open the abdomen more widely and freely and reach parts of the abdominal cavity better through a median incision, and we have less trouble through that incision in the after-treatment, and we get better union there than in any other part of the abdominal wall.

Dr. O. Beverly Campbell, St. Joseph, Mo.: I agree with Dr. Pearse that a good place to make the incision is about the border of the right rectus, because there is more trouble in the right side in intestinal obstruction than anywhere else, and the fact that one wants to drain in the median line; therefore, I would favor incision at this place in most cases.

Dr. S. H. Smith, Omaha: In a case of intestinal obstruction in a woman, the obstruction was caused by three constricting bands around the sigmoid flexure. These bands were cut. There were adhesions around the cecum which were broken up. Three days after the operation, the patient had natural bowel movements without the use of purgatives, and she has not had to take any purgatives since.

Dr. F. H. Clark, El Reno, Okla.: Shock in abdominal operations comes more from rough handling of the intestines than from any other one thing that enters into surgical work in the class of cases under discussion. A prominent surgeon told me not long ago that he attributed his remarkable success to two things: first, he had acquired a technic which enabled him to get in and out of the abdomen in a very short time; and second, he had learned to handle the intestines just as gently as it was possible to do it.

Dr. John P. Lord, Omaha: When we have a gangrenous gut to deal with, I believe that it should be excised, then we have an open bowel and can drain. We should not pack it with gauze and cover it with rubber tissue. The Murphy button tempts one to make an immediate anastomosis, which would be the means of causing the patient to suffer from the toxemia that kills so many of these patients who have so-called secondary shock. I do not believe in secondary shock unless there is secondary hemorrhage. The tube is a good thing, but it tempts us to do too much in the very cases that require drainage without too much manipulation.

Dr. S. G. Zink, Leavenworth, Kan.: I have had three cases of fecal impaction, and I have found that by using a 25 per cent. solution of peroxid of hydrogen, and putting the patient in the knee-chest or in the exaggerated Sims position, with the head low down, one or two injections of 8 ounces, followed by irrigation, would break up these fecal masses.

Dr. C. H. Wallace, St. Joseph, Mo.: For the average surgeon, who sees these cases only occasionally, I am satisfied that the simpler method of drainage by the introduction of a large tube will result in a greater saving of life than more extensive work.

Dr. Jacob Geiger, St. Joseph, Mo.: Early and correct diagnosis is most important. It is easy for us to say what to do, but every case is a law unto itself, and when we have a case of acute intestinal obstruction and open the abdomen and feel the pathology, then we have to use our brains to determine what is best to do.

Dr. V. L. Treynor, Council Bluffs, Iowa: I believe that if efforts were directed toward a more certain and early diagnosis it would simplify the treatment of these cases very materially. I do not like to hear the internists criticized for so-called neglect when the surgeon himself is sometimes incapable of making a diagnosis when he is called early.

Dr. C. C. Conover, Kansas City, Mo.: Modern methods of diagnosis have improved so wonderfully in the last four or five years that most internists can make a diagnosis of intestinal obstruction, and need not wait and call in a surgeon to tell them what is the matter with the patient.

Dr. H. M. Clark, Platte City, Neb.: We as country practitioners call in surgeons and they operate on patients with intestinal obstruction and lose 40 or 50 per cent. of them; we can do nearly as well ourselves.

The Roentgen Ray in Postoperative Cases

Dr. R. D. Mason, Omaha, showed the value of the *x*-ray in cases in which operation has been done, and advised its use in all postoperative cases in which malignancy is suspected. He pointed out the fallacy of waiting until a return of the disease before beginning the use of the rays.

DISCUSSION

Dr. Alfred Schalek, Omaha: Every cancer operated on should have postoperative *x*-ray treatment.

Dr. John P. Lord, Omaha: I have an abiding faith in the therapeutic value of the *x*-ray in the treatment of cancer in selected cases in which it can be reasonably expected to do some good, and practically every case should receive the benefit of this postoperative treatment.

The Rôle of Tuberculin in the Diagnosis of Pulmonary Tuberculosis

Dr. Logan Clendening, Kansas City, Mo., reviewed the methods of early diagnosis of pulmonary tuberculosis and said: 1. In infants and children the v. Pirquet test is of great value and positive, the younger the child the higher its value; it is somewhat less valuable if negative. 2. In adults there is no method of using tuberculin for diagnostic purposes that has uniform value in all cases; the subcutaneous method is probably the best.

Colica Mucosa

Dr. J. M. Bell, St. Joseph, Mo.: My experience with this disease leads me to believe the enteroptotic habit, plus autointoxication and constipation, is the foundation on which the disease is based; the neurosis being secondary. When the digestive tract is restored, a normal state of equilibrium is obtained.

Local Anesthesia with Quinin and Urea Hydrochlorid

Dr. C. M. Nicholson, St. Louis: I am convinced by experience with thirty-two cases that quinin and urea hydrochlorid is destined to occupy a prominent position as a local anesthetic. The greater length of time required after the injection of the quinin and urea hydrochlorid before the anesthetic effect is fully manifest is its principal disadvantage.

DISCUSSION

Dr. John P. Lord, Omaha: I have given this anesthetic in as many cases as Dr. Nicholson has mentioned and can unqualifiedly endorse it. This winter I used it in resecting the ribs in cases of empyema, and it worked admirably.

Dr. J. P. Standley, Bedford, Iowa: I have repeatedly operated on hemorrhoids with this anesthetic with satisfactory results.

Dr. J. H. Dillon, Auburn, Neb.: I wish to speak highly of this anesthetic, although I have only used it in two or three cases. I have also seen satisfactory results with it in the hands of others.

Dr. E. H. Thrailkill, Kansas City, Mo.: I have used quinin and urea hydrochlorid with good results, but I prefer stronger solutions than are used by some practitioners. After operations on the rectum I have used this anesthetic to prevent postoperative pain.

Dr. R. C. Dorr, Batesville, Ark.: I do not believe that there is any major surgical work done with a local anesthetic without pain.

Dr. A. J. McKinnon, Lincoln, Neb.: I operated on a man for hemorrhoids, using this anesthetic, and after the operation the patient rode home in a buggy.

Suggestions for the Application of Lactic Ferments in Genito-Urinary Work

Dr. F. S. Mason, New York City: These ferments are useful in treatment of diseases or infections of the gastro-intestinal tract, since they inhibit the growth of the pathogenic organisms. Drs. Holbrook Curtis and Otto Glogau of New York have used suspensions of lactic ferments in bouillon successfully in treatment of suppurating discharges from sinuses and nasal passages, as well as from the ear.

Peritonization in Abdominal and, More Particularly, Pelvic Surgery

Dr. John E. Summers, Omaha: By peritonization or peritoneoplasty is meant the covering over by peritoneum of all tears, lacerations and losses of substance of the peritoneum due to surgical procedure. In some cases the peritoneum may be separated from the abdominal wall, commencing at the lower angle of the incision toward the space of Retzius, or at the sides, a great part of the bladder being likewise freed. These flaps are made large enough to cover over the posterior wall of the pelvis. In other cases, the technic consists in transporting the sigmoid flexure across the pelvis and suturing it in such a way that all raw surfaces are covered over. The sigmoid is only fixed below and is nearly always sufficiently mobile to be carried across the pelvis to the right side as far as the cecum. When the uterus is preserved, the sigmoid is sutured to the lateral walls of the excavation and across the fundus of the uterus. When the uterus is sacrificed, the sigmoid is sutured to the lateral walls of the excavation and to the bladder. Drainage should be made through the vagina. Amann emphasizes the fact that this technic is particularly advantageous when septic pus of genital abscesses communicate with the intestine—for example, a pyosalpinx, or a suppurating tumor of the ovary, opening into the large bowel; and also when genital abscess coexists with perforative appendicitis. The intestinal sutures are situated under the protection of the cavity drained and are extraperitoneal. Two vital principles are involved in peritoneal autoplastic surgery: first, the more vital principle, the prevention of infection; second, the prevention of postoperative intestinal obstruction.

Care of the Hypertrophied Prostate

DR. F. H. CLARK, El Reno, Okla.: The responsibility for early diagnosis and advice must, of necessity, rest with the family physician. While this condition usually comes on with advanced age, it may occur even in childhood. Operative procedure is the only treatment that offers hope for permanent cure and a comfortable life after operation. The operation which presents the lowest mortality is through the lower perineal route. We should never forget that 10 per cent. of these hypertrophied prostates become malignant if allowed to go on, and that our only hope of avoiding that is an early operation. We must not forget that we should continue to use sounds on these patients following operation until we are certain that there will be no contraction of the scar formed that may serve as an impediment to the free flow of urine.

Other Papers Read

The following papers were also read: "The Decay of Nations," by Dr. H. Stern, New York; "Should Venereal Infections be Classed and Reported as Contagious Diseases?" by Dr. T. M. Paul, St. Joseph, Mo.; "Extreme Edema of the Cecum and Ascending Colon Following Gangrenous Appendicitis," by Dr. L. J. Dandurant, St. Joseph, Mo.; "An Unusual Case of Dilated Capillaries," by Dr. W. Frick, Kansas City, Mo.; "Treatment of Tuberculosis," by Dr. G. N. Ryan, Des Moines, Iowa; "Acute Anterior Poliomyelitis," by Dr. L. A. Skoog, Kansas City, Mo.

CLEVELAND ACADEMY OF MEDICINE

Regular Meeting, held March 17, 1911

DR. WALTER B. LAFFER in the Chair

Gynecologic Problems of Interest to the General Physician

DR. BARTON COOKE HIRST, Philadelphia: Too many lives are lost in this aseptic era from puerperal infection. A well-equipped obstetric bag with sterile contents including gloves, the shaving of patients, cleansing of the vulva before examination and scrupulous cleanliness in the after-management would unquestionably reduce the morbidity and mortality of childbearing. Moreover, physicians should insist on more stringent regulation and instruction of midwives. I wish to emphasize two points in the treatment of puerperal infection—the value of antistreptococcus serum and the possibilities of the operative treatment of pelvic infections. As to lacerations of the birth canal, I believe that only by immediate repair, or at least repair within five days after delivery, can all the injuries be successfully repaired and their consequences avoided.

About one-fifth of all women who consult physicians because of diseases peculiar to their sex, are suffering from retrodisplacements. Every woman after confinement should be subjected to two examinations—one at the end of three weeks when she begins to walk, and the other at the end of the puerperium, six weeks after delivery. If displacement is discovered after the first examination it can be cured, in a certain percentage of the cases, by use of the knee-chest position twice a day. If it persists, at the end of six weeks, a pessary with Swedish exercises and massage will effect a cure in an additional number of the cases. If in spite of this treatment the malposition still persists, early operation should be advised. I must still harp on the sinister significance of genital hemorrhage, especially in the middle-aged, in relation to carcinoma. It cannot be too strongly emphasized.

In the United States 2,500 women die every year from eclampsia—about six times as many as should legitimately do so, if the condition were properly treated. We should watch more carefully for pre-eclamptic symptoms by urinary and blood-pressure examinations—especially the latter as the blood-pressure is invariably raised. It is easier to prevent eclampsia than to cure it. The patient should be placed in a hospital, if possible, and energetic diaphoresis employed from the start. It is a fallacy that the first step in treatment is evacuation of the uterus.

As to moderate-sized fibromyomata, if they are not causing pressure symptoms or excessive hemorrhage, there is always ample time, years in fact, to observe the rate of growth, to watch for untoward symptoms, and to decide whether the neoplasm is a serious detriment to the patient or not. This is, I believe, the right course to follow when practicable. In ectopic gestation, I believe in immediate operation, as I have too vivid a recollection of patients who have bled to death before I could reach them. It is the height of folly to wait for a reaction that may never come. In placentia prævia there are certain rules which might be remembered with advantage. A vaginal tampon, if big enough, will temporarily check the hemorrhage until other measures can be decided on. Version followed by a slow extraction of the fetus is applicable in a majority of the cases. In some cases of sterility, resulting from an infantile uterus, I have obtained excellent results by local electrical stimulation. This is a therapeutic measure that is not so generally appreciated as it might be.

DISCUSSION

DR. HUNTER ROBB: Only by the best aseptic technic can infections, following labor and abortion, be prevented. Every physician should have good surgical training. In my experience, about one-half of these infections are gonorrheal in origin. In perineal tears, if the patient's condition is good, I advise immediate repair. I have never seen a patient bleed to death in ectopic pregnancy; though I have seen many "operated to death." I do not believe in immediate operation. Some patients will stand it, but the majority are in deep shock and are too weak to stand an immediate operation. In the past year, I have had eight more of these cases and the patients all recovered, being operated on in from two or three days to a week or so. If the patients are properly stimulated following rupture of the pregnancy they will not bleed to death. In my experience, a majority of cases of sterility are due to gonorrheal inflammation of the tubes.

DR. W. H. HUMISTON: Retroflexion of the uterus is the most common complication following labor. The majority of lacerations of the cervix heal of themselves, but if there is a mild degree of sepsis present healing is not so rapid and there is a resultant subinvolution of the uterus, with subsequent retrodisplacement. I treat such patients by curettage and repair of the cervix, getting the uterus into position in the knee-chest position, and applying a properly fitting pessary. The patient is kept in bed and is not allowed to sleep on the back. After getting up, the pessary is removed in from eight to ten weeks. In cases of rupture in ectopic pregnancy I wait no longer than it takes me to get the patient into the operating room, and for me to get into the abdomen. By such treatment I have had no fatalities. About 90 per cent. of my operative cases are gonorrheal in origin. In acute cases I believe in radical measures. I put the patient to bed, shave the vulva, wash and cleanse out the vagina with soap and bichlorid of mercury solution. Then I carefully cleanse the cervix with alcohol and swab the cervix and canal with compound tincture of iodin. The vagina is then dried and powdered with boric acid, seven parts to one part of iodoform. After this the uterus is packed with gauze. After four such treatments, in eight days I begin the use of douches of permanganate of zinc. Internally the patient gets a mild diet and hexamethylenamin.

DR. W. H. WEIR: How does Dr. Hirst use antistreptococcus serum? Does he ever use it prophylactically?

DR. J. E. TUCKERMAN: Some cases of retrodisplacement are due to undue anxiety on the part of the physician to keep the patient on her back, following labor.

DR. LILLIAN TOWNSLEE: I used the electric current in one case of infantile uterus. After its use for six months the organ had increased greatly in size and the patient became pregnant, later giving birth to a normal child. I do not favor immediate operation for ruptured extrauterine pregnancy.

Dr. B. C. Hirst: I have seen at least four or five patients who have bled to death following delay in operation for ruptured ectopic pregnancy. At any rate, the patient should be in a hospital where she can be carefully watched. In using serum in the treatment of septicemia I use 80 c.c. at a dose; this is four times the dose recommended by the makers. This dose should be repeated four times a day and may be used for two or three days. Possibly better results are achieved with the use of fresh antistreptococcus serum than with older samples. I agree partly with Dr. Tuckerman that patients may be kept too long in bed; however, I do this with a note of warning, for there is danger of later prolapse if the patient gets up too soon.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Medical Record, New York

April 1

1 *Vagaries of the Pneumococcus. W. H. Thomson, New York.
2 The High Death-Rate from Diphtheria in the United States. E. C. Hill, U. S. Army.
3 *What Is Rheumatism? H. C. de V. Cornwell, New York.
4 Arthritis Deformans and Its Relation to Intestinal Putrefaction. E. E. Cornwall, Brooklyn, N. Y.
5 The Hospital and the Young Physician. W. E. Darnall, Atlantic City, N. J.
6 *Source of Error in the Diazo Reaction. S. Levinson, Brooklyn, N. Y.
7 A Case of Blood Extravasation Into the Sclera from Indirect Violence. F. Griffith, New York.
8 Short Talks with My Students and Others: Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

1. **Vagaries of the Pneumococcus.**—Thompson has become convinced that creosote carbonate, in 15-grain doses, given every two or three hours, in a specially prepared emulsion which is so well borne by the stomach that he has known it to stay down when everything else was rejected, changes the course of the fever so that in 70 per cent. of the cases it ends by lysis instead of by crisis. The extreme susceptibility of the pneumococcus to the faintest trace of phenol may allow of this preparation being regarded as a true blood germicide. Thomson has seen no injurious effect produced by it even when its absorption causes the urine to become dark. The formula for this emulsion is:

℞	gm. or c.c.			
Acaciæ	18			ʒiv
Aquæ	18		or	ʒivss
f. mucilaginem tunc adde				
Creosoti carbonatis	21	33		ʒv, mxx
Misce et adde:				
Glycerini	30			℥i
Aquæ menthæ piperitæ ad	240			℥viii

Sig. One tablespoonful (15 grains of creosote carbonate) every 2 or 3 hours.

This is also his favorite prescription for pulmonary phthisis, not that he expects it to be operative against the tubercle bacilli, but against the pyogenic microorganisms whose alliance with the tubercle bacilli in the lungs is so disastrous.

3. **Rheumatism.**—In speaking of rheumatism, Cornwell says we should never employ the term in the description of a symptom, but should limit its application to the conception of an acute, constitutional, self-limited infectious process, with a practically incontestable bacterial etiology, a proneness to find focal expression in the joints (arthritic type), or the endocardium (endocardial type), and to a less extent in other tissues, and a tendency to react specifically and characteristically to medication by the salicylates.

6. **Error in the Diazo Reaction.**—When a urine shows the diazo reaction, Levison says it becomes necessary, in order to avoid mistakes, to ascertain whether the reaction is not due to phenolphthalein. As the presence of this drug can be easily demonstrated by addition of alkalies it is only necessary to test the urine with a few drops of some alkali; a pink or reddish color shows the presence of phenolphthalein. If this reaction is negative we have a true diazo reaction. But in case this reaction is positive (the urine becomes red after the addition of alkalies), we may have the phenolphthalein reaction alone, or a true diazo reaction, together with the reaction produced by phenolphthalein. In order to test the urine in such a case of a suspected "mixed" reaction, add a few drops of some acid to the test tube in which there is a positive diazo reaction. If the color disappears altogether and appears again only after the addition of enough alkali to render the mixture alkaline, the reaction is due to phenolphthalein alone. If after the addition of acid the color becomes lighter, but does not disappear completely and becomes more intense by addition of enough alkali to render the mixture alkaline, the reaction is due to the substance or substances producing the true diazo reaction and also to the presence of phenolphthalein.

New York Medical Journal

April 1

9 Trachoma. S. H. Brown, Philadelphia.
10 A Hurried Bird's-Eye View of the Problem of the Modern Care of the Insane. M. Solomon, Washington, D. C.
11 Improvements in the Optical Construction of Cystoscopes. L. Buerger, New York.
12 The Problem of Prostitution and Venereal Diseases in New York City. F. Bierhoff, New York.
13 *A New Method of Direct Transfusion of Blood. A. L. Soresi, New York.
14 *An Unusual Case of Infantile Paralysis. H. G. Harris, New York.
15 A Case of Diabetic Glaucoma and Operation. S. Moskowitz, New York.
16 Treatment of Whooping-Cough. C. L. Henriques, New York.
17 Infundibulin in Hemorrhage Due to Uterine Carcinoma. J. C. Scott, Philadelphia.

13. **Direct Transfusion of Blood.**—The instrument devised by Soresi is said to do away with the necessity of opening the blood-vessels until they are ready to be brought together, so that the blood may flow immediately from one to the other. The surgeon is thus enabled to work on the blood-vessels while the blood is circulating in them, that is while the lumen is naturally open because it is full of circulating blood; therefore the blood-vessels not being contracted and retracted are easily grasped and secured by the instrument. Then the intima can without any difficulty be so inverted that the intima of the two blood-vessels can easily be brought in direct contact. Besides the one to be described, no other special instrument, hooks, serrefines or needles are necessary. The instrument is composed of two small metal cylinders which are put and held together by means of a small bar and a screw. Each cylinder is opened on its longitudinal axis by a simple pivot, and at one end, a little below the edge, is encircled by a crown of small hooks, the points of which are turned toward the other end. The blood-vessel is cuffed over the hooks of the cylinder; the vessels are opened and the anastomosis is made. Two cases are reported in which the method was used successfully.

14. **Infantile Paralysis.**—The interesting points in Harris' case are the length and the severity of the acute manifestations; the presence in the urine of the colon bacillus; the effect of hexamethylenamin; the symptoms indicative of meningitis and tetany; the relief of the symptoms following lumbar puncture; the appearance of the paralysis on the tenth day and its disappearance a week later. It is Harris' belief that the symptom-complex tetany is a term not infrequently applied to atypical cases of anterior poliomyelitis. Also, that the question of whether colon bacillus infection may not cause symptoms characteristic of so-called tetany, poliomyelitis or meningitis is worthy of future study.

Boston Medical and Surgical Journal

March 30

18 The Nurse and the Public Health. A. W. Goodrich, New York.
19 Fibrous Stricture of the Rectum. J. P. Tuttle, New York.
20 *Hemorrhagic Disease of the New-Born Infant. R. M. Green and J. B. Swift, Boston.
21 Medical Inspection of Schools in Boston. S. H. Ayer, Boston.
22 A Simple, Quickly Removable Head Bandage. E. C. Hill, U. S. Army.

20. **Hemorrhagic Disease of New-Born Infants.**—This paper is based on a study of fifty-one cases occurring in hospital practice during a period of not quite six years. The percentage incidence was 1.14. It was noted that the parity and civil status of the mother, the fetal presentation, the duration of labor and of complications of labor and the puerperium are factors

of no significance as predisposing or determining causes of hemorrhagic disease in the new-born. The seasonal incidence and the occurrence of hospital cases in groups tended strongly to confirm the theory of the infectious etiology of the disease. The earlier the onset of the disease, the worse was its prognosis; after one week, the prognosis became relatively, and after ten days, absolutely, good. Clinically the disease occurred in three fairly distinct types, the umbilical, the seromucus and the purpuric, which have an approximate respective mortality of 60 per cent., 50 per cent. and 22 per cent. The gross total mortality was about 50 per cent. The treatment was directed toward local hemostasis and increase of coagulability of the blood. Gelatin and rabbit serum gave the best results. Of thirteen patients receiving the gelatin treatment, nine recovered and four died. Of twenty-two patients treated with rabbit serum, twelve recovered and ten died. General supportive treatment: two recovered, four died; local hemostasis: two recovered, four died; no treatment; one recovered, two died.

Buffalo Medical Journal

March

23 Heart Nutrition. E. H. Long, Buffalo.
24 Serums and Vaccines. C. Hasse, Elmira, N. Y.

Maryland Medical Journal, Baltimore

March

25 An Extensive Ulcer of the Bladder Complicating Early Pregnancy. J. M. Hundley, Baltimore.
26 Importance of Direct Endoscopy in General Medical Practice. J. R. Winslow, Baltimore.
27 Medical and Surgical Aspects of Tumors, Including Inflammatory and Neoplastic Formations. J. C. Bloodgood, Baltimore.

Southern California Practitioner, Los Angeles

March

28 *Effects of Cholecystitis on the Heart. R. H. Babcock, Chicago.
29 *Acute Diffuse Edema of the Lungs (Cardiac). C. E. Yount, Prescott, Ariz.
30 Phthisiophobia. I. W. Brewer, Manila, P. I.
31 A Psychologic Study. H. Forline, Redlands, Cal.
32 Cardiospasm. C. Moore, Los Angeles.

28. **Chronic Cholecystitis.**—Whenever Babcock sees a case of cardiac insufficiency, from whatever cause, he always pays close attention to the liver. Whenever he finds the right lobe showing enlargement he pays particular attention to its outline. He says that in most of these cases when there is tenderness, there is tension of the right rectus and if one palpates with firmness the tension becomes more marked. In nearly all these cases, by supporting the right hypochondrium with the left hand and producing just a slight pressure with the right hand, allowing the patient to take a breath of moderate depth, one can nearly always feel the border of the liver rise over the side of the hand. Then palpating at the outer border of the rectus, and at the side of the rectus one can feel the convex border of the liver. The left lobe is not so plainly palpable as the right. In some cases quick ballottement of Riedel's lobe will give the under hand the sensation of a soft body coming against it. With these symptoms and with tenderness Babcock feels certain of his diagnosis. A corroborative sign is Ewald's area of cutaneous hyperesthesia. If one runs a finger or key lightly down the patient's right back and there is left a sticking or pricking sensation opposite the ninth or tenth dorsal spine, the sign is present. It may extend out 2 or 3 inches. Many patients have this cutaneous hyperesthesia and that is a very strongly corroborative sign of chronic cholecystitis. Babcock emphasizes the fact that gall-bladder disease is more frequent than is generally recognized, and that its effects on the heart or circulatory system may be much more pronounced than is suspected, and hence may be a cause of myocardial breakdown.

29. **Acute Diffuse Edema of the Lungs.**—The three cases cited by Yount occurred in women in a fair state of health, suddenly and at night. They were 48, 50 and 67 years of age respectively. All three patients believed themselves dying; two were rescued from "drowning" in their own secretions. Yount believes that one case might be considered as of cardiotoxic origin, but the other two he considers to be of the cardioneurotic type. Frequent, previous examinations of the urine in these cases failed to show evidence of nephritis in any case. There was loss of radial pulse in all three women for a time, i. e., greatly lessened blood-pressure. Two of the patients died.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

March 15

33 A Demonstration of the Serodiagnosis of Syphilis. R. H. Mullin, Minneapolis.
34 Progressive Therapeutic Standards. C. A. Donaldson, Minneapolis.
35 *Sexual Excitability in Men of Advanced Years. F. R. Wright, Minneapolis.
36 Vesical Calculi. C. J. Holman, Mankato.

35. This article was also published in the *American Journal of Dermatology*, November, 1910.

Journal of the Indiana State Medical Association, Fort Wayne

March

37 Ocular Headache and Its Relief. F. C. Heath, Indianapolis.
38 The Laboratory Versus Clinical Methods in Practice of Medicine. D. M. Green, Muncie.
39 Autointoxication from the Alimentary Canal. P. B. Carter, Macy.
40 Suggestions in Cardiac Therapy. A. C. Kimberlin, Indianapolis.
41 Present Trend of Operative Obstetrics. G. B. Jackson, Indianapolis.

Southern Medical Journal, Nashville, Tenn.

March

42 Southern Surgeons and Surgery—Before, During and After the Civil War. W. O. Roberts, Louisville, Ky.
43 Factors that Influence the Prognosis in Operations for Cancer. G. W. Crile, Cleveland, Ohio.
44 *A Case of Aneurysm, with a New Method of Ligature of the Left Subclavian Artery. J. G. Sherrill, Louisville, Ky.
45 *Complete Absence of the Vagina; an Operation for the Formation of a Plastic Vagina. A. H. Ferguson, Chicago.
46 *Acute Multiple Urogenous Abscess of the Kidney Resembling Acute Unilateral Hematogenous Nephritis. G. T. Vaughan, Washington, D. C.
47 Suppurating Echinococcus Cyst of the Liver; Enucleation of Sac; Recovery. J. C. Oliver, Cincinnati.
48 Diagnosis of Extrauterine Pregnancy—When and When Not to Operate. E. G. Zinke, Cincinnati.
49 Omentopexy. M. H. Richardson, Boston.

44. **A Case of Aneurysm.**—The patient whose case is cited by Sherrill had a pulsating tumor about the size of a small melon situated at the upper part of the thorax, extending from near the median line and just above the level of the clavicle downward and outward almost to the margin of the pectoralis major muscle. This tumor pulsated synchronously with the heart and was distinctly expansile in character. No distinct bruit could be heard over the tumor, but an accentuated second sound of the heart was easily detected. The patient had an almost imperceptible pulse in the left radial and it was delayed somewhat compared to that of the right radial. The pulse of the left carotid was synchronous with that of the right radial; no tracheal tug; no marked dyspnea; no cough and no interference with deglutition or respiration. A diagnosis of subclavian aneurysm was made, and the various methods of treatment were discussed. It was finally decided to ligate the subclavian in the first portion of its course by attacking it from the posterior surface of the thorax. An incision was made along the posterior margin of the scapula about 4 inches long, dividing the skin and the muscles attached to the posterior portion of this bone. It was joined by an incision running from its inferior extremity to the spinous process. A similar incision was carried from its upper end in toward the spine. The soft tissues were dissected from the ribs with the skin and all hemorrhage controlled. The second, third and fourth ribs were removed for a distance of about 3 inches. The intercostal muscles were lifted off the pleura; the latter was gently pushed downward and outward with the finger and the subclavian artery readily came into view as it left the aorta at the level of the fourth dorsal vertebra. A small opening was made in its sheath and the needle was readily carried around it and a No. 3 catgut ligature placed in position. At this point of the operation, it was discovered by the assistants that the pulsation in the aneurysm did not cease. Further search revealed below the origin of the subclavian a rounded mass, seemingly not larger than a small orange, which was pulsating. The ligature on the subclavian being useless was removed. This having been accomplished the wound was closed and the patient left the table in good condition, and within an hour he was conversing freely

with the attendants in the ward. He died ten days later on rising up suddenly in bed to eat his meal. The necropsy demonstrated an aneurysm of the arch of the aorta in its lower portion, which had ruptured into the esophagus. While he failed to accomplish the object desired in this case, the cure of the subclavian aneurysm, Sherrill feels that the procedure employed is feasible and an easy method of access to the first portion of the left subclavian.

45. Abstracted in The Journal, Jan. 14, 1911, p. 140.

46. **Abscess of the Kidney.**—The symptoms of the condition noted by Vaughan are the same as those seen in acute hematogenous nephritis, and the treatment is the same.

Journal of the Kansas Medical Society, Kansas City

March

50 Gall-Stones and Their Diagnosis. C. J. McGee, Leavenworth.
51 Placenta Prævia. F. A. Carmichael, Goodland.
52 Salvarsan. N. C. Morrow, Altamont.
53 Suppurative Otitis Media. C. L. Zugg, Kansas City.
54 Expert Testimony. F. M. Brady.

Archives of Pediatrics, New York

March

55* Value of Lumbar Puncture and of the Leukocyte Count in the Diagnosis of Acute Poliomyelo-Encephalitis. J. L. Morse, Boston.
56 A Clinical Study of Eighty-Six Cases of Empyema in Children. F. Huber, New York.
57 *A Case of Mediastinal Cyst Producing Compression of the Trachea, Ending Fatally, in an Infant of Nine Months. A. D. Blackader and D. J. Evans, Montreal.
58 *A Collected Study of Sixty Cases of Meningitis and Conditions Simulating Meningitis. A. Sophian, New York.
59 Disturbed Function of the Thyroid. S. V. Haas, New York.
60 *Typhoid Infection Involving Only the Gall-Bladder. W. G. Elmer, Philadelphia.

55. **Value of Lumbar Puncture.**—Morse believes that it seems safe to conclude from the present data that during the acute stage of acute poliomyeloencephalitis the cerebrospinal fluid is clear and not infrequently under somewhat increased pressure; that it often shows a fibrin clot, which may persist for two or three weeks and perhaps longer; that it always contains an excess of cells; that these cells are chiefly of the mononuclear type, most of them being lymphocytes; and that these changes are present before the appearance of the paralysis. These changes are, however, identical with those found in tuberculous meningitis, the disease with which it is most likely to be confounded. It is true, of course, that the cerebrospinal fluid in the tuberculous meningitis contains tubercle bacilli. They are missed in about 90 per cent. of the cases, however, if the examination is the usual routine one. If tubercle bacilli are found in the cerebrospinal fluid, the diagnosis of tuberculous meningitis is, of course, positive; if they are not found, the examination of the fluid is of no assistance in the diagnosis between tuberculous meningitis and acute poliomyeloencephalitis.

The characteristics of the cerebrospinal fluid in the early stage of acute poliomyeloencephalitis are so different from those in the early stage of cerebrospinal meningitis, in which the fluid is turbid or purulent, contains a large number of polynuclear cells and, as a rule, numerous meningococci—that in Morse's opinion there is no possibility of confusing them. Lumbar puncture is, therefore, of the greatest assistance in differentiating between these two conditions. It is of equal value in distinguishing acute poliomyeloencephalitis from influenzal and pneumococcus meningitis and from meningitis due to the pus organisms. The changes in the cerebrospinal fluid in the early stage of acute poliomyeloencephalitis are so definite that when they are found it is possible to exclude all diseases outside of the meningitides. Lumbar puncture, therefore, provides a most valuable means of diagnosis in this disease. Unfortunately, there is nothing whatever characteristic about the early symptoms of acute poliomyeloencephalitis, and in order to recognize the disease early, before the onset of the paralysis, at a time when treatment might possibly be of some value, it would be necessary to do a lumbar puncture on every sick child. This hardly seems a rational procedure. Treatment can do no good after the appearance of the paralysis, because the harm is then already done. Lumbar puncture at this time simply makes possible the verification of the clinical diagnosis. The value of lumbar puncture in the early diagnosis of acute poliomyeloencephalitis is, therefore, very limited, in spite of the marked changes in the cerebrospinal fluid in this disease. Morse regards the leukocyte count as of little or no assistance in the early diagnosis of acute poliomyeloencephalitis. There is at present not sufficient evidence to show whether or not there is a relative or absolute lymphocytosis in the early stages.

57. Abstracted in The Journal, June 11, 1910, p. 1996.

58. **A Study of Meningitis.**—In only nine of the sixty cases investigated by Sophian was a correct clinical diagnosis made by the attending physician. In only one case was a diagnosis of meningitis not made. This case was named a myelitis. From this study it is evident that of the true inflammations of the meninges, tuberculous meningitis is the form most frequently encountered (sixteen cases), and most often confused with the other forms, especially with epidemic cerebrospinal meningitis. Of the conditions simulating meningitis, Sophian found bronchopneumonia in children, especially those forms with apical lesions, most often mistaken for meningitis. Other conditions were gastro-enteritis, other acute infections, such as typhoid, and other conditions of the central nervous system, such as cerebrospinal lues, and anterior poliomyelitis. Sophian believes that in the majority of cases tuberculous meningitis can be diagnosed clinically; the clinical picture is, as a rule, very definite and distinct. Epidemic cerebrospinal meningitis has also, as a rule, a definite and distinct symptom-complex. Still, the two conditions, while frequently easily differentiated, may sometimes so closely resemble each other clinically, especially in the late stages of cerebrospinal meningitis or the early stages of tuberculous meningitis, that it may be impossible to make a clinical differential diagnosis. The other acute forms of meningitis, those caused by *Streptococcus pyogenes*, *Streptococcus mucosus capsulatus*, the pneumococcus, and *B. influenzæ*, present almost the same symptom-complex as epidemic meningitis. The history of previous disease, such as otitis media, may be of some help, but the diagnosis can only be established definitely by lumbar puncture and examination of the cerebrospinal fluid. Meningism complicating other acute infections, while sometimes difficult to differentiate from epidemic meningitis, can, as a rule, be diagnosed. Polioencephalitis often resembles tuberculous meningitis clinically; however, here the local palsies, such as hemiplegia are extensive and permanent.

Blood count is of aid in diagnosis. The principal features are, in the cerebrospinal form, the high leukocytoses of 20,000 or more, with the high relative polynucleosis up to 99 per cent. In the tuberculous meningitis is seen a moderate leukocytosis, up to 18,000 or occasionally more, with a moderate relative polynucleosis up to 80 per cent. or more. Poliomyelitis and polioencephalitis in the febrile stage show a slight leukocytosis; meningism secondary to another disease of course gives a blood-count depending on the disease causing it. Sophian urges that once a clinical diagnosis of meningitis is made, whatever the form, a lumbar puncture should always be performed. A clinical diagnosis is never certain and even with a complete picture of a type of meningitis errors may be made. A study of the cerebrospinal fluid will, in the case of acute suppurative meningitis, enable one at the first examination, as a rule, to find the infecting organism. The very unusual exceptions are rarely in the very onset of epidemic cerebrospinal meningitis, before the organism is free in the cerebrospinal fluid, or, as already mentioned, a localized meningitis, as the localized pneumococcus meningitis mentioned in Holt's cases. It is important, especially in meningococcus infection, when a positive culture is desired, to subinoculate the sediment on suitable culture media as soon as possible after withdrawal from the canal. In tuberculous meningitis in a very large percentage of cases the bacilli can be found in the cerebrospinal fluid at some time during the course of the disease, usually the first examination being sufficient to demonstrate the organism. When one can put the cerebrospinal fluid aside immediately to obtain the unbroken fibrin network, as was done in Hemenway's cases, the chances of finding the bacilli are much larger. Animal inoculation in positive cases, where bacilli have not been found, produces tuberculosis in four to six weeks.

Cytologic examination is extremely important. The increase in the number of cells in inflammatory meningitis is constant; in the suppurative forms of meningitis the preponderance of polynuclear leukocytes is striking; in the late stages of cerebrospinal meningitis, however, as in chronic basic meningitis, a relative lymphocytosis is present; in tuberculous meningitis the excess of lymphocytes up to 100 per cent. is marked; occasionally, however, one will see a tuberculous fluid, in which bacilli have been found, which is cloudy and shows an excess of polynuclear leukocytes, up to 90 per cent. The gross fibrin content of the fluid after standing is a fairly constant guide, there being an increase in meningitis, and very little fibrin in normal fluid. The reduction test of Fehling's solution has been found of no value by Sophian. Noguchi's globulin test, in a small number of fluids examined, was substantiated in inflammatory condition, a positive reaction being present, indicating an increase of the globulin content in the cerebrospinal fluid.

60. **Typhoid Infection.**—The case reported by Elmer was that of a young girl who was infected with typhoid, but who resisted the infection, except for one organ, namely, the gallbladder, and her illness in his opinion was due solely to the cholecystitis. That she was infected with the poison of typhoid, he says, there can be no doubt, because eleven other patients who had been drinking milk from the same dealer developed typhoid in its characteristic form. About eighteen days after she had ceased to drink the milk, she developed a little fever. She had no nose-bleed, no vomiting, no pain in back or limbs, but had not felt well for some weeks. She had pain in the right side of the abdomen. The edge of the spleen, when a full inspiration was taken, could just be felt but was very indefinite. The gall-bladder could easily be palpated; it was distended and very tender. The temperature ran an irregular course, with marked daily remissions, reaching 103 F. or a little more in the late afternoons. Pulse varied from 80 to 100. Leukocyte count was 7,000. The patient did not seem ill, was usually hungry, was in good spirits most of the time, and had none of the apathy which usually results from the toxemia of typhoid. The urine was normal. On the seventh day, Elmer found three typical rose spots on the abdomen, the first that had appeared; and on the following day he obtained a characteristic clump reaction with a dilution of 1 to 50. The complete relief from all symptoms when the gall-bladder began draining, and the absolutely normal temperature which began about thirty-six hours later and continued without variation all through the convalescence, and the fact that the patient seemed and felt perfectly well from the time the gall-bladder was relieved, led Elmer to the conclusion that there could be no sloughing intestinal ulcers or extensive lymphatic involvement.

University of Pennsylvania Medical Bulletin, Philadelphia

February

61 Cerebral Decompression. C. H. Frazier, Philadelphia.
62 Malaria. W. Pepper, Philadelphia.
63 *Experimental Production of Leprosy in the Monkey (Macacus Rhesus). C. W. Duval, Philadelphia.

63. This article was also published in the *Journal of Experimental Medicine*, March, 1911.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

March

64 A Neuro-Epithelioma Developing from a Central Gliosis, After an Operation on the Spinal Cord. M. G. Schlapp, New York.
65 Facial Hemiatrophy in a Boy Ten Years Old. G. A. Moleen, Denver, Colo.
66 Colloid Bodies in the Central Nervous System: Their Presence After Severe Traumatism in a Case of Dementia Paretica. N. S. Yawger, Philadelphia.

Journal of Experimental Medicine, Lancaster, Pa.

March

67 Chemical Studies of the Brain in Cases of Dementia Præcox. W. Koch, New York.
68 The Blood-Supply of the Kidney. The Influence of the Vagus on the Vascularity of the Left Organ. R. Burton-Opitz and D. R. Lucas, New York.
69 Calcium Metabolism in a Case of Infantile Tetany. H. D. Haskins and H. J. Gerstenberger, Cleveland.
70 *The Succus Entericus. H. O. Mosenthal, New York.
71 *Absorption from Intramuscular Tissue. J. Auer and S. J. Meltzer, New York.
72 *Relations of the Interstitial Cells of Leydig to the Production of an Internal Secretion by the Mammalian Testicle. F. M. Hanes, New York.
73 A Histologic and Chemical Study of the Fatty Matter of Normal and Cryptorchid Testicles. F. M. Hanes and J. Rosenbloom, New York.
74 *Cultivation of the Leprosy Bacillus from the Human Tissues, with Special Reference to the Amino-Acids as Culture Media. C. W. Duval, New Orleans.
75 *Experimental Production of Leprosy in the Monkey (Macacus Rhesus). C. W. Duval, New Orleans.
76 Chemo-Immunologic Studies on Localized Infections. R. V. Lamar, New York.
77 Cultivation of Tissues in Vitro and Its Technic. A. Carrel and M. T. Burrows, New York.

70. **The Succus Entericus.**—In experiments on dogs, Mosenthal noted that a nitrogen equivalent to about 35 per cent. of the nitrogen intake, though not necessarily derived directly from it, is daily secreted in the succus entericus in dogs on a mixed diet; about 10 per cent. is excreted in the feces, and about 25 per cent. is reabsorbed. The amount of reabsorbed nitrogen-containing material is considerably larger, if the bile and pancreatic secretion are included. Mosenthal says that the metabolic significance of this reabsorption can only be surmised. That it is probably of great importance is indicated by the fact that in the experiments recorded by him, the amount of nitrogen reabsorbed equaled approximately 25 per cent. of the nitrogen intake.

71. **Absorption from Intramuscular Tissue.**—Because the correctness of their previous work on absorption from intramuscular tissue was questioned, Auer and Meltzer repeated their experiments, proving again that the absorption after intramuscular injections is far superior to that after injections into subcutaneous tissue, approaching in its effectiveness that of an intravenous injection. The experiments were made on rabbits, and the results obtained were constant.

72. **The Interstitial Cells of Leydig.**—It is claimed by Hanes that the mammalian testicle elaborates an internal secretion necessary to the normal development of secondary sexual characters. The spermatogenic cells play no part in the formation of this secretion. One function of the Sertoli cells is to supply fat to the developing sperm cells. In the absence of the sperm cells from the mammalian testicle, fat accumulates in large amount in the Sertoli cells. The Sertoli cells seem to take no part in the production of an internal secretion. The interstitial cells of Leydig are, in all probability, responsible for the production of an internal secretion of the mammalian testicle.

74. A paper on the same subject is published in the *Archives of Internal Medicine*, February, 1911, and is abstracted in The Journal, March 25, 1911, p. 925.

75. This paper is also published in the *University of Pennsylvania Medical Bulletin*, February, 1911.

Texas State Journal of Medicine, Fort Worth

March

78 Puerperal Sepsis and Hints on Its Management. J. B. McMillan, Paris.
79 An Overlooked Source of Puerperal Infection. E. F. Wright, Royse.
80 The Care of the Puerpera. C. R. Hannah, Dallas.
81 The Care of Pregnant Women During Pregnancy and at Confinement. C. A. Schultz, Alvarado.
82 Obstetric Work in Country Practice. W. B. Huey, Elcampo.
83 Chloroform During the Second Stage of Labor. J. M. Meason, Bono.
84 Delayed Union and Ununited Fractures. W. A. Duringer, Fort Worth.

Virginia Medical Semi-Monthly, Richmond

March 24

85 Value of Lavage in Therapeutics, and Its Frequent Neglect. G. P. Hamner, Lynchburg.
86 Poisonous Serpents and Treatment of Their Bites. W. F. Driver, New Market.
87 Corneal Ulceration and Its Treatment. H. H. McGuire, Winchester.
88 Relation of Alcoholism and Drug Addictions to Preventive Medicine. T. D. Crothers, Hartford, Conn.
89 *Opium Poisoning—An Unusual Antidote. P. M. Strother, Scottsville.

89. **Opium Poisoning.**—The patient in this case took a 2-ounce mixture of tincture of opium and tincture of arnica, equal parts. At 4 p. m., four and a half hours later, her husband found her in a deep sleep, and seeing the empty bottle, immediately aroused her and administered warm mustard water until vomiting was induced. Strother reached her at 4:30 p. m. He found her awake and rational, though very

drowsy. Pulse was 136 and small; respiration was 26; the pupils were pin-head in size. She complained only of nausea and vomiting. Strychnin, 1/30 grain, and atropin, 1/150 grain, were given hypodermically, and a cup of hot black coffee by mouth, the latter being soon vomited, but the dose was repeated. During the ensuing three hours, the pulse-rate gradually fell to 120, with better volume, and respiration to 20, when Strother repeated the strychnin, 1/30 grain, omitting the atropin. After another three hours the pulse was 96 and of fair volume, and respiration was 17. At the end of six hours more, the pulse was 68, and respiration was normal. Strother asks: Was the tannin content of the arnica sufficient to antidote the morphin in the laudanum chemically, or did the depressant effect of the arnica on the vagi antidote the opium physiologically?

Alabama Medical Journal, Birmingham

February

90 Indications for the Removal of Adenoids and Tonsils. J. R. Snyder, Birmingham.
91 Electric Treatment of Poliomyelitis. T. A. Williams, Washington, D. C.
92 Among Ourselves. H. Johnston, Birmingham.
93 Lumbar Puncture as a Diagnostic and Therapeutic Measure. A. A. Walker, Birmingham.
94 Importance of Biology to Rational Medicine. E. P. Riggs, Birmingham.

Therapeutic Gazette, Detroit

March

95 *The Scientific Evidence of the Possibility of Intestinal Antisepsis. H. C. Wood, Philadelphia.
96 Symptomatic Relief in Aortic Aneurysm by Wiring and Galvanism (Moore-Conradi Method). E. J. G. Beardsley, Philadelphia.
97 *Action of Gossypii Cortex on Uterine Contractions. J. C. Scott, Philadelphia.
98 Magueys and Maguey Sap or Aguamiel, a Therapeutic Agent of High Value. C. S. Dolley, Mexico City, Mexico.

95. Abstracted in The Journal, Dec. 17, 1910, p. 2172.

97. **Action of Gossypii Cortex.**—The effect of this agent on the uterine contractions was studied by Scott. He found that the drug acts as well on the excised uterus as on the uterus with blood and nerve supply intact. In view of the extremely uncertain properties and keeping qualities of ergot and its preparations, and the fact that gossypii cortex is stable and very active, as shown on the cat's uterus, Scott thinks this drug is deserving of a more extended clinical use in the class of cases in which ergot is indicated.

Northwest Medicine, Seattle

March

99 Value and Handicap of the Medical Profession. J. T. Ronald, Seattle.
100 Treatment of Joint Infections by Aspiration and Injection of 2 Per Cent. Formalin in Glycerin. C. L. Poley, Portland, Ore.
101 Diagnostic Significance of Mucus in the Test Meal. H. P. Marshall, Spokane, Wash.
102 Helpful Points in Anesthesia. C. G. Parsons, Denver, Colo.
103 Malaria in Utah. C. M. Clark, Provo, Utah.
104 Imbalance of Ocular Muscles. A. H. Sawins, Spokane, Wash.
105 Tuberculous Meningitis. J. H. Bristow, Portland, Ore.
106 Insect Bites. R. A. Pearse, Brigham City, Utah.

Pennsylvania Medical Journal, Athens

March

107 *Arterial Hypertension and Its Relation to Morbid Changes in the Eye. L. C. Peter, Philadelphia.
108 A Case of Varix or Angioma Venosum of the Orbit. J. F. Klinedinst, York.
109 *The Pelvic Fascia with Relation to the Operation for Cystocele. R. E. Brenneman, Pittsburg.
110 *Cecostomy Versus Appendicostomy for Colon Lavage. W. M. Beach, Pittsburg.
111 *An Operation for Ankylosis of the Hip in Which Baer's Membrane Was Used. G. G. Davis, Philadelphia.
112 *Treatment of Acne Vulgaris. J. G. Burke, Pittsburg.
113 Progress in Empirical Therapeutics. J. W. Boyce, Pittsburg.
114 The Law Governing Suits for Malpractice in Pennsylvania. S. Scoville, Philadelphia.

107. **Arterial Hypertension.**—The systolic blood-pressure was carefully taken by Peter in 104 cases, mostly chronic interstitial nephritis, in which there was a neuroretinitis or a retinitis. For purposes of comparison nine cases of syphilitic neuroretinitis are included in the report, showing an average blood-pressure of 132 mm. of mercury and three cases of chronic parenchymatous nephritis with an average pressure of 132 mm. The average pressure in twenty cases of retinitis was 165 mm.; in fifty-nine cases of neuroretinitis it was 185 mm.; in three cases of albuminuric retinitis, 190 mm.; in six cases of hemorrhagic retinitis, 205 mm., and in three cases of papillitis, 225 mm. Thirty-three of the ninety-four kidney cases occurred in men and sixty-one in women. The higher pressures were observed relatively much more frequently in men than in women. Peter concludes that arterial hypertension is the chief cause of the eye-ground phenomena observed in chronic interstitial nephritis and arteriosclerosis. Similar vascular changes, associated with high blood-pressure, may, he says, be observed at times, before these diseases are diagnosed by other clinical symptoms. It frequently acts as a cause for subconjunctival hemorrhage and is so closely associated with glaucoma that it should be regarded as an active factor in the development of the disease. The author urges that in order to prevent and to treat rationally the more serious eye conditions, routine blood-pressure studies should be made in all cases of intra-ocular disease not traumatic in origin.

109 and 110. Abstracted in The Journal, Nov. 19, 1910, p. 1838.

111. Abstracted in The Journal, Nov. 12, 1910, p. 1757.

112. Abstracted in The Journal, Nov. 5, 1910, p. 1672.

Journal of Infectious Diseases, Chicago

March

115 Transmission of Trypanosoma Lewisi by Rat Fleas (Ceratophyleus Sp. and Pulex Sp.), with Short Descriptions of Three New Herpetomonads. L. D. Swingle, Lincoln, Neb.
116 *Influence of Ether and Ether Anesthesia on Bacteriolysis, Agglutination and Phagocystosis. E. A. Graham, Chicago.
117 Influence of Fresh and Autolyzed Organ Extracts on Experimental Tuberculosis. W. C. White and E. Zeublin, Pittsburg, Pa.
118 Immunologic Reactions of Oidiomycosis (Blastomycosis) in the Guinea-Pig. B. F. Davis, Chicago.
119 Classification of the *B. Coli* Group. D. D. Jackson.
120 Method for Determining the Germicidal Value and Penetrating Power of Liquid Disinfectants. A. I. Kendall and M. R. Edwards, Boston.

116. An abstract of this work was published in The Journal, March 26, 1910, p. 1043.

Long Island Medical Journal, Brooklyn, N. Y.

March

121 Value of Surgical Diagnosis in Upper Abdominal Diseases. J. B. Deaver, Philadelphia.
122 *Anomalies of the Colon as Demonstrated by the Roentgen Ray. C. Eastmond, Brooklyn.
123 Surgical Indications in Lesions of the Large Intestine. R. S. Fowler, Brooklyn.
124 Provisions for the Health of the Seamen in the Present-Day Warship. W. J. Baxter, U. S. Navy.
125 The Navy and the Important Relations to the Naval Establishment Borne by the Medical Corps. C. F. Stokes, U. S. Navy.
126 The Medical Profession. J. C. MacEvitt, Brooklyn.

122. **Anomalies of the Colon.**—It is believed by Eastmond that abnormal conditions of the colon are frequently the cause, not only of persistent constipation, but also of the vague, indefinite abdominal symptoms and the nervous conditions so often seen and so hard to attribute to any definite diseased entity. The anomalous conditions of the colon are summarized by him as follows: (1) general prolapse of the transverse colon producing the "U" or "V" type; (2) prolapse of the hepatic or splenic flexure with or without angulation; (3) angulation of any part, especially of the sigmoid; (4) prolapse of one-half of the entire colon; (5) general prolapse of the entire colon into the pelvis; (6) spasm of one part or of the entire colon; (7) anomalous development of any part, such as a loop formation from the presence of an unduly long mesentery; (8) adhesions, either alone or associated with any of the above conditions. In all these conditions, there is some factor which is sufficient to produce partial obstruction and damming back of fecal stream. In the cases of adhesions and angulations, there is almost uniformly found a dilatation behind the obstruction. This, with the ensuing stasis, affords ample opportunity for undue absorption of intestinal material, auto-intoxication, with its headache, drowsiness, listlessness, etc. With prolapse, the displaced portion of the viscus, by dragging on its natural supports, is productive of backache, and with the interference in circulation and ennervation, there follows congestion, inflammation, spasm, local pain and tenderness, and that train of nervous phenomena which is termed neurasthenia. The value of

Roentgen-ray examination in these cases lies, first, in the detection of the true state of affairs, and second, in the determination thereby whether it is a purely medical one that may be relieved and possibly cured by general and local treatment, or whether operative procedures will be necessary to secure the desired results.

Medical Herald, St. Joseph

March

127 Hints on the Etiology of Disease. L. A. Merriam, Omaha, Neb.
128 Uterine Fibrolds Complicating Pregnancy, Labor and the Puerperium. M. Strong, Omaha, Neb.
129 Medical Treatment of Inoperable Cancer of the Parturient Tract. R. Willman, St. Joseph, Mo.
130 The Crime of Love. G. H. Bogart, Brookville, Ind.
131 Treatment of Cerebral Affections. W. C. Abbott, Chicago.
132 Two Case Reports with Stomach Manifestations. H. C. Crowell, Kansas City, Mo.
133 Dystrophies, Syphilltic in Origin. H. Lee, St. Joseph, Mo.
134 Prognosis in Chronic Valvular Disease of the Heart. C. A. Good, St. Joseph, Mo.

American Journal of Surgery, New York

March

135 Indications for Gastro-Enterostomy. J. B. Bissell, New York.
136 Cystoscopy and Urethral Catheterization in Young Children. E. Beer, New York.
137 Injuries to the Kidneys, with End-Results. P. M. Pilcher, Brooklyn, N. Y.
138 A Case of Cylindroma: Removal of Orbital Tumors. J. H. Claiborne and E. L. Oatman, New York.
139 Surgery of Moles, Warts, Nevi and Cysts of the Skin. D. W. Harrington, Milwaukee, Wis.
140 Traumatic Epilepsy and Traumatic Insanity. G. M. Hammond, New York.
141 Traumatic and Accidental Hernias, as They Affect Employee and Employer. R. W. Corwin, Pueblo, Colo.
142 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
143 An Improved Method of Intermittent Wound Irrigation. A. J. Bendick, New York.
144 A Means of Tying Knots When One End of the Suture Is Very Short. A. L. Soresi, New York.

American Journal of the Medical Sciences, Philadelphia

April

145 *The Therapeutics of Digitalis and Its Allies. A. R. Cushny, London.
146 Personal Experiences with Salvarsan in Syphilis. H. Goldenberg and D. J. Kaliski, New York.
147 *Physiology of the Pituitary Gland and the Actions of Its Extracts. C. J. Wiggers, Ann Arbor, Mich.
148 *Stiff and Painful Shoulders, with Loss of Power in the Upper Extremity. T. T. Thomas, Philadelphia.
149 Interrelation of the Organs of Internal Secretion. R. G. Hoskins, Columbus, Ohio.
150 *Sudden Onset of Pott's Disease Without Deformity of the Vertebræ. W. B. Cadwalader, Philadelphia.
151 Pathologic Findings in the Parathyroids in a Case of Infantile Tetany. B. S. Oppenheimer, New York.
152 *Sarcoma of the Vagina. J. McFarland, Philadelphia.
153 *Prognosis of Pulmonary Tuberculous Lesions Involving the Whole of or More Than One Lobe. J. Walsh, Philadelphia.

145. **Digitalis and Its Allies.**—There is no question in Cushny's mind that digitalis and its allies are too much feared by the medical profession. The "cumulative" action, he says, has been held over us as a bogey for so many years that many prescriptions contain this valuable drug in harmless and useless doses. As regards their relative usefulness, he says that there is little difference between digitalis, squills or strophanthus. We get the same beneficial results and the same undesirable ones as regards the heart, and a patient who shows symptoms of heart block under digitalis suffers from the same irregularity under squills or strophanthus, while when extra-systole is induced by one it follows from all. Strophanthus is often said to have less tendency to raise the blood-pressure than digitalis, but in patients neither induces any rise of pressure, and in some individuals, both cause an equal fall. There is, on the whole, rather less tendency to headaches, nausea and vomiting under strophanthus and squills than under digitalis, but the difference is not very marked and headache is caused in some cases by all three. Slight diarrhea has followed the use of squills more than the others, and strophanthus also tends to cause this more than digitalis. This tendency to diarrhea is still more marked from the use of helleborin and apocynum.

In animal experiments, one of the characteristic effects of digitalis medication is the rise of blood-pressure, which arises in part from the heart action, and in part from a constriction of the arterioles. In patients the blood-pressure is rarely augmented by digitalis and may in fact fall as the general improvement sets in. This, Cushny thinks, is due to the much greater efficiency of the vasomotor mechanism in man, which has been developed to permit of his assuming the erect attitude. As the heart fails in disease, the organ which first suffers is the brain; but anemia of the brain is promptly remedied by constriction of the abdominal vessels, by which the blood is again directed to the head areas. If digitalis is then given and the heart action improves, the first effect would be to increase the blood-supply of the brain, and this leads the sentinel in the medulla to relax its vigilance, the mesenteric vessels are allowed to relax and the improvement in the heart may thus be coincident with lowered blood-pressure. In his experience there is no significant increase in the amount of urine, except when dropsy is present.

147. **Physiology of the Pituitary Gland.**—The chief idea brought out by Wiggers is that the anterior lobe of the pituitary gland evidently elaborates a secretion that is necessary to life and to normal metabolism and development. This substance has so far resisted extraction by various solvents, hence its chemical nature and physiologic properties remain unknown. The posterior lobe, which is not of vital importance, contains or secretes a substance that may be extracted by water, glycerin or salt solution, and resists boiling, but it has not been demonstrated that it is identical with the secretion of the anterior lobe or that it represents its vital principle. The extracts constrict the peripheral vessels (probably by a direct muscular action), thus producing a marked rise of arterial blood-pressure. This constriction is not equally pronounced in all organs, for the renal vessels are, at least passively, dilated during its action. These extracts are generally stated to slow and strengthen the heart, but myographic tracings of the intact and perfused heart made by Wiggers, indicate a depressing influence to be the most constant and characteristic one, an increase in the amplitude being only exceptionally the case. The slowing, as well as depression, are, he thinks, largely attributed to a direct cardiac action, but the former may be augmented by a vagus effect. Pituitary extract resembles adrenalin in its action only in that it causes a rise in blood-pressure. The manner in which they affect the heart and blood-vessels, as well as the effects induced, are entirely different. In addition to its cardiovascular actions, pituitary augments the secretion of urine and inhibits the flow of pancreatic juice, but it has not been definitely determined whether these varied reactions are due to separate substances, to a specific affinity of a single substance for different cells, or whether they are secondary to changes in the circulation.

148. **Stiff and Painful Shoulders.**—A periarthritis from tears of the axillary portion of the shoulder capsule, due to forced abduction, in Thomas' opinion offers the best explanation of the stiff and painful shoulders, with loss of power in the arm, variously diagnosticated as fibrous ankylosis, neuritis, paralysis of the deltoid, traumatic arthritis, etc. The most characteristic feature is a scapulohumeral limitation of movement, sometimes slight, often marked, but never complete. The associated loss of power and atrophy are due in part to disuse, but probably in most part to the perineuritis, neuritis and resulting adhesions and compression of some or all of the brachial nerves in the axilla, adjacent to the wounded joint. The audible and palpable tearing which accompanies the breaking up of the limited abduction and external rotation, in chronic cases, by the leverage of the arm, under an anesthetic, is produced not by the tearing of fibrous adhesions in the bursa, but of the axillary portion of the capsule shortened by cicatricial contraction in its relaxed condition. This bursa is circumscribed to the upper surface of the greater tuberosity of the humerus and the adjacent small portions of the rotators inserting into it. When the bursa is inflamed, Thomas says, the diagnosis should easily be made by the acute tenderness localized to the upper surface of the humerus, directly in front of the acromion, when the arm is in the position of rest, that is, adduction and internal rotation, which it practically always occupies. The capsule lesion is typified by that which occurs in an anterior dislocation of the shoulder, the frequency of which is nearly as great as that of the other dislocations of the shoulder combined.

Those cases of stiff and painful shoulder in which there is no history of dislocation are explained, in the first place, by the spontaneous reduction of many dislocations as the arm falls from its abducted position to the side of the body, so that they are not recognized as such; and in the second place, by the much greater frequency of milder but similar tears (sprains) from forced abduction, which are not sufficiently extensive to permit the occurrence of a dislocation. Sprains are rarely recognized in this joint, because they are peculiarly obscure as to their etiology and symptomatology. At the moment of the forced abduction the patient is excited and does not appreciate the relation between this movement and the pain it produces, the capsule being poorly supplied with nerves and the pain at the moment probably being slight. The arm immediately drops to the side into the position of most complete relaxation of the torn portion of capsule, and is kept there afterward because of the pain produced by abduction and external rotation which drag on the seat of injury. The lesion is deeply seated and localized with difficulty, and the disturbances which follow are misinterpreted. The most rational method of treatment is that which aims at increasing the length of the contracted tissues to the normal, favors the absorption of inflammatory material, and increases the power of the weakened and atrophied muscles.

150. **Paralysis in Pott's Disease.**—Four cases are reported by Cadwalader. Three terminated fatally and a careful postmortem examination was made. They presented swelling and destruction of axis cylinders, proliferation of the glia, round-cell infiltration, sclerosis of the blood-vessels, perivascular infiltration, necrotic softening of the central gray matter, and compound granular cells at the level of greatest compression of the spinal cord. In one case there was an internal hydrocephalus affecting only the lateral ventricles; the foramina, however, were not occluded, but the cells of the chorioid plexus were decidedly diseased; it is conceivable, therefore, that as a result of perverted function of diseased cells there may have been an increase of secretion sufficient to cause this distention. But it is also possible that hydrocephalus may have been the result of compression of the cord, and that if an ophthalmologic examination had been made, choked disk would have been found. At other levels of the spinal cord where compression seemed to play no part, there were definite though very moderate signs of vascular disease, consequently it might seem as if there was some other element responsible as well as compression. After searching the literature on this subject Cadwalader was able to find only two cases described in which paralysis developed instantaneously without deformity of the vertebræ.

152. **Sarcoma of the Vagina.**—McFarland presents a very comprehensive statistical study of 102 cases and reports a new case of grape-like sarcoma of the vagina in an infant.

153. **Tuberculosis of the Lungs.**—Despite the pathologic findings, Walsh believes that clinical tuberculosis, that is, tuberculosis in individuals with some susceptibility, begins more commonly at the top of the right lung. A study of the progression of tuberculosis of the lung on autopsies at the Phipps Institute showed that in the cases in which it was possible to judge the progression, the progression commonly corresponded to what Walsh has pointed out as the most fatal, clinically; in other words, the majority of cases showed progression practically throughout one side before the other was involved. Lesions involving the whole of one lobe of the left lung usually give better results than lesions of the same size in the right lung. One reason for this appears to be that the large lesion on the left more frequently represents the secondary development in a somewhat resistant case. Lesions involving an amount of lung tissue the size of the left upper lobe give a better prognosis when the opposite side shows a chronic healed lesion.

Louisville Monthly Journal of Medicine and Surgery

March

154 Headache or Migraine. Hemicrania. C. Skinner, Louisville.
155 A Case of Sarcoma of the Lung. C. Skinner, Louisville.
156 Pyloric Stenosis in an Infant. S. J. Meyers, Louisville.
157 A Case of Multiple Adenocarcinoma. W. O. Roberts, Louisville.
158 A Case of Cancer of the Cecum. W. F. Boggess, Louisville.
159 Steel Removed from the Eye with a Magnet. S. G. Dabney, Louisville.
160 Syphilis of the Stomach. J. J. Moren, Louisville.

Providence Medical Journal

March

161 Dementia Præcox. A. H. Harrington, Howard, R. I.
162 Cesarean Section. D. F. Gray, Providence.
163 A Case of Multiple Warts. W. E. Wilson, Pawtucket, R. I.
164 Ehrlich's New Remedy for Syphilis. F. T. Fulton, Providence.
165 Feeble-Mindedness. J. H. Ladd, Slocums, R. I.
166 Puerperal Insanity. H. G. Partridge, Providence.
167 The Medicolegal Examination of Blood-Stains. W. G. Dwinell, Providence.

Iowa Medical Journal, Des Moines

March

168 Chronic Low-Grade Inflammation of the Ocular Tunics and Its Influence on Errors of Refraction. H. B. Gratiot, Dubuque.
169 Operative Procedure for Brain Abscess of Otitic Origin. L. W. Dean, Iowa City.
170 Progress in Matters of Public Health. T. U. McManus, Waterloo.
171 Tuberculosis in Iowa. W. G. Carhart, Marion.
172 Diagnosis of Renal and Ureteral Calculi. D. N. Eisendrath, Chicago.
173 Review of Surgical Progress. J. C. Rockafellow, Des Moines.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

March 18

1 *Aphasia. R. Saundby.
2 *Two Cases of Hereditary Congenital Word Blindness. J. Hinshelwood.
3 An Epidemic of Infantile Paralysis in Bristol. G. Parker.
4 Etiology of Poliomyelitis. A. E. Vipond, Montreal.
5 *The Gastric Origin of Angina Pectoris. H. W. Verdon.
6 *Beneficial Effect of the Ingestion of Cane Sugar in Certain Forms of Heart Disease. A. Goulston.
7 Mechanotherapeutics in Treatment of Chronic Constipation. E. F. Cryiax.
8 Salvarsan in Syphilis. A. Evans.
9 Curative Effect of Salvarsan in Frambesia. H. Alston.
10 Occurrence of Fluid in the Abdominal Cavity in Pregnant Rabbits. C. Bolton and A. M. H. Gray.
11 Histology of Rheumatic Carditis and Other Rheumatic Phenomena. C. Coombs.
12 The Rat Flea as the Intermediate Host of a Rat Tapeworm. W. Nicoll.

1. **Aphasia.**—Saundby believes that it is difficult to escape from the amount of evidence brought forward to show that destruction of the third frontal convolution, even on both sides, does not cause aphasia; but almost equally cogent, and even more abundant, he says, is the evidence that aphasia occurs in cases in which this convolution is intact. The usual answer in this evidence is that while it may appear intact, it is not so really. Marie has lately reported three cases of this kind in which the convolution was examined microscopically by serial sections without any lesion being discovered. The only rejoinder that the supporter of Broca can make is that the lesion is functional in character, and reveals itself by no change which can be detected by present means of research. But, continues Saundby, those who make this assertion must bear the onus of proof, and it is not easy to produce evidence in its favor. If the convolution of Broca is the seat of the faculty of language, its destruction should be invariably followed by the loss or impairment of that faculty; further, when there is loss or impairment of the faculty of language, this convolution should show always some demonstrable change; if neither of these relations exist, then the only possible verdict must be that the existence of the supposed relation is not proved.

2. **Hereditary Congenital Word Blindness.**—The first case cited by Hinshelwood, that of a girl, is a typical case of abnormal difficulty in registering in the brain the visual symbols of letters and words. She has now, after seven years of teaching in the ordinary way, acquired the visual memories of the most common monosyllabic words. Hinshelwood has seen cases in which after seven years of ordinary training, the child had practically acquired nothing so far as the visual memory of words and letters is concerned. He regards the case of this girl as a mild case of congenital word blindness and, if taught in the proper way, he is certain that she will soon be able to read fairly well. The second case, that of a boy of 10, is of a much more severe type, and the difficulty has been much greater than in the case of the girl, as, after four years' sim-

ilar training, the boy has acquired scarcely any visual memories of words or letters, not even recognizing by sight all the letters of the alphabet. An important point in this case is that the child has experienced the same difficulty in dealing with figures. Hinshelwood says that pure congenital word blindness, which is a local affection of a limited cerebral area, can always be overcome by perseverance and proper methods of education, and herein lies the great importance of the recognition at an early period of the true character of such cases.

5. **Angina Pectoris.**—In one case cited by Verdon, the patient, a man of 63, when seen had been suffering from an anginal seizure for half an hour. He had been making ineffectual efforts to expel wind from his chest, and allowed the introduction of an esophageal tube, a procedure which resulted in an exhaustive liberation of gastric flatus. The effects of the operation became instantly apparent in the altered aspect of the patient. His color returned, and he seemed no longer in pain. The seizure was manifestly at an end. On two occasions he again resorted to the operation of gastric deflation, and on each he brought the seizure to a sudden and abrupt close. The patient had suffered from anginal seizures from time to time for several years; the first severe attack occurred in 1908. When a seizure has been brought to an abrupt and complete termination by the introduction of the esophageal tube, and when later seizures have shown themselves amenable to a similar operation, Verdon thinks the fact that the seizures are the result of tension of the gastric atmosphere is demonstrated beyond question.

6. **Cane Sugar in Heart Disease.**—That glycogen is essential to healthy, well-nourished muscle is shown by the fact that it furnishes a source of energy for the needs of the tissue cells, and particularly for muscle work. The glycogen of a muscle disappears in proportion to the work done by the muscle, and prolonged muscular work, especially in starvation, may wipe out quickly the entire store of glycogen in the body. All modern physiologists agree that glycogen stored up in a muscle is converted into dextrose by an amylolytic ferment before being actually used for producing muscular energy. Such a ferment has been discovered by Nasse. In cane sugar, therefore, Goulston believes that we have a simple means for supplying the muscles with dextrose for the purposes of their activity. Dextrose, he declares, is capable of nourishing the heart muscle in a wonderful and peculiar manner. In his hands the good effect of taking cane sugar to improve the nutrition of the musculature of the heart has been quite in accordance with what was to be expected from the known physiology of the subject. He cites seven cases illustrating the clinical value of this mode of treatment. His cases include two of dilated heart in patients of advanced age; two of valvular heart disease; one each of postinfluenzal dilatation of the heart, heart strain and heart failure in pulmonary tuberculosis. Goulston uses granulated cane sugar, the patient taking as much as desire may dictate. Only occasionally was there a trace of sugar in the urine.

17. **Polypeptids and Gastric Contents.**—In connection with an investigation on the peptid-splitting action of pathologic fluids, the test proposed by Neubauer and Fischer has, in the authors' hands, yielded results suggesting an advocacy for that extended use which alone can determine its permanent utility. They say that it has yet to be demonstrated that the endo-enzymes of cancer cells possess abnormal characters and activities.

Lancet, London

March 18

13 Ankylostoma Infection. A. E. Boycott.
14 The Anthropology of Ancient British Races. A. Keith.
15 Salvarsan in Syphilis. J. McIntosh and P. Fildes.
16 Salvarsan in Syphilis. T. W. Gibbard and L. W. Harrison.
17 *Diagnosis of Gastric Carcinoma by the Cleavage of Polypeptids. I. W. Hall and G. S. Williamson.
18 *The Iodin Method of Sterilizing the Skin. P. Turner and H. C. Catto.
19 An Egyptian Holy Man. C. G. Seligmann.

18. **Iodin Sterilization of the Skin.**—The observations made by Turner and Catto confirm the value of the iodin method of sterilizing the skin. They made careful bacteriologic investigations in thirty-two cases in which varied operative procedures were resorted to. In certain cases the B.P. tincture (2.5 per cent.) was employed, and in others the following solution: iodin, 30 gms.; potassium iodid, 40 gms.; distilled water, 500 c.c. Before using, this was diluted with an equal volume of methylated spirits, so that the strength of the solution was 3 per cent. For the satisfactory action of the iodin it is essential that the skin be dry. Shaving should be done with a sharp razor without lathering the skin or, if soap and water are used, the skin must be subsequently dried with a pad or towel and then washed over with ether and again dried before the iodin solution is applied. In acute cases the whole process is carried out on the operating table after the patient has been anesthetized. In ordinary cases the preparation is carried out in the ward. The iodized area is then covered with a pad or towel. Before commencing the operation a second application of the iodin solution is made, the skin being now in a thoroughly dry condition. In the thirty-two cases quoted in which the patients were prepared in this manner, a thin strip of the whole thickness of the skin was removed immediately after the first incision and conveyed to the laboratory in a sterilized test-tube plugged with cotton-wool. The investigation consisted in cultivating the piece of skin in nutrient broth for a period of seventy-two hours. At the end of twenty-four and forty-eight hours respectively, the culture was looked at, and at the slightest suspicion of turbidity, "hanging drop" preparations were made and examined. If the fluid remained clear the cultivation was allowed to proceed until 72 hours had elapsed, when it was always examined, both macroscopically and microscopically. In the cases in which microorganisms were present nutrient agar tubes were inoculated from the broth and the particular bacterium further studied and identified. In no case did the culture show the presence of contaminating organisms from the air. Healing was by primary union except in three acute cases in which drainage was necessary. In none did the iodin produce any dermatitis. Though the incisions were made in very varied situations, it is interesting to note that in the three cases in which the skin was infected the wound was in the groin.

Journal of Tropical Medicine and Hygiene, London

March 15

20 Further Researches on the Hyphomycetes of the Tinea Imbricata. A. Castellani.
21 Etiology of Elephantiasis. G. C. Low.

British Journal of Children's Diseases, London

March

22 *Splenomegaly with Recurrent Jaundice Ending in Hepatic Cirrhosis and Ascites, with Remarks on the Splenomegaly of Inherited Syphilis in Children. F. P. Weber.
23 Treatment of Congenital Syphilis with Salvarsan. C. F. Marshall.
24 *Venous Murmurs Heard at the Root of the Neck in Children. C. Coombs.
25 Difference Between Manifestations of Rheumatism in Childhood and Adult Life. J. B. Barrett.

22. **Splenomegaly With Recurrent Jaundice.**—An investigative study has convinced Weber that moderate splenomegaly in children of from 5 to 16 years of age may be almost the only evidence of an inherited syphilitic taint, but in such cases Wassermann's seroreaction for syphilis (if available) would doubtless generally give a positive result. Other evidences of inherited syphilis are occasionally forthcoming; the teeth may be more or less of the Hutchinsonian type, there may be interstitial keratitis, persistent cracks at the corners of the mouth, a history of syphilis in the parents, or of inherited syphilis in brothers and sisters. The splenomegaly of inherited syphilis is often accompanied by occasional (usually only slight) attacks of obstructive jaundice and by excess of urobilin (and urobilinogen) in the urine. Hepatic cirrhosis, with or without ascites, may be associated with the splenomegaly, and at the time of death the hepatic cirrhosis in such cases is probably usually of the ordinary multilobular "hobnail" type. Though it seems doubtful that the cirrhosis of the liver in these cases is of specific syphilitic origin, it is quite possible that the presence of an inherited syphilitic taint may diminish the resistance of the liver toward the action of toxins (including alcohol) and render it specially liable to cirrhosis. The inherited syphilis in these cases may be—

but often is not—associated with some degree of "infantilism," i. e., more or less retardation in general physical development and especially in the sexual functions. In these cases great caution must be employed in regard to antisyphilitic, especially mercurial, treatment, probably on account of the general delicacy of the patients and their liability to renal and catarrhal complications. Iodid of iron seems to be useful. In these cases there is generally very little real anemia, even when the general appearance of the patient is cachectic; and anemia, if present, is often only temporary. In some cases, on the contrary, there may be a certain amount of polycythemia, probably of reactive nature, sometimes sufficient to constitute a symptom-complex, which might be termed "splenomegalic polycythemia of inherited syphilis in children." Other unknown (toxemic?) conditions may cause splenomegaly and recurrent jaundice in children, similar to that met with in cases of inherited syphilis. Abdominal crises (pain, etc.), of uncertain explanation, may occur occasionally both in the inherited syphilitic and in the other cases. Cases of "familial" splenomegaly occurring in two or more brothers or sisters may occasionally be connected with an inherited syphilitic taint, but familial splenomegaly in children is better recognized in connection with congenital chronic acholuric (so-called hemolytic) jaundice, and with primary splenomegaly of the "Gaucher type." Splenomegaly in children may be the most important sign of the presence of hepatic cirrhosis, when the former is either secondary to, or due to the same cause as, the latter. Some cases of splenomegaly in children with inherited syphilis probably ultimately present the characteristic, clinical features of splenic anemia or Banti's disease.

24. **Venous Murmurs.**—In a majority of children varying in age from 3 to 15 years, Coombs heard a murmur immediately below the sternoclavicular joint or joints. It was slightly commoner in boys. It was commoner and louder on the right side. This murmur was continuous, but accentuated at the beginning of systole and of diastole, especially the latter. It was at its loudest during the inspiration. Though often heard with the head in the erect position, it was in such cases heard more clearly, and in some other cases heard only, when the head was fully retracted. Lateral rotation of the head also made it more clearly audible. It is usually abolished when the patient lies down. It is produced in the internal jugular veins; by what mechanism is not clear to Coombs, though its accentuation by retraction of the head is no doubt due to the flattening of the veins against the transverse processes of the cervical spine. Though associated with anemia and febrile states, it is heard also in perfectly healthy children. It is not especially associated with tuberculosis or any enlargement of the intrathoracic lymph glands, and has no diagnostic value.

Medical Press and Circular, London

March 8

26 Talipes Equinovarus and Its Treatment. E. Gillespie.
27 The Retraction Ring as a Cause of Obstruction in Labor. R. Jardine.
28 A Case of Darier's Disease. G. G. Stopford Taylor.
29 The Marriage of Cardiac Subjects. D. Renon.

March 15

30 Congenital Torticollis or Wry Neck. G. L. Chiene.
31 Vision. W. R. MacDermott.
32 Lactation After Removal of Both Fallopian Tubes. J. C. McWalter.

Annales des Maladies des Org. Génito-Urinaires, Paris

February 15, XXIX, No. 4, pp. 289-383

33 *Study of the Functional Activity of the Kidneys by Means of Phenolsulphonephthalein. L. G. Rowntree and J. T. Geraghty (Baltimore), Concluded in No. 5.
34 Technic for Suprapubic Incision. (Instrumentation moderne de la taille hypogastrique.) F. Cathelin.

33. Practically the same article appeared in the *Journal of Pharmacology and Experimental Therapeutics*, July, 1910, and was abstracted in The Journal, Aug. 20, 1910, page 720.

Archives des Maladies de l'App. Digestif, Paris

February, V, No. 2, pp. 49-108

35 Clinical Research on the Evacuating Function of the Stomach in Health and Disease. S. Kemp.
36 Dosage of Amylase in the Feces in Diagnosis of Pancreatic Functioning. C. Durand.

Archives de Médecine des Enfants, Paris

March, XIV, No. 3, pp. 161-240

37 *Septicemia and Glandular Lesions in Scarlet Fever. V. Hutinel.
38 *Excessive Enlargement of Breasts at Puberty. (Hypertrophie mammaire de la puberté.) H. Caubet.
39 *Clinical Signs of Hypertrophy of the Thymus. D'Oelsnitz.
40 *Recalcification Treatment of Tuberculosis in Children. J. Comby.

37. **Septicemia in Scarlet Fever.**—In the case reported by Hutinel the scarlet fever accompanied varicella. The principal scarlatinal lesions were in the throat and mouth and the mucosa sloughed off at several points with general symptoms of septicemia, rapidly proving fatal. The viscera were found practically sound but the thyroid, suprarenal capsules and pituitary body showed marked lesions entailing defective functioning. The symptoms of the varicella and of the ordinary scarlatinal syndrome were comparatively mild; he had encountered this combination in twenty other cases previously, none showing any signs of extra virulence on the part of either infection. The extreme virulence in the case reported was evidently due to the influence of the scarlet fever on the ductless glands. He reported last year a case of acute inflammation of the suprarenals during scarlet fever in a little girl who recovered. Tixier found both suprarenals destroyed by hemorrhages and the pancreas gravely affected, at necropsy of a child succumbing to malignant scarlet fever, and Comby has since encountered a similar case except that the pancreas was intact. Hutinel believes that the scarlatinal lesions in these ductless glands modify the composition of the blood and that this in turn permits the streptococci to enter the blood. In other cases the liver may be the organ to feel the influence of the scarlatinal infection most severely. Treatment should be guided by the signs indicating which of the internal organs are bearing the brunt of the infection—the liver if there seems to be hepatic derangement; the suprarenals if they seem to be at fault. In the latter case epinephrin may be indicated. In either case, baths to reduce excessive temperature and means to cleanse the throat without irritating it and to sustain the heart may all prove useful.

38. **Hypertrophy of the Breasts at Puberty.**—In the case described by Caubet, the mother had had similar hypertrophy of the breasts at puberty. No treatment is effectual except removal of the breasts and this was done in twenty-five cases on record, which he summarizes. The results were good in every instance. The breasts weighed each from nearly 2 to 8 kilos, that is, from 5 to over 17 pounds. In Caubet's case the breasts were shaped like watermelons, and reached below the umbilicus. His compilation includes only the cases developing at puberty; the lesions were simple hypertrophy of the elements of the gland with passive edema.

39. **Clinical Signs of Hypertrophy of the Thymus.**—D'Oelsnitz analyzes ten cases in which the thymus was excessively large for the patient's age and seven other cases in which its hypertrophy was suspected. Three of the patients died from sudden suffocation from this cause; some difficulty in breathing had been noticed before but had not been traced to its true source. These cases teach the importance of examining the thymus whenever no other cause can be discovered for labored breathing, occasional or constant. The results of thymectomy in time are good. Hypertrophy of the thymus should be suspected with stridulous laryngitis when the croup stridor is of unusual intensity and duration. Epistaxis was noted in one case—probably a result of the local mechanical congestion. An intercurrent infection is liable to increase this congestion and render evident a hitherto latent hypertrophy of the thymus. During the suffocation there is cyanosis of the face, also slight edema of the lids; exophthalmos was pronounced in one case and the fontanelles bulged in the younger children. The cyanotic tint may persist constantly and the children may be dull and apathetic. The veins in the neck may be constantly or occasionally congested. The dyspnea is greater lying down. Symmetrical palpation, especially of the suprasternal fossa, during expiration, is instructive, as also percussion. Primary tracheotomy was done on a mistaken diagnosis in two cases, and secondary to partial thymectomy in another. The results in all were disastrous. Intubation may

be necessary in connection with thymectomy when there is concomitant spasm of the glottis.

40. **Recalcification in Treatment of Tuberculosis in Children.**—Comby reviews what has been published to date on the subject of the deficiency in lime as predisposing to tuberculosis and treatment aiming to restore the lacking lime. Ferrier was the pioneer in this line, and he insists on individual prophylactic measures to prevent waste of lime by decalcifying dyspepsia and gastro-intestinal fermentations, refraining from fats, acids and cheese. Comby gives children twice a day before meals a powder containing calcium phosphate, 0.25 gm.; calcium carbonate, 0.2 gm.; calcium chlorid, 0.15 gm., and magnesia usta, 0.1 gm. After ten days he gives for ten days a teaspoonful of 0.03 per cent. aqueous solution of sodium arsenate, then resuming the powders for ten days, and so on. [Ferrier's method of antiacid and alkaline treatment of tuberculosis was described in The Journal, May 1, 1909, page 1465.] Davel and Ginepro have reported good results with the Ferrier method at Buenos Aires, and Comby endorses the recommendations of Sergent and Letulle. The method does not conflict with but supplements the ordinary dietetic hygienic measures.

Lyon Médical, Lyons

February 19, CXVI, No. 8, pp. 309-352

41 *The White Line Sign of Suprarenal Disease. (La ligne blanche de Sergent.) Maurice.

February 26, No. 9, pp. 353-408

42 Induced Pneumothorax. J. P. Morat.

41. **The White Line.**—Maurice has been studying Sergent's dermographic sign of suprarenal insufficiency, the white line that follows if the finger nail is drawn along the skin of the trunk. Sergent regards it as a manifestation of abnormally low artificial tension and this, in turn, as the result of insufficiency on the part of the suprarenals. Maurice's experience confirms the interpretation of the white line as a sign of suprarenal insufficiency, but it is also a sign of toxic vasoconstrictor excitability. It indicates not only suprarenal treatment but also restrictive dietetic measures and disinfection of the intestinal tract. Nervous persons presenting this sign should be relieved of nervous strain, especially those with a history of severe diphtheria or scarlet fever or with symptoms of tuberculosis.

Presse Médicale, Paris

March 4, XIX, No. 19, pp. 161-176

43 Malta Fever Simulating Pernicious Anemia. G. Rauzier.
44 Two Cases of Symmetrical Lipomatosis. R. Burnier.
45 Influence of Inherited Taint in Primary Localization and Geographical Distribution of Lesions in Pulmonary Tuberculosis. J. Molle.

March 8, No. 20, pp. 177-184

46 Localization of Bullets in the Tissues. (Localisation des projectiles dans les tissus.) H. Chaput and Vaillant.
47 *Flat-Foot and Tuberculosis. P. Gorse and Dautheville.
48 *Fleas in Transmission of Plague for Long Distances. A. Raybaud.

47. **Flat-Foot and Tuberculosis.**—Gorse and Dautheville state that thirty-six men out of 498 with flat-foot developed tuberculosis during their military service in their regiment, while there were only 157 cases among the 12,390 men with normal feet. The proportion was thus 7 per cent. among the flat-foot squad and only 1.2 per cent. among the rest.

48. **Dangers of Transmission of Plague to Long Distances by Intermediation of Fleas.**—Raybaud calls attention to recent announcements that the rat flea, *Ceratophyllus fasciatus*, is able to hibernate for a month or forty-five days without nourishment, and that virulent plague germs can persist unharmed in its stomach during this length of time and even longer. He thinks that this fact is of great importance for the transmission of the plague to a distance. The marmot or land otter of northern China and the rats of Manchuria are undoubtedly infested with these and other fleas. When the fleas leave the bodies of the animals that have succumbed to the plague, they may seek refuge in bales of goods or cracks of boxes and live there at a temperature which renders them torpid, practically hibernating, while the germs in their interior maintain their vitality and virulence. In this condition, the fleas may be carried with the freight across Siberia or shipped by water to long distances. As the authorities do not consider it necessary, he says, to disinfect freight, there is nothing to prevent the fleas arriving in good condition in other countries, ready to infect rats or human beings, whichever they happen to encounter.

Beiträge zur Geburtshilfe und Gynaekologie, Leipsic

XVI, No. 2, pp. 199-372. Last indexed Jan. 28, p. 310

49 Isthmus of the Uterus and Placenta Prævia. H. Bayer.
50 Justification of Pubiotomy. (Soll die Hebosteotomie ihren Platz in der operativen Geburtshilfe bewahren?) H. Fehling.
51 Efforts to Improve the Technic for Cesarean Section. (Weiteres über die modernen Bestrebungen zur Veränderung der Kaiserschnittstechnik.) H. Sellheim.
52 *Postoperative Peritonitis, Especially the Diarrheic Form. E. Holzbach.
53 Determination of Capacity for Lactation. (Bestimmung der Stillfähigkeit nebst Statistik zur Beschaffenheit der weiblichen Brust und zum Stillgeschäft.) C. Stieda.
54 Histology of Ovarian Suppuration. (Pyovarium.) J. Wätjen.
55 Abnormal Nucleated Cells in Smooth Muscle. (Ueber abnorme Kernbildungen in den glatten Muskelfasern sowie über Mast- und Plasmazellen in Leiomyomen des Uterus.) B. Huguenin.
56 Hematoma of Masseter Muscle. (Eine typische Geburtsverletzung.) R. Hofstätter.
57 Finer Structure of Ganglion Cells in Ovarian Dermoids. A. Wolff.

52. **Diarrheic Postoperative Peritonitis.**—Holzbach warns that postoperative peritonitis may develop with an insidious course and slight general symptoms, profuse diarrhea being the chief sign of trouble. The peritonitis in these cases is a local infection of the pelvic cavity and can be conquered by prompt measures, walling off the small pelvis from the abdominal cavity above while the secretions are given free outlet. This is ensured by the low transverse incision which he prefers for operations on the ovaries, etc. During the operation he also makes a point of walling off the pelvis with sponges as a prophylactic measure. He cites a number of examples from his practice showing the prompt arrest of the diarrhea and subsidence of the peritonitis as soon as an outlet was provided for the pus or other secretions causing the trouble. Since he has made a practice of the above technic, the low transverse incision and the preventive gauze walling off of the pelvis, he has had no further cases of the kind.

Berliner klinische Wochenschrift

March 6, XLVIII, No. 10, pp. 413-460

58 Advantages of Lumbar Muscles as Site for Injection of Salvarsan. (Beschleunigte Resorption aus den Lendenmuskeln und die Verwendbarkeit dieser Muskeln für die Injektion von Salvarsan.) S. J. Meltzer (New York).
59 *Physical Factors in Action of Poisons and Drugs. (Wirkung von Giften und Arzneimitteln.) J. Traube.
60 Negative Influence of Santonin on Glycosuria in Diabetes Mellitus. G. Walterhöfer.
61 *Iodin-Exophthalmic Goiter. (Zur Frage des Jodbasedows.) S. Goldflam.
62 Diagnostic Importance of Cutaneous Tuberculin Reaction. (Diagnostischer Wert der v. Pirquetschen Reaktion.) P. S. Wallerstein.
63 Treatment of Tuberculosis with Tuberculin Cutaneous Inoculations. (Behandlung der Tuberkulose mit Tuberkulin-Cutanimpfungen.) P. S. Wallerstein.
64 Repeated Extrauterine Pregnancy. (Wiederholte Extrauteringravidität bei derselben Frau.) A. Frank.
65 Localization of Sexual Instinct in the Brain. (Ueber die cerebrale Lokalisation des Geschlechtstriebs.) A. Münzer.
66 Serology of Gout. (Serologische Beobachtungen in betreff der Gicht.) F. A. J. Falkenstein. Commenced in No. 9.
67 Necessity for Private Sanatoria for Patients with Infectious Diseases. (Notwendigkeit privater Heilanstalten für Infektionskranke.) F. Meyer.

59. **Importance of Physical Properties of Poisons and Drugs.**—Traube's research on the drop-forming properties of the organic fluids and chemicals has convinced him that the physical properties are of far greater importance than has been previously recognized. He accepts as a biologic law of far-reaching import the phenomenon he has repeatedly verified in his research, namely, that a poison becomes less toxic for the medium as the latter becomes turbid under the influence of the poison—that is, when precipitation is under way. This precipitation may occur in ultramicroscopic form long before it is possible to detect it with the naked eye which has hitherto been the criterion. The greater the toxicity of the poison, the greater the physical changes which it induces in the medium; if follows, hence, that the less the physical changes induced, the less toxic the chemical in question. He believes that this opens new lines of research in pharmacology and therapeutics.

The organism, he is convinced, is a physical machine to an extent never hitherto realized. The phenomena reported throw light, he declares, on the problems of immunity and anaphylaxis. For instance, 1 drop of a one-half normal solution of potassium iodid added to 10 c.c. of a 0.2 per cent. solution of *Nachtblau*, a colloidal basic dye, causes no change in the aspect of the fluid. It still appears extremely limpid, but this one drop of the iodid has transformed it into a condition of actual anaphylaxis. The mixture is now specifically hypersensitive to potassium iodid so that addition of a single drop more of the same potassium iodid solution is followed by heavy flaking—a specific precipitation.

61. **Iodin and Exophthalmic Goiter.**—Goldflam reports two instructive cases showing the danger of eliciting Basedow symptoms by therapeutic administration of iodin. The resulting disturbances are not the comparatively harmless and transient symptoms of iodism; on the contrary, the iodin seems to exert in these cases a specifically injurious action on the thyroid which persists after suspension and elimination of the drug. He warns that this is liable to occur whether the thyroid is perceptibly pathologic or not, especially with serous meningitis and incipient tabes, as well as with goiter and atherosclerosis. These iodin disturbances are by no means restricted to regions where goiter is prevalent. In his first case, symptoms of serous meningitis had existed for some months when a course of iodipin was instituted and was soon followed by tachycardia, enlargement of the thyroid and tremor of the fingers. In the second case a man of 34, who had been systematically treated for syphilis for years after infection at 20, developed incipient tabes. Considerable improvement was realized under subcutaneous injections of iodipin, when Basedow symptoms suddenly became manifest and were very distressing, particularly the severe diarrhea, emaciation and weakness. After suspension of the drug the symptoms finally completely subsided, proving their connection with the medication.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 1, XLI, No. 7, pp. 225-256

68 *Acute Hemorrhagic Pancreatitis. E. Monnier.
69 *Knee-Elbow Position with Ptosis of Viscera. (Knieellenbogenlage bei Ptosis gewisser Bauchorgane.) R. v. Fellenberg.

March 10, No. 8, pp. 257-288

70 Modified Technic for Wassermann Reaction. (Modifikation der Wassermann'schen Reaktion nach von Dungern.) O. Roth.
71 *Predisposition of Apices to Tuberculosis. (Prädisposition der Lungenspitzen und Inhalations-Tuberkulose.) G. Huguenin. Commenced in No. 6.

68. **Acute Hemorrhagic Pancreatitis.**—Monnier reports the details of four fatal cases with necropsy from his practice during the last eighteen months. Two of the patients were previously healthy druggists, 42 and 45 years old; the third was a drinking sailor, and the fourth an obese woman of 54 with cholelithiasis. The influence of trauma was evident in one case and of an acute intestinal affection in another. The necropsy findings indicate that acute pancreatitis is always accompanied with extravasation of blood into the glandular tissue, injuring it to such a degree that it falls a prey to autodigestion. This in turn leads to production of extremely toxic substances, and the only relief is by early operative intervention. If this is delayed until the pancreas is injured beyond repair, little can be anticipated from it, although Hahn reports recovery when the patient was already in severe collapse; he made a high incision, rinsed the abdominal cavity with salt solution and drained. The main point is to think of the possibility of acute pancreatitis when called to a patient with symptoms suggesting ileus, cholelithiasis, perforation peritonitis or appendicitis. The lack of rigidity of the abdominal wall, the temperature higher than with ileus, the peculiar sallowness and the obstinate pain in the epigastrium speak for pancreatitis, as also the fact that several quarts of water can be poured into the bowel; this generally brings stool and gas. The pain with appendicitis is seldom so intense and persistent as with acute pancreatitis. The persistence of the pain, the rapid aggravation of the condition and the symptoms suggesting ileus are evidence against cholelithiasis alone, although this is usually the primal factor for the acute pancreatitis.

69. **Knee-Elbow Position for Visceral Ptosis.**—Fellenberg remarks that the advantages of the knee-elbow position for correction of ptosis of various viscera is only recently attracting the attention it deserves. He reports a case of recurring attacks of pain and nausea and other disturbances explained only by the discovery of a right wandering kidney. As soon as the patient, a young woman, assumed the knee-elbow position she experienced relief, and she learned to use this as a prophylactic measure, before going out for a walk, for instance. She refuses operative relief and is delighted that she can keep herself free from disturbances by this simple measure. Until this had been suggested she was growing more and more emaciated from the pains and digestive disturbances consequent on the physical anomaly. The pains come on, Fellenberg assumes, at the moment when the stomach content is being passed on into the intestine, the latter being compressed by the movable kidney; the more copious the meal the severer the pain. The kidney drops forward as the patient assumes the knee-elbow position, leaving the passage free for normal evacuation of the stomach. He thinks the same measure might prove effectual in some cases for displacement of the uterus, for mechanical ileus, hydronephrosis, or gall-stone colics and especially for arteriomesenteric occlusion of the bowel.

71. **Predisposition of Apices to Tuberculosis.**—Huguenin analyzes the mechanism of the cough, showing how even under normal conditions it is difficult for the apices to expel secretions and foreign particles. Even at the best they are expelled mostly by the apex being forced up against the roof of the thorax; when there is an unusually small space in the cupola of the thorax the effect is much less and it is least when the apex is already shriveled or indurated. The muscles controlling the cough in this part of the chest are weaker than elsewhere. The bronchial ramifications curve even in a normal lung when the upper part of the thorax has lost its elasticity. With a rigid aperture, the apex may be shut off so that it is quite impossible for it to participate in the act of coughing. When these conditions prevail, the cough may actually force substances up into the apex from the lower part of the lungs, the effect being thus the exact opposite of normal conditions. He discusses further how the child may inherit the phthisical chest from one parent while inheriting unusual resistance to tuberculosis from the other. Wherever tuberculosis may gain a foothold, it gets to the apices almost inevitably sooner or later. The most frequent form of pulmonary tuberculosis is that which originates in infection of the lymph vessels in the neck or chest. In fully 60 to 70 per cent. of his cases the apices had evidently become infected in this way. In only 15 or 20 per cent. was there evidence to indicate direct inhalation as responsible for the apical process. He estimates at less than 20 per cent. the number of cases of pulmonary tuberculosis in children in which infection occurred by way of the intestines. In adults the proportion is much less, under 4.7 per cent. Huguenin does not mention droplet infection in the course of his monograph, as he has never encountered a case, he states, in which there was the least glimmer of probability of this method of origin. But he ascribes quite an important rôle in pulmonary tuberculosis to primary infection by way of the skin and urogenital organs. In his experience, further, fully 79 per cent. of tuberculous bone and joint processes were secondary to preexisting tuberculosis. In this connection, he mentions a family in his charge in which the mother had tuberculosis, and of the six children one had pulmonary tuberculosis, one kidney tuberculosis, one tuberculous glands in the neck, one spina ventosa and phthisis later, and one a tuberculous ulceration on the hand with spina ventosa of two fingers later but no apparent glandular trouble; only one daughter was apparently free from tuberculosis.

Deutsche medizinische Wochenschrift, Berlin

March 9, XXXVII, No. 10, pp. 433-480

72 *Diagnosis and Treatment of Multiple Sclerosis in Its Early Stages. E. Schultze. Commenced in No. 8.
73 *Digestion of Vegetables. (Ueber Gemüseverdauung bei Gesunden und Kranken und über die zerkielnernde Funktion des Magens.) A. Schmidt.

74 Early Cutaneous Recurrence of Syphilis After Salvarsan Treatment. S. Bettmann.
75 Reaction of Tuberculous Processes After Salvarsan Injections. K. Herxheimer and K. Altmann.
76 Technic for Salvarsan Injections. P. Schober.
77 *Psychopathology of Suicide. (Selbstmord.) M. Sichel.
78 *Chronic Mediastinitis. (Das Krankheitsbild der chronischen fibrösen Mediastinitis nebst Beiträgen zur Klinik der Mediastino-Pericarditis und Concretio pericardii cum corde.) K. Radonicic.
79 *Experimental Research on Pathogenesis and Treatment of Gout. S. Cohn.
80 Reflex Anuria from Sudden Chilling. A. Hörder.
81 The Plague in China. (Die Lungenpest auf ihrem gegenwärtigen Zuge durch China.) Martini.

72. **Multiple Sclerosis.**—Schultze calls attention to the rise of temperature which generally accompanies the apoplectic seizures of multiple sclerosis and differentiates them from ordinary cerebral apoplexy. He warns against the damage that may be done by a mistaken assumption of hysteria as the cause of the disturbances resulting from multiple sclerosis. In a case of the kind no attention was paid to the patient's complaint that she became dizzy and felt like falling; she was ordered to conquer this and to exercise as the best means of curing the assumed hysteria. This was the very opposite of what should have been done. Patients with multiple sclerosis should spare themselves any unnecessary efforts, stopping at the slightest fatigue, with frequent pauses for rest. With severe disturbances the patients should stay in bed. Gentle measures are the only ones to apply. A mild course of mineral baths may help by increasing the patient's confidence in himself although the spa physician ascribes it to the waters. The number of drugs that have been used in treatment shows that none is really effectual.

73. **Digestion of Vegetables.**—Schmidt has been unable to discover any evidence to sustain the assumption that the digestion of vegetables occurs mostly in the intestines and that it is mainly the work of microbes. Outside of the body these are the factors involved, but they act very slowly in comparison to the rapidity of the digestion in the body; an ox, for instance, digests 7 pounds of cellulose and hemicellulose in a day, while nothing to approximate this can be realized *in vitro*. The extent of the digestion of cellulose in man, besides, is by no means proportional to the intensity of the putrefaction processes in the intestines. He reiterates that man stands midway between the herbivora and carnivora; some individuals are to-day more herbivorous while others are more of the carnivorous type. The former can digest even raw turnips, radishes, cucumbers and green salads; while others are unable to digest perfectly even cooked potatoes and beans. These and other facts cited demonstrate, he thinks, that the digestion of vegetables in general depends on the length of time they remain in the gastro-intestinal tract, but, chief of all, on the acidity of the gastric juice. The acid in the gastric juice dissolves the interstitial substance, thus liberating the cells of the vegetable fibers and enabling the alkaline intestinal juices to act on the single cells. When the gastric juice is exceptionally acid, the vegetable cells are separated and the digestion proceeds so completely that the elements of the vegetable cells are all taken up, leaving no waste to induce peristalsis—This is Schmidt's explanation of the cause of constipation in certain cases: digestion is too perfect. The gastric juice is only able to dissolve protein, and is unable to do even this perfectly if the amount is too large. At the same time this dissolving faculty is not the exclusive function of the gastric juice; it is done also and much more thoroughly, he asserts, by the pancreatic juice. It is most injurious therefore for intestinal digestion to have the cells still massed together when the mass is passed on into the intestines. Whether the proteins are dissolved or not is comparatively immaterial. No process below can take the place of the lacking disintegrating action of the acid gastric juice. Undissolved connective tissue in the stools thus testifies to the lack of proper gastric functioning in this respect. When the masses of either meat or vegetable are not broken up, the pancreatic juice cannot reach them and they linger undigested and afford lurking places for bacteria which in turn set up catarrh. The practical conclusion of the research reported emphasizes anew the importance of minute subdivision of the food when the gastric juice lacks the normal proportion of acid. The articles of food must be well cooked to loosen the connective tissue between the cells, and they must be ground in a mortar or put through a hair sieve. This mechanical subdivision of the articles of food is far more important than any other feature of the diet, he insists, and neglect of it soon avenges itself, especially in diarrhea of gastric origin.

77. **Psychopathology of Suicide.**—Sichel found evidence of mental derangement in a large proportion of persons who had attempted to commit suicide. In Munich it is the rule that every person who makes the attempt is sent to an asylum for study of his case. Sichel here reviews the different forms of nervous and mental disturbances in these would-be suicides.

78. **Chronic Fibrous Mediastinitis.**—Radonicic reports the details of eleven cases, classifying them according as the pathologic process was confined to the mediastinum proper or involved the pericardium or had entailed fusion of the pericardium. The ages ranged from 14 to 70. Fibrous mediastinitis is common, he states, but it is generally overlooked. One sign—the Oliver-Cardarelli—points unerringly to it; this is the downward pulsation palpable in the larynx. He explains the mechanism for this phenomenon which is observed not only with isolated fibrous bands in the mediastinum but also with involvement of the pericardium in the mediastinitis and adherent pericardium. There may also be a difference in the blood-pressure in the radial arteries in the recumbent position, this difference subsiding as the patient stands. This indicates also connective tissue cicatricial changes in the mediastinum. In a very few cases a systolic retraction of the chest wall in the entire left scapular region also may be observed with fusion of the pericardium with the pleura and the heart. This indicates retrocardial adhesion and the sign was marked in one of the cases reported. Radonicic has been unable to find any mention of this sign in the accessible literature. The fibrous mediastinitis was of tuberculous origin in the majority; in the other cases there was a history of pneumonia, cancer of the esophagus, rheumatism or syphilis. Anthracosis was encountered but once. Except for the constant difficulty in swallowing, the subjective symptoms were rare and vague; only a few patients complained of a burning pain in the chest or vague sensations back of the sternum. In conclusion, he discusses the interpretation of the radiographic findings.

79. **Gout.**—Cohn explains gout as the result of an overabundance of sodium; this promotes the development and persistence in the body of sodium urate which as it is deposited in the tissues forms the gouty tophi. On the other hand, he says, potassium may be regarded as an antidote for the sodium; the sodium-urate deposits can occur only in tissues deficient in potassium, such as connective tissue and cartilage. These assumptions explain the prevalence of gout among persons whose food contains a preponderance of sodium, such as meat, especially rare meat, as blood is one of the substances richest in sodium, averaging 19 parts sodium in 1,000 parts blood. Potatoes, on the other hand, contain the largest proportions of potassium, and those whose food consists mainly of potatoes are thus supplied in abundance with the potassium antidote to the sodium urate deposits.

Medizinische Klinik, Berlin

March 5, VII, No. 10, pp. 363-400

82 Determination of Destruction of Leprosy Bacilli in the Human Body. P. G. Unna.
83 Carbohydrate Courses in Diabetes. (Kohlehydratkuren bei Diabetes.) R. Kolisch.
84 Strabismus. (Das Schielen.) C. Cohen.
85 *Serotherapy in Toxemias of Pregnancy. R. Freund.
86 *Case of Fatal Arsenic Poisoning After Administration of Salvarsan in Treatment of Cerebral Syphilis. A. Jorgensen.
87 Clinical Pathology of Vestibular Apparatus. C. Stein.
88 Dissemination of Leprosy Bacilli in Disease of Respiratory Tract. L. Merian and C. Solano.

85. **Serotherapy of Pregnancy Auto-Intoxication.**—Freund has been applying serotherapy for eighteen months in treatment of toxemias of pregnancy and he thinks that his success justifies further trials of the method. He injected from 20 to 80 c.c. of freshly drawn horse serum in six patients with puerperal eclampsia and in each case there were only from one to four convulsions thereafter. He has recently injected the serum from healthy pregnant women near term into four

women with serious pregnancy disturbances—a psychosis and dermatosis with uncontrollable vomiting, neuralgia and jaundice in the first case. Marked improvement followed the third day after injection of 24 c.c. of the serum and complete recovery after the second injection a week after the first. This patient was a woman of 24, three months pregnant. In three other cases the eclampsia persisted after delivery; in the first case a total of 58 c.c. of serum was injected during the day, after the twelfth convulsion; seven other convulsions followed, after which the patient, a girl of 15, rapidly recovered. Five convulsions followed the injection of 40 c.c. of serum, preceded by withdrawal of 400 c.c. of blood, in the second case and recovery was uneventful. In the third case the eclampsia did not develop until after delivery and there were no convulsions after injection of 36 c.c. of serum preceded by venesection, after the patient had had eleven convulsions. Freund's experience thus supplements that recently reported by Mayer and Linser with serotherapy of pregnancy toxicoses, but he urges examination of the blood by the optic method in all such cases to obtain a scientific basis for estimation of indications, in addition to the data learned by empiric observation. [Compare Abstract 129 below.]

86. This seems to be the same case previously reported by Ehlers, mentioned in THE JOURNAL, Nov. 26, 1910, page 1941.

Münchener medizinische Wochenschrift

March 7, LVIII, No. 10, pp. 497-552

89 *Local Anesthesia for Major Operations on Breast and Thorax. G. Hirschel.
90 Desquamating Erythrodermia. (Stellung der Erythrodermia desquamativa im Krankheitssystem.) E. Moro.
91 Influenza? J. Trumpp.
92 *Psychic Disturbances with Chronic Cocain Intoxication. H. Higier.
93 Recurrences in Nervous System After Administration of Salvarsan in Syphilis. (Ueber die Neurorezidive nach Salvarsan, über Abortivheilung und weitere Erfahrungen.) J. F. Werther.
94 Salvarsan in Syphilis and Optic Neuritis. (Salvarsanbehandlung und Neuritis optica.) F. Schanz.
95 Salvarsan in Leprosy. (Einfluss des Salvarsan auf die Leprabazillen.) D. E. Montesanto.
96 Trichloracetic Acid as Efficient Substitute for Carbon Dioxid Snow in Treatment of Skin Diseases. G. Knauer.
97 Technic for Carbon Dioxid Snow Treatment. (Tubus zur Behandlung mit Kohlensäureschnee.) M. Kuznitzky.
98 Technic for Relief in Peritonitic Ileus. M. Kaehler.
99 Gastric Fever. A. Schneller.
100 Medicolegal Diagnosis of Epilepsy. K. Heilbronner. Commenced in No. 9.

89. **Local Anesthesia for Major Operations on the Chest.**—Hirschel states that at Wilm's service at Heidelberg 487 major operations were done under local anesthesia in 1905 and the number has doubled and more each year since. He gives an illustrated description of the technic for amputation of the breast. He outlines the field of operation with a series of ten injections of the anesthetic, pointing the needle in four directions to spread the fluid. The first puncture in the axilla is the only one that is painful, the others being all at previously anesthetized points.

92. **The Mental Disturbances with Chronic Cocain Poisoning.**—Higier comments on the fact that the action and symptoms of a single acute poisoning with cocain are very different from those of chronic intoxication. It is not an accumulation of single intoxications, but an entirely different action on the nervous system. In a case described a dentist was taking 5 gm. of cocain daily. Heimann had a case in which 8 gm. was the daily dose and Sollier had a patient who occasionally took up to 12 gm. The needle punctures leave traces of brown almost black pigmentation; this is a sign peculiar to cocain. The paresthesias are not located at the periphery but on the trunk, and they produce the subjective impressions of foreign bodies under the skin. Most characteristic of all is the delirium with hallucinations; it resembles more the alcoholic delirium; but there are no objective signs of liquor drinking. The patient during the delirium can reason logically and behave normally in regard to surrounding objects until unconsciousness supervenes, the condition thus differing from that of ordinary drunkenness. With the cocain there is at first an exalted self-consciousness, followed by dyspnea and distress. Further testimony to the cocain as the cause of the mental disturbances is the favorable influence of morphin; morphin is almost an antidote for cocain poisoning. Higier adds that the hallucinations may drive the patient to commit suicide, which is an extremely rare occurrence in alcoholic delirium, even the most aggressive. Cocain can be suppressed abruptly, he continues; there is little reaction, while recurrence, he says, is rare. He denounces as false the statement in some of the works on toxicology in regard to habitual cocainomania, declaring that cocain addiction is readily curable.

Therapeutische Monatshefte, Berlin

March, XXV, No. 3, pp. 145-208

101 *Study of the Resistance and Ultra-Sensitiveness of the Animal Body to Chemical Agents. H. Hildebrandt.
102 Non-Operative Treatment of Inflammatory Gynecologic Lesions. (Nichtoperative Behandlung entzündlicher Frauenkrankheiten.) H. Freund.
103 Drugs Besides Quinin in Malaria. (Moderne Malariatherapie.) H. Werner.
104 *Dangers of Hydrotherapeutic Procedures for Infants. Haussen.
105 Technic of Intravenous Injection of Large Amounts of Fluids. G. Schwartz.
106 *Tribute to Efforts of the A. M. A. ("Nach amerikanischem Muster"). W. Heubner.

101. **Resistance and Hypersusceptibility to Chemical Agents.**—Hildebrandt discusses some of the recent additions to our knowledge in regard to anaphylaxis and resistance of the animal body to certain chemicals, concluding with a description of experimental work which seems to demonstrate that the hemolytic action of certain chemicals is annulled by the cholesterin element in the serum. This explains the benefit which Grimm observed in malaria under ingestion of cholesterin; the latter had an inhibiting effect on the hemolytic action of the malarial parasite. Hildebrandt suggests that similar benefit might be obtained in eclampsia from systematic administration of cholesterin. Hemolytic factors are certainly involved in the eclampsia syndrome, he thinks, and possibly the lack of substances with an affinity for fat may be responsible for this; administration of cholesterin might supply this lacking lipophilous substance.

104. **Dangers of Hydrotherapeutic Procedures for Infants.**—Hanssen reports three out of a larger number of cases in which an ordinary brief warm bath or a mustard pack was followed by threatening collapse on the part of infants 6 or 8 months old, with severe catarrhal enteritis, capillary bronchitis with eczema of the face or in infants convalescing from anemia following long overfeeding with cow's milk. Children entering the hospital should not be given a bath by the nurses before the child has been inspected by the physician or without his orders. If collapse occurs under any hydrotherapeutic measure Hanssen advises repeated injections of camphorated oil, with warm bottles and inhalation of oxygen. It is possible that such accidents from hydrotherapeutic measures are more common in children with the exudative diathesis or, rather, with the neuropathic tendency which generally accompanies it. Czerny has reported sudden fatalities under the first cold pack in neuropathic children. It is wiser, consequently, to refrain from hydrotherapeutic measures altogether with children of this exudative diathesis plus a neuropathic tendency, and especially from mustard packs which in other cases may prove so useful.

106. **The Americans Set the Pace.**—Heubner comments on the way in which his compatriots frequently wind up a very exaggerated statement by saying: "in true American style." He remarks that he read this expression recently in an article on the fraudulent advertising of certain proprietaries, which, it was stated, was "in true American style." Heubner then goes on to say that he wishes to inform his compatriots that in their attitude toward the abuses in the proprietary medicine business, "they are far behind the stand taken by the medical profession in America, whose American Medical Association has, on its own initiative and with its own forces, successfully organized means to supply every physician with reliable bases for his appreciation of new remedies." He adds: "In connection with the publication of a report of the Council on Pharmacy and Chemistry of the A. M. A., on the fraudulent statements made in advertisements of the preparation Formurol, put out by the Falkenberg firm (Berlin-Grünau), an editorial note states as follows (THE JOURNAL, Jan. 21, 1911, page 210)":

This report illustrates once more the value of the Council on Pharmacy and Chemistry and the Chemical Laboratory to the medical profession. Before the Council was organized there was no agency to protect the physician's interests in the matter of pharmaceuticals. Under the old régime Formurol would have been heralded as a new "synthetic" of the most approved made-in-Germany type—and the claims would have gone unchallenged. To-day its status is made clear and the profession is informed. Only those who have closely studied the question can realize what a wonderful power for commercial probity the Council has proved. Under the *laissez faire* system of the past many large pharmaceutical firms gave little attention to the accuracy of the claims made for their products. If the advertising gave good "pulling" results, that was all that was asked or expected. Within the past five years a wonderful change has taken place in this regard, and firms of the better class have so modified their advertising as to make it not only conservative in tone, but to approximate scientific accuracy.

Heubner passionately exclaims after quoting this editorial note in full: "'*Laissez faire*'! How long, how long is this going to apply to us still in Germany! *(Wie lange wird es bei uns noch so heissen?)*"

Therapie der Gegenwart, Berlin

March, LII, No. 3, pp. 97-144

107 Treatment of Gout. (Behandlung der Gicht mit Phenylchinolcarbonsäure—Atophan—nebst Bemerkungen über die diätetische Therapie der Krankheit. W. Weintraud.
108 Roentgen-Ray Treatment of Cancer. (Aussichten für die Behandlung maligner Tumoren mit Röntgenstrahlen.) C. Müller and G. Klemperer.
109 Serotherapy of Tetanus. (Zwei mit hohen Antitoxingaben behandelte Fälle von Tetanus.) Everling.
110 Climatic Treatment of Hay Fever and Nervous Asthma. C. Widmer.
111 Inadequacy of Substitutes Offered for the Lung Suction Mask. (Ersatzmittel der Lungen-Saugmaske.) E. Kuhn.
112 *Recent Achievements and Problems of Chemistry. E. Fischer.

112. **New Achievements of Chemistry.**—In this address delivered recently by Professor Emil Fischer he comments on the way in which the discovery of radium has upset the preconceived notions in regard to the unchangeability of the chemical elements, and then remarks that in all this new work on radium the Germans have been merely passive lookers-on. This was owing to the fact that Germany has no radium-bearing ore and that few German scientists have means to purchase the expensive element. But he congratulates his country now on the discovery, by O. Hahn of Berlin, that several radioactive elements are present in the by-products of thorium used in the manufacture of mantle lights. He has isolated the bromid of mesothorium, one of these elements; it has radioactive power similar to radium. The small lump of the mesothorium which Fischer exhibited is equivalent, he stated, to 100 mg. of pure radium bromid, and it cost nearly $3,000. The Berlin Academy of Sciences is soon to have 250 mg. of this mesothorium at its disposal to loan to German scientists. The waste of the thorium manufactures in Germany will produce enough mesothorium annually to be the equivalent of 10 gm. of radium bromid—more than there is of the latter in the world to-day. Then, he intimates, Germany will have something to say for herself on the subject of radium. She was the pioneer in organic synthesis, commencing with Wöhler's artificial production of urea, and he stated that in his laboratory the most complicated substance thus produced by synthesis has recently been perfected. The raw materials for the production of the minute amount yet made cost about $250, but what to-day is merely a scientific toy and curiosity may to-morrow prove of wide practical importance; chemistry has many such fairy-tales to relate. He commented further on the close chemical relationship between the coloring matter of the plants and the blood-pigment. This seems to show a close blood relationship between the animal and vegetable kingdoms. Among the synthetic substances he described as recent achievements in science are synthetic caffein, which is now made extensively from guano, and synthetic epinephrin, made from coal tar.

Wiener klinische Wochenschrift, Vienna

March 2, XXIV, No. 9, pp. 299-334

113 Psychology and Pathology of the Emotions. (Zur Psychologie und Pathologie der Affektion.) J. Berze.
114 *Comparative Tests for Tubercle Bacilli in Tissues. (Wert der Antiforminmethode für den Tuberkelbazillennachweis im Gewebe.) C. Hart and O. Lessing.
115 Heart Murmur and Size of Heart. (Herzgeräusch und Herzgrösse.) P. Biach and D. Chilaiditi.
116 Microsporon Epidemic Scalp Disease at Vienna. R. O. Stein.
117 *Glandular Fever. (Adenoiditis acuta; ein Beitrag zur Lehre vom Drüsenfieber.) F. Schleissner.
118 Mechanism of Functioning of Leg with Paralyzed Quadriceps. O. Semeleder.

March 9, No. 10, pp. 335-370

119 *Permeability of the Meninges, Especially in Progressive Paralysis. E. Weil and V. Kafka.
120 Urine Content in Albumin and Tube-Casts While Taking a Course of Sulphate Waters. E. Pflanz.
121 Banti's Disease. K. Ungar.
122 The Cancer Problem. (Das Problem der Krebskrankheit.) A. Fraenkel.

114. **Determination of Tubercle Bacilli in Tissues.**—Hart and Lessing state that tubercle bacilli do not lose their vitality even when the tissues are cut into frozen sections and treated with formol for half an hour. Animals inoculated with the tissues contract tuberculosis. Even when the frozen sections are stained with hematoxylin and differentiated with hydrochloric acid and alcohol, and after glycerin embedding are dissolved with 15 per cent. antiformin, still the tubercle bacilli are capable of infecting animals. Systematic examination in this way of the entire lymphatic apparatus is liable to throw light on a number of disputed problems. It is their impression that tuberculous infection of children is preeminently a dirt infection, occurring by way of the mouth, throat and intestine, while adults become infected by aspiration of the tubercle bacilli.

117. **Glandular Fever.**—Schleissner is convinced that what has been called acute glandular fever is very often merely inflammation of adenoid vegetations. Differentiation is difficult at first; the fever suggests an acute eruptive disease or gastro-intestinal or respiratory affection. In infants, the clinical picture may be that of a retropharyngeal abscess; the fever may keep up for several days and frequently recurring attacks may suggest tuberculosis. The peculiar shape and elastic consistency of the indolent tough glands is important for differentiation. Usually the attack runs its course in a few days. In one case otitis media developed. There was no tendency to nephritis in any of his cases. He does not advise active measures in treatment during the attack; the swelling of the glands usually subsides spontaneously. The children are generally of the exudative diathesis type, and it is wise to change the diet and limit the amount of food, hoping thus to influence the constitutional anomaly. It was his impression that considerable benefit followed in his cases, and he urges others to give this dietetic treatment a trial, limiting the children to a pint of milk a day at most and ordering a vegetable diet when this is possible.

119. **Permeability of the Meninges.**—Weil and Kafka have been testing the permeability of the meninges by determining the presence of antibodies in the cerebrospinal fluid. They tabulate the findings in forty-four cases. Fully 97 per cent. of the twenty-four patients with progressive paralysis gave a positive response while the findings were constantly negative in twenty controls with other nervous affections.

Zentralblatt für Chirurgie, Leipsic

March 4, XXXVIII, No. 9, pp. 305-344

123 *Successful Direct Transfusion of Blood by Suture of Blood-Vessels. (Zur Frage der direkten Bluttransfusion durch Gefässnaht.) H. Flörcken.
124 The Coxa Vara Question. W. Hagen and G. Drehmann.

123. **Direct Transfusion of Blood by Suture of Blood-Vessels.**—Flörcken applied this measure as a last resort in a case of staphylococcus bacteriemia. The patient was a woman of 24 with no history of hemophilia; during convalescence there was sudden hemorrhage from the nose, gums, rectum and stomach, the catheter brought only pure blood and there were petechiæ at the slightest external irritation. The blood seemed to be of normal constitution but the hemoglobin had dropped to 30 per cent. by the sixth day and the usual measures gave no permanent results. An older step-sister gave the blood for the transfusion; her left radial artery was sutured to the left median vein of the patient, the left hand of the sister lying in the bend of the patient's elbow. The lumina of the two vessels were protected by paraffin from drying and they were sutured together according to Carrel's technic. The difference in the size of the two vessels made the suture difficult but the procedure proved successful. The connection was kept up for half an hour, during which time the patient visibly revived; there were no further hemorrhages and she was soon restored to health.

Zentralblatt für Gynäkologie, Leipsic

March 4, XXXV, No. 9, pp. 337-384

125 *Advantages of Trendelenburg Position for Obstetric Procedures. (Beckenhochlagerung in der Geburtshilfe.) E. Bumm.
126 Etiology of Placenta Prævia. O. Hoehne.
127 Eclampsia in Sixth Month of Pregnancy with Hydatidiform Mole without a Fetus. A. Sitzenfrey.
128 *Paroxysmal Tachycardia in Connection with Spontaneous Delivery. E. Langes.
129 *Serotherapy of Pregnancy Dermatoses. (Normales Schwangerenserum als Heilmittel gegen Schwangerschaftsdermatosen im besonderen und Schwangerschaftstoxikosen überhaupt.) A. Mayer.
130 *Treatment of Uterine Cancer. A. Theilhaber.
131 Reposition of Retroflexed Uterus. ("Eine neue leichte Methode der Reposition des retroflektierten Uterus.") M. Hirsch.

March 11, No. 10, pp. 385-432

132 Cultivation of Anaerobes in Obstetrical Cases. (Zur Anaerobenzüchtung in der Geburtshilfe.) O. Bondy.
133 Differentiation of Hemolytic Streptococci by Lecithin Bouillon. H. Mächtle.
134 *Pseudomenstruation. M. Neu.
135 *Roentgen Rays in Gynecology. (Neue radiotherapeutische Erfahrungen in der Gynäkologie auf Grund von 100 gutartigen Blutungen und Tumoren des Uterus.) C. J. Gauss.
136 Pathology of Universal Hydrops of the Fetus. R. Teuffel.

125. **The Trendelenburg Position in Obstetrics.**—Bumm calls attention to the advantages of raising the pelvis in doing obstetric operations, especially during extraperitoneal Cesarean section, and for internal version, bringing down the foot with breech presentation, prolapse of the umbilical cord, management of brow and face presentation, etc. By raising the pelvis the heavy uterus slides down out of the way and gives ample space for the obstetrician's hand. The more the presenting part is pressed down into the pelvis, the greater the favorable influence of the Trendelenburg position. In a recent case of transverse presentation, he was able to bring down a foot with ease when the pelvis was raised, the sliding down of the uterus causing a relaxation of the walls which, he is convinced, materially reduced the danger of rupture during the version.

128. **Paroxysmal Tachycardia with Spontaneous Delivery.**—Langes reports a case and cites two others from Zangemeister's experience in which paroxysmal tachycardia was observed in women with previously sound cardiovascular systems. In two cases the anomaly passed without leaving appreciable disturbances but in the other case acute dilatation developed, which must have impaired more or less the integrity of the mitral valve. A sudden increase in the pulse-rate may therefore be observed with normal delivery even with a sound heart, and this possibility should not be forgotten in cases suggesting internal hemorrhage.

129. **Serotherapy of Toxemias of Pregnancy.**—The Journal, February 4, page 388, mentioned a case of recurring pregnancy herpes which subsided after injection of 10 and 20 c.c. of serum from a healthy pregnant woman near term. Mayer here reports an additional case in which serotherapy was used for urticaria with severe pruritus in a healthy woman at term, and the affection promptly subsided. The pruritus returned a week later as labor commenced but ceased abruptly as delivery was complete. In two other cases of pregnancy toxicosis the serotherapy had a similar promptly beneficial effect, the pruritus ceasing at once after injection of the serum. He suggests that all kinds of pregnancy toxic disturbances, including eclampsia, albuminuria, hyperemesis, tetany and possibly osteomalacia might be benefited by this serotherapy. The aim is to supply substances present in the normal pregnant human organism, the lack of which is causing the trouble; horse serum consequently would not answer the purpose. He used serum exclusively from women giving a negative Wassermann reaction and apparently entirely healthy. [Compare with Abstract 85 above.]

130. **Treatment of Uterine Cancer.**—Theilhaber is convinced that defective nourishment of the mesodermal tissue is an important factor in development and recurrence of cancer. Consequently, retention of the ovaries may aid in preventing recurrence after removal of the uterine cervix by the flux of blood to the region at the menstrual periods. He cites statistics to show that the end-results are more satisfactory with partial operations than is generally conceded. Schröder has 40 per cent. still in good health of ninety-six patients treated by intravaginal or supravaginal amputation of the cancerous uterus from four to eleven years ago. Theilhaber emphasizes the necessity for distinguishing between the origin and the growth of a cancer; when the cancer is once installed, then particularly favorable conditions for nourishment, as in the young, promote the growth of the cancer. But he presents evidence to show that cancer does not start in well-nourished tissues. Another argument in favor of the partial operations is that there is less cicatricial tissue left and thus less predisposition to malignant disease. For these and other reasons cited, he now makes a practice of amputating the cancerous cervix in the vicinity of the internal os uteri. He also makes a point of promoting the circulation in the region afterward by inducing regional hyperemia with superheated air, sitz baths, etc. The patients are all tested for the Wassermann reaction and mercury and iodid given with positive findings.

134. **So-Called Postoperative Pseudomenstruation.**—Neu says that an apparently regular menstrual hemorrhage occurred two or three days after an operation on the uterine adnexa in each of his fifty-four cases of the kind since he has been studying the subject. His conclusion is that it is a true menstrual phenomenon for which the irritation from the operation gave the impulse.

135. **Roentgen Rays in Non-Malignant Gynecologic Disease.**—Gauss thinks that the time has come to cease to regard this method of treatment as still untried and unreliable. The first tentative efforts to utilize the Roentgen rays in gynecology are now long past and the method has reached a stable footing. He has been applying it for over four years and in 200 cases; he here analyzes the remarkably favorable end-results as observed in 100 cases during the last two years during which time the technic has been practically uniform. The report issues from Krönig's clinic at Freiburg, and Krönig's endorsement of the method was mentioned in these columns, Aug. 27, 1910, page 812, and Schindler's endorsement, December 17, page 2187. Gauss here discusses the various groups of cases, going into minute details in order to present the subject in its true light. The younger the patient the longer the course of treatment required. Myomas require about two months in women over 50 and three additional weeks in women under 45, while other hemorrhagic uterine affections require from nine to fifteen weeks before amenorrhea is definitely installed. Recent improvements in technic permit the necessary total dose of radiant units for a myoma to be incorporated in less than a month, the tumor rapidly shriveling under the influence of the rays. He summarizes in two charts the time and dosage required in the two classes of cases.

Zentralblatt für innere Medizin, Leipsic

March 11, XXXII, No. 10, pp. 249-272

137 *Percussion with Patient Leaning Against a Masonry Wall. (Wandperkussion.) G. Wenzel.

137. **Wall Percussion.**—Wenzel has found that percussion findings are much more characteristic and instructive when the patient stands with the back against a stone or brick wall. The findings in the supraclavicular and subclavicular fossæ are much more pronounced and characteristic when the patient, the trunk disrobed, rests his back against a masonry wall.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 5, XXXII, No. 28, pp. 291-306

138 Pathogenesis of Pellagra. (Patogenesi della pellagra e la nuova dottrina fotodinamica.) G. Ghedini.
139 Serotherapy of Glycosuria. (Sul meccanismo di azione dei sieri antiglycosurici.) L. Castriota.

Policlinico, Rome

March 5, XVIII, No. 10, pp. 293-324

140 Diagnosis and Treatment of Cholera. T. Pontano.

Riforma Medica, Naples

March 6, XXVII, No. 10, pp. 253-274

141 Salt-Poor Diet in Treatment of Ascites from Cirrhosis of the Liver. C. Achard.
142 Persistence of Cholera Germs in Dejecta of Convalescents. A. Montefusco.
143 Polymorphous Erythema in the Tuberculous. P. Ciuffini.
144 Kala-Azar in Sicily. (Qualche considerazione a proposito di un nuovo caso di anemia da leishmania—xxiii—osservato a Palermo.) S. Cannata.

Ugeskrift for Læger, Copenhagen

March 9, LXXIII, No. 10, pp. 324-356

145 *Connection Between Syphilis and Heart Disease. (Syfilitiske Hjertesygdomme.) V. Bie.

145. **Heart Disease and Syphilis.**—Bie is convinced that the frequency of syphilis as the causal factor of heart disease is underestimated. In his experience he found among eleven tabetic patients that one had well-defined insufficiency of the aortic valves and another the same in a milder form. Among seventeen patients with aneurysm of the aorta he found unmistakable evidences of syphilis in fourteen, that is, in 82 per cent. The Argyll-Robertson sign was positive in five of the sixteen examined and the knee-jerk was absent in three in this group as also in two others. In short, seven of the sixteen patients with aneurysm of the aorta presented unmistakable signs of incipient tabes. Analysis of the hospital records shows, he continues, that the knee-jerk was absent in 27 of 511 patients under treatment in the last two years. In this group of twenty-seven, eight had tabes and three dystrophy of the muscles, alcoholic neuritis or paraplegia. The remaining sixteen patients had either pneumonia or malignant disease of the stomach, with the exception of a child with mitral stenosis and a woman with chlorosis. Examination of the total pneumonia records showed that the knee-jerk was absent or feeble in 49 per cent. of the patients; this demonstrates that pneumonia alone is liable to abolish the knee-jerk. In the twenty-three cases of aortic valvular defect there was a history of acute articular rheumatism in nine, and of tabes in three, while there was a history of syphilis in four others. Only one of the seven patients with aortic insufficiency for which no explanation was evident was of an age to suggest the possibility of syphilis; the others were near or under 20. Similar analysis of the group of eighty-five patients with myocarditic or coronary disturbances showed that eleven were certainly and four probably syphilitic. Among the 187 cases of mitral defects at the hospital in the last ten years, acute rheumatism or chorea was known in the history of 120 of the 160 examined, and scarlet fever, pneumonia or puerperal fever in some of the other cases, but nothing of syphilis except in one case. The average age of the patients with mitral defect was 30, while with syphilitic aortic disease it was 42, for aneurysm of the aorta, 50, and for syphilitic myocardium trouble, 52. There is thus an interval of nearly fifteen years between the clinical development of these affections on a rheumatic and a syphilitic basis. It seems evident that syphilis attacks preferably the aorta and myocardium, while it spares the mitral valve. The connection between tabes dorsalis and heart disease in syphilitics is evident from the aortic disturbances so frequently noted in patients with tabes but still more by the frequency of symptoms of tabes observed in the course of heart or valvular affections, the absence of the pupil reflex in particular. The facts observed suggest, Bie thinks, that the heart affections in question are more closely allied to the parasyphilitic than to other kinds of late syphilitic affections.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

GENERAL MEDICINE. Edited by Frank Billings, M.S., M.D., Head of the Medical Department and Dean of the Faculty of Rush Medical College, Chicago, and J. H. Salisbury, A.M., M.D., Professor of Medicine, Chicago Clinical School. Volume I. The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $1.50. Pp. 405. Chicago: The Year Book Publishers.

A MANUAL OF PRACTICAL INORGANIC CHEMISTRY. Including Preparations and Qualitative and Quantitative Analysis with the Rudiments of Gas Analysis. Specially Adapted to Cover Preliminary and Intermediate University Courses and the First Three Stages of the Syllabus of the Board of Education. By A. M. Kellas, B.Sc. (Lond.), Ph.D. (Heidelberg) Lecturer on Chemistry at the Middlesex Hospital Medical School. Cloth. Price, $1.35. Pp. 347, with 51 illustrations. New York: Oxford University Press, 1910.

REPORT OF THE PRESIDENT OF STATE CHILDREN RELIEF BOARD, THE HON. C. K. MACKELLAR, M.B., C.M., M.L.C. For the Year Ended April 5, 1910. Legislative Assembly, New South Wales. Presented to Parliament pursuant to Act No. 61, 1901, Sec. 10. (Second Session.) 1910. Paper. Pp. 83.

THE PRINCIPLES AND PRACTICE OF DERMATOLOGY. Designed for Students and Practitioners. By William Allen Pusey, A.M., M.D., Professor of Dermatology in the University of Illinois. Second Edition. Cloth. Price, $6. Pp. 1079, with 356 illustrations. New York: D. Appleton & Co., 1911.

A BRIEF TEXT OF PHYSIOLOGY. For Dental, Pre-Medical, and College Students. By Carl J. Wiggers, M.D., Department of Physiology, University of Michigan. Cloth. Price, $1.50. Pp. 207, with 47 illustrations. Ann Arbor: George Wahr.

REPORT OF THE MASSACHUSETTS COMMISSION TO INVESTIGATE THE QUESTION OF THE INCREASE OF CRIMINALS, MENTAL DEFECTIVES, EPILEPTICS AND DEGENERATES. January, 1911. Paper. Pp. 50.

THE INTERNATIONAL MEDICAL ANNUAL. A Year-Book of Treatment and Practitioner's Index. 1911. Twenty-Ninth Year. Cloth. Price, $3.50. Pp. 748. New York: E. B. Treat & Co.

PREVENTION OF INFECTIOUS DISEASES. By Alvah H. Doty, M.D., Health Officer of the Port of New York. Cloth. Price, $2.50. Pp. 281. New York: D. Appleton & Co., 1911.

New Patents

Recent Patents of Interest to Physicians

968232. Respiratory helmet. Harry Bentz, Larchmont, N. Y.
968481. Cottage or tent house. Philip A. Kessler, Chicago.
967943. Making hydrocyanic acid. Otto Liebknecht, Frankfort-on-the-Main, Germany.
968378. System for cooling and dispensing beverages. Mark W. Marsden, Philadelphia.
967949. Portable combination hammock and tent. Elliott B. Meredith, Forest Depot, Va.
968491. Liquid measuring and dispensing apparatus. Edward E. Murphy, Winchester, Mass.
967990. Producing clear stannic-chlorid solutions. Elmer A. Sperry, Brooklyn.
968209. Massage machine. Walter G. Trautman, Cleveland, Ohio.
968017. Bed-tent. Stephen G. Wilson, Philadelphia.
968306. Apparatus for administering anesthetics. Mario J. Wunderlich, Guatemala, Guatemala.
968728. Truss. Harry G. Ballou, Seattle, Wash.
968528. Generating oxygen. Andre Beltzer, Bridgeport, Conn.
968532. Charging capsule for siphons. Domingo Brescia, Quito, Ecuador.
969147. Foot-warming attachment for electrothermal garments. Burton R. Charles, Portland, Ore.
969134. Surgical instrument. Charles S. Cowie, Culpeper, Va.
968757. Inhaler. George O. Ferguson, Denver.
969099. Invalid rest. Henry Fuchs, Allegheny, Pa.
968932. Bed and douche pan. Joseph E. Gavin, New York.
969106. Thermometer. William Jaudus, Cleveland, Ohio.
969073. Oxygen bath. Otto B. May, New York.
968704. Device for the treatment of rectal troubles. Charles M. Siebert, Jr., Columbus, Ohio.
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969351. Invalid's bedrest. Olin La Dow, Areola, Ill.
969640. Tampon. Lewis G. Langstaff, New York.
969291. Stopper and dropper. Richard L. Larson, Minneapolis.
969485. Vapor-generating apparatus for medical treatment. Joseph Lesperance, Montreal, Quebec, Canada.
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969420. Oleic-acid derivative bodies of the terpene group. Nathan Sulzeberger, New York.
969736. Apparatus for sterilizing and oxidizing liquids with ozone. Alexander H. Twombly, Summit, N. J.
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969885. Making sodium cyanid. Otto Liebknecht, Frankfort-on-the-Main, Germany.
970077. Metal capsule. C. W. V. Messerschmidt, Copenhagen, Denmark.
970112. Making compounds of the active substance of suprarenal glands.
970357. Hospital or invalid's bed. John G. Segesman and G. Binggeli, Salem, Ohio.
970145. Making formic acid. William H. Walker, Boston.

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Part 2 Pages 1 to 80

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NEW AND NONOFFICIAL REMEDIES

1911

CONTAINING DESCRIPTIONS OF THE ARTICLES WHICH
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AMERICAN MEDICAL ASSOCIATION,
PRIOR TO JAN. 1, 1911

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Rules Governing the Admission of Proprietary Articles to the Book, "N. N. R."

Definition of Proprietary Articles.—(The term "proprietary article," in this place shall mean any chemical, drug or similar preparation used in the treatment of disease, if such article is protected against free competition, as to name, product, composition or process of manufacture; by secrecy, patent, copyright, or in any other manner.)

Rule 1.—Composition.—No article will be accepted for inclusion with "New and Nonofficial Remedies" unless its composition be furnished to the Council for publication. For simple substances the scientific name and the chemical formula, rational or structural if known, should be supplied. For mixtures the amount of each active medicinal ingredient in a given quantity of the article must be stated. The general composition of the vehicle, its alcoholic percentage, and the identity of the preservatives, must be furnished.

Rule 2.—Identity.—No article will be accepted unless suitable tests for determining its composition are furnished to the Council. In the case of chemical compounds these shall consist of tests for identity and purity. In the case of mixtures, methods shall be furnished for determining the amount and active strength of the potent ingredients if practicable.

Rule 3.—Direct Advertising.—No article that is advertised to the public will be admitted; but this rule will not apply to disinfectants, advertised for uses other than on the human body, or to non-medicinal food preparations, except when advertised in an objectionable manner.

Rule 4.—Indirect Advertising.—No article will be admitted whose label, package or circular accompanying the package contains the names of diseases, in the treatment of which the article is said to be indicated. The therapeutic indications, properties and doses may be stated. (This rule does not apply to vaccines and antitoxins, or to directions for administering or applying remedies where similar immediate, heroic treatment is indicated.)

Rule 5.—Fraudulent Claims as to Origin.—No article will be admitted or retained concerning which the manufacturer or his agents make false or misleading statements as to source, raw material from which made, or method of collection or preparation. The identity of the actual manufacturer of the article must be furnished.

Rule 6.—Unwarranted Therapeutic Claims.—No article will be admitted or retained concerning which the manufacturer or his agents make unwarranted, exaggerated or misleading statements as to the therapeutic value.

Rule 7.—Poisonous Substances.—The principal label on an article containing "poisonous" or "potent" substances must state plainly the amount of each of such ingredients in a given quantity of the product.

Rule 8.—Objectionable Names.—If the trade name of an article is not sufficiently descriptive of its chemical composition or pharmaceutical character, or is, for any other reason, unsatisfactory or objectionable, the Council reserves the right to include with the trade name a descriptive title in the book. Articles bearing objectionably suggestive names will be refused consideration. Names which suggest diseases, pathologic conditions or therapeutic indications will not be admitted. In the case of pharmaceutical preparations or mixtures the trade name must be so framed as to indicate the most potent ingredients.

Rule 9.—Patented Products and Protected Names.—If the article is patented—either process or product, or both—the number of such patent or patents should be furnished to the Council. Furthermore, if the name of an article is registered, or the label copyrighted, the registration (trade-mark) number and a copy of the protected label should be furnished the Council. In case of registration in foreign countries the name under which the article is registered should be supplied.

Rule 10.—Unscientific and Useless Articles.—No article will be admitted which, because of its unscientific composition, is useless or inimical to the best interests of the public or of the medical profession.

Explanatory Comments on the Rules.

Introduction.—*History, Purpose, and Method.*—The Council on Pharmacy and Chemistry was established in February, 1905, by the American Medical Association, primarily for the purpose of gathering and disseminating such information as would protect the medical profession in the prescribing of proprietary medicinal articles. In pursuance of this object the Council examines the articles on the market as to their compliance with definite rules which are designed to prevent fraud, undesirable secrecy and the abuses which arise from advertising to the laity. Such articles as appear to conform to the rules are admitted and their essential features are described in the annual publication of the Council, the "N. N. R.," if they come within the scope of this book.

Submitted Evidence.—This description is based in part on investigations made by or under the direction of the Council, but in part also on evidence or information supplied by the manufacturer or his agents. Such interested statements are examined critically, and are admitted only if they appear to be in conformity with the evidence. It is, however, manifestly impossible for the Council to investigate the composition of every complex pharmaceutical mixture, or thoroughly to check every therapeutic claim; it can only give an unbiased judgment on the submitted evidence. Criticisms and corrections of the descriptions which may aid in the revision of the matter will be appreciated.

Previous Infringements and Fraud.—The Council judges an article entirely by the facts existing at the time of its admission. Previous infringements of the rules (short of *intentional* fraud) do not prevent the favorable consideration of an article, provided that they have been thoroughly corrected.

Reconsideration.—Infringements after admission, or the discovery that the Council's information was incorrect, will cause the acceptance to be reconsidered.

Acceptance Not an Indorsement.—The Council desires physicians to understand that the admission of an article does not imply a recommendation. It means only that no conflict with the rules has been found **by the Council**.

The Scope of the "N. N. R." and Appendix.—To aid physicians and manufacturers in deciding what articles come within the scope of this book, or, in other words, to enable physicians to recognize whether an article has been omitted because it does not need admission or because it has been rejected, the Council furnishes the following more detailed definitions:

Official Articles.—The status of the articles which are official in the United States Pharmacopeia or in the National Formulary naturally does not require the approval of the Council. Since authoritative information concerning them is readily obtainable, they have no place in the "N. N. R."

Nomenclature.—To avoid confusion with non-official substances marketed under similar names the Council recommends that they be prescribed by their official Latinized title, followed by the abbreviation, "U. S. P." or "N. F.," thus: Tincturæ Nucis Vomicæ U. S. P. 5 Cc., Elixir Gentianæ N. F. 95 Cc.

Trade Names. Priority. Imitations of Official Articles. "Trade names," protected or otherwise, for these articles will not be recognized by the Council unless they antedate the recognition of the article in the United States Pharmacopeia or National Formulary. Nor will non-essential modifications of official or non-proprietary preparations be recognized. Essential and important modifications, however, will be accepted and will receive individual mention in the "N. N. R."

Substances Described in the "N. N. R."—In the body of the book will be described simple proprietary substances and their preparations when these are marketed by the original manufacturer; proprietary mixtures if they have originality or other important qualities which entitle them to such place; and important non-proprietary unofficial articles.

Suffix "N. N. R."—The Council recommends that when these latter are prescribed, they be indicated by the abbreviation, "N. N. R." thus insuring to the prescriber the quality of these articles laid down in the book.

Proprietary Mixtures.—*Definition.*—A mixture will be considered as proprietary, and therefore requiring consideration by the Council and admission to the book or appendix, if it contains any proprietary article; if it is marketed under a name which is in any way protected; or if its manufacturer claims for it any unusual therapeutic qualities.

Where Listed.—All proprietary mixtures which are marketed in conformity with the rules are listed in the appendix of the "N. N. R." under the names of their manufacturers. They are not admitted to the body of the book, save in the exceptional cases cited in the preceding paragraph.

Non-Proprietary Mixtures of Official Substances.—Since the ingredients of such mixtures do not require the approval of the Council, and since the mixtures are not open to the proprietary abuses which called for the work of the Council, it is not necessary that they should be investigated and approved by the Council. The physician should judge whether such mixtures should be directed to be prepared by the pharmacist, or whether he is justified in ordering a ready-made preparation. If he decides to use a ready-made non-proprietary preparation he must judge for himself if it is marketed in accordance with the rules.

Trade Names.—It should also be remembered that the application of trade names to any substance makes it proprietary.

Objectionable Trade Names for Official Substances.—The application of "trade names" to official or established non-proprietary products tends to confusion and fosters many abuses. It can only be condoned if the "trade name" possesses priority as previously defined. Such trade names will therefore not be admitted by the Council except in those few cases in which the trade name has already come into extensive use.

Use of Firm Names.—The protection of the manufacturers can be amply secured by appending the firm or "brand" name to the official name, and to this there can be no objection. Appended names or initials of manufacturers as in Mistura Rhei et Sodæ, X. Y. & Co.; Mixture of Rhubarb and Soda, "Jones;" Pills of Aloes and Iron, "Smith brand," are considered non-proprietary.

Generic Names.—Protected generic brand names shall not be regarded as proprietary. However, the preparation "Adrenalin suppositories" is proprietary because the name adrenal itself is protected.

Unessential Modifications of Official Substances.—*Imitations.*—The subterfuge for obtaining proprietary rights over an official or established non-proprietary product, by introducing unessential modifications, also tends to confusion and abuses, and such articles will not be admitted by the Council. Essential and important modifications, however, will receive recognition. (The Council interprets the term "established non-proprietary product" to apply to a preparation of any formula which has been published through any recognized or reasonably accessible channel of publication, prior to its appropriation or modification by a manufacturer.)

Explanatory Comments on the Rules Governing the Admission of Proprietary Articles.

Rule 1.—Composition.—*Secrecy Objectionable.*—It is not only the right but the duty of the physician to know the essential composition of what he prescribes; the Council cannot compromise on this proposition.

Vehicles and Preservatives.—In the case of mixtures not only the potent ingredient, but also the general character of vehicle, the presence of alcohol, and the identity of preservatives, or of any other substance, whether added or present as an impurity, must be stated, if these can under any circumstances affect the action of the article. This generally does not mean the publication of such trade secrets as flavors or the details of the working formula.

Trade Secrets.—Furthermore, trade secrets will not be received as confidential by the Council, since it accepts information only with the distinct understanding that this may be freely published, at its discretion.

Inspection of Factories.—Nor does the Council accept invitations to inspect factories; its concern is with the finished products.

On the other hand, the Council requires that the information be complete and accurate as to the medicinal ingredients.

Unofficial Constituents.—Unofficial constituents of proprietary mixtures must be submitted by the manufacturer in the regular way and must be approved by the Council before the preparations containing them can be admitted.

Fraud.—When it appears that a manufacturer has made a *deliberately* false statement concerning his product he is asked to furnish an explanation; and if this is not satisfactory the product will not be admitted, even if the false statement is subsequently corrected or omitted.

Testimonials.—This applies not only to statements made to the Council, but also to statements furnished to physicians by the manufacturer or his agents, even when these statements are in the guise of testimonials.

Rule 2.—Identity.—In order to avoid errors in the case of chemical compounds, and to guard against adulterations, lack of potency or strength and the mistaking of one chemical for another, it is necessary to have at hand suitable tests.

Tests, etc.—If these facts have appeared in the literature, or in standard text-books, reference to them will be sufficient; but with new chemicals, especially synthetics, the manufacturer or his representatives will be required to supply such tests for publication, in order that an intelligent opinion of these products may be assured.

Physiologic Standardization.—In cases in which chemical methods of identification are unknown or unreliable, physiologic standardization should be employed. The Council considers the phrase "physiologically standardized" or "assayed" as misleading unless the standard and method are published in sufficient detail to permit of their control by independent investigators.

It is evident that when no standard is published, it is impossible to know whether the quality is high or low, and the conscientious manufacturer who sets for himself a high standard is placed on a level with the dishonest or careless one who adopts a low standard. Again, if the process is not published, it is impossible to learn without actual trial the relative value of one preparation as compared with that of another manufacturer or to confirm or disprove the statements of the manufacturer as to the quality of his product.

Rule 3.—Direct Advertising. — *Lay Advertising.* — The impossibility of controlling the irresponsible claims which are usually made in advertisements to the public, the well-known dangers of suggesting by descriptions of symptoms to the minds of the people that they are suffering from the many diseases described, the dangers of an unconscious and innocent formation of a drug habit, and the evils of harmful self-medication, including the dangers of the spread of many infectious and contagious diseases when hidden from the physician, and similar well-known considerations, are the reasons for discouraging, in the interest, and for the safety, of the public, this reprehensible form of exploitation.

Exceptions.—In the case of subjects on which the public should be instructed, as the use of disinfectants and foods, such advertisements, if not in objectionable forms, are considered admissible.

Foods.—We may divide the foods into three groups. The first group contains the ordinary foods, including the well-known breakfast foods. These do not come under the supervision of the Council in any way. The second group includes medicinal foods proper, such as predigested foods, which have a relatively low food value and which are characterized by a high alcohol or preservative content, and which frequently contain strictly medicinal substances, or food substances for which distinct therapeutic properties are claimed. These products should be used only on the advice of the physician, and the advertisements should be restricted as in the case of ordinary medicines. The third group includes a large and important class of manufactured products, such as invalid and infant foods, which in a sense stand between the first and second groups. The public has the same interest in these foods that the physician has, and usually has full information concerning them. While the primary recommendation of these articles should naturally come from the physician, it cannot be expected that their continued use should depend on repeated prescriptions. Information concerning this group of foods would come naturally and properly from a physician, and the collection and dissemination of this information may very properly be included in the work of this Council. As the use of products in this class is an extended one, it is not proper to limit their advertising to medical journals, but the advertising should be permitted in the lay press so long as it is conducted in a manner compatible with the rules of the Council.

Rule 4.—INDIRECT ADVERTISING.—It should be remembered that the sole intent of this rule is to protect the physician, so that in prescribing a proprietary medicine he need not unconsciously become an advertising agent of proprietors. The rule imposes no restriction on the legitimate methods of bringing a remedy to the attention of the profession, such as advertising in medical journals, circulars and other printed matter distributed solely to physicians. The rule applies only to the package as it may reach the patient.

Naming Diseases on Label.—The naming of diseases on the label or package is not necessary, as is shown by the very large number of proprietary products which have been successfully introduced without resorting to this expedient. This method of popularizing a proprietary remedy with the laity is most objectionable, and should not be tolerated in any form.

Therapeutically Suggestive Names.—The Council considers therapeutically suggestive names (see Rule 8) as an unworthy expedient to the same end. It would prefer to have therapeutic indications omitted from the label and package, but does not insist on this point, because these are useful in some exceptional cases.

Permanently Affixed Names.—It will be considered an infringement of the rule when an article is marketed in bottles which have the name of the article blown into the glass, or if otherwise the name or initials or other distinctive mark of the article are permanently stamped on the container, on the article itself, or are contained on the stoppers or seals. Articles which are marketed in any of these ways are not admitted. Readily removable labels are not objectionable.

Use of Articles for Advertising.—The Council does not countenance the use of an admitted article for advertising other articles which have not been admitted by the Council.

Rule 5.—FRAUDULENT CLAIMS AS TO ORIGIN.—No false or misleading statement in regard to an article can be permitted concerning the source or material from which it is made, or the persons by whom it is made. Some glaring frauds of this nature have been perpetrated in the past, and this rule is intended to prevent such imposition.

Actual Manufacturer.—The identity of the actual manufacturer of an article should be known, since the manufacturer is in part responsible for the quality of the product. No good reason can exist for concealing the identity of the manufacturer of a legitimate article; such concealment must be considered evidence of the doubtful character of a product or its method of exploitation.

Rule 6.—UNWARRANTED CLAIMS AS TO THERAPEUTIC VALUE.—This rule is intended to restrict the direct and indirect claims of the manufacturers or agents as to the therapeutic superiority of their products, to what is compatible with ascertained facts. Manufacturers will be held responsible for all statements referring to their products, made in their advertising literature, whether they occur as original statements or as quotations. The Council aims to be quite liberal in the application of this rule. There are honest differences of opinion as to many therapeutic questions.

Permissible Optimism.—It is natural that a manufacturer should be rather partial toward his own product, and, since every one should be cautious in accepting such biased claims, a moderate degree of emphasis may not be objectionable. The Council, therefore, does not assume to censor any reasonable statements, especially when such statements are confirmed by responsible clinicians.

Exaggerated Claims.—Claims are often made, however, which are incompatible with common experience and which sometimes defy the laws of Nature. Claims which seem highly improbable will not be admitted by the Council unless the manufacturer supports them by evidence acceptable to the Council. In doubtful cases the Council acts on these questions under the advice, and with the cooperation of its staff of clinical consultants.

Rule 7.—POISONOUS SUBSTANCES.—For the information of the pharmacist or dispenser, and to enable him to safeguard the interests of the patient and the physician, all articles containing such potent agents as the poisonous alkaloids and other organic substances and the salts of some of the metals, should have the exact amount of these ingredients which is contained in the average adult dose stated on the label.

Rule 8.—OBJECTIONABLE NAMES.—Many of the abuses connected with proprietary medicines are intimately associated with the more or less arbitrarily selected or "coined," usually protected, names.

Scientific Names.—In the interest of those physicians who would prefer to employ a more rational nomenclature the Council advises the use of scientific names by the manufacturers, at least as synonyms. In view of the existing trade conditions, however, it does not insist on this except in such specific cases as explained below in which experience has shown the necessity of restrictions.

Pharmaceutical Preparations and Mixtures.—Since these, with rare exceptions, are not original in composition, there is no sufficient reason why they should be endowed with arbitrary names; on the contrary, it is important that the prescribing physician should be constantly reminded of the potent ingredients on which the actions of such preparations are based. It is particularly important that actively poisonous or habit-forming drugs be not disguised under an innocently worded title.

Coined Names Where Permitted.—The Council recognizes, on the other hand, the right of discoverers of new synthetic products or active principles to name their discovery, and interposes no objection to arbitrary names for such products, so long as such names do not tend to advertise the product to the laity, as specified under Rule 8. It is desirable, however, that the coined names should indicate the chemical composition of the article. With synthetic chemicals the true chemical name should be stated, at least in addition to the trade name. If an article conflicts only with Rule 8 it may be admitted as soon as the manufacturer substitutes a name which the Council considers satisfactory.

Rule 9.—PATENTS, TRADE-MARKS, COPYRIGHTS, ETC.—This information is desirable in determining the legal status of these articles and will permit their ready recognition in current publications.

Rule 10.—UNSCIENTIFIC AND USELESS ARTICLES.—The Council has been justly criticized because its rules failed to exclude certain unscientific mixtures whether of well-known or obscure substances. The use of articles which are unessential modifications of official or established non-proprietary articles is unscientific and serves no useful purpose. The Council will not admit products which are scientifically unsound and which, therefore, must be considered useless or inimical to the best interest of the medical profession and the public. This class includes mixtures containing an excessive number of ingredients; those which contain substances of no probable therapeutic assistance to each other; those of no therapeutic value. The combination of two or more remedies in a mixture must be considered contrary to scientific medicine unless a distinct reason exists for such combination. This holds especially for ready-prepared mixtures, and these shall be deemed in conflict with Rule 10 unless the manufacturer presents satisfactory evidence for the value of his combination.

NEW AND NONOFFICIAL REMEDIES

ACETOZONE.—Acetozone is a mixture of equal parts of acetyl-benzoyl peroxide and an inert absorbent powder.

Acetyl-benzoyl peroxide, $C_6H_5CO.O.O.COCH_3 = C_9H_8O_4$, corresponds to hydrogen peroxide, H_2O_2, in which the two hydrogen atoms have been replaced by the radicles of acetic acid (the acetyl group) and of benzoic acid (the benzoyl group).

Acetyl-benzoyl peroxide occurs in white, shining crystals, melting at 36.6° C. (98° F.). When heated it slowly decomposes and volatilizes. Water at 25° C. (77° F.) dissolves one part in 1.560 or 0.639 Gm. in 1,000 Cc. It is soluble in oils to the extent of about three per cent., slightly soluble in alcohol, and fairly so in ether, chloroform, and carbon tetra-chloride, though all solvents slowly decompose it with the exception of neutral petroleum oils.

In the presence of water it undergoes hydrolysis and slowly decomposes. This change, however, does not take place with sufficient rapidity to prevent its use in aqueous solution; in fact such hydrolysis is necessary to develop its full germicidal activity. On account of its ready decomposition, acetozone should be kept in a dry place.

For various reasons it has been found necessary to add an inert absorbent powder. As found in the market, acetozone is of a grayish white color, possessing the properties of the crystalline substance, with the exception that the absorbent powder employed is insoluble.

Actions and Uses.—Acetylbenzoyl peroxide belongs to a class of compounds known as the organic peroxides in which an excess of oxygen has been combined in such a way that it is somewhat slowly given off in a nascent condition. On contact with water it hydrolyzes, forming benzo-peracid and acetoperacid, which exert marked oxidizing and germicidal action. In consequence of this change, these compounds are thought to be particularly adapted for internal administration.

It is said to be useful as an antiseptic in ophthalmic, aural and nasal practice, and to give good results by acting as an intestinal antiseptic when given internally, especially in typhoid fever.

Dosage.—Acetozone is generally employed in aqueous solution prepared as follows: Add acetozone to warm water in the proportion of 1 Gm. to 1,000 Cc. (15 grains to the quart), shake vigorously for five minutes, and allow to stand for about two hours. Decant the liquor as required. This solution may be drunk *ad libitum*, two quarts or more being taken by an adult in twenty-four hours. Acetozone is also used in oily solution as an inhalant.

Manufactured by Parke, Davis & Co., Detroit, Mich. U. S. patents No. 710,005 (Sept. 30, 1902; expires 1919) and No. 717,016 (Dec. 30, 1902; expires 1919). U. S. trademark.

Acetozone Inhalant.—Each 100 Gm. contain acetozone 1.0 Gm.; chloretone (chlorbutanol), 0.5 Gm.; refined liquid petroleum, 98.5 Gm.

ACETPHENETIDIN

ACETPHENETIDIN.—Acetphenetidin is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and the National Formulary.

Actions and Uses.—This is one of a large group of derivatives or chemical relatives of aniline (amino-benzene). The members of this group have similar properties and are more or less active according as they undergo decomposition in the system so as to yield either para-amino-phenol or acetyl-amino-phenol. They have a more or less pronounced action on the blood by which they produce hemolysis and destruction of the red blood corpuscles. They also act as heart depressants.

Acetphenetidin and its congeners are antipyretics and analgesics. They are extensively employed for the relief of pain. For this purpose they should be used with caution in consideration of their poisonous properties.

They have also been considerably employed for the reduction of temperature in fever. Every newly discovered product related to acet-phenetidin has been heralded as a "safe" antipyretic and free from poisonous effects on the blood and heart. Invariably extended clinical experience has shown that all these preparations are to a greater or less degree hemolytic and depressing to the circulation. Hence their employment in the infectious fevers should be most cautious.

PHENACETIN.—Phenacetin is a name applied to Acetphenetidinum, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co. Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 400,086 (expired); U. S. trademark Nos. 16,392 and 18,637.

AGAR-AGAR.—Agar-agar (Agar-agar, Pharm. Française, 1908) is a substance extracted in the East Indies from various sea weeds.

This substance seems to come principally from Eucheuma gelatinum, E. spinosum (Linné) J. Agardh., Gelidium corneum (Hudson) Lam., G. cartilagineum Gaill., Gloiopeltis tenax (Turner) J. Agardh.

Agar-agar is extracted by hot water and dried for commercial purposes in the form of bundles of shreds, or powder form. It is odorless and insipid, insoluble in cold water but soluble in hot water. A solution containing 1.5 per cent. gives quite a stiff jelly on cooling.

Agar-agar consists practically of gelose, which dissolves in 500 parts of water and is precipitated in an impure form by alcohol. Gelose is a carbohydrate which is converted into galactose on boiling with dilute sulphuric acid. On drying at 100° C. agar-agar loses about 20 per cent. of water. 100 parts of dry substance furnish about 4 parts of ash, which, when treated with hydrochloric acid and examined with the microscope, shows the presence of diatoms, the most characteristic of which are Arachnoidiscus—Ehrenbergii Baili. and several Grammatophora and Cocconeis. An aqueous solution of agar-agar gives no precipitate with solution of tannic acid (absence of gelatin), and no blue color with solution of iodin (absence of starch).

Actions and Uses.—Agar-agar absorbs water in the stomach and intestines and forms a jelly, which being indigestible increases the bulk of the feces.

It is employed as a demulcent and for the treatment of constipation.

Dosage.—From 5 to 15 Gm. (75 to 240 grains). Agar-agar is administered in substance, coarsely comminuted and mixed with food.

AGARIC ACID.—Acidum Agaricum.—Acidum Agaricinicum (Pharm. Helvetica, edit. 4.) Agaricinum[1] (Pharm. Danica, edit. 1907). A tribasic acid $C_{19}H_{36}OH\ (COOH)_3 + 1\frac{1}{2}H_2O$, derived from Polyporus officinalis, Fries (Order Hymenomycetes; fam. Polyporeæ) a fungus growing on the European Larch and other species of larch.

Agaric acid occurs as an odorless, tasteless, glistening microcrystalline powder, which melts at 141.5-142° C. (286.5-287.5° F.). When heated to a high temperature it is volatilized in the form of a white pungent vapor.

Agaric acid is slightly soluble in cold water; when heated with 50-100 parts of water, it becomes gelatinous and finally dissolves to a weakly acid solution, which possesses the characteristic property of foaming strongly when shaken. The addition of acids to hot aqueous solutions of agaric acid causes white flocculent precipitate, but a tannic acid solution (1:100) produces neither coloration nor turbidity. With alkalies agaric acid forms water soluble salts.

Agaric acid is slightly soluble in ether, chloroform, carbondisulphide and in 130 parts 90 per cent. alcohol. It is soluble in hot acetic acid, acetic ether, oil of turpentine and in about 10 parts of alcohol.

If to a mixture of about 0.2 Gm. of agaric acid with 3 Cc. of water 2 drops of alcoholic alpha-naphthol solution (1:8) are added and then gradually 5 Cc. of concentrated sulphuric acid added the mixture should not take on a marked blue-violet color.

If 0.10 Gm. agaric acid be boiled with 10 Cc. dilute sulphuric acid a turbid solution results, from which on standing on a water bath, oily drops separate, and they crystallize on cooling.

0.1 Gm. agaric acid upon ignition should leave no weighable residue.

Action and Uses.—Agaric acid is a local irritant and in large doses produces vomiting and purging, and death through central paralysis. It paralyzes the peripheral nerves of the sweat glands, arresting the secretion of sweat. It is used to arrest colliquative sweats. The experience of most clinicians is favorable, but some report that they were unable to obtain any favorable effects. The action appears in a few hours and is not lasting. Agaric acid is one-twentieth as active as atropine and does not influence other secretions.

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[1] The substance commonly sold as agaricin is an impure alcoholic extract

Dosage.—The maximal single dose of agaric acid should not exceed 0.03 Gm. (½ grain) and the total daily dose should not exceed 0.10 Gm. (1½ grains) (Pharm. Helv.). Owing to its irritant action it cannot be given hypodermically.

ALBARGIN.—Gelatosesilver.—Albargin is a compound of silver nitrate with gelatose, containing from 13 to 15 per cent. of silver.

It is prepared by adding silver nitrate to a solution of gelatose in water, evaporating the solution or precipitating the compound by the addition of ether or alcohol. It is a coarse, yellow, shining powder, very easily soluble in water, forming neutral solutions. The presence of gelatose, silver and a nitrate can be shown by appropriate tests. It is incompatible with tannin and chlorides.

Actions, Uses and Dosage.—Albargin is used as a substitute for silver nitrate.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Albargin Tablets. Each tablet contains albargin 0.2 gm. (3 grains).

ALPHOZONE.—Succinic Dioxide.—Succinic Peroxide, Disuccinyl Peroxide.—Alphozone, $(COOH.CH_2.CH_2.CO)_2O_2 = C_8H_{10}O_8$, is succinylic acid peroxide, corresponding to hydrogen peroxide, H_2O_2, in which the hydrogen has been replaced by two succinic acid groups; each succinic acid radicle still retaining one of its acid-hydrogen atoms.

It is prepared by the interaction of a strong solution of hydrogen dioxide with succinic anhydride, resulting first in the formation of succinic peracid, $COOH.CH_2.CH_2.COOOH$, which reacts with one molecule of succinic anhydride to form succinic peroxide.

It is a fluffy, white, crystalline powder, the crystals being small irregular plates. It dissolves in 30 parts of water at ordinary temperature. It is moderately soluble in alcohol, acetone, and ethyl acetate, sparingly soluble in ether, insoluble in benzene, chloroform and ligroin. Odorless or nearly so; softens at 115° C. (239° F.) and melts at 127° C. (262° F.) with decomposition. When brought into a flame it explodes, but it does not explode on percussion or friction. It deteriorates slightly on continued exposure to air, but if kept tightly stoppered and in a dark place it remains unchanged indefinitely.

It is a powerful oxidizing agent, liberating iodine from potassium iodide. It can be identified by its physical properties and its powerful oxidizing action. To test its strength add 2 Gm. of potassium iodide to 1 Gm. of alphozone dissolved in 60 Cc. of distilled water. To this slowly add decinormal solution of sodium thiosulphate with constant agitation until the red brown color of the iodine is just discharged. Each cubic centimeter of sodium thiosulphate solution is equivalent to 0.0117 Gm. of alphozone; 1 Gm. of pure alphozone is equivalent to 85.41 Cc. decinormal sodium thiosulphate solution.

Actions and Uses.—Alphozone belongs to the class of organic peroxides, and by virtue of its oxidizing power is germicide and antiseptic. Alphozone also possesses deodorant and bleaching properties. The fact that it does not effervesce with pus nor in contact with the living tissues is claimed as an advantage over hydrogen dioxide.

Alphozone is employed both externally and internally. It is said to be useful for disinfecting the hands and such instruments as are not attacked by oxidizing agents. It is used for the disinfection of the field of operation and has been employed for its germicidal effect with asserted good results in local infections in which the substance can be brought in contact with the diseased surface, such as ulcers, abscesses, inflammation of mucous membranes, and infectious skin diseases. Internally it has been used in typhoid fever and as an intestinal antiseptic.

Dosage.—Alphozone is employed in solutions containing 1 part per 1,000 for general external use. As a nasal douche a proportion of 1 to 3,000 is often preferred.

Manufactured by F. Stearns & Co., Detroit, Mich. U. S. patents Nos. 768,561 and 768,563 (Aug. 23, 1904; expires 1921). U. S. trademark No. 41,981.

Alphozone Tablets, 1 grain. Each tablet contains alphozone 0.065 gm. (1 grain). One tablet to 60 Cc. (2 fluidounces) of water gives a solution of 1 to 1,000.

ALUMNOL—Alumini Naphtholsulphonas.—Aluminum Betanaphthol - Disulphonate. — Alumnol, $Al_2(C_{10}H_5.OH.(SO_3)_2)_3 = Al_2C_{30}H_{18}O_{21}S_6$, is aluminum betanaphthol-disulphonate, the aluminum salt of betanaphthol-disulphonic acid.

It is prepared by mixing solutions of barium naphthol-disulphonate and aluminum sulphate in molecular proportions, filtering off the barium sulphate, and evaporating the filtrate to dryness.

It forms a fine, nearly white, non-hygroscopic powder, soluble in 1.5 parts of water, forming a faintly acid and slightly fluorescent solution.

It is also easily soluble in glycerin, but sparingly soluble in alcohol and insoluble in ether. When dried it loses about 9 per cent. of water, and when exposed to the air it is darkened in consequence of its reducing properties. It is precipitated from solution by albuminous and gelatinous bodies, but these precipitates are redissolved in excess of the latter bodies.

The aqueous solution (1-10) should be clear, and after acidulation with hydrochloric acid should become at most only slightly turbid, and only just tinted bluish by potassium ferrocyanide; nor should precipitates be produced in it on the addition of diluted sulphuric acid or solution of ammonium oxalate. The dried compound should yield 12.7 per cent. of ash (alumina) on incineration.

It should not be exposed to the air, and is incompatible with salts of silver, or other reducible salts.

Actions and Uses.—It is an astringent and mild antiseptic It is claimed that it can be used as a mild astringent, an irritant or a caustic, according to the strength of the solution, and it is asserted that it exerts a peculiarly destructive action on gonococci. It has been recommended for a variety of affections in which a caustic, astringent or antiseptic is indicated. It has been particularly recommended for gonorrhea in females, especially when affecting the endometrium.

Dosage.—As a surgical antiseptic, in 0.5 to 3 per cent. solutions; in gynecology, in 2 to 5 per cent. solutions; in otology and laryngology, either as a powder or in ¼ to 1 per cent. solution as douches, washes or gargles; as cautery, in 10 to 20 per cent. solution.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patent No. 74,209.

ALYPIN.—Alypin is 2-benzoxy-2-dimethyl-amino-methyl-1-dimethyl-amino-butane hydrochloride, $CH_3.CH_2.C(C_6H_5COO)(CH_2N(CH_3)_2).CH_2N(CH_3)_2.HCl = C_{16}H_{26}O_2N_2.HCl$. It is closely related to Stovaine (which see).

By the action of dichloracetone, $CH_2Cl.CO.CH_2Cl$. on ethylmagnesium bromide dissolved in ether and decomposition by water of the magnesium compound formed, ethyl-dichlorhydrin, $CH_2Cl.C(C_2H_5)(OH).CH_2Cl$. is obtained. From this, by the action of dimethylamine, ethyl-tetramethyl-diamino-propanol is produced. This product is treated with benzoyl chloride and the benzoyl-ethyl-tetramethyl-diamino-propanol neutralized with hydrochloric acid to form the chloride.

Alypin is a white, crystalline powder, melting at 169° C. (336.2° F.), hygroscopic and extremely soluble in water. Its solutions are neutral and are not rendered turbid on addition of sodium bicarbonate in moderate quantities, and may be sterilized by boiling for a period not exceeding five minutes, without decomposition. It is easily soluble in alcohol. It has a markedly bitter taste.

It should be protected from the air in well-stoppered containers. Two and four per cent. solutions are quite stable, but weaker solutions are likely to become mouldy.

Addition of potassium iodide test solution to the aqueous solution (1-100) produces a white precipitate; potassium dichromate test solution produces a yellow crystalline precipitate soluble in hydrochloric acid; potassium permanganate test solution produces a violet crystalline precipitate, which turns brown on standing. If 0.1 Gm. Alypin be mixed with 1 Cc. sulphuric acid and warmed to 100° C. (212° F.) for five minutes and then 2 Cc. water carefully added, the odor of benzoic-ethyl-ester is developed; on cooling crystals separate out, which are dissolved on adding 2. Cc. alcohol. If Alypin is dried at 100° C. (212° F.) the loss should not exceed 1.5 per cent.

Actions and Uses.—It is a local anesthetic, claimed to be equal to cocaine, but not a mydriatic; it is said not to produce disturbance of accommodation and to be less toxic than cocaine.

Dosage.—Externally in the form of a 10 per cent. solution hypodermically in 1 to 4 per cent. solutions; for the eye in 1 to 2 per cent. solutions. As much as 5 Cc. of a 3 per cent. solution was well tolerated in one case.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 808,748 (Jan. 2, 1906; expires 1923). U. S. trademark No. 44,608

Alypin Tablets, 3 1/3 grains. Each tablet contains 0.22 Gm. (3⅓ grains) of alypin.

Alypin Tablets, 1 1/8 grains. Each tablet contains 0.073 Gm. (1⅛ grains) of alypin.

Alypin Tablets, 3/4 grain. Each tablet contains 0.048 Gm. (¾ grain) of alypin.

Alypin Tablets, 1/3 grain. Each tablet contains 0.022 Gm. (⅓ grain) of alypin.

AMMONIUM HYPOPHOSPHITE—Ammonii Hypophosphis.—Ammonium hypophosphite, $NH_4H_2PO_2$, is the ammonium salt of hypophosphorous acid.

Ammonium hypophosphite may be prepared by double decomposition between aqueous solutions of barium hypophosphite and ammonium sulphate. The liquid filtered from the precipitate is evaporated to dryness and the ammonium hypophosphite extracted from the residue with hot alcohol.

Ammonium hypophosphite occurs in irregular hexagonal plates which melt without decomposition and at a higher temperature give off water and spontaneously inflammable hydrogen phoshide. According to H. Rose, ammonia, NH_3 escapes first. The compound is less soluble in water than the potassium salt, but is very soluble in absolute alcohol.

The aqueous solution should be neutral or slightly acid to litmus paper, and on gently heating with potassium hydroxide test solution evolves ammonia. The diluted aqueous solution slightly acidulated with dilated sulphuric acid, yields, with silver nitrate test solution, a brown precipitate, which rapidly turns black, owing to the separation of metallic silver. With copper sulphate test solution, after addition of dilute acid and on gentle heating, a reddish brown precipitate is formed. When the aqueous solution of the salt (1 in 20), acidulated with hydrochloric acid, is added, drop by drop, to an excess of mercuric chloride test solution, a white precipitate of mercurious chloride is formed. On further addition of the hypophosphite solution in excess, the precipitate becomes gray from reduction to metallic mercury.

The solution in water should give not more than a faint turbidity on the addition of barium chloride test solution nor on the addition of diluted sulphuric acid. A solution of 1 Gm. ammonium, hypophosphite in 10 Cc. water should not be alkaline toward phenolphthalein test solution; to render this solution alkaline should not require more than 0.4 Cc. normal potassium hydroxide. The aqueous solution of the salt (1 in 20), acidulated with hydrochloric acid, should not respond to the U. S. P. Time-limit Test for heavy metals. If 5 Cc. of the aqueous solution of the salt (1 in 10) be measured into a beaker containing 3 Cc. of nitric acid, diluted with about 10 Cc. of water and evaporated to dryness on a water bath, the residue should not respond to the U. S. P. Modified Gutzeit's Test for arsenic.

Action and Uses.—Ammonium hypophosphite exhibits the actions of its constituents. There are differences of opinion as to whether these constituents have action other than that on the digestive tract. It is used as a stimulating expectorant and "alterative," in diseases of the respiratory mucosæ, particularly in the later stages of acute bronchitis and laryngitis, and in chronic catarrhal conditions.

Dosage.—0.13 Gm. (2 grains) every 2 or 3 hours.

Proprietary Preparation:

GARDNER'S SYRUP OF CHEMICALLY PURE HYPOPHOSPHITE OF AMMONIUM.—Syrupus Ammonii Hypophosphitis (Gardner).—A syrup containing 3.33 Gm. ammonium hypophosphite in each 100 Cc. (16 grains in each fluidounce).

Action, Uses and Dosage.—See ammonium hypophosphite.

Manufactured by R. W. Gardner, New York City.

AMYL VALERATE — Amylis valeras. — Amyl valerate, $CH_3.CH(CH_3).CH_2.COO(CH_8.CH(CH_3).CH_2.CH_2) = C_{10}H_{20}O_2$, is the iso-valeric acid ester of iso-amyl alcohol.

Amyl valerate is obtained by separating (by distillation) the ester which is formed when valeric acid or solution of a valerate is added to a mixture of iso-amyl alcohol and sulphuric acid and the distillate obtained, washed, dried and redistilled.

Amyl valerate is a colorless liquid, having when dilute an odor of apples. It is insoluble in water, soluble in alcohol, ether and chloroform. It boils at 188-190° C. (370.4-374° F.). Its specific gravity is .858 at 15° C.

Action and Uses.—Amyl valerate has been employed in the treatment of gallstone colic. Its employment in renal colic is not satisfactory.

Dosage.—To relieve biliary colic, 0.2 to 0.04 Cc. (3 to 6 minims) in capsules every half hour; or 1 Cc. (15 minims) in capsules, three times daily.

ANTHRASOL—Colorless Coal Tar.—Anthrasol is coal tar, freed from pitch, pyridin bases and coloring matter, and mixed with juniper tar.

Coal tar is freed from bases, such as pyridin and chinolin by treatment with acids and from pitch by distillation. The distillate, containing the hydrocarbons and phenols of tar is purified to remove constituents causing discoloration. To prevent separation of solid constituents juniper tar is added, and oil of peppermint to correct the odor. It is a thin, mobile, light-yellow oil which does not stain either skin or linen.

Actions and Uses.—Antrasol is antiseptic, parasiticide, keratoplastic, anti-pruriginous; like ordinary tar, it allays irritation of the skin, but is claimed not to obstruct the follicles nor to favor the development of acne.

It is said to be useful in chronic or subacute skin diseases, various forms of eczema, especially for after-treatment, and for all pruriginous affections; in diseases of the hair, as a restorative and for the removal of dandruff.

Dosage.—Locally in the form of a 5 to 10 per cent. petrolatum ointment in eczema; 10 per cent. ointment with glycerite of starch and 10 per cent. of wool fat (adeps lanæ) in pruritus; 20 to 30 per cent. ointment or paste, in lichen: in combination with sulphur and soft soap, in parasitic *skin affections.*

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. U. S. trademark No. 40,634.

ANTIFORMIN. Antiformin is a strongly alkaline solution of sodium hypochlorite. In each 100 c.c. it contains approximately sodium hypochlorite equivalent to 5.68 gm. available chlorine, sodium hydroxide 7.8 gm., and sodium carbonate 0.32 gm.

According to the patent specification chlorinated lime is dissolved in water at the temperature of 35° C. To this a solution of sodium carbonate is added. After standing the supernatant liquid is decanted and to this sodium hydroxide is added.

Antiformin is a yellowish, clear liquid having the peculiar odor characteristic of hypochlorites.

The per cent. of available chlorine, of alkali hydroxide and carbonate may be determined by the methods described in the Reports of the Chemical Laboratory of the American Medical Association, 1911.

Actions and Uses.—Antiformin rapidly dissolves the bodies of bacteria with the exception of acid-fast organisms like the tubercle bacillus, on which it has no solvent action and which resists its germicidal action to a great extent. It dissolves other organic matters, such as those contained in sputum and feces. It exerts a strong oxidizing action and is disinfectant, antiseptic and deodorizing. It is said to be more than three times as active in germicidal action as phenol.

Based upon its property of dissolving most bacteria and the insoluble constituents of the sputum, Antiformin is employed in testing for tubercle bacilli. It is said to be useful for the sterilization of the surgeon's hands, of instruments and of wounds and for general purposes of disinfection. It is also said to be useful in certain skin diseases.

Dosage.—Externally in from 2 to 10 per cent. solution. In from 4 to 1,000 solution as a spray. As a disinfectant 5 per cent. solutions are used. For the demonstration of tubercle bacilli 15 per cent. solutions are suitable.

Manufactured by the American Antiformin Co., New York. U. S. patent No. 691,671 (Jan. 21, 1902; expires 1919). A process for Cleaning Beer Vats and Pipes, said process consisting according to the patent specifications "in subjecting the walls of said vats or pipes to the action of a solution composed of about 1 part of alkaline hypochlorite with about a half to one part of alkaline hydrate, substantially as specified." U. S. trademark No. 61,693.

ANTIPYRINE SALTS

Antipyrine, phenyldimethylpyrazolon, is a weak base which unites with acids to form unstable salts that hydrolyze readily when dissolved in water separating into their components. The therapeutic activity of these compounds represents a combination of the actions of the acid and the base.

ANTIPYRINE SALICYLATE—Antipyrinæ Salicylas.—Antipyrine salicylate, $C_{11}H_{12}N_2O.C_6H_4OH.COOH = C_{18}H_{18}N_2O_4$, is a weak chemical combination of antipyrine and salicylic acid.

It is prepared by heating antipyrine and salicylic acid, in molecular proportions, on the water bath, allowing the oily product to congeal by cooling, and crystallizing it from alcohol.

It occurs as a white, coarsely, crystalline powder, or in hexagonal tabular crystals, melting at 91° to 92° C. (195.8° to 197.6° F.); odorless, slightly sweet; soluble in 200 parts of cold and 40 parts of boiling water; readily soluble in alcohol, less readily in ether. It is decomposed by acids with the elimination of salicylic acid, and by alkalies with the elimination of antipyrine.

Its aqueous solution is rendered milky by tannic acid, then colored green by the addition of a few drops of fuming nitric acid. It is colored deep red by ferric chloride, passing to violet-red on copious dilution with water. It must not be affected by hydrogen sulphide.

It is incompatible with acids, alkalies and tannins.

If 1 Gm. antipyrine salicylate is weighed in a separator, treated with 25 Cc. water and 10 Cc. sodium hydroxide test solution, and the liquid then extracted with chloroform, the latter on evaporation should yield a residue which when dry should weigh 0.57-0.58 Gm., melt at 113 degrees and respond to the tests for antipyrine.

The solution remaining in the separator, acidified, and extracted with chloroform, the chloroform allowed to evaporate, should yield a residue of white needle-like crystals, which when dry melt at 155°-156° and respond to the tests for salicylic acid.

If 1 Gm. antipyrine salicylate is dissolved in 50 Cc. diluted alcohol, a few drops of phenolphthalein added, from 30.5-30.8 Cc. tenth normal alkali should be required to produce a permanent pink color, indicating a salicylic acid content of 42.10-42.50 per cent.

Actions and Uses.—This compound possesses the properties of both antipyrine and salicylic acid and combines the analgesic power of the one with the antirheumatic action of the other. It has been used with good results in sciatica, rheumatic fevers, chronic rheumatism influenza, pleurisy, dysmenorrhea, etc.

Dosage.—0.3 to 2.0 Gm. (5 to 30 grains) in cachets or capsules.

Non-proprietary preparations:

Antipyrine Salicylate, Farbwerke. Manufactured by Farbwerke vorm. Meister Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co.) Not patented or trademarked.

Proprietary Preparation:

SALIPYRIN.—A name applied to antipyrine salicylate.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany. (Riedel & Co., New York.) U. S. patent No. 444,004 (expired). U. S. trademark No. 19,043.

TUSSOL—Antipyrinæ Mandelas—Antipyrine Mandelate.—Tussol is antipyrine mandelate, $C_{11}H_{12}N_2O.C_6H_5.CHOH.COOH = C_{19}H_{20}O_4N_2$, a salt of mandelic acid, $C_6H_5(CHOH.COOH)$, and antipyrine.

It is prepared by heating mandelic acid and antipyrine in molecular proportions on a steam bath, and crystallizing the product of the reaction, after cooling from alcohol.

It is a white crystalline powder, having a bitter taste and melting at 52° to 53° C. (125.6° to 127.4° F.). It is soluble in 15 parts of water, 3 to 4 parts of alcohol, or 25 to 26 parts of ether, producing solutions of acid reaction. When heated above the melting point, it gives off the odor of bitter almonds, and finally burns without leaving a residue. It is split into its constituents by milk and by alkalies.

Its aqueous solutions give the reactions for antipyrine; if warmed with potassium permanganate it develops the odor of benzaldehyde, but it is not affected by silver nitrate, barium nitrate, dilute sulphuric acid, or hydrogen sulphide.

It is incompatible with alkalies, milk and milk food.

Actions and Uses.—Tussol, Antipyrine Mandelate, has the properties of its constituents, that is, the analgesic and sedative action of antipyrine and the stimulant action on glandular secretions of mandelic acid. It is said to be useful in the treatment of whooping-cough.

Dosage.—0.3, 0.1, 0.25, 0.4 or 0.5 Gm. (½, 2, 4, 6 or 8 grains), according to the age of the patient.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 569,415 (Oct. 13, 1896; expires 1913).

ANTIPYRINE FERRIC CHLORIDE

FERRIPYRINE.—A name applied to a product identical with Ferropyrine, which see.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

FERROPYRINE—Antipyrina Cum Ferro.—Ferropyrine, $(C_{11}H_{12}N_2O)_3.(FeCl_3)_2$, is a compound of antipyrine and ferric chloride, containing about 36 per cent. of ferric chloride and 64 per cent. of antipyrine.

It is prepared by mixing solutions of 5 parts of crystallized ferric chloride in 10 parts of 96 per cent. alcohol and 5 parts of antipyrine in 10 parts of alcohol and 50 parts of ether, washing the precipitate with ether, and drying it on porous tiles at 40° C. (104° F.).

It is a yellowish-red, crystalline powder, having an acid-astringent taste. It is soluble in 5 parts of cold water, but requires 9 parts of hot water for solution; it is soluble in alcohol, but insoluble in ether.

It should form a clear blood-red solution in water. Its aqueous solution 1:5 affords a precipitate of ferric hydroxide on addition of ammonia in excess, and the filtrate should give no reaction for nitric or sulphuric acid, nor heavy metals, and should yield a residue on evaporation, which is completely volatilized when heated on platinum. After acidification with nitric acid, the filtrate yields a white precipitate with silver nitrate and in the filtrate from this the antipyrine may be determined by means of ferric chloride or by nitrous acid.

It is incompatible with alkalies, their carbonates and bicarbonates.

Actions and Uses.—It is hematinic, hemostatic, astringent, analgesic and tonic. Its styptic action is pronounced and said not to be accompanied by irritant effects. According to Fraenkel it combines, with its hemostatic properties, the injurious by-actions which limit the application of ferric chloride as a hemostatic.

Dosage.—0.3 to 1 Gm. (5 to 15 grains) in powder, or in solution. Externally 1 to 1.5 per cent. solution as an injection, to 20 per cent. solution or pure for hemorrhages.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. U. S. patent No. 548,352 (Oct. 22, 1895; expires 1912). U. S. trademark No. 26,860.

ANTITHYROID PREPARATIONS

Preparations obtained from the blood or milk of animals, after the removal of the thyroid glands.

The use of these preparations is based on the theory that the thyroid gland secretes products which are toxic, but which neutralize, and are neutralized by, other toxic substances produced elsewhere in the body. Removal of the thyroid glands would then lead to the accumulation of these second toxic substances as evidenced by the phenomena of cachexia strumipriva and myxedema. On the other hand, the blood or milk of such animals is claimed to be capable of preventing the effects of a hypersecretion of thyroid substance, such as is supposed to occur in Basedow's disease (exophthalmic goiter).

These views are still largely hypothetical; but some clinical observers report distinctly beneficial results in the milder forms of the disease and in obscure nervous disorders which are supposedly connected with thyroid hypersecretion. The effects, if they occur at all, are less pronounced in the more severe forms. The action is merely palliative and other measures of treatment should not be neglected.

Improvement is said to occur in two or three weeks and to be indicated by an amelioration of the nervous symptoms, tremors, palpitation, insomnia and excitability.

The administration must be long continued. Oral and hypodermic administration are said to be equally effective but the former is usually preferred. These preparations are not known to be toxic, even when very large doses are used.

ANTITHYROIDIN-Mœbius—Serum Antithyroideum, Merck.—Antithyroidin-Mœbius is the blood-serum of sheep from which the thyroid gland has been removed at least six weeks before the blood is drawn, preserved by the addition of 0.5 per cent. of phenol.

It is an amber-colored fluid, with faint odor and taste of phenol (carbolic acid). It is marketed in amber-colored vials containing 10 Cc. (2½ drams). With proper precautions, it is said to keep indefinitely.

Dosage.—It is administered by the mouth in doses beginning with 0.5 to 1 Cc. (8 to 15 min.) three times a day, gradually increasing the dose as necessary.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

THYREOIDECTIN—Capsulæ Antithyroideæ.—Thyreoidectin consists of gelatin capsules each containing 0.33 Gm. (5 grains) of a powder prepared from the blood of thyreoidectomized animals.

The blood is derived from sheep, goats or horses (chiefly sheep) from which the thyroid gland has been removed. The blood is rendered aseptic during the process of desiccation by the addition of chloroform, and aromatics are added to the resultant powder as a flavor.

The contents of the capsules consist of a coarse, reddish-brown powder, resembling dried blood.

Dosage.—One or two capsules three times a day, the amount being varied to suit the individual case.

Prepared by Parke, Davis & Co., Detroit, Mich.

APINOL—Apinolum.—Apinol is a product obtained in the destructive distillation of the wood of Pinus palustris and Pinus australis. It is claimed to consist mainly of laevo-menthone, $C_{10}H_{18}O$.

Apinol is obtained from the products of destructive distillation of pine wood. After the removal of turpentine and other low boiling constituents by distillation, the portion boiling between 182.2°-193.3° C. (360°-380° F.) is collected and purified.

It is a clear amber-colored oil with an odor resembling that of the pine, having a specific gravity of 0.946 and an approximate boiling point of 182.2° C. (360° F.). It is neutral in reaction.

Actions and Uses.—Apinol is said to be an antiseptic, local anesthetic and expectorant.

It is said to be useful when applied externally to wounds, burns, ulcers, and denuded surfaces for the relief of pain and promotion of healing.

It is claimed to be of service when given internally in catarrhal inflammation of the digestive tract and, when used by inhalation, to assist in freeing the respiratory passages from accumulated mucus.

Dosage.—Internally from 0.3 to 1 Cc. (5 to 15 minims) with cane sugar as a menstruum.

Manufactured by the Apinol Chemical Co., Wilmington, N. C. U. S. trademark No. 29,848.

APIOL—Apiolum Crystallisatum.—Parsley Camphor.—Apiol, $CH_2{:}CH.CH_2.C_6H(OCH_3)_2{:}O_2{:}CH_2 = C_{12}H_{14}O_4$, is 2,5-dimethoxy-3,4-methendioxy-1^2propenylbenzene, derived from 2,3,4,5-tetrahydroxy-1-propen (1^2)yl-benzene, $C_6H(OH)_4(CH_2CH{:}CH_2)$.

Apiol may be obtained by extracting the oleoresin (oleoresin of parsley seed, which see) with ether and subsequent purification. It may also be obtained by submitting parsley seed to steam distillation, cooling the volatile oil and collecting and purifying the crystals which separate.

Apiol crystallizes in long needles, having a faint odor of parsley, melting at 30° C. (86° F.) and boiling at 294° C. (561.2° F.). It is insoluble in water, but readily soluble in alcohol and ether. With strong sulphuric acid it forms a blood-red solution. Apiol is not affected by aqueous solutions of potassium or sodium hydroxide, but by alcoholic solution of potassium or sodium hydroxide it is gradually converted to isoapiol, which melts at 56° C. (132.8° F.).

Actions and Uses.—Apiol is said to produce cerebral excitation similar to that induced by coffee and in larger doses a species of intoxication, with vertigo, ringing in the ears and severe frontal headache.

Apiol has been used as an antiperiodic, but is regarded as of inferior rank for this purpose. It has also been recommended in the treatment of amenorrhea.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains) in capsules, as an emmenagogue, 0.3 to 1 Gm. (4 to 15 grains) as an antipyretic.

ARBUTIN.—Arbutinum.—Arbutin, $C_{12}H_{16}O_7 + \frac{1}{2}H_2O$, is a glucosid occurring in the leaves of *Arctostaphylos Uva-ursi* Spr., *Vaccinium Vitis-Idaca L.* and many other genera of the family *Ericaccae.*

Arbutin occurs in long, glistening, colorless needles, or as a fine, white, crystalline, odorless powder having a bitter taste. It is soluble in 8 parts of water and 16 parts of alcohol; very soluble in hot water and hot alcohol; insoluble in chloroform, ether and carbon disulphide. Its aqueous solution is neutral to litmus paper and is not precipitated by solutions of the metallic salts or by solution of tannin. Its aqueous solution is colored blue by ferric chloride test solution. By boiling with diluted sulphuric acid or by treatment with emulsin arbutin is converted into glucose and hydroquinone.

When heated to 100° C. (212° F.) arbutin loses its water of hydration. At 144° to 146° C. (291.2° to 294.8° F.) the anhydrous glucosid melts. It should leave no residue on ignition.

An aqueous solution of arbutin (1/20) should not be affected by hydrogen sulphide (absence of lead)

Actions and Uses.—Arbutin probably owes its effect, at least in part, to the antiseptic action of hydroquinone, formed by its decomposition in the urinary tract. It has been used as a urinary antiseptic and diuretic.

Dosage.—0.2 to 0.5 Gm. (2 to 7 grains) three or four times a day.

ARGENTAMIN — Liquor Argentamini.— Ethylene-Diamine-Silver Nitrate.—Argentamin is an aqueous solution of silver nitrate and ethylene-diamine, corresponding to 10 per cent. of silver nitrate.

It is prepared by dissolving 10 parts each of silver nitrate and ethylene-diamine in 100 parts of water. It is a colorless, alkaline liquid, turning yellow on exposure to the light, but not precipitable by chlorides or by albumin. It is not materially injured by exposure to light, as it may be cleared by filtration.

Actions and Uses.—Argentamin is antiseptic and astringent like other silver salts, with the asserted advantage of being non-irritant and more penetrating than silver nitrate. It is said to be useful in all cases where the non-caustic action of silver nitrate is indicated.

Dosage.—It may be used in the anterior urethra in 0.25 to 1 per cent. solution; in the posterior urethra in from 1 to 4 per cent. solution; in ophthalmology in 5 per cent. solution.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). German patent No. 74,634.

ARGONIN—Caseinsilver—Silvercasein.—Argonin is a compound of silver and casein containing 4.28 per cent. of silver.

It is prepared by precipitating an alkaline solution of casein with silver nitrate and alcohol. It is a fine, nearly white powder, easily soluble in water, forming an opalescent, faintly alkaline solution, which becomes clear on the addition of sodium chloride. It is also soluble in alkaline solutions, in egg albumin, blood serum, etc.

The usual reagents for silver do not affect its aqueous solution (1-20), which should remain clear on addition of sodium chloride, and should not be affected by hydrogen sulphide. On incineration, argonin should yield at least 4 per cent. of silver, which may be identified by the usual tests after solution in dilute nitric acid. It is incompatible with acids.

Actions and Uses.—Its action and uses are similar to those of silver nitrate, but it is claimed to have greater power of permeating living colloid membranes than other silver albumoses.

Dosage.—It is generally used in 0.5 per cent. solution, but even 20 per cent. solutions have been injected without producing irritant symptoms.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 575,277 (Jan. 12, 1897; expires 1914).

ARGYROL—Silver Vitellin.—Argyrol is a compound of a derived proteid and silver oxide, containing from 20 to 25 per cent. of silver.

The so-called vitellin is said to be prepared by electrolytic decomposition of serum albumin. To this product, finely suspended in water, is added freshly precipitated, moist silver oxide and the mixture is heated under pressure until combination occurs. The liquid is then evaporated to dryness *in Vacuo.* The change in the proteid is in question; probably a compound of hydrolyzed proteid (serum albumin) and silver oxide is formed.

Argyrol occurs in black, glistening, hygroscopic scales, freely soluble in water and glycerin, insoluble in oils and alcohol. The solution is yellowish or black, depending on concentration, and is not affected by boiling. Solutions of argyrol stain the skin. It gives a slight cloudiness or precipitate with sodium chloride and hydrochloric acid; on addition of ferric chloride the color is discharged with formation of a white cloud. With alkali and copper sulphate it gives a slight biuret reaction. It has a slight metallic taste. Silver is recognized in the usual way.

The compound is said to be incompatible with acids and most of the neutral and acid salts in strong solution.

Actions and Uses.—Solutions of argyrol (20 to 50 per cent.) are said to be non-irritating to mucous membranes. Taken internally it is said to be non-toxic. It is claimed to be an antiseptic. It is recommended in urethritis and cystitis, in conjunctivitis and in affections of the nose, throat and ear.

Dosage.—It is employed in from 10 to 25 per cent., and even stronger solutions.

Manufactured by A. C. Barnes Co., Philadelphia. U. S. trademark.

ARSANILIC ACID AND ITS DERIVATIVES

Arsanilic acid is derived from arsenic acid, $AsO.(OH)_3 = H_3AsO_4$, by replacing one hydroxyl by aniline (phenylamine); related compounds are made by substituting derivatives of aniline.

ARSACETIN.—Arsacetin is sodium acetyl arsanilate. $C_6H_4(NH.CH_3CO)(AsO.OH.CNa) + 4H_2O$ a compound derived from sodium arsanilate by replacing a hydrogen atom of the amino group in sodium arsanilate, with an acetyl radicle.

Arsacetin is a white crystalline substance, odorless, tasteless, and soluble to the extent of 10 per cent. in cold and 30 per cent. in hot water. It is free from arsenious or arsenic acid and solutions are not affected by boiling. It may be heated for an hour at 130° C. in the autoclave without undergoing decomposition.

If 1 part Arsacetin be dissolved in 10 parts water and a few drops of silver nitrate solution added, a pure white precipitate is formed.

The salt moistened with dilute hydrochloric acid and heated on platinum wire colors the flame yellow.

If a mixture of 0.1 Gm. Arsacetin, 0.5 Gm. dry sodium carbonate and 0.5 Gm. potassium nitrate be melted in a porcelain crucible, the white mass dissolved in 10 Cc. water and the solution neutralized with dilute nitric acid, a portion of the liquid yields a white crystalline precipitate on addition of an equal volume of magnesia mixture. A further portion of the neutral liquid furnishes a brown precipitate, soluble in ammonia and also in nitric acid, on addition of a few drops of silver nitrate solution.

If 0.2 Gm. Arsacetin be heated with 5 Cc. rectified spirit and 5 Cc. sulphuric acid, the odor of acetic ether is developed.

The aqueous solution of Arsacetin (1:10) should be clear and colorless, possess at most a faintly acid reaction and after addition of 5 Cc. dilute hydrochloric acid the liquid should not be altered by freshly prepared hydrogen sulphide solution.

If 0.1 Gm. Arsacetin be dissolved in 20 Cc. water, 1 Cc. dilute hydrochloric acid and 2 drops sodium nitrite solution added and filtered, an alkaline β-naphthol solution should produce no red coloration in the filtrate. An aqueous solution (1:20) to which 20 Cc. magnesia mixture is added, should afford no turbidity or precipitate within two hours.

0.5 gm. powdered Arsacetin, after heating for 4 hours at 110°-120° C., should show a loss in weight of about 20 per cent.

Action and Uses.—See Sodium Arsanilate. It is claimed to be less toxic than sodium arsanilate and it possesses the advantage of keeping well and being sterilizable without decomposition.

Dosage.—For hypodermic injection 0.1 Gm. (1½ grains) to 0.5 Gm. (7½ grains). For internal administration 0.05 Gm. (¾ grain) 3 to 4 times daily.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.) U. S. trademark No. 75,046.

SODIUM ARSANILATE—Sodii Arsanilas.—Sodium Aniline Arsonate. Sodium Aminophenyl Arsonate. Sodium arsanilate, $C_6H_4(NH_2)\ (AsO.OH.ONa) = C_6H_7O_3NAsNa$, is the sodium salt of arsanilic acid, $C_6H_4(NH_2)\ (AsO.(OH)_2),1:4$.

It is prepared by condensing aniline and arsenic acid, eliminating water and isolating the arsanilic acids. The sodium salt is prepared by the usual methods.

Sodium arsanilate occurs as white, odorless crystals soluble in (5 or 6 parts) of water and is more soluble in warm water. It has a faint salty taste. On standing, the aqueous solution assumes a yellowish tint.

Sodium arsanilate crystallizes with somewhat varying amounts of water of crystallization. The arsenic content varies in different preparations from 23 to 26 per cent.

An acid solution of sodium arsanilate is not affected by hydrogen sulphide in the cold; when the solution is warmed the arsenic may be completely precipitated by hydrogen sulphide. If a solution of sodium arsanilate is treated with hydrochloric acid and potassium iodide, iodine is set free. The resulting liquid, whether freed of iodine or not, gives, even in the cold, a precipitate of arsenic sulphide when treated with hydrogen sulphide.

The arsenic and water content of sodium arsanilate may be determined by the methods given in The Journal A. M. A., Sept. 21, 1907, p. 1041.

An aqueous solution of the salt gives with mineral acids a white precipitate of arsanilic acid, soluble in excess of acid. An aqueous solution of the salt gives with silver nitrate solution a white precipitate of silver arsanilate. An aqueous solution of the salt, after the addition of hydrochloric acid and sodium nitrate gives a deep red coloration with a solution of β-naphthol in caustic soda.

Actions and Uses.—The arsenic of the arsanilic acid is liberated very slowly in the system, thus producing the ordinary therapeutic effects of arsenic, with a more continuous and less toxic action and less irritation. Toxic effects from excessive doses have been frequently noted, although the toxicity of sodium arsanilate is stated to be about 1/40 of that of arsenic trioxide. The poisonous effects appear to be due largely to the arsenic component, the aniline taking no part in them. It is claimed that the use of sodium arsanilate is not followed by irritation, abscess formation, etc., which sometimes follow the use of other preparations of arsenic. The use of sodium arsanilate in large doses has occasionally been followed by degeneration of the optic nerve, leading to blindness.

Sodium arsanilate has been recommended for the conditions which are favorably influenced by arsenic, such as anemia, nervous affections and diseases of the skin. It is said to have been very successful as a remedy for trypanosomiasis, both of animals and of man, and is also said to be useful in other protozoal diseases, such as syphilis, malaria, kala-azar, etc.

Dosage.—0.02 to 0.2 Gm. (⅓ to 3 grains) hypodermically every other day, gradually increasing, if necessary, until the single dose reaches 0.65 Gm. (10 grains) and until a total of 6.5 Gm. (100 grains) have been given. The drug should not be given by the mouth, as it is decomposed by the acid contents of the stomach, and toxic symptoms may result.

Proprietary preparations:

Sodium arsanilate was first introduced in the form of *Atoxyl.*

ATOXYL.—Atoxyl is sodium arsanilate containing about 26 per cent. of arsenic and corresponding closely to the formula $C_6H_4(NH_2).\ (AsO.OH.ONa)+3\ H_2O$. It is a white powder having the properties given above.

Manufactured by Vereinigte Chemische Werke Actiengesellschaft, Charlottenburg, Germany. (Victor Koechl & Co., New York.) U. S. trademark No. 38,879.

Atoxyl Hypodermic Tablets, 1/3 grain.—Each tablet contains atoxyl 0.02 Gm. (⅓ grain).

SOAMIN.—Soamin is a form of sodium arsanilate containing approximately 22 per cent. of arsenic and corresponding to the formula $C_6H_4(NH_2).\ (AsO.OH.ONa)+5\ H_2O$. It is a white crystalline substance having the properties given above.

Manufactured by Burroughs, Wellcome & Co., London, Eng., and New York. British trademark No. 302,133; U. S. trademark applied for.

Tabloid Soamin, 5 grains.—Each tablet contains soamin 0.3 Gm. (5 grains).

Tabloid Soamin, 1 grain.—Each tablet contains soamin 0.065 Gm. (1 grain).

ARSENOFERRATIN—Sodii Arsenoferrialbuminas.—Sodium Arsenoferrialbuminate.—Arsenoferratin is an arsenic iron albumin compound, obtained by introducing the element arsenic into the molecule of ferrialbuminic acid. Arsenoferratin contains iron in the ferric state, in organic combination equivalent to 6 per cent. metallic iron and arsenic, equivalent to 0.06 per cent. elementary arsenic.

Arsenoferratin is a brown, almost odorless and tasteless powder. It is soluble in water and easily soluble in dilute alkaline solutions.

Actions and Uses.—Arsenoferratin has the pharmacologic action of organic compounds of iron and of arsenic.

Dosage.—0.5 Gm. (7½ grains) three to four times daily.

Manufactured by C. F. Boehringer & Soehne, Waldhof, Mannheim, Germany. (Merck & Co., New York). Not patented. U. S trademark No. 24,228.

Arsenoferratin Tablets.—Each tablet contains arsenoferratin 0.25 Gm. (4 grains).

Arsenoferratose.—Liquor Ferratini Arsenati.—Arsenoferratose is a 5 per cent. solution of arsenoferratin.

Arsenoferratin, 5 parts, is dissolved with the aid of a small quantity of sodium hydroxide in water, 68 parts, glycerin, 20 parts, alcohol, 6 parts, and Angostura essence, 1 part.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) three to four times daily.

For the determination of Iron and Arsenic in Arsenoferratose, the following methods are furnished:

Twenty-five Cc. of arsenoferratose are evaporated to a viscid consistency in a capacious tared crucible and the residue heated in a drying oven at 100 degrees C. for three hours to constant weight. After the crucible and its contents have been allowed to cool in a desiccator, it is weighed. The weight of the evaporated residue multiplied by 4 should be about 23. The weighed residue is now carefully incinerated, and finally ignited. After it has cooled, it is moistened with nitric acid, and again ignited, and finally taken up with 10 Cc. hydrochloric acid. The solution is diluted with 30 Cc. water, and when cold, 3 Gm. potassium iodide are added and the mixture allowed to stand for an hour in a well-stoppered bottle at the ordinary temperature. It is then titrated with decinormal sodium thiosulphate solution. The iodine liberated should require about 12.5 Cc. of tenth normal thiosulphate solution.

Fifty Cc. of the arsenoferratose contained in a distillation flask ated to about one-third of its original volume. To the residue are of about 500 Cc. capacity, are heated on a water bath and evapornow added 80 Cc. of arsenic-free concentrated hydrochloric acid and 20 Cc. arsenic-free, 25 per cent. solution of ferrous chloride, and the arsenic chloride distilled over, the receiver being kept well cooled by means of cold water. The contents of the receiver are then supersaturated with sodium bicarbonate, and the arsenic then titrated with the tenth-normal iodine solution: 0.4 Cc. decinormal iodine solution should be required, corresponding to a content of 0.003 Gm. in 100 Cc. arsenoferratose.

ARSEN-TRIFERRIN—Arsentriferrinum.—Arsen-Triferrin is an iron aresnoparanucleate containing arsenic in organic combination and standardized to contain a definite amount of arsenic by diluting with iron paranucleate. It should contain about 16 per cent. of iron, 0.1 per cent. of arsenic (As.), and 2.5 per cent of phosphorus, all in organic combination.

Arsen-Triferrin is an orange colored, tasteless powder, soluble in dilute alkalies from which it can be precipitated by the addition of an acid. It is also soluble in about 8 per cent. of hydrochloric acid on warming.

The determination of the amount of iron, arsenic and phosphorus in arsentriferrin is carried out according to the method in "Prüfungsvorschriften für die pharmazeutischen Spezialpräparate." (Knoll & Co.)

Actions and Uses.—Arsen-Triferrin passes through the stomach unchanged and undissolved, but is dissolved in the intestines and absorbed. This behavior prevents injurious action of arsenic on the gastric mucous membrane.

Arsen-Triferrin is said to be useful in cases of anemia which are rebellious to iron alone, and in neurasthenia, hysteria, and in skin diseases.

Dosage.—5 grains three times a day after meals.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany and New York (Merck & Co., New York). U. S. trademark No. 36,747.

Arsen-Triferrin Tablets, 5 grains.—Each tablet is said to contain arsen-triferrin 0.3 Gm. (5 grains).

Arsen-Triferrol. Elixir Arsen-Triferrini. Arsen-Triferrol is an elixir of arsen-triferrin containing in each 4 Cc. (1 fluidram) about 0.06 Gm. (1 grain) of arsen-triferrin in a menstruum containing 15 per cent of alcohol. It is prepared by dissolving a soluble form of arsen-triferrin in a vehicle consisting of water, alcohol, tincture of orange, compound tincture of cardamom and vanillin.

ASPIRIN.—Acidum Acetylsalicylicum.—Acetylsalicylic Acid. Acidum Acetylosalicylicum (Pharm. Helvetica, edit. 4; Pharm. Danica, 1907; Pharm. Svecica, edit. 9; Pharm. Hungarica, edit. 3)—Acidum Acetylsalicylicum (Pharm. Française, 1908)—Acetylsalicylic acid, $C_6H_4.(\ (CH_3CO).COOH,1:2 = C_9H_8O_4$, is the acetyl derivative of salicylic acid.

It is prepared by the prolonged heating of 50 parts of salicylic acid and 75 parts of acetic anhydride at about 150° C. (302° F.)

under a reflux condenser, and subsequent purification, by recrystallization from chloroform.

It forms small, colorless, crystalline needles, melting at 135° C. (275° F.), odorless and having an acidulous taste. It is soluble in 100 parts of water and freely soluble in alcohol or ether. It is readily split up on boiling with water or with alkalies with the production of acetic acid and salicylic acid or a salicylate.

It forms clear, colorless solutions, which do not develop a violet color on the addition of ferric chloride unless previously hydrolysed by boiling with sodium hydroxide. It gives no reaction with silver nitrate, and should leave no residue when heated on platinum foil.

It is incompatible with heat, moisture, alkalies, their carbonates and bicarbonates. It keeps well when properly protected.

Actions and Uses.—It acts like salicylic acid, over which it possesses the advantage of producing less of the undesired local and systemic side effects, on account of the slow liberation of the salicylic acid. It is claimed to pass the stomach unchanged, the decomposition beginning in the intestine.

Dosage.—0.3 to 1 Gm. (5 to 15 grains) in capsules or wafers, or dissolved in sweetened water, or dry on the tongue, followed by a swallow of water. The powder should be dispensed in wax paper.

Manufactured by Farbenfabriken vorm. Friedr, Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 644,077 (Feb. 27, 1900; expires 1917). U. S. trademark No. 32,805.

BARIUM CHLORIDE—Barii Chloridum.—Baryum Chloratum (Pharm. Germanica, edit. 4; Pharm Helvetica, edit. 4). Barium Chloride ($BaCl_2 2H_2O$) is the barium salt of hydrochloric acid.

Barium chloride occurs as colorless trimetric plates or glistening scales, odorless, non-efflorescent and having an unpleasant, bitter, sharp, saline taste. It dissolves in 2.5 parts cold and in 1.5 parts boiling water, forming a neutral solution; but is insoluble in alcohol. Barium chloride becomes anhydrous when dried at 120° C. (248° F.).

An aqueous solution of the salt yields, with diluted sulphuric acid, a heavy white precipitate, insoluble in strong acids, and with silver nitrate a curdy, white precipitate. Insoluble in nitric acid but readily soluble in ammonia water. Diluted alcohol, after remaining in contact with the salt for several hours, should, on ignition, give a pure yellowish-green flame free from red (absence of traces of strontium). An aqueous solution of barium chloride should not be precipitated by ammonium sulphide nor should any residue remain after adding excess of diluted sulphuric acid to the solution, filtering, and evaporating to dryness. Twenty Cc. of the aqueous solution (1 to 20) must not turn blue on the addition of 0.5 Cc. of potassium ferrocyanide T. S.

Action and Uses.—Barium chloride is a toxic substance, its most striking effects being exerted upon muscle tissue, especially unstriped and heart muscle. In large doses it affects the spinal cord and medulla. By actively stimulating peristalsis, through action on the muscle wall, and by its direct irritant action, it readily produces vomiting and purging. It strengthens the cardiac contraction by direct action on the heart muscle, and by this means and still more by direct action on the vessel walls it greatly increases blood pressure, acting like digitalis. It acts on the muscles like veratrin. It first greatly excites and then paralyzes the spinal cord and medulla. Given in very dilute solution, absorption is small and the barium is deposited in the bones. Injected intravenously it causes tonic and clonic spasms, because of stimulation of the spinal cord and medulla.

In fatal doses it causes hemorrhages into the stomach, intestines and kidneys.

Its clinical use has been attended with little success, chiefly because of the gastrointestinal irritation and high toxicity. It has, however, been used in cardiac disease with insufficient blood pressure, as a general "tonic," and with less reason in tremors, in scleroses of the central nervous system, internally and locally in varicose veins, etc.

In poisoning the most direct antidote against the portion remaining in the gastrointestinal tract is sodium sulphate, which produces insoluble barium sulphate.

Its use is attended with considerable danger.

Dosage.—0.006 to 0.003 Gm. (1/10 to ½ grain) or 2 to 4 Cc. (30 to 60 minims) of a 1 per cent. solution (5 grains to the fluidounce). Fatal, 0.80 to 0.90 Gm. (13-15 grains). It should always be well diluted before giving.

Internally used in syphilis, scrofula and tumor albus in doses of 0.03-0.10 Gm. (½ to 1½ grains) 3 to 4 times per day; for heart disturbances 0.2-0.4 Gm. (3 to 6 grains) per day. Maximum dose per day 0.6 Gm. (9 grains). Externally employed as an eye-wash in scrofulous eye affections in 10 per cent. solution.

BENZOSALIN. — Methylis Benzoyl-Salicylas.—Benzoyl-Salicylic-Acid-Methylester—Methyl Benzoyl-Salicylate. Benzosalin is methyl benzoyl salicylate $C_6H_4.O(CH_3).COO(C_6H_5CO)$, $1:2 = C_{15}H_{12}O_4$ the benzoyl salicylic acid ester of methyl alcohol.

Benzosalin is prepared by a reaction between the methylester of salicylic acid and benzoyl chloride in the presence of sodium hydroxide. The resulting product is washed with water and after drying is crystallized out from alcohol.

Benzosalin consists of fine, white crystals with a very faint aromatic odor. It melts at about 85° C. (185° F.). It burns leaving no residue. It dissolves readily in chloroform, benzene and in 35 parts of 90 per cent. cold alcohol, also in pure concentrated sulphuric acid.

Actions and Uses.—Benzosalin is said to pass the stomach unchanged and to be decomposed into its constituents, benzoic and salicylic acids in the intestines. It is said to be free from the undesirable by-effects of salicylic acid. It is claimed that benzosalin is an intestinal antiseptic.

Benzosalin is said to be useful in rheumatic affections, such as arthritis, neuralgia, sciatica and migraine, and in arthritis deformans.

Dosage.—0.5 to 1 Gm. (7½ to 15 grains). Daily dose 3 to 4 Gm. (45 to 60 grains) in powder or tablets.

Manufactured by F. Hoffmann-La Roche & Co., Basel, Switzerland. (The Hoffmann-La Roche Chemical Works, New York.) U. S. Patent No. 799,706 (Sept. 19, 1905; expires 1922). Controlling Benzoyl Salicylic Acid. Name "Benzosalin" registered No. 58,757.

Benzosalin Tablets, 5 grains.—Each tablet contains benzosalin 0.3 Gm. (5 grains).

BERBERINE HYDROCHLORIDE. — Berberinæ Hydrochloridum.—Berberine hydrochloride is the hydrochloride, $C_{20}H_{17}NO_4 HCl + 2H_2O$, of an alkaloid obtained from *Hydrastis canadensis* and *Berberis vulgaris*.

Berberine hydrochloride occurs as bright yellow acicular crystals of amorphous powder, slightly soluble in alcohol to which it imparts a deep yellow color. It is soluble in 300 parts cold water, but dissolves more easily in hot water.

An aqueous solution of berberine or its salts treated with chlorine or bromine water produces a blood red color. Bromine water in excess precipitates the reddish-brown berberine tetrabromid-hydrobromide—$C_{20}H_{17}NO_4.Br_4HBr$, which is converted by washing with alcohol or heating to 100° to the yellow-brown berberine dibromide-hydrobromide $C_{20}H_{17}NO_4.Br_2.HBr$.

Ammonium sulphide precipitates from an alcoholic solution of berberine sulphate the polysulphide $(C_{20}H_{17}NO_4)_2H_2S_5$ which crystallizes in brown-black needles.

Berberine solutions even if very dilute when treated with potassium iodide solution yield a yellow precipitate of berberine hydroiodide.

Action and Uses.—Given by mouth, it acts as a bitter stomachic. Very large doses, although not fatal, cause diarrhea, tremors, general weakness, low blood pressure (from depression of vasomotor center and of cardiac muscle), rapid pulse (depression of vagus endings) and respiration. Recovery is slow. Nephritis may be present. Subcutaneous injection kills by paralysis of respiration, with symptoms of asphyxia and paralysis. It has been used as a bitter tonic for diarrhea, the vomiting of pregnancy and as a febrifuge.

Dosage.—0.06 Gm. to 0.3 Gm. (1 to 5 grains). As much as 20 grains have been taken without obvious effect other than a loose stool.

BETANAPHTHOL BENZOATE—Naptholis Benzoas.—Benzonaphthol. Benzoyl-Beta-Naphthol.—Beta-naphthol benzoate is beta-naphthyl benzoate, $C_6H_5.COO.C_{10}H_7 = C_{17}H_{12}O_2$, the benzoic ester of beta-naphthol.

Beta-naphthol benzoate is obtained by heating beta-naphthol and benzoyl chloride together at 170° C. (338° F.), extracting the product with alcohol, and crystallizing.

It forms colorless needles, or a white crystalline powder, colorless and tasteless, melting at 107-110° C. (224.6-230° F.). It is almost insoluble in water, but readily soluble in alcohol and in ether; also soluble in chloroform, in glycerin and in olive oil.

It is decomposed by heating with caustic alkalies into naphthol and a benzoate which will then give their characteristic reactions.

To test beta-naphthol benzoate for the presence of beta-naphthol it should be shaken several times with dilute solution of sodium hydroxide (1:10) and immediately filtered. If beta-naphthol is present in considerable amount it will separate as a turbidity or precipitate after acidifying with dilute sulphuric acid. If the amount of beta-naphthol is small no precipitate appears, but the alkaline solution shows a bluish fluorescence and if it is boiled with chloroform a green color is produced.

A solution of beta-naphthol benzoate should not give a violet color with chloride of lime or solution of iodine and alkali.

It is incompatible with antipyrine, camphor, phenol, ferric chloride, menthol, potassium permanganate, or ethyl carbamate (urethane).

If 1 Gm. beta-naphthol benzoate be shaken with 10 Cc. water and the solution filtered, the filtrate acidified with nitric acid, should not become turbid on addition of silver nitrate solution.

Beta-naphthol benzoate heated on a platinum foil should leave no weighable residue.

Actions and Uses.—Beta-naphthol benzoate is split up into its constituents on reaching the intestinal tract and is believed to act as an antiseptic. It is said to be diuretic. It is used internally as an intestinal antiseptic in diarrhea and typhoid fever. Externally it is said to be useful as a parasiticide in the form of 3 to 10 per cent. ointment, and has been used in psoriasis, eczema, scabies, etc.

Note: Wide difference of opinion exists among authorities as to the actual efficiency of any intestinal antiseptics and most urinary antiseptics. Whatever opinion regarding this is followed, it should be remembered that if used freely or for a long time any of them may have irritating effects upon the digestive tract or undesirable effects upon other tissues. Reasonable caution should therefore be exercised in using them.

Dosage.—0.2 to 0.5 Gm. (3 to 8 grains); maximum dose, single, 1 Gm. (15 grains), daily 4 Gm. (60 grains).

Non-proprietary preparations:

Beta-naphthol Benzoate, Heyden. Manufactured by Fabrik von Heyden, Radebeul near Dresden, Germany (Merck & Co., New York). Not patented or trademarked.

Benzonaphthol, Farbwerke. Manufactured by Farbwerke, vorm. Meister Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). Not patented or trademarked.

BETOL—Naphtholis Salicylas.—Naphthalol—Naphthol-Salol —Salinaphthol.—Betol is beta-naphthyl salicylate, $C_6H_4.OH.COO(C_{10}H_7) = C_{17}H_{12}O_3$, the salicylic acid ester of beta-naphthol.

Betol is obtained by heating beta-naphthol-sodium and sodium salicylate with phosphorus oxychloride at 120°-130° C. (248° to 266° F.).

It is a white, shining crystalline powder, colorless and tasteless melting at 95° C. (203° F.). It is insoluble in cold or hot water or glycerin, difficultly soluble in cold alcohol or turpentine, easily soluble in boiling alcohol, in ether, in benzene, and in warm linseed oil. In the cold it is not changed by acids or alkalies of moderate concentration. When heated with alkalies it is decomposed into its constituents, which, if the solution is acidulated, will crystallize.

It is distinguished from salol by its higher melting point and by the production of a brownish-green color, when a trace of nitric acid is added to its yellow colored solution in pure sulphuric acid. It burns on platinum foil, leaving no residue (absence of fixed mineral impurities).

If 1 Gm. of betol is shaken with 30 Gm. of boiling water and filtered through a moistened filter, the filtrate should not have an acid reaction (absence of salicylic, hydrochloric or phosphoric acid) nor should it after cooling show a crystalline deposit (salicylic acid or beta-naphthol) and should not become turbid on the addition of silver nitrate (chlorides or phosphates) or barium nitrate (absence of sulphate) nor should it give a violet color with solution of ferric chloride.

Actions and Uses.—Betol undergoes no change in the stomach, but is split up into its original compounds when it reaches the intestinal tract by the pancreatic juice and intestinal secretions. It is believed to act as an intestinal antiseptic and, being excreted in the urine, to act in a similar way in the bladder. (See note under Beta-Naphthol Benzoate.)

It has the antirheumatic properties of salicylic acid. It is said to be useful for intestinal fermentations, catarrh of the bladder, particularly in gonorrheal cystitis, for rheumatism, etc.

Dosage.—0.3 to 0.5 Gm. (4 to 8 grains) in cachets, milk or emulsion.

Manufactured by the Heyden Chemical Works, New York. U. S. trademark.

BILE SALTS

The bile of man and of several animals contains in varying proportions the sodium salts of conjugated cholic acids; in ox and human bile especially glycocholic acid $C_{26}H_{43}O_6N$; and taurocholic acid, $C_{26}H_{45}O_7NS$. Fresh ox gall is said to contain about 3 per cent. each of sodium glycocholate and sodium taurocholate.

The sodium glycocholate and taurocholate may be separated in the following manner: Dry ox bile is treated with absolute alcohol and the tincture precipitated by ether in excess. Both salts are deposited and the glycocholate crystallizes upon standing, the taurocholate remaining in amorphous form, resembling oily or resinous matter. If the deposit is dissolved in water, solution of lead acetate will throw down a lead glycocholate, while the addition of lead subacetate to the remainder will precipitate the taurocholate (U. S. Dispensatory, p. 490).

Tests: All the bile acids respond to Pettenkofer's test. A small portion of the salt is dissolved in a little concentrated sulphuric acid in a small porcelain dish and warmed, care being taken that the temperature does not rise higher than 60° to 70° C. A 10 per cent solution of cane sugar is then added drop by drop while the liquid is stirred with a glass rod. If compounds of cholic acid are present a beautiful red color will appear, which does not disappear at room temperature, but usually in the course of a day becomes bluish violet. The red liquid shows in the spectrum two absorption bands, one at F and the other between D and E near to E. Care must be taken not to heat too much nor to add too much sugar. The sulphuric acid must be free from sulphurous acid and the lower oxides of nitrogen. As albumin, oleic acid, amyl alcohol, morphine, etc., may give a similar reaction, spectroscopic examination should not be omitted in doubtful cases (Hammarsten, Lehrbuch der physiolog. Chemie, p. 312).

Furfurol Test (Mylius): The substance is dissolved in alcohol and for every one cubic centimeter of the alcoholic solution, one drop of a 1:1000 furfurol solution and one Cc. of concentrated sulphuric acid are added and the mixture cooled, if necessary, so that the temperature may not rise too high. The same color reaction occurs as in Pettenkofer's test.

Actions and Uses.—The bile salts constitute the main active principles of bile, and therefore share the actions and uses of the latter, perhaps with the advantage of more constant composition. When injected into the circulation they cause severe nervous and cardiac depression, not observed when they are given by mouth. They are generally credited with a slight antiseptic and laxative action, with enhancing the efficiency of the resinous hydragogue cathartics, and with amulsifying and hence favoring the absorption of fat. They stimulate the secretory activity of the liver, increasing both the fluids and solids of the bile. While they are regarded as the most powerful of the so-called cholagogues, it is doubtful if even their effect is very pronounced.

They may be used in obstructive jaundice, although the rationale is somewhat doubtful; their use in biliary fistula is more reasonable, if the nutrition is noticeably affected.

Proprietary Preparations:

BILEIN—Sodii glyco-taurocholas bovis—Abbott.—Bilein is the name given to a mixture of the essential salts of the bile.

Actions and Uses.—See Bile Salts.

Manufactured by the Abbott Alkaloidal Co., Chicago. U. S. trademark No. 44,140.

Bilein Pills, 1/4 grain.—Each pill contains bilein 0.015 Gm. (1/4 grain).

Bilein Pills, 1/8 grain.—Each pill contains bilein 0.008 Gm. (1/8 grain).

Bilein Pills, 1/12 grain.—Each pill contains bilein 0.006 Gm. (1/12 grain).

BILE SALTS-Fairchild.—Bile salts-Fairchild is a preparation obtained from fresh ox-gall, consisting essentially of sodium glycocholate and sodium taurocholate, in the proportion existing in ox bile.

Action and Uses.—See Bile Salts.

Dosage.—0.13 to 0.4 Gm. (2 to 6 grains); 4 to 5 Gm. (60 to 75 grains), per day.

Manufactured by Fairchild Bros. & Foster, New York.

COLALIN.—Colalin consists essentially of a mixture of hyoglycocholic and hyotaurocholic acids, obtained from bile. To preserve the pulverulent condition a little magnesium carbonate is added.

Colalin is a yellow powder of faint odor and persistent bitter taste. It melts at 103° to 107° C. It is slightly soluble in water and acid toward litmus.

Colalin should be readily soluble in alcohol and this solution should rotate polarized light to the right. It should dissolve almost entirely in a dilute solution of sodium carbonate with evolution of carbon dioxide and in a dilute solution of sodium hydroxide. The solution in sodium hydroxide should not be rendered turbid by the addition of barium hydroxide T. S. (absence of fatty acids). It should not contain more than a trace of sulphur (absence of taurin).

Actions and Uses.—See Bile Salts, above.

Dosage.—0.015 to 0.030 Gm. (¼ to ½ grain) three to four times daily; for children from 0.008 to 0.015 Gm. (⅛ to ¼ grain).

Manufactured by Rufus Crowell & Co., Somerville, Mass. (Schieffelin & Co., New York).

Colalin Tablets, ½ grain.—Each tablet contains colalin 0.03 Gm. (½ grain).

Colalin Tablets, ¼ grain.—Each tablet contains colalin 0.015 Gm. (¼ grain).

Colalin Tablets, ⅛ grain.—Each tablet contains colalin 0.008 Gm. (⅛ grain).

BISMUTH SUBCARBONATE PREPARATIONS.

CREMO-BISMUTH—Mistura Bismuthi Subcarbonatis Hydrati, Mulford.

Cremo-bismuth is a mixture said to consist of bismuth subcarbonate suspended in water in a finely divided state, each 100 Cc. representing the equivalent of 8.66 Gm. (40 grains in one fluid ounce) of bismuth subnitrate.

Dosage.—4 to 16 Cc. (1 to 4 fluidrams) every two or three hours.

Prepared by the H. K. Mulford Co., Philadelphia. U. S. trademark No. 29,335.

LAC BISMO—Mistura Bismuthi, Hart.—Lac Bismo is a mixture said to consist of bismuth hydroxide and bismuth subcarbonate, suspended in water, in a finely divided state, and containing 0.16 Gm. (2½ grains) of the salts in 4 Cc. (1 fluidram).

Dosage.—4 to 16 Cc. (1 to 4 fluidrams).

Prepared by E. J. Hart & Co., Ltd., New Orleans, La. U. S. trademark.

BISMUTH SUBGALLATE PREPARATIONS.

BISMUTH SUBGALLATE.—Bismuth subgallate is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physicians Manual of the Pharmacopeia and the National Formulary.

AIROL—Bismuthi Iodosubgallas—Bismuth Oxyiodogallate. Airoform.—Airol. $C_6H_2(OH)_3(COOBiI(OH) = C_7H_6O_6IBi.$, is a combination of bismuth oxyiodide (subiodide) and gallic acid.

It is prepared by heating molecular quantities of bismuth subgallate and hydriodic acid or bismuth oxyiodide and gallic acid, in the presence of water, until a grayish-green product results, which is drained and dried.

It is a voluminous grayish-green, odorless and tasteless powder, insoluble in alcohol, ether, chloroform, and olive oil, slightly soluble in glycerin. It is practically insoluble in water, communicating to water a red color on standing, slowly in the cold, but readily when heated, being decomposed with liberation of iodine and bismuth subgallate. It is readily soluble, with decomposition, in dilute alkalies and mineral acids. It is decomposed on exposure to moist air, turning red, but in admixture with glycerin and a little water it long remains unaltered.

Airol may be identified by the appropriate tests for its components.

It is incompatible with water and calomel. It should not be exposed to moist air.

Actions and Uses.—As it liberates iodine in the nascent state in the presence of wound secretion it is said to be useful as a substitute for iodoform in the treatment of wounds, burns, skin diseases, gonorrhea, etc.

Dosage.—It is used externally in the pure state or diluted with talc, or in the form of a 10 per cent. suspension in equal parts of glycerin and water, or as a 10 to 20 per cent. ointment with 2 parts of petrolatum and 7 parts of wool fat.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). U. S. patent No. 544,104 (Aug. 6, 1895; expires 1912). German patents Nos. 80.399 and 82,593. U. S. trademark No. 79,760.

BISMAL—Bismuthi Methylen-Digallas.—Bismal, $4(C_{15}H_{12}O_{10}), 3Bi(OH)_3 = Bi_3C_{60}H_{57}O_{49}$, is a compound of bismuth hydroxide and methylendigallic acid.

It is obtained by digesting 4 molecules of methylendigallic acid with three molecules of bismuth hydroxide in water.

It is a voluminous gray-brown powder, insoluble in water or gastric juice, but soluble in alkalies, forming yellowish red solutions.

Actions and Uses.—Bismal is an astringent and is said to be useful for the treatment of chronic diarrhea.

Dosage.—0.12 to 0.3 Gm. (2 to 5 grains) in cachets or powder.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 605,246 (June 7, 1898; expires 1915). German patent No. 87,099 (dropped in 1890).

BISMUTH AND IRON CITRATE (SOLUBLE), Wellcome Brand—Bismuthi et Ferri Citras, Wellcome.—Bismuth and iron citrate (soluble), Wellcome brand is a "scale salt" containing bismuth citrate and ferric citrate in amounts corresponding to from 38 to 40 per cent. each of the respective anhydrous salts (corresponding to 20 to 21 per cent. bismuth and 8.7 to 9.1 per cent. iron), the combination being rendered soluble in water by means of ammonia.

Bismuth and iron citrate (soluble) occurs in yellowish-green scales, readily soluble in water, having a saline, mildly ferruginous taste.

A solution of bismuth and iron citrate (soluble) is acid toward litmus; addition of dilute acids or of ammonia water renders the solution darker but does not cause precipitation; addition of sodium hydroxide T. S. causes formation of a reddish-brown precipitate and evolution of ammonia.

The iron content of bismuth and iron citrate soluble may be determined by the methods prescribed for ferri et ammonii citras U. S. P. The amount of bismuth is determined by precipitating by hydrogen sulphide from an acid solution, dissolving the bismuth sulphide obtained in dilute nitric acid, precipitating the bismuth from this solution by ammonium carbonate and weighing as bismuth oxide.

Actions and Uses.—It has the properties of iron and soluble bismuth salts. Its administration is proposed by the manufacturer in cases of dyspepsia accompanied by anemia, that the sedative action of bismuth may be exerted on the digestive organs, while the iron may combat the anemia.

Dosage.—0.3 to 0.65 Gm. (5 to 10 grains).

Manufactured by Burroughs, Wellcome & Co., London and New York. Not patented or trademarked.

BISMUTH AND LITHIUM CITRATE (SOLUBLE), Wellcome Brand—Bismuthi et Lithii Citras Solubilis, B. W. & Co.—Bismuth and lithium citrate (soluble), Wellcome brand, is a "scale salt" of bismuth and lithium citrate containing 40 to 45 per cent. of bismuth (Bi) and 2.5 to 3 per cent. of lithium.

Bismuth and lithium citrate (soluble) occurs in colorless scales, readily soluble in water. Its aqueous solution is acid toward phenolphthalein, but alkaline toward lithmus T. S.

Tests. If 1 Gm. of the salt is warmed with 10 Cc. potassium hydroxide no ammonia is evolved (absence of ammonium compounds).

Actions and Uses.—Recommended by the manufacturers as a convenient form of medication when the effects of both lithium and bismuth are desired, as in gouty dyspepsia.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains).

Manufactured by Burroughs, Wellcome & Co., London, England, and New York. Not patented or trademarked.
patented in U. S.

BORNYVAL.—Bornyval is a name applied to capsules containing borneol isovalerate $C_{10}H_{17}O.C_5H_9O$, the isovaleric acid ester of borneol, 0.25 Gm. (4 minims).

It is prepared by the condensation of equal molecular quantities of borneol and isovaleric acid.

Borneol isovalerate is a clear aromatic liquid, having an odor resembling oil of rosemary and at the same time a weak odor and taste of valerian. It is insoluble in water, but dissolves in all proportions of alcohol and ether. The liquid boils at 255° to 260° C. (417° to 426° F.) under ordinary pressure. At a pressure of 50 mm. it boils at 150° to 170° C. (302° to 338° F.). Its specific gravity is 0.945 to 0.951; it is dextrorotatory. The alcoholic solution 1:10 after the addition of a drop of phenolphthalein solution should be distinctly reddened by a drop of tenth-normal alkali.

Actions and Uses.—As borneol isovalerate forms a large part of oil of valerian, its action is similar to that of the official drug. It reduces reflex excitability and acts as a nervous sedative.

It is said to be useful in the various neuroses, especially those of the circulatory, digestive and central nervous systems.

Dosage.—0.25 to 0.75 Gm. (4 to 12 minims) from two to four times daily. It is best given after meals with some milk, coffee or similar drink to avoid eructations.

Manufactured by J. D. Riedel, Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). U. S. trademark No. 56,451. Not patented in U. S.

BROMETONE.—Tribrom-Tertiary-Butylalcohol. — Acetone-Bromoform.—Brometone is 1,1,1-tribrom-2-methyl-propan-2-ol, $CBr_3.C(OH)(CH_3).CH_3 = C_4H_7OBr_3$, produced by the reaction of acetone on bromoform.

Made by the action of caustic alkalies on a mixture of bromoform and acetone.

Occurs in fine white, prismatic crystals which possess a camphoraceous odor and taste. It is slightly soluble in water, soluble in alcohol, ether, benzin and most organic solvents. It melts at about 167° F. (332.6° F.) and volatilizes on exposure to air.

Actions and Uses.—Brometone is claimed to have the sedative action of the bromides without the disadvantage of producing bromism. In doses of 0.3 Gm. (5 grains) four or five times a day, in adults, it is claimed to cause no unpleasant results and to produce no disturbance of the digestive organs, and to have no appreciable effect on the secretions. Its action is prompt and its effect is manifest for several hours. In doses exceeding 1.6 Gm. (25 grains) daily it may produce dizziness, vertigo, anorexia, and mental hebetude, all of which symptoms disappear on discontinuance of its use. Therapeutically it has been said to be useful in mild conditions of excitation and insomnia, in so-called narcotic abstinence, in hysteria, and in nervous affections generally. It relieves some forms of cough and is said to produce amelioration in some cases of epilepsy. It has been used to relieve dizziness due to labyrinthine disturbances.

Dosage.—The dose is 0.3 Gm. (5 grains), dry or in capsules, to be repeated two or three times during twenty-four hours.

Manufactured by Parke, Davis & Co., Detroit, Mich. U. S. trademark.

BROMIPIN.—Brominized Sesame Oil. Merck.—Bromipin is a bromine addition product of sesame oil.

It is prepared by the action of bromine chlorid on sesame oil, in sufficient quantities, theoretically calculated, to produce the required brominization.

It is a yellow, oily liquid, having a purely oleaginous taste, and having a sp. gr. of 0.995 to 0.997.

If to 1 Cc. of bromipin in 1 Cc. of chloroform a few drops of phenolphthalein solution be added, the addition of one drop of half normal potassium hydroxide should produce a red color (limit of acidity). Estimation of bromine; 1 Gm. of bromipin 10 per cent., or 0.3 Gm. of bromipin 33⅓ per cent. is boiled with a solution of 2 Gm. of potassium hydroxide in 10 Cc. of alcohol until saponified. The solution is evaporated on a water bath, the residue is charred and the char is repeatedly extracted with small portions of water, and these are passed through a filter. To the filtrate 5 Cc. of nitric acid, 15 Cc. of tenth-normal silver nitrate and 1 Cc. ferric-ammonium sulphate test solution are added, and the excess of silver nitrate is determined with tenth-normal ammonium sulphocyanate. 1 Cc. tenth-normal silver nitrate=0.007936 Gm. of bromine.

Actions and Uses.—Bromipin acts like the bromides, but as it yields its bromine more slowly it is thought to have less tendency to produce brominism. The combination is not broken up in the stomach, but a portion of the bromine is split off as soon as the oil enters the intestine. The oil with the remaining bromine is easily absorbed, and, similarly to other fats, is largely deposited in the tissues, where it is slowly split up. It is said to be more lasting in its action than the bromides.

Dosage.—1.3 Gm. (20 grains) of 33 1-3 per cent. bromipin or 4 Cc. (1 fluidram) of 10 per cent., which may be increased in cases of epilepsy to from 2.6 to 10.4 Gm. (40 to 160 grains) of 33 1-3 per cent. bromipin or from 8 to 32 Cc. (2 to 8 fluidrams) of 10 per cent. bromipin. The liquid may be given in emulsion with peppermint water and syrup, or pure, flavored with oil of peppermint.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York.) U. S. patent No. 774,224 (Nov. 8, 1904; expires 1921). German patent No. 96,495.

Bromipin, 10 per cent.—Bromipin, 10 per cent. is a 10 per cent. brominized sesame oil.

Bromipin, 33⅓ per cent.—Bromipin, 33⅓ per cent. is a 33⅓ per cent. brominized sesame oil.

Capsules of Bromipin, 33⅓ per cent.—Each capsule contains bromipin 33⅓ per cent. 2 Gm. (30 grains).

Tablets of Bromipin, 33⅓ per cent.—Each tablet contains bromipin 33⅓ per cent. 1.2 Gm. (19 grains).

BROMO-MANGAN—Liquor Ferro-Mangani Bromopeptonati "Dieterich."—Bromo-mangan is Ferro-mangan Dieterich with the addition of 3 per cent. of bromopeptone. Bromopeptone contains 11 per cent. of bromine.

The process of preparation is the same as that given under Ferro-mangan "Dieterich" with the addition of a solution of bromopeptone.

Bromo-mangan is a clear dark brown liquid of agreeable odor and taste.

Method of Valuation: After determination of the percentage of iron and manganese, a test method should be employed as described by Dr. Karl Dieterich in Helfenberg Annals, 1901, pages 162-165, to ascertain the percentage of halogens in bromopeptone: About 0.5 bromopeptone should thoroughly mixed with a few grammes of a mixture of 1 part potassium nitrate and 2 parts sodium carbonate, either in a porcelain or platinum crucible. The mixture is then covered with a light layer of sodium carbonate, covered and carefully heated until reaction sets in. When finished a little potassium nitrate is added to obtain a smooth flux, then the molten mass is exposed to glowheat for about 15 minutes. After cooling the mass is dissolved in hot water, rinsed into a beaker, filtered, if necessary, acidulated with diluted acetic acid and bromate present reduced with sulphurous acid. The excess of acid is driven off by the heat, the liquid strongly acidulated with nitric acid, again heated, until the gas formation ceases, then precipitated while hot with silver nitrate. The silver bromide is collected on a weighed filter, washed with very dilute ammonia water, as the preparation contains hydrochloric acid, dried and weighed.

Actions and Uses.—Bromo-mangan is said to be a reconstructive tonic, blood-making adjuvant and a sedative.

It is claimed to be useful when anemia is associated with nervous disturbances, as in epilepsy, neurasthenia, hysteria, etc.

Manufactured by Chemische Fabrik Helfenberg A. G., near Dresden, Germany (Reinschild Chemical Co., New York). U. S. trademark No. 44,333.

BROMURAL. — Bromural $(CH_3.CH(CH_3)CHBr.CO)HN.CO.NH_2 = C_6H_{11}N_2O_2Br$, is 2-monobrom-isovaleryl-urea obtained by the interaction of urea with brom-isovaleryl bromide.

Bromural forms small, white, almost tasteless needles which are easily soluble in hot water, ether, alcohol and alkalies, but less readily in cold water. It sublimes on heating and melts in the neighborhood of 145° C. (293° F.).

Bromural can be precipitated from a 10 per cent. sodium hydroxide solution with acids. The presence of bromine may be demonstrated with fusion with sodium carbonate and potassium nitrate and testing for a bromide with silver nitrate solution. On heating the alcoholic solution of bromural with sodium ethylate for several hours on the water bath, sodium bromide will precipitate. If this be filtered off and the filtrate evaporated, a crystalline mass will remain which can be recrystallized from water. This is dimethylacrylic acid, melting at 280° C.

If 1 Gm. bromural be boiled for about 1 minute with 10 per cent. solution of sodium hydroxide, ammonia obtained from the urea will be given off.

If the hot liquid be then cooled, acidified with nitric acid and extracted with ether, and the ether evaporated an oily fluid, 1-brom-isoivaleric acid, which has the specific odor of valeric acid, will remain.

The biuret reaction cannot be obtained. On melting bromural and adding concentrated sodium hydroxide solution and copper sulphate, no color reaction will take place.

Actions and Uses.—Bromural is a nerve sedative which is claimed to produce sleep without markedly affecting the circulation or respiration. All action by bromural is said to cease after from three to five hours. In many cases, however, the sleep caused by the preparation continues beyond the limits of its action. It is claimed to be useful as a nerve sedative and for the purpose of inducing sleep in functional nervous diseases. Bromural does not produce the desired effects in cases of insomnia where pain, cough, angina pectoris and excitement or delirium exist.

Dosage.—As a nerve sedative 0.3 Gm. (5 grains) three times daily; as a specific at bedtime, 0.6 Gm. (10 grains), which dose may be repeated if needful during the night, after the action of the first dose has ceased.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany (Knoll & Co., New York. Merck & Co., New York). U. S. patent No. 914,518 (March 9, 1909; expires 1926). U. S. trademark No. 61,165. German patent No. 185,962.

Bromural Tablets, 5 grains.—Each tablet contains bromural 0.3 Gm. (5 grains).

BROVALOL.—Brovalol is bornyl brom-valerate, $CH_3.CH(CH_3).CHBr.COO(C_{10}H_{17}) = C_{15}H_{25}O_2Br$, the brom-isovaleric-acid ester of borneol. It contains 25.2 per cent. bromine.

Brovalol is obtained by esterification of borneol with bromisovaleric acid or its derivatives.

Brovalol is a colorless, oily liquid, having a slight aromatic odor. Under 10 mm. pressure it boils at 163° C. (325.4° F.). It is insoluble in water but soluble in alcohol, chloroform and ether.

Action and Uses.—Brovalol acts as an analeptic, antispastic and nervine. It is claimed to be well tolerated even in large doses and to possess greater sedative power than similar valeric acid derivatives, due to its bromine content.

Dosage.—0.25 to 0.75 Gm. (4 to 12 grains) several times a day. It is supplied only in capsules (pearls), each containing 0.25 Gm. (4 grains).

Manufactured by Chemische Fabrik auf Actien vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 930,054 (Aug. 3, 1909; expires 1926). U. S. trademark applied for.

BUTYL-CHLORAL HYDRATE—Butyl-Chloral Hydratum.—Trichlorbutylidene Glycol—Croton Chloral Hydrate—Butyl-Chloral Hydras (British Pharm., 1908). Butyl-chloral Hydrate is 2, 2, 3-trichlorbutan-1, 1,-di-ol, $CH_3.CHCl.CCl_2.CH(OH)_2 = C_4H_7O_2Cl_3$, a crystalline product obtained by the addition of water to the liquid butyl chloral (2, 2, 3,-trichlorbutanol, $CH_3.CHCl.CCl_2.CHO$).

Butyl-chloral hydrate occurs in pearly white, trimetric laminæ, having a pungent but not acrid odor, and an acrid, nauseous taste. It fuses at about 77.8° C. (172° F.) to a transparent liquid, which, in cooling, commences to solidify at about 71.1° C. (160° F.). It is soluble in about 50 parts of water, and its own weight of glycerin or of alcohol (90 per cent.); it slowly dissolves in 20 parts of chloroform. From a solution in alcohol it is precipitated by the gradual addition of water, in the form of globules said to consist of butyl chloral alcoholate $C_4H_7Cl_3O.C_2H_5OH$. The alcoholic solution is neutral and the aqueous solution neutral or but slightly acid to litmus. It gives no precipitate with test-solution of silver nitrate. It does not yield chloroform when heated with solution of potassium hydroxide or with milk of lime (absence of chloral hydrate).

Actions and Uses.—Its action is similar to that of chloral, except that it is said to be less depressing and more analgesic. It has been especially recommended for facial neuralgia.

Dosage.—0.3 to 1.3 Gm. (5 to 20 grains).

CALCIUM LACTATE—Calcii Lactas.—Calcium lactate, $Ca(C_3H_5O_3)_2.5H_2O$, is the calcium salt of lactic acid.

It is prepared in the manufacture of lactic acid by the lactic acid fermentation of sugar or by the neutralization of lactic acid by calcium carbonate.

It occurs in white crystalline masses or powder, odorless and tasteless. It is soluble in 9.5 parts of water, easily soluble in hot water. At 100° C. (212° F.) it loses water of crystallization.

If calcium lactate be heated gently with a mixture of sulphuric acid and potassium permanganate the odor of aldehyde will be given off. An aqueous solution of calcium lactate will throw down a white precipitate, insoluble in water and acetic acid, on the addition of a solution of ammonium oxalate.

Actions and Uses.—Calcium lactate has the pharmacologic action of other calcium salts. Being less irritating than the chloride, it may be given subcutaneously. It is used in the belief that it will increase the coagulability of the blood.

CALOMELOL—Hydrargyri Chloridum Mite Colloidale.—Colloidal Calomel.—Calomelol is a soluble colloidal form of calomel, containing albuminoids.

According to the patent it is prepared by acting on a solution of sodium chloride in presence of a proteid with mercurous nitrate and precipitating the water soluble colloidal calomel by means of alcohol. The precipitate is washed with alcohol, redissolved in water with the aid of a little alkali, and from this solution the colloidal calomel is obtained either by evaporation or by precipitation with alcohol.

It forms a white-gray, odorless and tasteless powder, containing 80 per cent. of mercurous chloride and 20 per cent. of proteids. It is soluble in water, forming an opalescent solution; insoluble in alcohol, ether and benzene. It is precipitated from its aqueous solutions by acids, the precipitate being redissolved by alkalies.

Actions and Uses.—Its action is the same as that of calomel but it is claimed to be superior because of its solubility in water, acting more rapidly and efficiently, and to be nonirritant and particularly non-toxic. The indications for its use are the same as for calomel.

Dosage.—Internally the same as calomel. Externally it is used as a dusting powder, mixed with an equal quantity of starch or of a mixture of starch and zinc oxide, or in the form of calomelol ointment. It should be guarded from the light.

Manufactured by the Heyden Chemical Works, New York. U. S. patent No. 740,855 (Oct. 6, 1902; expires 1920). U. S. trademark.

Calomelol Ointment.—Calomelol Ointment is an ointement containing 28 per cent. of mercury in the soluble form of calomelol (which see) and 2 per cent. in the insoluble form.

It is prepared by combining 45 parts of calomel with sufficient lard to make 100 parts.

Dosage.—6 Gm. (90 grains) daily for inunction in syphilis.

CARBOSANT.—Santalolis Carbonas.—Carbosant is santalyl carbonate, $CO(OC_{15}H_{23})_2 = C_{31}H_{46}O_3$, the carbonic acid ester of santalol.

Carbosant is produced by the chemical interaction of santalol with carbonyl chloride, $COCl_2$, and alkalies, or with carbonic acid esters.

Carbosant is an oily yellow fluid, almost tasteless and odorless, insoluble in water, and soluble in alcohol and ether. It contains 94 per cent. of santalol.

Carbosant is saponified when heated with an alcoholic solution of caustic alkali with the production of potassium carbonate and santalol, both of which can be identified by appropriate tests.

Actions and Uses.—The action of carbosant which is chemically broken up into its component parts in the intestine is identical with that of santalol, the active constituent of official sandal wood oil. It tends to diminish the secretions of the mucous membrane of the urinary tract, and to relieve pain in the urinary organs.

Carbosant is said to be useful in the treatment of gonorrhea, cystitis and prostatitis.

Dosage.—0.6 Cc. (10 minims) three times daily. It may be given in capsules, each containing 0.3 Gm. (5 grains), 2 capsules being given three times daily.

Manufactured by the Chemische Fabrik von Heyden at Radebeul near Dresden, Germany. (Heyden Chemical Works, New York.) German patent No. 182,627. Not patented in the United States. U. S. trademark applied for.

CEPHÆLINE—Cephælina.—Cephæline is an alkaloid, $C_{14}H_{20}NO_2$, obtained from ipecacuanha root.

Cephæline occurs as snow-white, fine, interlacing needles which readily turn yellow. It is soluble in ether and caustic soda solutions, melts at 96°-102° C. (204.8°-215.6° F.) and turns brown when heated to 120° C. (248° F.). With Fröhde's reagent, a freshly prepared solution of 0.1 Gm. sodium molybdate in 10 Cc. concentrated sulphuric acid, it gives a purple color which hydrochloric acid changes to prussian blue.

Actions and Uses.—These are identical with those of ipecac. It is relatively more emetic and less nauseant and causes relatively more renal irritation and less cardiac depression. It may be employed as an emetic and expectorant.

Dosage.—0.005 to 0.01 Gm. (1/12 to 1/6 grain) in pills or as a powder triturated with sugar of milk. The hydrochloride is soluble.

CHINOSOL.—Normal Oxychinolin Sulphate.—Chinosol is a normal oxychinolin sulphate $(C_9H_7ON)_2H_2SO_4$.

Chinosol is a yellow crystalline powder of saffron-like odor and burning taste. It melts at from 175° to 177.5° C. (347° to 351.5° F.). It dissolves readily in water but with difficulty in alcohol and it is insoluble in ether. The aqueous solution has an acid reaction.

A drop of solution of ferric chloride produces in a solution of chinosol a marked green coloration. Barium chloride produces a white precipitate. Solutions of alkaline hydroxides precipitate from an aqueous solution of chinosol a white precipitate, consisting of interlaced crystalline needles, which after filtration, washing and careful drying in a desiccator should melt at from 73° to 75° C. On incineration chinosol should not leave a weighable residue.

Actions and Uses.—So far as experimental evidence goes, chinosol is nontoxic. It is a powerful antiseptic, slightly stronger in this respect than mercuric chloride and considerably stronger than phenol. It exerts an antiseptic action in solutions containing 1 part to 5,000. It is a feeble germicide being weaker than phenol and much weaker than mercuric chloride.

Dosage.—For internal use 0.3 Gm. (5 grains) three times daily. As an antiseptic the average strength of solution is 1 to 1,000; as a nasal or vaginal douche, the strength should be 1 part to 5,000, and as an eye-wash 1 to 8,000, gradually increasing the strength of the solution according to the sensitiveness of the patient.

Manufactured by Franz Fritzsche & Co., Hamburg, Germany (Chinosol Co., Parmele Pharmacal Co., New York). U. S. patent No. 906,918 (Dec. 15, 1908; expires 1925). U. S. trademark No. 28,750.

CHLORALFORMAMIDE.

Chloralformamide is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physicians' Manual of the Pharmacopeia and National Formulary.

CHLORALAMID.—A name applied to Chloralformamidum, U. S. P.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany. (Schering & Glatz, New York). German patent No. 50,536; U. S. patents Nos. 429,039 and 429,040 (expired).

CHLORAL HYDRATE PREPARATIONS

ANTIPYRINE CHLORALHYDRATE—Antipyrinæ Chloralhydras.—Monochloral-Antipyrine.—Antipyrine Chloralhydrate, $C_{11}H_{12}N_2O.CCl_3CH(OH)_2 = C_{13}H_{15}N_2O_3Cl_3$, is antipyrine combined with one molecule of hydrated chloral.

It is prepared by triturating molecular proportions of antipyrine and hydrated chloral together, dissolving the resultant oily liquid in hot water and allowing the solution to cool.

It occurs in colorless octahedral crystals or a white crystalline powder, melting at 67° C. (152.6° F.). It is soluble in 10 to 11 parts of cold water, easily soluble in hot water, and in 3.5 parts of alcohol, forming neutral solutions.

The aqueous solution gives the usual reaction for antipyrine (a blood-red color with ferric chloride) and for hydrated chloral (turbidity and separation of chloroform when warmed with caustic alkali). Ammoniacal silver nitrate is reduced with the formation of a silver mirror, but the aqueous solution (1:10) acidified with nitric acid is not altered by silver nitrate nor precipitated by hydrogen sulphide. Antipyrine Chloralhydrate dissolves in concentrated sulphuric acid without coloration and leaves no weighable residue when incinerated on platinum.

It is incompatible with alkalies, their carbonates and bicarbonates and with metallic salts.

Actions and Uses.—Antipyrine Chloralhydrate is an analgesic and hypnotic resembling chloral in its action, but said to be less liable to produce injurious effects on the vasomotor center or the heart. It may be used where chloral is indicated, as in mild forms of mental excitement, incipient delirium tremens, and also in insomnia caused by pain.

Dosage.—1 to 2 Gm. (15 to 30 grains); although supposed to be less toxic than chloral, larger doses up to 3 Gm. (45 grains) should be used with caution. It may be given dissolved in water (1:10) flavored with syrup of orange or aromatic elixir.

Manufactured by Farbwerke, vorm. Meister, Lucius and Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

CHLORBUTANOL. — Trichlor-Tertiary-Butylalcohol — Acetone-Chloroform.—Chlorbutanol is 1,1,1-trichlor-2-methyl-propan-2-ol, $CCl_3.C(OH)(CH_3).CH_3 = C_4H_7OCl_3$, produced by the reaction of acetone on chloroform.

Made by the action of caustic alkalies on a mixture of chloroform and acetone. It is a white, crystalline, volatile compound having a camphoraceous odor and taste. It is soluble in water (8-1000), in fixed and volatile oils, and glycerin; very soluble in alcohol, ether, benzin, glacial acetic acid, chloroform and acetone.

Actions and Uses.—It is said to be absorbed unchanged from the alimentary tract, but to be decomposed in the body. It is a local anesthetic with an action weaker than that of cocaine, but sufficient frequently to prevent vomiting from gastric irritation. Its antiseptic action is said to be fifteen times as strong as that of boric acid. It acts on the central nervous system similarly to chloral, and although the claim has been made that hypnotic doses are without effect on the circulation and respiration independent observers have described a fall of blood pressure and interference with respiration in animals, and consider it fully as dangerous as chloral. In man 100 grains caused severe symptoms, but recovery occurred. It is claimed that no habit is induced, but this may be referable to its restricted employment. It is said to be useful as a mild local anesthetic in dentistry, etc., as a preservative for hypodermic solutions; for insomnia, vomiting, and for spasmodic conditions. It is also said to be useful as introductory to general anesthesia, lessening excitement and nausea.

Dosage.—0.3 to 1.5 Gm. (5 to 20 grains) dry or in capsules. Hypodermically as a local anesthetic a saturated aqueous solution may be used.

Proprietary Preparations:

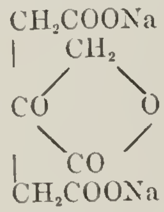
CHLORETONE.—A name applied to chlorbutanol by Parke, Davis & Co., Detroit, Mich. U. S. trade-mark.

Chloretone Inhalant.—Chloretone (chlorbutanol), 1 Gm.; camphor, 2.5 Gm.; menthol, 2.5 Gm.; oil of cinnamon, 0.5 Gm.; refined liquid petroleum, 93.5 Gm.

Actions and Uses.—An anodyne, antiseptic, and emollient solution for use by inhalation as a very fine spray or nebula.

METHAFORM.—A name applied to chlorbutanol by F. Stearns & Co., Detroit, Mich. U. S. trade-mark.

CITARIN.—Sodium Anhydromethylene Citrate.

Citarin,  $= Na_2C_7H_6O_7$ is the normal sodium salt of anhydromethylene-citric acid.

Anhydromethylene-citric acid is obtained by reacting on citric acid with paraformaldehyde (German patent No. 129,255) or with chlormethyl alcohol, CH_2ClOH (German patent No. 150,949). The sodium salt is obtained by treating the acid with sodium hydroxide solution and precipitating the resulting salt with alcohol (U. S patent No. 715,329).

It is a white, granular, somewhat hygroscopic powder, having a faintly saline and acidulous taste, and a slightly acid reaction. It is readily soluble in about 1.5 parts of water, but insoluble in alcohol. Its solutions split off formaldehyde when heated, particularly in the presence of alkalies, and mineral acids separate from its concentrated solutions methylenecitric acid.

Formaldehyde can be demonstrated by means of Jorrisson's reaction, or by sodium nitrite and sulphuric acid, or by silver nitrate and soda solution.

It is incompatible with acids and alkalies and is decomposed by heat.

Actions and Uses.—This is one of the compounds which it is claimed increase the elimination of uric acid by forming very soluble compounds with that substance. It is claimed to be useful for gout and chronic rheumatism

Dosage.—1 to 2 Gm. (15 to 30 grains), largely diluted with water.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 715,239 (Dec. 2, 1902; expires 1919).

Citarin Tablets, 15 grains.—Each tablet contains citarin 0.97 Gm. (15 grains).

COLLARGOL — Collargolum.— Colloidal Silver — Argentum Colloidale—Argentum Credé.—Collargol is a water-soluble, allotropic form of metallic silver, said to contain 85-87 per cent. of silver, and a small percentage of albumin with products of its oxidation.

Collargol occurs as small, hard, brittle, bluish-black, scale-like pieces. It is soluble in 20 parts of distilled water, producing a dark olive-brown solution which remains stable for months. No separate silver particles can be distinguished in the solution even when magnified to the highest degree under the microscope, and it has all the other characteristics of a solution. The addition of albumin to collargol prevents or delays its precipitation by acids and salts. A sufficient amount of albumin to prevent its precipitation under ordinary conditions is therefore added to collargol during its manufacture. Hence collargol, even when dissolved in spring or well water containing salts, undergoes no change, and it remains unaffected by boiling, whereas colloidal silver, containing no albumin, precipitates on being boiled.

A solution of collargol does not respond directly to the usual tests for silver. If the solution is warmed with nitric acid a white cloudiness is produced, which clears completely on standing and the silver can then be demonstrated in the usual manner. On heating a fragment of collargol on a platinum scoop, shining white metallic silver of the ordinary kind, insoluble in water, is at once formed.

Its solution should not be exposed to light or air; it is incompatible with the usual silver reagents.

Actions and Uses.—Collargol is claimed to be a systemic antiseptic and germicide.

Dosage.—In most cases it is best employed locally in the form of a 15 per cent. ointment (see Collargol ointment), 2 to 4 Gm. (30 to 60 grains) being very thoroughly rubbed into the skin; otherwise, in carefully filtered solutions, varying in strength according to the intended use; 2 per cent. to 5 per cent. for intravenous injections, 1/50 per cent. to 1 per cent. solutions for washes; 5 per cent. dusting powder, prepared with finest clay; in the form of bougies containing 0.2 Gm. (3 grains), and vaginal suppositories and tampons each containing 0.05 Gm. (¾ grain), for parenchymatous injections in 0.5 per cent. to 1 per cent. glycerin solutions. Internally a solution of 1:500 to 1:100 is given freely in teaspoonful doses added to the food, in infectious gastric and intestinal diseases. It is also given in tablets containing 0.06 Gm. (1 grain).

Manufactured by the Heyden Chemical Works, Radebeul, Germany, and Garfield, N. J. (Schering & Glatz, New York). U. S. trademark No. 32,452.

Collargol Ointment—Unguentum Credé.—Ointment of Colloidal Silver.—Collargol Ointment is an ointment containing 15 per cent. of collargol.

It is prepared by incorporating 15 parts of collargol with 5 parts of water, 10 parts of white wax, and 70 parts of benzoinated lard, observing care that the soluble silver shall not be transformed into metallic silver of the ordinary kind. This, it is asserted, it is prone to do unless great care is observed in the manipulation.

The natural color of collargol ointment is dark bluish-gray. The addition of water may impart to the ointment a brownish shade; this does not, however, in any way impair its efficiency. The ointment is good as long as it colors the skin black.

CONIINE HYDROBROMIDE—Coniinæ Hydrobromidum.—Coniine hydrobromide is the hydrobromide, $C_8H_{17}N.HBr$, of an alkaloid found in conium.

Coniine hydrobromide occurs as colorless, transparent, glistening rhombic crystals, or as a white crystalline powder, melting at 210-214° C. (410-417° F.). It is soluble in two parts of water, in three parts of alcohol, and in ether-alcohol, but insoluble in ether. The solutions are colorless and neutral. The salt contains 61.09 per cent. of coniine.

Evaporated with an excess of sulphuric acid, coniine hydrobromide becomes red, violet, blue and finally brown. An aqueous solution of the salt mixed with magnesium carbonate or oxide, and shaken with carbon bisulphide, colors the latter yellow. Addition of silver nitrate solution to a solution of coniine hydrobromide causes precipitation of yellow silver bromide; iodine test solution precipitates a reddish-brown body and tannic acid a yellowish-white compound. Coniine hydrobromide should burn when ignited, leaving no residue.

Actions and Uses.—Coniine hydrobromide paralyzes the peripheral endings of the motor nerves, producing an ever-increasing muscular weakness. To a less degree it affects the sensory nerves. With lethal doses consciousness is retained to the last. It probably depresses the spinal cord feebly and usually dilates the pupils. In therapeutic doses it is said to increase the temperature but in lethal doses it lowers it; convulsions may appear and death results from paralysis of respiration.

Coniine hydrobromide may be used for the same purpose as conium. It has been tried in chorea, paralysis agitans, whooping cough, and is said to produce a condition of calm and relaxation in maniacal and hysterical excitement. It is a dangerous remedy.

Dosage.—0.001-0.003 Gm. (1/60 to 1/20 grain) three times a day. Maximum single dose 0.005 Gm. (1/12 grain); maximum daily dose 0.015 Gm. (¼ grain). For hypodermic use a 5 per cent. solution is used.

COPPER CITRATE.—Cuprum Citricum.—Cupric Citrate.—Copper citrate is the cupric salt of citric acid, containing 34 to 36 per cent. of copper.

It occurs as a green, or bluish-green, finely crystalline, odorless powder. It is but slightly soluble in cold water. Somewhat more soluble in a cold solution of an alkali citrate, forming a greenish blue solution. More soluble in a hot solution of an alkali citrate; also soluble in ammonia water and in mineral acids.

When dissolved in ammonia water copper citrate yields an intense blue solution.

When heated to 90° C. (194° F.) the salt loses water of hydration and assumes a pale blue color. At higher temperature it blackens and at a low red heat leaves a black residue of cupric oxide.

Copper citrate should contain copper equivalent to from 34 to 36 per cent. of metallic copper.

If about 1 Gm. of copper citrate be dissolved in 20 Cc. of diluted hydrochloric acid, the solution diluted to 200 Cc. with hot distilled water, the mixture saturated with hydrogen sulphide, filtered, and the filtrate evaporated nearly to dryness on the water bath, the residue should respond to the usual tests for citric acid.

If 0.5 Gm. of copper citrate be dissolved in 10 Cc. of diluted hydrochloric acid and 1 Cc. of barium chloride test solution be added no turbidity should at once occur (limit of sulphate).

A solution of 0.5 Gm. of the salt in 10 Cc. of diluted sulphuric acid should not evolve any odor of acetic acid when boiled.

The salt should be free from nitrates, chlorides and carbonates.

Actions, Uses and Dosage.—Copper citrate possesses the astringent and antiseptic properties of other salts of copper somewhat modified by its sparing solubility.

It may be used for the same purposes and in doses similar to those of other salts of copper.

Non-Proprietary Preparations:

Copper Citrate, Mallinckrodt.—Manufactured by the Mallinckrodt Chemical Works, St. Louis, Mo.

Copper Citrate Ointment, 5 per cent., M. E. S. Co.—An ointment containing 5 per cent. of copper citrate and 95 per cent. of white petrolatum, without alcohol or preservative. Manufactured by the Manhattan Eye Salve Co., Owensboro, Ky.

Copper Citrate Ointment, 10 per cent., M. E. S. Co.—An ointment containing 10 per cent. of copper citrate and 90 per cent. of white petrolatum, without alcohol or preservative. Manufactured by the Manhattan Eye Salve Co., Owensboro, Ky.

CORYFIN.—Ethylglycolic Acid Ester of Menthol.—Coryfin is menthyl ethylglycolate, $CH_2(O.C_2H_5).COO(C_{10}H_{19}) = C_{14}H_{26}O_3$, the ethylglycolic acid ester of menthol.

It is prepared by the action of ethyloxyacetyl chloride on menthol. Coryfin is a limpid, colorless oil, having a very faint menthol odor. It boils under 20 mm. pressure at about 155° C. (311° F.) and is soluble in alcohol, ether and chloroform; difficultly soluble in water.

When heated with caustic alkalies it is split up into menthal and ethylglycolic acid. When incinerated on platinum foil it leaves no residue. Aqueous solutions must not have an acid reaction and must be free from chlorine and sulphuric acid.

Actions and Uses.—Soon after its application to the skin or mucous membranes a cooling effect is produced, said to be due to the splitting off of menthol, to which the pharmacologic actions of the remedy are to be ascribed.

Coryfin is said to be useful as a substitute for menthol in nervous headaches, coryza and conditions of hoarseness and pharyngeal irritation.

Dosage.—In headache it may be lightly rubbed in or painted on the forehead, avoiding contact with the eyes; in coryza it may be applied to the mucous membrane with a brush or as a spray. In throat affections a few drops (3 or 4) may be placed on a lump of sugar and allowed to dissolve in the mouth, or mixed with tepid water and used as a gargle.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 836,914 (Nov. 27, 1906; expires 1923). U. S. trademark No. 43,416.

COTARNINE HYDROCHLORIDE—Cotarninæ Hydrochloridum.—Cotarnine Hydrochloride, $C_{12}H_{13}O_3N.NCl$, is the cotarnine salt of hydrochloric acid. Cotarnine is an oxidation product of narcotine, similar to hydrastinine.

It is prepared by boiling narcotine for a long time with water or by heating it with dilute nitric acid and converting the basic product obtained into the hydrochloride.

It is a yellow, crystalline powder, soluble in water and in alcohol. Its melting point is indefinite.

If to a solution of cotarnine hydrochloride tenth-normal iodine V. S. is added, a brown precipitate of coatrnine periodide is produced, which if collected and dried over sulphuric acid melts at 140° C. (284° F.).

If to a solution of 0.1 Gm. cotarnine hydrochloride in 2 Cc. of water 3 drops of a 15 per cent. sodium hydroxide solution are added, each drop will produce a milk-white precipitate which dissolves on agitation After a time the free base separates from the clear solution, leaving the supernatant liquid clear and but faintly yellow. The base, after recrystallization from benzene, melts, with decomposition, at 130° C. (266° to 269.6° F.).

Actions and Uses.—Cotarnine hydrochloride is a hemostatic, analgesic and uterine sedative. The mechanism of its action is obscure.

It is said to be useful particularly in functional dysmenorrhea of puberty and of the climacteric; in subinvolution of the uterus after parturition and abortion, as well as in all profuse uterine hemorrhages; in bleeding from the bladder, from the nose, after extraction of teeth, etc.

Dosage.—Internally 0.05 Gm. (¾ grain) four to five times daily. Because of its intensely bitter taste, it is best given in the form of coated tablets, pills, or capsules; or by hypodermic injection (in urgent cases) 2 Cc. of a 10 per cent. solution; externally, as a styptic, pure or in strong solution.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

COTARNINE PHTHALATE—Cotarninæ Phthalas.—Cotarnine phthalate $(C_{12}H_{13}O_3N)_2C_6H_4(COOH)_2$, is the cotarnine salt of phthalic acid.

The base cotarnine, obtained from narcotine by oxidation with dilute nitric acid, is combined with phthalic acid to form the neutral salt.

It is a yellow, microcrystalline powder, easily soluble in water. The base is recognized by the tests given under cotarnine hydrochloride.

Actions and Uses.—Cotarnine phthalate is said to have hemostatic and pronounced sedative properties. Its modus operandi is unknown. Its action resembles that of cotarnine hydrochloride, but phthalic acid compounds have especial hemostatic properties. Cotarnine phthalate is said to be useful in uterine hemorrhage.

Dosage.—Internally in sugar-coated tablets of ¾ grain each, 3 to 5 tablets a day (up to 9 tablets a day in cases of dysmenorrhea). Locally as a dusting powder. By subcutaneous injection (3 grains dissolved in 30 minims of water) for quick arrest of severe hemorrhage.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. U. S. patent No. 742,532 (Oct. 27, 1903; expires 1920).

CREOSOTE CARBONATE.—Creosote Carbonate is a mixture of carbonic acid esters, analogous to guaiacol carbonate, prepared from creosote.

It is prepared by passing a current of carbonyl chloride into a solution of creosote in sodium hydroxide, and purifying the oily product by washing with weak soda solution and with water.

It is a yellowish, thick, honey-like, perfectly clear and transparent liquid, containing 92 per cent. of creosote. It is odorless and has a bland oily taste. It is insoluble in water, but soluble in alcohol, ether, chloroform, benzene and in fixed oils.

The addition of a few drops of ferric chloride solution to the alcoholic solution should not cause any change in color. On boiling with potassium hydroxide solution the odor of creosote is evolved.

It is incompatible with alkalies.

Actions and Uses.—Creosote Carbonate has the same action as creosote, but is claimed to be non-toxic and devoid of irritant properties. It is recommended as a substitute for creosote for internal exhibition in tuberculosis, pneumonia, and as an intestinal antiseptic.

NOTE: The Council would note that any claims of non-toxicity that are made for drugs that have or are supposed to have important general effects are admitted to this book only when they do not conflict with known facts. In all such instances, however, it is recommended that a lack of toxicity be not accepted too freely but be considered to mean only that toxic effects have not as yet been recognized with the doses that have been studied. The most sincere and apparently justified beliefs concerning this point are often ultimately reversed by extended experience. Much the same may be said regarding any claims that drugs are non-irritating.

Dosage.—From 0.3 to 2.0 Gm. (5 to 30 grains) for children, to 1 to 4 Gm. (15 to 60 grains) for adults in milk, coffee, wine, cod-liver oil or emulsion. Externally it may be applied undiluted.

Proprietary Preparations:

CREOSOTAL.—A name applied to Creosote Carbonate.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 501,235 (expired); U. S. trademark.

CREOSOTAL-Heyden.—A name applied to Creosote Carbonate.

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York). U. S. patent No. 501,235 (expired). U. S. trademark.

DIASPIRIN.—Diaspirin is succinyl disalicylic acid, $CO(O.C_6H_4.COOH).CH_2.CH_2.CO(O.C_6H_4.COOH)$.

Diaspirin is a salicylic acid derivative, produced by the interaction of the two carboxyl groups of succinic acid with the phenolic hydroxyls of two molecules of salicylic acid, with the elimination of 2 molecules of water, thus: $COOH.CH_2.CH_2.COOH + 2HO.C_6H_4.COOH = CO(O.C_6H_4.COOH).CH_2.CH_2.CO(O.C_6H_4.COOH) + 2H_2O$.

It is prepared by the action of succinyl dichloride upon salicylic acid.

Diaspirin is an odorless and almost tasteless white crystalline powder, said to melt at about 178° C. (352.4 F.) (Specimens examined by the Council were found to melt at 168° C. Corr.) Soluble with difficulty in cold alcohol and glacial acetic acid; scarcely soluble in water. By heating with caustic alkalies it decomposes into succinate and salicylate. Diaspirin is a dibasic acid which reacts with bases, organic or inorganic, to form salts.

Diaspirin produces the effects of salicylates. The following special claims are made for it: That it passes unchanged through the stomach, producing no irritation, but is split into its constituents in the intestine; that it exerts a strong diaphoretic effect.

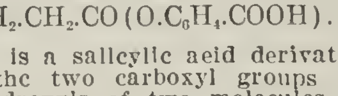
Actions and Uses.—The same as those for salicylic acid.

Dosage.—1 Gm. (15 grains) three or four times daily.

Manufactured by the Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken, of Elberfeld Co., New York). U. S. patent No. 874,929 (Dec. 31, 1907; expires 1924). U. S. trademark applied for.

DIETHYL-BARBITURIC ACID AND COMPOUNDS

VERONAL — Veronalum. — Acidum diæthyl-barbituricum. Diethyl malonyl urea. Malo-urea. Veronal is diethyl-barbituric acid, 2, 4, 6-trioxy-5-diethyl pyramidin.



$= C_8H_{12}O_3N_2$,

a ureide derived from diethylmalonic acid, $COOH.C(C_2H_5)_2.COOH$, and urea, $CO(NH_2)_2$.

It may be prepared by the interaction of esters of diethylmalonic acid with urea in the presence of metallic alcoholates. (U. S. patent No. 782,739.) It is also obtained by condensation of diethylcyanacetic ester with urea by means of sodium alcoholate.

It is a white, crystalline powder, melting at about 188° C. (370.4° F.), odorless and faintly bitter. It is soluble in about 150 parts of cold water, and in about 12 parts of boiling water. It is quite soluble in ether, acetone and ethyl acetate; also slightly soluble in chloroform, petroleum benzin, acetic acid and amyl alcohol. It forms salts with alkalies which are soluble in water.

Prolonged heating with sodium carbonate solution liberates ammonia. Denninges' reagent produces a white precipitate; Millon's reagent produces in solution acidulated with nitric acid a precipitate soluble in an excess of the reagent.

Actions and Uses.—Diethyl-barbituric acid is quickly absorbed, especially when it is given in solution. In small doses it induces sleep apparently without any other effect. In larger doses the temperature falls and animals show marked trembling and restlessness in their sleep. In small doses it is a relatively safe hypnotic, but fatalities have followed its indiscriminate use.

It is used in simple insomnia, as well as in that accompanying hysteria, neurasthenia and mental disturbances.

Dosage.—0.3 to 1 Gm. (5 to 15 grains) in hot water, tea or milk, or, if in wafers or capsules, followed by a cupful of some warm liquid.

Manufactured by Farbenfabriken, vorm. Friedr, Bayer & Co., Elberfeld. Germany, and E. Merck, Darmstadt, Germany. (Farbenfabriken of Elberfeld Co., New York, and Merck & Co., New York.) U. S. patent No. 782,739 (Feb. 14, 1905; expires 1922). U. S. trademark.

Veronal Tablets, 5 grains.—Each tablet contains veronal 0.33 Gm. (5 grains).

SODIUM DIETHYL-BARBITURATE.—Sodii Diæthyl-barbituras.—Sodium diethylbarbiturate, Na $(C_8H_{11}O_3N_2)$ is the mono-sodium salt of diethyl-barbituric acid.

Sodium diethyl-barbiturate occurs as a white, crystalline powder, soluble in 5 parts of water at 15° C. and in about 2 parts of boiling water. The aqueous solution of the salt has a bitter alkaline taste.

The salt contains 11.18 per cent. sodium (Na) and should yield about 89 per cent. (theory requires 89.31 per cent.) diethyl-barbituric acid (Journal, Jan. 23, 1909, vol. 52, p. 311).

Action and Uses.—The same as diethyl-barbituric acid, but claimed to act more rapidly on account of its greater solubility. Because of its solubility, administration by rectal injection and also subcutaneous injection has been proposed.

Dosage.—The same as diethyl-barbituric acid, which see. It should be administered in aqueous solution.

Proprietary Preparations:

MEDINAL.—Medinal is a name applied to sodium diethylbarbiturate.

Manufactured by Chemische Fabrik auf Actien vorm E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 780,241 (Jan. 17, 1905; expires 1922); 879,499 (Feb. 18, 1908; expires 1925). U. S. trademark applied for.

Medinal Suppositories, 7½ grains. Each suppository contains medinal 0.5 Gm. (7½ grains) incorporated with oil of theobroma.

Medinal Tablets, 5 grains.—Each tablet contains medinal 0.33 Gm. (5 grains).

VERONAL-SODIUM.—Veronal-sodium is a name applied to sodium diethyl barbiturate.

Manufactured by Farbenfabriken, vorm,. Friedr. Bayer & Co., Elberfeld, Germany, and E. Merck, Darmstadt, Germany. (Farbenfabriken of Elberfeld Co., New York, and Merck & Co., New York). U. S. patent and trademark. (See Veronal.)

Veronal-Sodium Tablets, 5 grains.—Each tablet contains veronal-sodium 0.32 Gm. (5 grains).

Prepared by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.)

DIGESTIVE FERMENTS.

Valuation of Ferments: Qualitative tests for the activity of ferments can be easily applied, but such qualitative results have very little importance. Quantitative results also are important only in so far as they permit comparison with other ferments; and for this purpose the minutest details of the methods must be accurately observed. After investigation, the Council has decided to employ the following quantitative methods in its work:

1. *Amylolytic Power:* (For diastases, malt and pancreas preparations.) The Council does not approve the methods which are based on the time of change from blue to red color given by iodin; or the time of disappearance of all color; but instead it has adopted as the standard the amount of starch that can be converted to colorless end point in 10 minutes, by a given weight of the product, working according to the details described. (The Journal A. M. A., July 11, 1908, p. 140, and Journal Am. Chem. Soc., 1908, Vol. 30, p. 798.)

2. *Proteolytic Power in Alkaline Media:* (For trypsin and pancreatic preparations.) The approved methods are based on the quantity of fresh fibrin or coagulated egg albumen, which is dissolved by a given weight of the substance, in a slightly alkaline medium and in a given time.

3. *Proteolytic Power in Acid Media:* (For pepsin and gastric preparations.) This is determined by the U. S. P. method.

4. *Milk-Curdling Power:* (For rennet and gastric preparations.) The method is based on the quantity required to coagulate 100 Cc. of milk.

Incompatibilities: Ferments are more or less rapidly destroyed by boiling, by alcohol, by many salts, by unsuitable reaction of vehicle, by putrefaction, and by proteolytic digestion. Solutions of ferments tend to deteriorate on keeping.

Ferments are generally destroyed by each other, and also during their sojourn in the stomach; little therapeutic action can be secured beyond this organ, at least under ordinary conditions.

Therapeutic Indications.—The digestive ferments are used outside the body to predigest food. They are often applied locally for the softening of dead tissues or the solution of false membranes. They are administered internally for the purpose of supplementing or replacing deficient or absent normal secretions. In such cases they should be administered in such manner and at such times as to secure the most favorable conditions for their action. Diastases should be given with the food or before the stomach becomes highly acid. Trypsin and other ferments which are to act in the intestine should be given near the end of gastric digestion with sufficient alkali to neutralize the acid of the gastric juice. There is little if any reliable evidence that these latter ferments have any activity except in cases in which hydrochloric acid is absent from the stomach contents. In cases which present a total or nearly total lack of acid in the stomach they may be given with alkali at meal time or soon after the meal is taken.

Pancreatic Preparations.

DIAZYME ESSENCE.—A liquid stated to contain the amylolytic enzyme of the pancreas, devoid of trypsin and lipase in a menstruum containing 18.5 per cent. of alcohol by volume.

Diazyme essence is an amber fluid of aromatic taste and odor and slightly acid reaction.

One Cc. will convert 200 Gm. of pure starch mucilage, containing 8 Gm. of dry starch, the mixture being kept at 40° C., so that the solution will cease to give a color reaction with iodine at the end of ten minutes.

Actions and Uses.—Diazyme is capable of digesting starch and is claimed to be useful to compensate for deficient salivary and pancreatic action in the digestion of starch.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams).

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 44,878.

DIAZYME GLYCEROLE.—A liquid stated to contain the amylolytic enzyme of the pancreas, devoid of trypsin and lipase, in a menstruum containing about 60 per cent. of glycerin by volume.

It is a dense amber fluid, of agreeable taste and odor, and of slightly acid reaction.

One Cc. will convert at 40° C. 200 Gm. of pure starch mucilage, containing 8 Gm. dry starch, so that the solution will cease to give a color reaction with iodin in 10 minutes.

Actions, Uses and Dosage.—See Diazmye Essence.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 44,878.

GLYCEROLE TRYPSIN-Armour.—Glycerole trypsin is a 70 per cent. glycerin solution containing approximately 5 per cent. of trypsin powder.

Glycercole trypsin-Armour is prepared directly from the fresh pancreas of the hog.

It is a yellowish to brownish clear liquid of sweetish taste and peculiar characteristic color. Its incompatibilities are the same as those of trypsin. It should be kept in a cool place.

The strength of glycerole trypsin is tested in the same way as that of trypsin, using 3 to 5 Cc. of glycerole trypsin for 10 Gm. of moist blood fibrin.

Actions and Uses.—It is intended for internal and hypodermic use in the treatment of cancer.

Dosage.—Internally 4 to 8 Cc. (1 to 2 fluidrams) three times daily. Hypodermically 0.3 Cc. (5 minims) every other day, gradually increased, depending on the patient. This dose should be diluted with two or three volumes of sterile normal salt solution, using aseptic precautions and employing some local anesthetic.

Manufactured by Armour & Co., Chicago.

HOLADIN—Extractum Pancreaticum Integrum.—An extract of the entire pancreas containing all the constituents of the gland and exhibiting great potency in respect to the several known enzymes, trypsin, amylopsin, lipase and the milk-curdling ferment.

Holadin is a grayish-white powder, slightly aromatized, somewhat hygroscopic, freely but not wholly soluble in water.

Tests.—The tryptic power is tested as follows: 0.10 Gm. is placed in a flask, mixed by agitation with 25 Cc. of tepid water containing 0.20 Gm. sodium bicarbonate; at once 100 Cc. of milk at 40° C. is added, and then the flask kept in a water bath at 40° C. From time to time small portions are withdrawn in a beaker glass, when the addition of a few drops of dilute acetic acid will show a constant diminution in the volume and character of the curd until finally only minute, flocculent coagula are observed. Holadin should not remain in contact with sodium bicarbonate for more than a brief interval before adding the milk, as its enzymic power is rapidly decreased thereby.

To test for the fat splitting action, 0.10 Gm. of holadin is mixed with 25 Cc. of water and 100 Cc. of milk and maintained at 40° C. In about 15 minutes the presence of fatty acids can be detected by odor and taste and confirmed by chemical tests.

The action of the milk-curdling ferment is shown in the following way: 0.02 Gm. holadin is mixed with 10 Cc. water in a beaker and then 100 Cc. fresh milk, previously warmed to 40° C., poured on, with sufficient stirring to mix thoroughly, and the mixture digested, without agitation, in a water bath at 40° C. In a few minutes the milk will begin to show the characteristic evidences of curdling similar to that produced by the milk-curdling ferment of the gastric juice. When the milk, however, has acquired a semi-solid, jelly-like consistency, if it then be stirred constantly with a glass rod, the curd will break down, become diffusible and in time disappear, a behavior which is in marked contrast to the action of the milk-curdling ferment of the gastric juice which causes the formation of a firm curd, easily separable from the whey.

The starch-converting power is determined as follows: Triturate 15 Gm. of arrowroot or potato starch with 500 Cc. of distilled water, boil for 10 minutes, allow to cool, and make up to 500 Cc. with distilled water. Prepare an iodin test solution by diluting 0.5 Cc. of Liquor Iodi Compositus, U. S. P., with water to make 500 Cc. and have ready sufficient number of tubes containing an equal quantity of this solution.

Triturate 0.130 Gm. holadin in a perfectly dry mortar with 1.170 Gm. of lactose. Place 100 Gm. of the starch mucilage in a Florence flask in a water bath at 40° C, and mark "A"; place in the water bath also another flask of the same content and mark "B." Add to flask "A" 0.20 Gm. of the holadin triturate; to flask "B" add 0.05 Gm. of the holadin triturate; maintain both flasks in the water bath at 40° C. At the expiration of ten minutes withdraw from flask "A" one drop of the solution and add to one of the tubes of the iodine solution, when no coloration will occur. At the end of fifty minutes take one drop from flask "B" and add to one of the tubes of iodine solution, and at intervals of a few minutes repeat this; in about sixty minutes, no coloration, or at the most a very faint coloration, will appear. Under these circumstances, one grain of holadin will convert 135 grains of starch completely in ten minutes, and 600 grains in about sixty minutes.

Actions and Uses.—Holadin has power to digest starch and proteids and to split fats. It is claimed to be useful in various diseases in which digestion of food is imperfect.

Dosage.—Holadin is furnished only in capsules, each capsule containing approximately three grains. One capsule should be given about three hours after meals and one capsule at bedtime. The dose can be gradually increased to two or three capsules at a time.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 60,625.

Holadin and Bile Salts, Fairchild.—This preparation is a mixture of Holadin 5 parts with Bile Salts, Fairchild (which see) 1 part, put up in 3 grain capsules, containing holadin approximately 0.15 Gm. (2½ grains), and bile salts 0.03 Gm. (½ grain).

Dosage.—One capsule about three hours after meals and one capsule at bedtime.

PANASE.—Panase is a combination of the digestive enzymes of the pancreas derived from the pancreatic gland of the pig.

It is prepared by macerating the gland and extracting the enzymes together with a small amount of the proteid matter of the gland.

Panase is a light, yellowish white powder having a slight odor and somewhat mucilaginous taste. It is not entirely soluble in water or glycerin, owing to the small amount of protein present. Filtration of its solution, however, does not impair its digestive activity.

It is incompatible with strong alcohol, acids, alkalies, and other substances which destroy the activity of ferments.

Panase should possess the diastasic, proteolytic, milk curdling, and fat splitting properties of the pancreatic juice. It converts 200 times its weight of hydrous starch to loss of blue iodine reaction in ten minutes when tested according to the method of Blome (Pharm. Rev., 1906, vol. 24, p. 260). According to the method adopted by the Council it converts 113 parts of anhydrous starch to the colorless end point in ten minutes (Journal A. M. A., July 11, 1908, p. 140; Jour. Am. Chem. Soc., May, 1908, p. 798). For the methods of testing for the different enzymes see Pancreatic Preparations.

Actions and Uses.—Panase is intended to be used in cases in which it is believed that the enzymes of the pancreas are deficient or in which it is desired to hasten the digestion of starch.

Dosage.—0.13 Gm. (2 grains) or more.

Manufactured by Frederick Stearns & Co., Detroit, Mich.

Panase Essence.—Essentia Panasi. A mixture containing in each 100 Cc., 4 Gm. of panase in a menstruum containing 14 per cent. of alcohol and 12.5 per cent. of glycerin with small amount of flavoring matter and sugar. Dose 4 Cc. (1 fluidram) containing 0.16 Gm. (2¾ grains) of panase.

Panase Tablets.—Each tablet contains panase, 0.13 Gm. (2 grains).

TRYPSIN-Armour.—Trypsin is the proteolytic ferment of the pancreas.

Trypsin-Armour is prepared from the fresh pancreas of hogs with the view of retaining the proteolytic ferment in an especially active condition. It has been activated by enterokinase

It is a light yellow powder, possessing a faint odor and a meat-like taste. It is not completely soluble in water at once, but dissolves almost entirely in time. It is insoluble in alcohol and ether. Free acids (in more than traces), pepsin and large amounts of alkalies are incompatible. Solutions of trypsin should not be exposed to a temperature above 40.6° C. (105° F.).

The proteolytic power of trypsin is determined by digesting 10 grams of fresh moist blood fibrin in 50 Cc. of solution of sodium carbonate, 0.4 per cent., to which has been added 0.150 to 0.300 Gm. of the trypsin powder, maintaining the mixture at 40° C. (104° F.) for one hour, and shaking by rotation every ten minutes. The fibrin used is washed free from blood with cold water and then chopped, using an Enterprise meat chopper with plate having 5/64 inch perforations. The hashed fibrin is pressed lightly in a cloth, mixed, and is then ready for use. The residue left after one hour's digestion is compared with the amount left by employing a standard sample of trypsin powder under exactly the same conditions at the same time.

Actions and Uses.—Trypsin has the power of digesting proteid materials; it acts best at 40° C. (104° F.) and in a slightly alkaline medium.

When applied locally in solutions made slightly alkaline by sodium carbonate, it dissolves diphtheritic and other false membranes. It is claimed to have the power of destroying the cells of cancer without acting on the healthy tissue. These claims, however, are not generally accepted.

Dosage.—Trypsin is applied locally by means of a brush or as a spray. About 0.4 Gm. (6 grains) are mixed with 0.13 Gm. (2 grains) sodium bicarbonate and triturated in a mortar while adding 1 or 2 drams of distilled water, then warmed to 38° to 40.6° C. (100° to 105° F.) and applied immediately. The application may be repeated several times an hour if necessary, a fresh solution being made before each application. The internal dose is 0.13 Gm. (2 grains) or more three times daily. It should not be used for hypodermic injection.

Manufactured by Armour & Co., Chicago.

Milk Curdling Ferments.

PEGNIN—Milk Sugar Rennet.—The milk-curdling enzyme of calf's rennet, diluted with sugar of milk and sodium chloride.

Pegnin is prepared by mixing pure rennin with milk sugar and sodium chloride.

It is a fine white powder, having a sweet, saline taste, readily soluble in water, and forming a solution which readily and rapidly coagulates the casein of milk.

On adding 2 Gm. of pegnin to 200 Gm. of milk, which has been boiled and cooled to 40° C. (104° F.), and shaking the mixture, the milk should be completely coagulated in from 3 to 4 minutes, and after vigorously shaking the curd should be finely divided and equally distributed throughout the liquid. A solution of 1 Gm. of pegnin in 50 Cc. of water should require 17 to 17.5 Cc. of tenth-normal silver nitrate for complete precipitation, equivalent to 10 per cent. sodium chloride.

It is incompatible with a temperature higher than that indicated for the fermentative action.

Actions and Uses.—Producing a finely divided coagulum, it obviates the formation of the clotty curds which are liable to be produced when untreated cow's milk is taken as food. Cow's milk coagulated with pegnin as described below has been used for infant feeding and as a food for adults in stomach affections and in disturbances of the digestion incident to infectious diseases, in hyperacidity, etc.

Dosage.—8 to 10 Gm. (120 to 150 grains) of pegnin are required for 1 liter (34 fluidounces) of milk previously boiled and cooled to about 40° C. (104° F.). The mixture, after brief shaking, is allowed to stand 2 to 3 minutes, or until it is completely coagulated, and then shaken vigorously during several minutes until the coagulum has been converted into a smooth, homogeneous mixture, and set aside in a cool place. For infants it is transferred to the nursing bottle as required and heated in warm water to the body temperature (37.5° C., 99.5° F.) before feeding.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 700,631 (May 20, 1902; expires 1919).

Peptic Preparations.

ELIXIR OF ENZYMES.—Elixir of enzymes is a solution containing pepsin and rennet in a menstruum containing 20 per cent. of alcohol.

Elixir of enzymes is a light yellow, palatable, liquid preparation. One part digests about 20 parts of coagulated egg albumin in 2½ hours. Eight Cc. (2 fluidrams) coagulate 500 Cc. (one pint) of milk in a few minutes.

Actions and Uses.—It is claimed to be useful as an aid to digestion and as a vehicle for various drugs.

Dosage.—1 to 8 Cc. (1 to 2 fluidrams) with meals; children in proportion.

Manufactured by Armour & Co., Chicago.

ENZYMOL.—Enzymol is a glycerin-aqueous acid extract prepared directly from the mucous membrane of the fresh animal stomach, free from alcohol, but containing a trace of thymol and having an acidity due to combined hydrochloric acid equivalent to 0.26 to 0.3 per cent. of actual hydrochloric acid. It contains no free hydrochloric acid, but does contain a slight excess of protein over that combined with the acid. It is adjusted to a definite proteolytic power and contains 25 per cent. of glycerin by weight.

Enzymol is a light straw-colored fluid.

The presence of proteins is shown by coagulation by heat or by the addition of alcohol. The proteolytic power when acidified and tested by the method of the U. S. P. for pepsin should be such that 4 Cc. will dissolve 800 Gm. of coagulated egg-albumin in two and one-half hours.

Action and Uses.—When applied to morbid tissues enzymol is said to have the power of dissolving them by its proteolytic action even without the addition of acid. It is said to dissolve necrotic bone, by virtue of the combined acid which it contains. Its physiologic action is said to cease in contact with living tissue.

Enzymol is said to be useful as an application to purulent and necrotic surfaces for the removal of the morbid materials.

Dosage.—It is made ready for use by the addition of one half to one or two volumes of water; for the solution of necrotic and carious bone it may be applied undiluted.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 44,769.

ESSENCE OF PEPSIN-Fairchild.—A solution of the milk-curdling and proteolytic ferments of the gastric glands in a menstruum containing 18.5 per cent. of alcohol by volume.

The solution is prepared by direct extraction from the peptic glands of the stomach.

One Cc. will curdle 250 Cc. of milk at 38° C. in a few minutes, and dissolve 50 Gm. of coagulated egg albumin when tested according to the directions of the United States Pharmacopeia.

Actions and Uses.—Essence of pepsin has the action of rennin and of pepsin and is recommended by the manufacturers for preparing milk and in cases in which pepsin is indicated.

Dosage.—4 Cc. (1 fluidram) or more.

Manufactured by Fairchild Bros. & Foster, New York.

DIGITALIS PREPARATIONS

The chemistry of digitalis is very imperfectly understood, but several principles have been isolated in a greater or less degree of purity. These include digitalin, digitalein, digitoxin, digitonin and digitin. The term digitalin, unfortunately, is applied in a loose way to all of these principles, and in a more restricted sense to indicate digitalinum verum, or true digitalin, which is probably a definite substance.

Digitalinum purum, or German digitalin, is a mixture of several glucosides, consisting of 50-60 per cent. of digitonin and only 5-6 per cent. of true digitalin. German digitalin is the preparation usually found on the market and is ordinarily dispensed when "digitalin" is prescribed.

French Digitalin, or Homolle's digitalin, is also a mixture of several glucosides, but consists mainly of true digitalin.

Merck's crystallized digitalin is neither digitalin nor digitoxin, but digitonin or digitin, Merck using the three terms, crystallized digitalin, digitonin and digitin as synonyms.

Digitaline crystallisée of Nativelle is not digitalin, but is nearly identical with digitoxin.

It must be remembered, therefore, that Merck's "crystallized" digitalin, Merck's "pure" digitalin and the "true" digitalin of Boehringer and Sons, which naturally might be supposed to be identical, are *different in their action.*

DIGALEN—Liquor Digitoxini Solubilis.—Digalen is a mixture said to contain 1 part of Digitoxinum soluble Cloetta,[1] in 1,000 parts of glycerin and 1,600 parts distilled water with 7.5 per cent. of alcohol. 1 Cc. is said to contain 0.0003 Gm. of Digitoxinum Solubile Cloetta.

Digitoxinum solubile Cloetta is manufactured as follows:

The dried and finely powdered leaves of digitalis are extracted with dilute alcohol; then the extract is mixed with lead acetate solution in order to remove chlorophyll and resins, and filtered. From this filtrate the excess of lead is precipitated with sodium sulphate and the alcohol distilled off in vacuo. From the remaining aqueous solution the substance is extracted by ethereal solvents and precipitated afterward in an amorphous and pure condition according to a special secret method.

Digalen is a colorless or slightly yellowish fluid of an agreeable aromatic smell and a sweet taste which turns bitter afterward.

Digitoxinum soluble Cloetta is described as an amorphous, white or slightly yellow powder. Its solubility is said to be about five times as great as that of crystallized digitoxin. It is said to dissolve very readily in alcohol and chloroform and a little less readily in ether. It has an intensely bitter taste and causes violent sneezing. It is claimed to be the form in which digitoxin exists in the digitalis leaf before it is deposited in a crystalline and insoluble form.

In order to test for the active principle in digalen, a few drops of dilute acetic acid are added to 2 Cc. of digalen solution and then the mixture is shaken out with chloroform. This solution is evaporated and the residue dissolved in about 2 Cc. of glacial acetic acid containing traces of iron chloride. If to this solution concentrated sulphuric acid is added cautiously without mixing, so as to form a separate layer at the bottom of the test tube, a small brown ring will form between the two layers, which becomes broader in the course of some hours and expands toward the top of the tube in a blue-green to black shade, and toward the bottom of it in a reddish-brown one, while the acetic acid acquires finally a dark green-blue color.

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[1] The Council has not determined whether digalen contains "soluble amorphous digitoxin" or not, but accepts it merely as a standardized soluble and fairly stable digitalis preparation.

Actions and Uses.—The same as Digitoxin.

(See Jour. A. M. A., May 8, 1909, p. 1499.)

Note.—Under certain conditions which have not yet been determined satisfactorily, digalen sometimes deteriorates, even when the bottle remains unopened.

Dosage.—Average single dose 1 Cc. (16 min.) Maximum single dose 2 Cc. (32 min.). Maximum daily dose 6 Cc. (96 min.). Intravenous injections of 1 Cc. (16 min.) may be repeated at intervals of one-half to one hour as necessary. For protracted dosage from 1 to 2 doses daily of from 7 to 14 drops are given.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). U. S. trademark No. 43,593.

DIGIPURATUM.—Digipuratum is a digitalis preparation said to contain digitoxin and digitalin in the form of tannates. It is standardized biologically by the method of Gottlieb. It is claimed that 85 per cent. of the inactive substances found in the ordinary extract have been removed and that it is free from digitonin.

Digipuratum is obtained by removing objectionable constituents from an alcoholic extract of digitalis, neutralized with alkaline hydroxides, by the addition of ether, petroleum benzene, or other suitable precipitant, and reducing the purified liquid to a powder, by evaporation with milk sugar.

Digipuratum is a greenish yellow, odorless powder of bitter taste. The active constituents of digipuratum are insoluble in cold water and diluted acids, but are easily soluble in weak alkalies.

Digipuratum responds to the following identity test: If 0.1 Gm. digipuratum is underlaid with about 3. Cc. of glacial acetic acid which contains 1 per cent. of a 5 per cent. solution of ferric sulphate, there appears a red band (presence of digitalin) and above this another, at first bright green, later changing to dark green and finally blue (presence of digitoxin).

To determine the digitoxin content, 10 Gm. of digipuratum are dissolved with moderate heat in 50 Cc. of water; 5 Cc. of 10 per cent. ammonia water are added and the liquid is then extracted with chloroform. The chloroformic extractions are filtered into a tared vessel and the chloroform removed by distillation. The residue is dissolved in 3 Gm. of chloroform and mixed with 7 Gm. of ether and 50 Gm. of petroleum ether. The separated flakes are collected on a small filter. Then the residue on the filter is dissolved in absolute alcohol, allowing the solution to run into the tared distilling vessel. The alcohol is then distilled off and the residue dried to constant weight. The digitoxin thus found should not amount to more than 0.04 Gm.

The physiologic activity is determined by the method of Gottlieb: 1 Gm. of digipuratum is treated with 19 Cc. of hot water and 1 Cc. of a 2 per cent. solution of sodium bicarbonate. If now 0.15 Cc., 0.2 Cc., and 0.25 Cc., respectively, of this solution is injected into the femoral lymphatics of freshly caught land frogs (Rana temporaria), weighing 30 Gm. each, the exposed heart of the animals should permanently be brought to a stop in the majority of instances (say in five out of six experiments) within half an hour after the administration of a 0.2 Cc. dose. If 0.2 Cc. of the 5 per cent. solution=0.01 Gm. of digipuratum, is sufficient to stop the systolic heart-beat within half an hour, then 1 Gm. of digipuratum will contain 100 units; should 0.25 Cc. of the 5 per cent. solution be necessary, the number of units of digipuratum it contains would be 80; if 0.25 Cc. should not yet prove sufficient. the preparation would be too weak to be effective; and should the systole be arrested after a dose of 0.15 Cc. within half an hour after injection, the preparation would be too strong.

The total physiologic activity having been determined. the relative amount that is due to digitoxin can be determined by using the digitoxin separated in the above quantitative determination and by the difference between this amount and the total physiologic activity the amount due to the digitalin alone can be estimated.

Actions and Uses.—The same as digitalis, but it is claimed that it is less liable to disturb the stomach and on account of its exact dosage cumulative effects can be more easily avoided than with other preparations of digitalis.

Dosage.—The same as digitalis.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. U. S. patent No. 943,578 (Dec. 14, 1909; expires 1926). U. S. trademark No. 73,012.

Digipuratum Tablets, 1 1-2 grains.—Each tablet is said to contain digipuratum 0.1 Gm. (1 1/2 grains).

DIGITALEIN CRUDE.—Digitaleinum Crudum.—Digitalein crude is a mixture of glucosides from digitalis purpurea prepared according to the process of Schmiedeberg, containing digitoxin, digitalin and digitalein.

Commercial digitalein is an amorphous, yellowish-white, bitter powder, soluble in water and absolute alcohol, insoluble in chloroform and ether. The aqueous solution foams on shaking. The solution yields a precipitate on addition of lead acetate, ammonia water or tannic acid.

Actions and Uses.—Digitalein acts on the heart like digitalis. It is a diuretic.

Its uses are the same as those of digitalis.

Dosage.—0.001 to 0.002 Gm. (1/60 to 1/30 grain) two or three times a day.

DIGITALIN, TRUE—Digitalinum verum Kiliani.—Schmiedeberg's digitalin. Digitalin, true, is a glucoside, $C_{35}H_{36}O_{14}$, found in the seeds and leaves of digitalis purpurea and derived commercially from German digitalin.

To a solution of one part German digitalin in four parts of 95 per cent. alcohol, five parts of ether by weight (Sp. Gr. 0.720) are added and the mixture allowed to stand in a closed vessel for twenty-four hours. In the clear supernatant solution the quantity of dissolved substance is estimated and the whole then subjected to a vacuum distillation until its weight becomes 1.6 times that of the total dissolved substance. To this concentrated solution water, in an omunt 2.4 times the weight of dissolved substance, is added, forming a solution containing approximately 20 per cent. alcohol, from which crude digitalin gradually separates on standing. The crude product is washed first with 10 per cent. alcohol and then with water, and finally dried at a moderate temperature. Further purification is effected by boiling the alcoholic solution with animal charcoal. (Kiliani's method. Hager's Handb. der Pharm. Praxis, Vol. 1, p. 1030.)

Digitalin occurs as a white amorphous powder, or in characteristic, granular masses. It melts at 217° C. (412.6° F.) and becomes yellow. It is soluble in 1,000 parts of water and in 100 parts of 50 per cent. alcohol at the ordinary temperature; easily soluble in strong hot alcohol, but nearly insoluble in ether and chloroform. Digitalin dissolved in alcohol and treated with very dilute acid and heat yields digitaligenin and two sugars.

With concentrated sulphuric acid digitalin forms a golden yellow solution which on the addition of potassium hypobromite solution changes to a magnificent rose red or violet red.

If a little digitalin is dissolved in 3 to 4 Cc. of glacial acetic acid to which a trace of ferric chloride solution has been added and the mixture carefully underlaid with concentrated sulphuric acid (Keller's reaction) a deep carmine red band appears; the lower layer of the acetic acid is light yellow changing to brownish. (Difference from digitoxin.)

Sulphuric acid containing a little ferric sulphate gives with a little digitalin at first an intense golden yellow color, and then a red solution; this color rapidly changes to a beautiful and permanent violet. If too much digitalin is used the red color remains and only the surface layer becomes violet.

On heating on platinum foil digitalin should burn without leaving a weighable residue.

If a granule of digitalin is covered with 2 Cc. of 10 per cent. potassium hydroxide solution no color should develop within one minute (absence of other glucosides).

If digitalin is stirred to a thin paste with water and for every 100 parts of water used 22 parts of amyl alcohol is added with shaking, and the mixture set aside in a closed vessel for 24 hours, the presence of digitonin will be indicated by the formation of distinct masses of crystals.

Action and Uses.—The same as those of digitalis. Its cumulative action is probably not so great as that of digitoxin.

Dosage.—It is impossible at present to state the correct dose for digitalinum verum Kiliani. Some authorities give the same dose as that for digitoxin, whereas others give it as much larger. It is best given in pills made by trituration with sugar of milk and massing with glucose. Solutions of digitalin rapidly lose their strength and should be freshly prepared.

DIGITALIN, "FRENCH."—Homolle's Digitalin. Digitaline Amorphe. Digitaline Chloroformique. Digitalin, French, is a mixture obtained from Digitalis purpurea by the method of Homolle, consisting mainly of digitalinum verum, Kiliani.

100 Gm. powdered digitalis leaves are moistened with one liter of water and slowly exhausted in a percolator until the percolate amounts to three liters. This is precipitated with 250 parts of lead acetate and the filtrate from the precipitate treated with 40 parts of crystallized sodium carbonate and 20 parts of sodium ammonium phosphate, in order to remove the xcess of lead. The filtrate is precipitated with 40 parts of tannic acid. The tannate is mixed with 25 parts of powdered litharge and 50 parts of purified animal charcoal and dried. From the dried mass the digitalis bodies are extracted with 90 per cent. alcohol, the latter is distilled off and the residue washed with distilled water and again taken up in 90 per cent. alcohol. This is again distilled and the residue exhausted with chloroffrm. On expelling the latter the digitalin remains behind (Hager's Pharm. Praxis, Vol. 1, p. 1935).

French digitalin is a yellowish-white, amorphous powder of a peculiar aromatic odor and little taste. It is neutral to litmus, almost insoluble in water, soluble in alcohol and chloroform and insoluble in ether. It softens at 90° C. and begins to melt at 100° C. It is not precipitated by solutions of lead salts, but with tannic acid it forms a tannate insoluble in water. It is colored emerald green by concentrated sulphuric acid.

Concentrated sulphuric acid dissolves digitalin French, producing a yellow color, which finally goes over to an emerald-green color.

Action and Uses.—Action like that of digitoxin. Uses the same as those of digitalis.

Dosage.—What has been said with regard to the dose of digitalinum verum, applies to the French digitalin: the dose is variously given as 0.00025-0.002 Gm. (1/250 to 1/35 grain). Maximum daily dose 0.006 Gm. (1/10 grain). It must be used with caution and its action carefully watched.

DIGITALIN, GERMAN—Digitanilum Germanicum.—Digitalin, German, is a mixture of glucosides obtained from digitalis seeds according to the process of Walz, and consisting largely of digitonin, with digitalin verum and other glucosides.

Digitalis seeds are extracted with alcohol, the alcohol driven off, the extract diluted with water and purified by precipitation with lead acetate. The filtrate is freed from lead by sodium phosphate. From the liquid thus purified the digitalis bodies are precipitated with tannic acid, the tannate well washed with water and decomposed with lead or zinc acetate. The digitalin thus separated is taken up in alcohol, the latter carefully distilled off and the residue washed with ether as long as it takes up anything. The digitalin purified in this way is dried at a low temperature and finally powdered. (Hager's Handbuch der Pharm. Praxis, 1903, Vol. 1, p. 1032.)

German digitalin is a yellowish-white, amorphous powder, soluble in water and alcohol, insoluble in ether and chloroform. It is said to contain about 50-60 per cent. of digitonin and 5-6 per cent. of digitalinum verum, the remainder being digitalein and other glucosides.

Sulphuric acid containing a trace of ferric sulphate produces with digitalin, German, an intense golden-yellow coloration, changing to red and finally to a permanent reddish-violet.

Action and Uses.—Similar to those of digitalis.

Dosage.—0.001 to 0.002 Gm. (1/60 to 1/30 grain). Maximum dose 0.004 Gm. (1/16 grain): maximum per day, 0.02 Gm. (⅓ grain). Doses of from 1/10 to ⅓ grain, and even higher, have been used by some clinicians.

As German digitalin (so-called digitalinum purum) is a mixture of very powerful active principles, the proportion of which may vary with changes in the manipulations, it is very important that the directions for its preparation should be very carefully followed, and caution should be exercised to purchase only such products as the manufacturers can guarantee to have been made with the necessary care.

DIGITONIN.[1]—Digitonin is a glucoside $C_{27}H_{46}O_{14} + 5H_2O$ derived from the seeds of digitalis purpurea and belonging to the saponins.

Digitonin is separated from German digitalinum purum by the addition of ether to the alcoholic solution (see digitalin). The precipitate is dissolved in 10 parts of 85 per cent. alcohol and the solution put into water at 45° C. After standing from six to eight hours the greater part of the digitonin will crystallize out.

Digitonin crystallizes in colorless needles or thick warty masses which dissolve in 600 parts of cold water and 50 parts of warm water to a turbid solution, but dissolves to a clear solution in 50 parts of 50 per cent. alcohol. Its solutions are levorotatory. When heated in alcoholic solution with hydrochloric acid it is split into dextrose, galactose and digitogenin.

Concentrated sulphuric acid dissolves it with a red color which is intensified by the addition of a drop of bromine water.

Concentrated hydrochloric acid dissolves digitonin without color, but the solutions become yellow and finally reddish violet on heating or on long standing.

Keller's reaction gives a rose red zone which soon fades.

Action and Uses.—Digitonin acts as a heart depressant when introduced into the circulation, but it is not absorbed from the alimentary canal, and therefore exerts no action on the circulation when taken by the mouth, but it renders digitoxin more soluble whether in infusion or when the leaf is taken by the mouth.

DIGITOXIN—**Digitoxinum.**—Digitoxinum (Pharm. Helvetica, edit. 4). Digitaline Crystallinée (Pharm. Française, 1908). Digitoxin, $C_{34}H_{54}O_{11}$ is the chief active principle of digitalis, having the character of a glucoside.

The leaves of Digitalis purpurea having been extracted with water and dried, are extracted with 50 per cent. alcohol. This solution is treated with lead acetate, forming a precipitate, which is allowed to settle. The supernatant liquid is decanted. The remaining alcohol is evaporated *in vacuo* and the residue repeatedly extracted with ether. The ether extract is then shaken out with water and concentrated by distillation and the residue recrystallized from hot alcohol (85 per cent.) and decolorized by boiling with animal-charcoal (Schmidt's Pharm. Chemie, 3d edit., Vol. II, p. 1640).

Depending on the solvent from which it is crystallized, it is either hydrated on anhydrous. The hydrated form is obtained when crystallized from alcohol and the anhydrous from chloroform and alcohol mixture, forming colorless rectangular leaflets melting at 243° C. (470° F.) (Pharm. Française, 1908). The anhydrous preparation is official in the Pharm. Française, 1908.

It is insoluble in water, benzin or carbon disulphide, slightly soluble in ether and easily soluble in chloroform. At 15° C. it is soluble in 79.80 parts of absolute alcohol and in 43.04 parts of 90 per cent. alcohol. It is slightly soluble in fatty oils (Pharm. Française, 1908).

Digotoxin dissolved in 2 Cc. glacial acetic acid containing a trace of ferric chloride when poured onto 2 Cc. of concentrated sulphuric acid containing a trace of ferric chloride, will produce a brown color at the zone of contact of the two solutions. This color gradually changes to green and finally an indigo blue; after one-half hour the entire acetic acid layer will become blue. (Pharm. Française, 1908).

It dissolves to a colorless solution in cold concentrated hydrochloric acid, but when this solution is heated on the water bath for some time a green color is obtained. Concentrated sulphuric acid dissolves it, producing a green color.

It should not lose weight appreciably when heated to 100° C. It should be insoluble in water and in benzin, but completely soluble in chloroform. It should leave no residue when ignited (Pharm. Française, 1908).

Action and Uses.—Digitoxin acts much like digitalis. Its activity varies with the method of preparation. Digitoxin from an unknown source should be tested on animals before it is used on patients. Owing to its slow excretion, it is cumulative in action when too frequently repeated. Locally it is very irritant, and when given by mouth is liable to derange the digestion. Penzoldt claims that gastric irritation may be avoided by giving it only when the stomach is full. Owing to its irritant action it is not suitable for hypodermic injection.

Dosage.—Single dose 0.00025 (1/250 grain); maximum daily dose 0.0010 Gm. (1/67 grain). It should be given largely diluted and repeated cautiously.

Antidotes: Emetics, tannin, nitroglycerin, morphine, alcoholic stimulants or camphor.

DOLOMOL.—Dolomol is magnesium stearate, $Mg(C_{18}H_{35}O_2)_2$, containing small amounts of magnesium palmitate and oleate.

It is a white powder, insoluble in water, unctuous to the touch, nearly odorless and tasteless. It is claimed to be practically free from oleate. Its magnesium content corresponds to nearly 7 per cent. MgO.

Actions, Uses and Dosage.—Acting as a protective to the skin, Dolomol is employed in cutaneous affections as a dusting powder, alone or mixed with various remedies.

The following dolomol compounds are listed: Dolomol-Acetanilid, 25 per cent.; Dolomol-Acid Boric, 20 per cent.; Dolomol-Acid Carbolic, 5 per cent.; Dolomol-Acid Picric, 25 per cent.; Dolomol-Acid Pyrogallic, 5 per cent.; Dolomol-Acid Salicylic, 5 per cent.; Dolomol-Acid Salicylic, 10 per cent.; Dolomol-Acid Tannic, 10 per cent.; Dolomol-Alum, 10 per cent.; Dolomol-Aristol, 10 per cent.; Dolomol-Balsam Peru, 10 per cent.; Dolomol-Bismuth Subgallate, 25 per cent.; Dolomol-Calendula, 25 per cent.; Dolomol-Calomel, 25 per cent.; Dolomol-Camphor, 10 per cent.; Dolomol-Chrysarobin, 5 per cent; Dolomol-Europhen, 10 per cent.; Dolomol-Guaiacol, 5 per cent.; Dolomol-Ichthyol, 10 per cent.; Dolomol-Iodoform Deodorant, 10 per cent.; Dolomol-Menthol, 5 per cent.; Dolomol-Naphthol, 5 per cent.; Dolomol-Oil of Cade, 10 per cent.; Dolomol-Resorcin, 10 per cent.; Dolomol-Salol, 10 per cent.; Dolomol-Sulphur Sub., 25 per cent.; Dolomol-Tar, 10 per cent; Dolomol-Thymol, 2 per cent.

Manufactured by Pulvola Chemical Co., New York. Not patented or trademarked.

EMETINE HYDROCHLORIDE—**Emetinæ Hydrochloridum.**—Methyl-cephaeline. Emetine hydrochloride is the hydrochloride, $C_{15}H_{22}N.O_2.HCl.3H_2O$, of a base found together with cephaeline in Cephaelis Ipecacuanha.

Emetine hydrochloride occurs as a white crystalline powder, soluble in water and alcohol. A freshly prepared concentrated solution of ammonium molybdate in concentrated sulphuric acid is colored brown by emetine; this color changes to violet when a drop of concentrated hydrochloric acid is added. The general alkaloidal reagents precipitate emetine, even from dilute solutions. Alkalies precipitate emetine from aqueous solutions of its salts.

Actions and Uses.—Emetine acts similarly to Ipecac but is relatively more nauseant and less emetic, and causes relatively less renal irritation, but more cardiac depression.

Dosage.—Expectorant, 0.005-0.01 Gm. (1/12-1/6 grain). 0.01-0.02 Gm. (1/6-1/3 grain) causes emesis, but cephaeline is preferred as an emetic.

EMPYROFORM.—Empyroform is a condensation of birch tar and formaldehyde.

According to the patent specifications birch tar is boiled with formaldehyde solution and the hot liquid poured into hydrochloric acid. When cold, the solid mass is collected and washed until free from acid.

It is a grayish-brown, almost odorless powder, insoluble in water, but soluble in acetone and chloroform.

Actions and Uses.—Empyroform is an antipruritic, sedative and desiccant. It is said to be superior to tar and free from irritant or toxic effects. See note under Creosote Carbonate.

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[1] Crystallized digitalin—Merck.

It is claimed to be useful in all stages of eczema, psoriasis, lichen, urticaria, prurigo, pityriasis, etc.

Dosage.—It is applied as a 5 to 10 per cent. ointment, 10 to 20 per cent. zinc paste, 10 to 20 per cent. tincture, and 37.5 per cent. suspension.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 761,260 (May 31, 1904; expires 1921). U. S. trademark No. 43,419.

EPICARIN.—Oxynaphthyl-Ortho-Oxytoluic Acid.—Epicarin, $C_6H_3(OH)(COOH)(CH_2C_{10}H_6OH)2:3:1 = C_{18}H_{14}O_4$, is *β*-naphthol-hydroxy-toluic acid.

It is obtained by the action of chlormethyl-salicylic acid on a solution of *b*-naphthol, in glacial acetic acid, thus:

$$C_6H_3(OH)\ (COOH)\ (CH_2Cl + C_{10}H_7OH =$$
$$C_6H_3(OH)\ (COOH)\ (CH_2C_{10}H_6OH) + HCl$$

It forms colorless or yellowish needles, melting at 190° to 195° C. (380° to 389° F.) difficultly soluble in water, but easily soluble in alcohol, ether, acetone, and in soaps. It dissolves in oils on the addition of a little ether. It has the character of a strong acid, forming well crystallized salts, which, however, are sparingly soluble in water, particularly the sodium salt. On exposure to air it acquires a reddish color due to oxidation; if it is then recrystallized from glacial acetic acid, colorless crystals are again obtained which melt at 166° C. (338° F.). These, however, retain a little acetic acid, but lose this by heating at 120° C. (248° F.).

The alcoholic solution of epicarin produces an intense blue color with ferric chloride. When heated with concentrated sulphuric acid, a red-brown solution, having a vivid green fluorescence, is produced. If shaken with chloroform and solution of potassium hydroxide, a yellowish color, changing later to yellowish green, is developed, thus distinguishing epicarin from *b*-naphthol, which produces a deep blue color under the same conditions.

Being a strong acid, it is incompatible with alkaline hydroxides or carbonate, especially those of sodium, with which it forms an almost insoluble salt. It should not be exposed to the air, which colors it red.

Actions and Uses.—Epicarin is a non-poisonous antiseptic and parasiticide. Administered internally, it is excreted mostly undecomposed. It is said to be useful in the treatment of skin diseases, particularly scabies, tinea tonsurans, prurigo and certain forms of eczema. (See note under Creosote Carbonate.)

Dosage.—It is used only externally in the form of a 5 to 20 per cent. ointment, with petrolatum or wool fat (lanolin) as base, or in the form of oily or alcoholic solutions (10 per cent).

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 671,622 (April 9, 1901; expires 1918).

EPINEPHRINE PREPARATIONS

EPINEPHRINE.—Epinephrine is 1, 2-dihydroxy-4^2-methylamino ethyl-4^1-ol benzene, $C_6H_3(OH)_2(CHOH.CH_2NHCH_3)$, a substance with feeble basic properties, obtained from the suprarenal gland of the sheep or other animal.

Epinephrine is a finely crystalline white or yellowish powder, odorless and slightly bitter. It melts at 201 to 207° C. (401 to 404° F.), turning brown and decomposing at the higher temperature.

The alkaloid shows a slightly alkaline reaction to moistened red litmus paper. It is almost insoluble in cold water, more readily in hot water. It is difficultly soluble in alcohol and insoluble in ether. The colorless aqueous solution of the alkaloid is easily oxidized on contact with the air, becoming pink, then red, and eventually brown. The base reacts with acids to form salts which are readily soluble in water; it is also soluble in the fixed alkalies, but not in ammonium hydroxide or in solutions of the alkaline carbonates. The following reactions are the most characteristic: The addition of ferric chloride to a solution of the alkaloid produces a beautiful emerald green color which by careful addition of caustic alkali becomes purple, and then carmine red. Strong acid prevents the reaction with ferric chloride, limiting the change of color to a dirty yellowish-green. It gives a vivid pink color with iodine. The alkaloid reduces silver salts and gold chloride very energetically, and the liquid turns red. A drop of 1:10,000 solution instilled into the eye will, within a few seconds, produce a pallor of the conjunctiva.

Its incompatibilities are the same as those of other alkaloids. Its solutions should be kept tightly stoppered and protected from the light.

Actions and Uses.—Epinephrine acts peripherally on a variety of structures, probably by stimulating the sympathetic nerve endings. Its most important therapeutic actions consist in a constriction of the blood vessels, with consequent high rise of blood pressure; a stimulation of the vagus center with slowing of the heart, and a direct stimulant and tonic effect on the heart muscle, similar to digitalis. Large doses also cause glycosuria. Continued administration of large doses leads to atheroma. The effect of a single dose is very fleeting. It is not irritant. The effects are seen on local application and intravenous and intramuscular injection. When given to animals, by mouth or hypodermically, moderate doses have almost no action.

Dilute watery solutions rapidly lose their strength, the deterioration being accompanied by a reddish or brownish discoloration.

The alkaloid is used mainly locally for its vasoconstrictor action, in hemorrhage, and in catarrhal and congestive conditions. It is said to cut short the asthmatic paroxysm (being used by spraying the larynx and by hypodermic injections). Intravenous injections are effective in shock and anesthesia accidents (care being taken not to give an overdose). It has also been recommended in heart disease, Addison's disease, etc., but opinions are divided as to the benefits to be expected from oral administration.

The vasoconstrictor action of epinephrine is used to intensify and prolong the anesthetic effect of local anesthetics by retarding the circulation in the affected part and thus hindering the dilution of the anesthetic agent by too rapid absorption into the general blood stream.

Dosage.—0.3 to 2.0 Cc. (5 to 30 minims) of a 1:1,000 solution every two or three hours. Hypodermically, 0.06 to 1 Cc. (1 to 15 minims) of a 1:1,000 solution, diluted with sterile water. Locally it is used in solution varying in strength from 1:15,000 to 1:1,000, for ordinary applications, in oily solution for sprays, in ointment for application to mucous membranes, such as the eye or the nose, where a slower but more lasting action is desired and in suppositories. Since the alkaloid is insoluble, solutions in water should be made of some salt, but for the oily solutions the alkaloid itself should be employed.

Proprietary Preparations:

ADNEPHRIN.—The name used for epinephrine by F. Stearns & Co., Detroit, Mich.

Adnephrin Emollient.—An ointment composed of adnephrin and a neutral base (1:1,000).

Adnephrin Oil Spray.—A 1:1,000 solution of adnephrin in a neutral oil, aromatized.

Adnephrin Solution.—A sterile solution (1:1,000 of adnephrin in physiologic salt solution containing one-half of 1 per cent. of methaform (chlorbutanol). A small proportion of sodium sulphite is added to the extraction of the glands.

Adnephrin Suppositories.—Each suppository represents a 1 to 1,000 combination of adnephrin with oil of theobroma and weighs about 1 Gm. (15 grains).

ADRENALIN.—The name used for epinephrine by Parke, Davis & Co., Detroit, Mich. It is prepared by the method of Takamine.

For Tests, Incompatibilities, Actions and Uses see Epinephrine. U. S. patents Nos. 730,175, 730,176, 730,196, 730,197, 730,198 (June 2, 1903; expires 1920); 753,177 (Feb. 23, 1904; expires 1921). U. S. trademark.

Adrenalin Chloride Solution.—A 1:1,000 solution of adrenalin hydrochloride in physiologic salt solution, preserved by the addition of 0.5 per cent. of chloretone (chlorbutanol).

Adrenalin Inhalant.—A neutral oily solution containing adrenalin chloride 1:1,000, 3 per cent. of chloretone, 13 per cent. of alcohol, and aromatics.

Adrenalin Ointment.—One part of adrenalin chloride in 1,000 parts of oleaginous ointment base.

Adrenalin and Chloretone Ointment.—Contains 0.1 per cent. of adrenalin chloride, and 5 per cent. of chloretone in an ointment base of hydrous wool fat and petrolatum.

Adrenalin Suppositories.—1 part of adrenalin to 1,000 parts of oil of theobroma (cacao butter). Each suppository weighs about 1 Gm. (15 grains).

Adrenalin Tablets.—Each tablet contains 0.001 Gm. (3/200 grain) adrenalin, as borate, yielding a 1:1,000 solution when dissolved in 15 minims (1 Cc.) of water.

Adrenalin and Cocaine Tablets.—Each hypodermic tablet contains cocaine hydrochloride 0.01 Gm. (1/6 grain), and adrenalin, as borate, 0.0002 Gm. (1/300 grain).

ADRIN.—The name (word mark) used for epinephrine by H. K. Mulford Co., Philadelphia. It is prepared by the method of von Fuerth (Zeit. f. physiol. chem., vol. 26, p. 18). It is not marketed in its pure form. All the preparations contain boric acid.

U. S. trademark No. 41,916.

Adrin Compound Vaginoids.—Vaginal Suppositories of Epinephrine Compound, Mulford. Each suppository contains adrin 0.00065 Gm. (1/100 grain), ichthyol 0.13 Cc. (2 minims), phenol 0.13 Gm. (2 grains), zinc phenolsulphonate 0.08 Gm. (1¼ grains) in a boroglyceride and gelatin base and weighs about 7.63 Gm. (118 grains).

Adrin Inhalant Comp.—Epinephrine Inhalant Comp., Mulford.—Each 100 Cc. contains epinephrine (as hydrochloride), 0.1 Gm. (7/16 of a grain in a fluidounce), camphor, 0.3 Gm. (1 1/3 grains in a fluidounce), menthol 0.22 Gm. (1 grain in a fluidounce), thymol, 0.043 Gm. (1/5 of a grain in a fluidounce), oil of eucalyptus, 0.22 Gm. (1 minim in a fluidounce), and hydrastine, 0.0053 Gm. (1/40 of a grain in a fluidounce), oil of wintergreen, 0.99 (4.5 minims in a fluidounce). The solvent is a mixture of castor and cotton seed oils, together with 10 per cent. absolute alcohol by volume.

Adrin Troches.—Troches of Epinephrine—Mulford—each troche contains epinephrine, 0.000093 Gm. (1/700 grain), menthol, 0.0013 Gm. (1/50 grain), benzoic acid, 0.0027 Gm. (1/25 grain), oil of gaultheria, 0.0034 Gm. (1/20 grain), and eucalyptol, 0.0013 Gm. (1/50 grain). The base is sugar with a small amount powdered acacia.

Adrin Ointment.—Ointment of Epinephrine, Mulford. An ointment containing 0.1 per cent. each of adrin and boric acid in a base of petrolatum and anhydrous wool fat, flavored with oils of wintergreen and eucalyptus.

Adrin Solution 1:500.—Solution of Epinephrine, 1:500, Mulford. A solution of adrin, 1 to 500, in normal salt solution, containing boric acid, 0.25 per cent., and also small quantities of sulphite and chloroform.

Adrin Suppositories.—Suppositories of Epinephrine, Mulford. Each suppository contains adrin 0.0027 Gm. 1/25 grain) and oil of theobroma, 1.23 Gm. (19 grains).

Adrin Tablets, 1/65 grain.—Tablets of epinephrine, 1/65 grain, Mulford. Each tablet contains adrin, 0.001 Gm. (1/65 grain); sodium chloride, 0.007 Gm. (1/10 grain); boric acid, 0.002 Gm. (1/33 grain). A 1:1,000 solution is prepared by dissolving a tablet in 1 Cc. (16 minims) of water. The tablets can be used hypodermically.

Adrin Tablets, Hypodermic, 1/100 grain.—Tablets of Epinephrine, hypodermic, 1/100 grain, Mulford. Each tablet contains adrin 0.00065 Gm. (1/100 grain) and represents 0.6 Cc. (10 minims) of the 1:1,000 solution.

Adrin Tablets, Hypodermic, 1/200 grain.—Tablets of Epinephrine, 1/200 grain, Mulford. Each tablet contains adrin 0.00033 Gm. (1/200 grain) and represents 0.3 Cc. (5 minims) of the 1:1000 solution.

Adrin and Cocaine Tablets. Tablets of Epinephrine and Cocaine, Mulford. (For dental practice). Each tablet contains adrin, 0.00065 Gm. (1/100 grain) and cocaine hydrochloride, 0.016 Gm. (¼ grain).

Adrin and Sparteine Tablets, Hypodermic.—Tablets of Epinephrine and Sparteine, Hypodermic, Mulford. Each tablet contains adrin 0.00033 Gm. (1/200 grain) and sparteine sulphate, 0.008 Gm. (⅛ grain).

SUPRACAPSULIN.—The name used for epinephrine by The Cudahy Packing Co., South Omaha, Neb.

Not patented. U. S. trademark No. 72,580.

Supracapsulin Solution.—A solution 1:1,000 of supracapsulin in normal salt solution with small quantity of sulphite and 0.5 per cent. of chloral.

Supracapsulin Inhalant.—A solution 1:1,000 of supracapsulin in an aromatized neutral oil, containing approximately 2.5 per cent. of chloral and 10 per cent. of alcohol.

SUPRARENALIN.—The name used for epinephrine by Armour & Co., Chicago.

An organic base is used for the the final precipitation.

U. S. patent No. 829,220 (Aug. 21, 1906; expires 1923).

Suprarenalin Inhalant.—A 1:1,000 solution of suprarenalin in an aromatized oil, containing approximately 10 per cent. of alcohol.

Suprarenalin Ointment.—An ointment containing 0.1 per cent. of suprarenalin, dissolved in a petrolatum base.

Suprarenalin Solution.—A 1:1,000 solution of suprarenalin sulphite in normal saline solution, free from other preservatives.

Suprarenalin Triturates.—Triturates composed of suprarenalin, milk sugar, and boric acid, in such proportion that each 0.03 Gm. (½ grain) triturate dissolved in 15 minims of water, yields a 1:1,000 solution.

L-SUPRARENIN SYNTHETIC.—L-suprarenin synthetic is epinephrine produced synthetically according to the method of Stolz & Flaecher (Ztschr. f. physiol. Chem., 58, p. 189).

L-suprarenin synthetic is a white odorless powder nearly insoluble in water, alcohol and ether. It melts at 211°-212°. It has the power of rotating polarized light to the left:—

$$[a]\frac{19.6^\circ}{D} = -51.4^\circ$$

L-suprarenin synthetic has the chemical and physical properties and physiologic effect of natural epinephrine obtained from suprarenal glands.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.) German patent No. 222,451.

L-SUPRARENIN SYNTHETIC BITARTRATE.—L-suprarenin synthetic bitartrate is the acid tartrate of l-suprarenin synthetic.

It is a white odorless powder readily soluble in water yielding an acid solution. It melts at 149° and rotates polarized light to the left.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York). German patent No. 222,451.

SUPRARENAL LIQUID—Liquor Suprarenalis (P. D. & Co.).—Suprarenal liquid is an aqueous extract of suprarenal glands, preserved with 0.8 per cent. of chlorbutanol (chloretone). Each Cc. (16 minims) of the solution represents 1 Gm. (15.4 grains) of the fresh glands.

Dosage.—The preparation is used undiluted for spraying, especially for mucous membranes.

Prepared by Parke, Davis & Co., Detroit, Mich.

ERGOTININE CITRATE—Ergotininæ Citras.—The citrate of ergotinine, a crystalline alkaloid, probably $C_{35}H_{39}O_5N_5$, (Barger and Carr) derived from ergot.

Ergotinine is obtained by extracting the residue left on evaporation of an alcoholic tincture of ergot with light petroleum to remove oily matter, dissolving the residue in ethyl acetate and shaking with citric acid solution. Sodium bromide or hydrobromic acid is then added and the precipitated hydrobromides of the alkaloids, ergotinine and ergotoxin are collected. The mixed hydrobromides are dissolved in caustic soda and shaken with ether; in this way ergotinine is removed first. Finally, the ergotinine is crystallized from alcohol, leaving ergotoxine and impurities in the mother liquor. By interaction of ergotinine with citric acid, ergotinine citrate is obtained.

Ergotinine citrate is a grayish-white, amorphous powder, slowly soluble in water; it has an acid reaction to litmus paper.

Ergotinine crystallizes in long needles, the sides of which are not quite parallel, which darken and melt at temperatures from 219° to 229° C. One part of ergotinine dissolves at 18° in 292 parts of alcohol, 1,020 parts of absolute ether, in 91 parts of ethyl acetate, and is moderately soluble in acetone and benzene, and readily soluble in chloroform. It is insoluble in light petroleum and in water. Its specific rotation in alcoholic solution saturated in the cold is + 338°. It forms salts which produce colloidal solutions in water which are precipitated by electrolytes so that they are little soluble in the presence of the stronger mineral acids.

Tests: Ergotinine citrate when carefully decomposed by alkali, the mixture extracted with ether and the ether evaporated yields a residue which responds to the test for ergotinine. Solutions of ergotine have a bluish violet fluorescence, especially when acidified. Concentrated sulphuric acid colors the alkaloid at first yellow, after some hours violet and at length blue. If a small quantity of ergotinine is dissolved in concentrated sulphuric acid and a trace of ferric chloride added, the mixture takes on an orange red coloration, which soon passes into red while the edges of the liquid are colored blue or bluish green.

If a few milligrams of ergotinine are dissolved in about 4 Cc. of glacial acetic acid a trace of ferric chloride added and the mixture underlaid with concentrated sulphuric acid a beautiful violet color appears at the junction of the two liquids.

Actions and Uses.—According to the investigations of Barger and Dale, ergotinine has very slight physiologic activity when it enters the system unchanged, but it is liable to be converted to a certain extent into ergotoxine, which possesses marked physiologic activity and appears to represent the pharmacologic actions of ergot. The action of ergotinine when given per os or when injected hypodermically, is variable in intensity but represents the action of ergot.

Ergotinine citrate can be used as a substitute for ergot, and is said to act efficiently, when injected hypodermically, in the treatment of headaches and of uterine hemorrhage. Combined with strychnine it is said to be useful as a stimulant in uterine hemorrhage.

Dosage.—.00032 to .00064 Gm. (1/200 to 1/100 grain), hypodermically.

Proprietary Preparations:

TABLOID ERGOTININE CITRATE—Tabloid Ergotininæ Citratis.—Each tablet contains ergotinine citrate 0.00032 Gm. (1/200 grain).

Dosage.—One or two, hypodermically.

Prepared by Burroughs, Wellcome & Co., London, England, and New York. U. S. trademark on "Tabloid" Nos. 11,993, 43,563, 43,559, 43,569, 44,219.

TABLOID ERGOTININE CITRATE AND STRYCHNINE SULPHATE.—Tabloid Ergotininæ Citratis et Strychninæ Sulphatis.—Each tablet contains ergotinine citrate 0.00065 Gm. (1/100 grain) and strychnine sulphate 0.0032 Gm. (1/20 grain).

Dosage.—One or two, hypodermically.

Prepared by Burroughs, Wellcome & Co., London, England, and New York. U. S. trademark, as for Tabloid Ergotinine Citrate.

EXTRACT OF ERGOT, PURIFIED —Extractum Ergotæ Purificatum.—Ergotin Bonjean. Extractum secalis cornuti (Pharm. Helvetica, edit. 4); Extractum ergoti (Pharm. Française, 1908). Purified extract of ergot is an aqueous extract of ergot purified by alcohol.

Powdered ergot is extracted by percolation with water and the percolate concentrated, diluted with alcohol, allowed to stand, then filtered and the filtrate evaporated to a soft extract.

It is reddish brown, of characteristic odor and taste, soluble in water and in a mixture of equal parts of water and alcohol. The aqueous solution is yellowish brown and acid in reaction (Pharm. Helvetica, edit. 4).

If 2 Cc. of an aqueous solution (1:20) is mixed with 7 Cc. of water and 1 Cc. Mayer's reagent there should appear at most but slight turbidity; the turbidity is increased by the addition of a trace of hydrochloric acid; the further addition of 5 drops of dilute acid produces within a few minutes a flocculent precipitate.

10 Cc. of a 1:20 solution of purified extract of ergot should become turbid upon the addition of 1 Cc. picric acid solution and precipitation should occur within five minutes.

If a solution of 0.2 Gm. purified extract of ergot in 5 Cc. water is made alkaline with 1 to 2 drops of ammonia water and then shaken out with ether, the ether extract evaporated and the residue dissolved in 2 Cc. acetic acid to which a trace of ferric chloride has been added and the mixture carefully poured upon concentrated sulphuric acid, a bluish violet color appears at the zone of contact (Pharm. Helvetica, edit. 4).

Action and Uses.—Purified extract of ergot has the action and uses of ergot.

Dosage.—0.2 to 0.5 Gm. (3 to 8 grains).

This preparation should not be confused with the following:

Ergotin Wernich (Pure Dried) is a purified and dialyzed dried aqueous extract of ergot.

Ergotin Wernich (Liquid) is a dialyzed extract of ergot, in the form of a reddish brown liquid.

Ergotin Wernich (Soft) is a purified and dialyzed soft extract of ergot; a reddish brown syrupy liquid.

Ergotin Wiggers (Pure Dried) is a dried, alcohol purified extract of ergot.

Ergotin Yvon is a fluidextract of ergot prepared by extracting with dilute solution of tartaric acid.

ERYTHROL TETRANITRATE.—Tetranitrol.—Erythrol tetranitrate, $C_4H_6(NO_3)_4 = C_4H_6O_{12}N_4$, is the tetranitrate of erythrite (butane-tetrol) $C_4H_6(OH)_4$.

It is obtained by the nitration of the tetratomic alcohol erythrite.

It forms colorless crystalline scales, insoluble in cold water, readily soluble in alcohol, melting at 61° C. (141.8° F.). On percussion it expodes much like nitroglycerin.

Actions and Uses.—It is a vasodilator and antispasmodic, like nitroglycerin. Its action is slower and more lasting; it begins in 15 minutes and persists for three or four hours.

It is said to be useful in angina pectoris and vascular diseases. It is reported as especially useful as a prophylactic in preventing anginal pain.

Dosage.—0.03 to 0.06 Gm. (½ to 1 grain) every four to six hours. Because of its explosiveness it is best dispensed in tablets.

Proprietary Preparations:

ERYTHROL TETRANITRATE TABLETS, Merck. Each tablet contains erythrol tetranitrate 0.03 Gm. (½ grain).

Prepared by E. Merck, Darmstart, Germany (Merck & Co., New York). German patent No. 81,664.

ETHYL AMINOBENZOATE.—Aethylis Amino-Benzoas.—Paramidobenzoic Acid Ethyl Ester.—Ethyl aminobenzoate, $C_6H_4.NH_2.COO(C_2H_5)$ 1:4, is the ethyl ester of paraminobenzoic acid, $C_6H_4.NH_2.COOH$, 1:4.

Paranitrobenzoic acid is obtained by the oxidation of paranitrotoluene, and this may be ethylized by the action of sulphuric acid and alcohol and the ester so obtained reduced to paramidobenzoic acid ethyl ester by the action of zinc and hydrochloric acid, or the acid may first be reduced and subsequently converted into the ethyl ester.

It is a white, crystalline powder, easily reduced to impalpability, melting at 90° to 91° C. (194° to 195.8° F.); odorless and tasteless, but producing a sensation of numbness when placed on the tongue; almost insoluble in cold and difficultly soluble in hot water; soluble in six parts of alcohol, in ether, benzene and to the amount of 2 to 3 per cent. in fatty oils. In oil solutions it may be sterilized without decomposition, but by prolonged boiling or by warming with dilute alkalies it is split up into alcohol and paramidobenzoic acid.

It should form clear, colorless and neutral solutions in alcohol or ether; after acidification with nitric acid it should not give a precipitate with silver nitrate. Its solution in dilute hydrochloric acid (1 to 10) is not affected by hydrogen sulphide. If a few drops of sodium nitrate solution be added to the slightly acidulated aqueous solution followed by some alkaline betanaphthol solution, a cherry red coloration of bluish shade is produced, which changes to orange on further addition of hydrochloric acid. It is decomposed by prolonged heating with water and is incompatible with alkalies and their carbonates.

Action and Uses.—It was introduced as a substitute for cocaine and is a local anesthetic, similar in its action to orthoform and said to be equally effective, but free from irritant action and toxicity. The anesthetic action, like that of the related compound orthoform, resembles that of cocaine, but is purely local, does not penetrate the mucous membranes, and in consequence of its insolubility the compound cannot be used by hypodermic injection. In consequence of its insolubility the anesthetic effect is more prolonged than that of cocaine.

It is said to be useful in various forms of gastralgia, in ulcer and cancer of the stomach for the relief of pain, and is applied locally in rhinologic and laryngeal affections, urethritis, etc.; it is also employed for anesthetizing wounded surfaces, burns, ulcerations and painful affections of the skin. It is more effective in cases where the skin is broken.

Dosage.—Internally, 0.3 to 0.5 Gm. (5 to 8 grains), in pastilles. Externally it is applied as a dusting powder, either pure or diluted. It may be applied in ointment or in the form of suppositories.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patents Nos. K 19,416 Onm.

ETHYL BROMIDE—Aethylis Bromidum.—Aether Bromatus (Pharm. Germanica, edit. 4; Pharm. Belgica, edit. 4; Pharm. Helvetica, edit. 4). Aethylium bromatum (Pharm. Française, 1908).

Ethyl bromide, C_2H_5Br, is the hydrobromic acid ester of ethyl alcohol, containing approximately 1 per cent. ethyl alcohol.

Ethyl bromide is a colorless, strongly refractive, easily volatile liquid, having a pleasant ethereal odor. It is insoluble in water, but readily soluble in alcohol and in ether. It boils at from 38° to 40° C. (101° to 104° F.). Its specific gravity at 15° is 1.453 to 1.457 (Pharm. Germanica).

It is stable when pure, but when contaminated with ethyl iodide it becomes colored when exposed to light. It burns with difficulty. It is very difficultly saponified by potassium hydroxide and it is not attacked by sulphuric or nitric acids. Silver nitrate gradually precipitates silver bromide (Pharm. Française, 1908). If a mixture of 1 Cc. ethyl bromide, 5 Cc. alcohol and 10 drops of (15 per cent.) sodium hydroxide solution is heated to boiling, cooled, acidified with dilute sulphuric acid, then shaken with chloroform and chlorine water added a brown coloration will be produced in the chloroform layer. If equal volumes of ethyl bromide and sulphuric acid are shaken together in a bottle previously rinsed with sulphuric acid and closed with a glass stopper, the acid should not be colored yellow within an hour. After shaking equal volumes of ethyl bromide and water, no change of volume should occur in the two liquids. the water separated from the ethyl bromide should not have an acid reaction nor should it become turbid immediately on the addition of a drop of silver nitrate solution (Pharm. Helvetica).

When a small portion is evaporated from a porcelain plate by causing it to flow to and fro over the surface little or no foreign odor is yielded as the last portions pass off, and the plate is covered with a slight deposit of moisture.

1 Cc. of ethyl bromide mixed with 3 drops of anilin and 2 Cc. of alcoholic solution of potassium hydroxide should not give off the odor of isonitrile even after warming. (Absense of chloroform) (Pharm., Belgica.)

About 1 Gm. of ethyl bromide accurately weighed added to 30 Cc. of 80 per cent. alcohol containing 2 Gm. silver nitrate will precipitate, after several hours, silver bromide, which when washed and dried should weigh 1.72 Gm. for each Gm. ethyl bromide used (Pharm. Française).

Action and Uses.—Ethyl bromide is a rapid anesthetic, acting much like chloroform. The anesthesia is quickly and pleasantly induced and the recovery is rapid, but subsequently the patient may have general mild depression. Pain is abolished before consciousness. The respiration is paralyzed at about the same time as the reflexes, so that the zone of safety is very narrow. Tetanic spasms have occurred. Deaths were formerly attributed to impurities, but several have occurred when a pure article was given. It has been recommended for short operations in obstetrics, gynecology and minor surgery, but is not to be used for long operations. It must be regarded as a very dangerous agent in inexperienced hands.

Dosage.—3 Cc. to 12 Cc. (45 minims to 3 fluidrams) is sufficient to induce anesthesia. It should be administered rapidly with little or no air. The administration requires from 20 to 40 seconds; the anesthesia lasts about two minutes. The dose for children should not exceed 1 Cc. per year of age.

It should be protected from the light and a bottle once opened should be used at once, as it deteriorates rapidly. (To be preserved carefully in small, opaque bottle containing not more than 50 Cc. Pharm. Helvetica, edit. 4.) It should not be confounded with ethylene bromide, which is said to be very poisonous. The Sp. Gr. of ethylene bromide is 2.179, while that of ethly bromide is about 1.45

ETHYL CARBAMATE

Ethyl Carbamate is official in the United States Pharmacopeia. For description see the Pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

URETHANE.—A name applied to Æthylis Carbamas, U. S. P.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

URETHAN-Hoechst.—A name applied to Aethylis Carbamas, U. S. P.

Manufactured by Farbwerke, vorm. Meister Lucius & Bruening, Hoechst a. M., Germany (Victor Koehl & Co., New York). Not patented or trademarked.

ETHYL CHLORIDE

Ethyl Chloride is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

KELENE.—A name applied to Æthylis Chloridum, U. S. P., supplied in a special form of container.

Manufactured by Fries Bros., New York.

ETHYL SALICYLATE—Æthylis Salicylas.—Ethyl salicylate $C_6H_4.OH.COO(C_2H_5)=C_9H_{10}O_3$. is the salicylic acid ester of ethyl alcohol and is analogous to methyl salicylate .(oil of wintergreen).

It is made by the action of salicylic acid on ethyl alcohol in the presence of sulphuric acid and subsequent purification.

It is a transparent, colorless, volatile liquid, possessing a pleasant characteristic odor and taste. Its sp. gr. is 1.184 at 20° C. (68° F.) and it boils at 231.5° C. (448.7° F.). It is insoluble in water, but soluble in alcohol.

Actions and Uses.—Ethyl salicylate has the same action as the salicylates, but is said to be less toxic.

Dosage.—3 to 6 c.c. (5 to 10 minims) 3 or 4 times a day.

Proprietary Preparation:

SAL ETHYL.—A name applied by Parke, Davis & Co., Detroit, Mich., to their preparation of ethyl salicylate, which is marketed in gelatin globules containing 0.33 Cc. (5 minims) each. U. S. trademark.

ETHYLENEDIAMINE. — Æthylendiamin — Æthylene Diamine — Ethane Diamine — *a.b.*Diamino-Ethane. — Ethylenediamine, is 1,2-diamino-ethane, $CH_2(NH_2).CH_2(NH_2)=C_2H_8N_2$.

It is prepared by heating 1.2-dibrom-ethane, ethylene bromide, with an excess of alcoholic ammonia, for 12 hours at 100° C. (212° F.), removing the ammonium bromide formed by filtration, evaporating the filtrate to dryness, distilling the residue with potassium hydroxide, and collecting the fraction distilling between 115° and 130° C. (239° to 266° F.) and bringing the liquid by successive purifications to a constant boiling point at 117° C. (242.6° F.).

It is a clear, colorless, thick liquid, having a sp. gr. 0.97 boiling at 117° C. (242.6° F.), without decomposition, having a strong alkaline reaction, an ammoniacal odor and a caustic taste. It is freely soluble in water, and may be mixed with cresols, but is not miscible with benzene (benzol) or ether. It dissolves albumin, even when boiled, very readily.

Being a strong base its incompatibilities are about the same as those of sodium hydroxide.

Actions and Uses.—It is said to be non-corrosive and useful as an albumin solvent for the solution of false membranes in diphtheria and similar affections of the mucous membranes. It is presented for use in the form of kresamine (which see).

Proprietary Preparation:

ETHYLENEDIAMINE SOLUTION, 10 Per Cent.—A solution containing 10 per cent. ethylenediamine (which see).

Actions and Uses.—See ethylenediamine.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York).

ETHYLENEDIAMINE PREPARATIONS

KRESAMINE.—Ethylene-Diamine Trikresol.—Kresamine is a clear watery solution of 25 per cent. of trikresol (which see) and 25 per cent. of ethylene-diamine.

It is a clear, colorless liquid, miscible in all proportions with glycerin, and soluble to the extent of about 20 per cent. in water, but insoluble in petrolatum.

Actions and Uses.—Kresamine is a bactericide, with a claimed minimum of toxicity. It is said that the bactericidal effect of the cresol and its power of penetrating the animal tissues are greatly enhanced by the presence of ethylenediamine and it is claimed to be less irritating when used as a wet dressing than other antiseptics. It is said to be useful in all cases where an active bactericide is required and particularly when microbes are in an albuminous menstruum. The preparation is not so dangerous as carbolic acid. It has been employed for the treatment of ulcers, eczema, lupus and other skin affections.

Dosage.—It is used only in dilutions (2 to 25) containing 2 per cent. or less of each of its active constituents.

Kresamine may be applied in the form of ointment.

A dilution containing 2 per cent. of each ingredient was formerly marketed under the name "Ethylene-diamine Trikresol Solution." This was used without dilution.

Prepared by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). German patent No. 74,634.

EUCAINE

The "Eucaines" are two closely allied synthetic bases, differentiated as eucaine "A" and eucaine "B," or "Alpha-eucaine" and "Beta-eucaine" alpha-eucaine being a synthetic derivative of triacetonamine, while beta-eucaine is a synthetic derivative of vinyl-diacetone-alkamine.

Alpha-Eucaine Hydrochloride has been withdrawn from the American market by the agents, Schering & Glatz, New York.

BETA - EUCAINE HYDROCHLORIDE — Beta - Eucainæ Hydrochloridum.—Trimethylbenzooxypiperidinum Hydrochloricum (Pharm. Helvetica edit. 4). Eucainum Hydrochloricum β (Pharm. Hungarica, edit. 3). Chloretum Eucaicum (Pharm. Danica, 1907). Eucaine Hydrochloride β. Beta-eucaine hydrochloride. $C_5H_7N(CH_3)_3(C_6H_5COO).HCl$, is 2,6,6-trimethyl-4-benzoxy-piperidine hydrochloride.

It is prepared by treating diacetonamine with paraldehyde, reducing the product with metallic sodium, benzoylating the vinyl-diacetonalkamine (melting at 138° C.) so produced by treatment with benzoylchloride, neutralizing the resulting benzoyl-vinyl-diacetonalkamine (trimethyl-benzoxypiperidin) with hydrochloric acid and crystallizing.

It forms a white crystalline powder, soluble in 20 to 30 parts of water at the ordinary temperature, but more soluble in warm water, soluble in 25 to 30 parts of alcohol, producing neutral solutions which can be sterilized by boiling without change. The aqueous solutions yield ether soluble precipitates of the free base on addition of alkali hydroxides or carbonates. Ammonia water produces a precipitate which redissolves, but is reprecipitated on the addition of more ammonia.

The saturated aqueous solution gives no precipitate with mercuric chloride, which distinguishes it from the corresponding alpha-eucaine salt. It gives no color reactions with sulphuric or nitric acid, but yields a yellow precipitate with chromic acid, orange yellow with bismuth-potassium iodide, lemon yellow with picric acid and a white precipitate with phosphomolybdic acid. It is incompatible with alkalies and their carbonates.

If to a solution of 0.1 Gm. of beta-eucaine hydrochloride in 20 Cc. of water 1 drop of ammonia water (10 per cent.) is added, a white precipitate is produced which gradually disappears on shaking. If 3 drops more or ammonia water are added, a precipitate again occurs which dissolves on the addition of 20 Cc. of water. Further addition of ammonia produces a precipitate which is again dissolved on the addition of 10 Cc. of water. If to this liquid ammonia is again added no precipitate occurs, but merely a milky turbidity which disappears on the addition of water.

Beta-eucaine hydrochloride dissolves in sulphuric acid without color.

If 1 drop of a 1 per cent. solution is mixed with 1 drop of mercuric chloride test solution, no precipitate should occur (absence of cocaine and alpha-eucaine).

0.1 Gm. of beta-eucaine hydrochloride should leave no weighable residue on incineration.

Quantitative Determination: 0.5 Gm. eucaine hydrochloride is dissolved in 100 Cc. of alcohol. This solution is titrated with tenth normal sodium hydroxide solution, using phenolphthalein as indicator. 1 Cc. tenth normal sodium hydroxide solution=0.0269 Gm. of eucaine hydrochloride. Instead the alkaloid may be extracted with chloroform from the aqueous solution made alkaline with ammonia water, the chloroform allowed to evaporate spontaneously, the residue dried in a desiccator, and weighed. The alkaloid should weigh 86.56 per cent. of the weight of the salt.

Actions and Uses.—Beta-eucaine hydrochloride is a local anesthetic like cocaine, but weaker and devoid of the stimulating properties of the latter. It does not dilate the pupil, nor does it contract the blood vessels as does cocaine. It has the advantage of stability even on prolonged boiling. It may be used in all cases in which cocaine is indicated as a local anesthetic, especially in ophthalmology.

Dosage.—It may be applied in a 2 to 3 per cent. solution to the eye, 5 to 10 per cent. for nose and throat and 5 to 10 per cent. for ointment for hemorrhoids.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 657,880 (Sept. 11, 1900; expires 1917). German patient No. 97,672.

BETA-EUCAINE LACTATE—Beta-Eucainæ Lactas.—Beta-eucaine lactate, $C_5H_7N(CH_3)_3(C_6H_5COO).C_3H_6O_3$, is 2,6,6-trimethyl-4-benzoxy-piperidine lactate.

It is prepared in a manner similar to the method for beta-eucaine hydrochloride, lactic acid being substituted for hydrochloric.

Beta-eucaine lactate forms a white crystalline powder soluble in about 5 parts of water at the ordinary temperature in 10 parts alcohol and in 5 parts chloroform and in fatty oils with the aid of chloroform. It melts at about 152° C. (305.6° F.). The aqueous solution is feebly alkaline to litmus. In aqueous solutions the base can be thrown down by solutions of sodium or potassium hydroxide as an oily deposit which solidifies after a time. Ammonia produces a precipitate which redissolves, but is reprecipitated on the addition of more ammonia.

Tests: The precipitate caused by 4 drops of ammonia water (10 per cent.) in a solution of 0.1 Gm. of beta-eucaine lactate in 20 Cc. of water is redissolved on the addition of 20 Cc. of water.

If a few drops of diluted sulphuric acid and 1 Cc. of potassium bichlorate solution (1:10) are added to 0.1 Gm. of eucaine lactate, heating develops an odor of acetaldehyde.

0.1 Gm. of eucaine lactate should dissolve without coloration in 1 Cc. of cold sulphuric acid (sp. gr. 1.84). 0.2 Gm. of eucaine lactate, on combustion, should leave no weighable residue.

Quantitative Determination: 0.5 Gm. eucaine lactate is dissolved in 100 Cc. of alcohol. This solution is titrated with tenth-normal sodium hydroxide solution, using phenolphthalein as indicator. 1 Cc. tenth-normal sodium hydroxide solution = 0.0323 Gm. of eucaine lactate. Instead the alkaloid may be extracted with chloroform from the aqueous solution made alkaline with ammonia water, the chloroform allowed to evaporate spontaneously, the residue dried in a desiccator, and weighed. The alkaloid should weigh 72.30 per cent. of the weight of the salt.

Actions and Uses.—The same as those of beta-eucaine-hydrochloride, over which it possesses the advantage of greater solubility.

Dosage.—For hypodermic injections, 2 to 4 per cent. solutions (preferably in 0.6 to 1.0 per cent. sodium chloride solution with or without epinephrine); in the eye, 1 to 2 per cent. solutions; for penciling or tamponading mucous membranes, 10 to 15 per cent. solutions; for infiltration, 1 to 500 solutions with sodium chloride 0.6 to 1 per cent. and epinephrine; for painful wounds, 5 to 10 per cent. ointments with wool fat (adeps lanæ).

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 657,880 (Sept. 11, 1900; expires 1917).

EUGALLOL.—Eugallol is a solution consisting of two parts of monoacetylpyrogallol, $C_6H_3(OH)_2(CH_3COO)$, and one part of acetone.

It is prepared by treatment of pyrogallol with acetic anhydride or acetyl chloride, in the presence of a solvent and subsequent removal of the solvent by distillation. It is also obtained by other methods.

Actions and Uses.—Eugallol acts as an energetic substitute for pyrogallol, but is liable to produce local irritation when applied to the skin.

It is said to be useful externally in old and persistent cases of psoriasis.

Dosage.—It is applied pure by penciling once a day, covering the painted part with powdered zinc oxide, suspending the application a few days if it is followed by irritation.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. German patent No. 104,663.

EUMYDRIN — Methylatropinæ Nitras. — Atropinmethyl Nitrate.—Eumydrin, $C_6H_5(HO.CH_2)CH.CO_2.C_7H_{11}N(CH_3)_2NO_3 = C_{18}H_{26}O_6N_2$, is the nitrate of methylated atropine.

It is obtained by the interaction of methyl-atropine halide with metallic nitrates, or by treatment of the methyl atropine base with nitric acid, by interaction of atropin with methyl nitrate and by other patented processes.

It is a white, crystalline salt, melting at 163° C. (325.4° F.), odorless, permanent and readily soluble in water or alcohol, but very sparingly soluble in ether or chloroform. A quantity of 100 parts contains atropin equivalent to about 90 parts of atropine sulphate.

On warming 0.01 Gm. of eumydrin with 1.5 Cc. of sulphuric acid until the solution begins to darken, and at once adding, carefully, 2 Cc. of water a violet color develops and at the same time a faint peculiar aromatic odor appears. A solution of 0.05 Gm. of eumydrin in 3 Cc. of water, remains clear on the addition of either 1 Cc. of sodium hydroxide solution or of ammonia water.

Being an alkaloidal salt it is incompatible with alkaline solutions, etc.

Actions and Uses.—Eumydrin is a mydriatic and antihidrotic, replacing atropine sulphate both internally and externally in corresponding doses. It is claimed that it dilates the pupil more rapidly than atropine and the dilatation is of shorter duration—being intermediate in these respects between atropine and homatropine. It is said to be much less toxic than atropine, so that larger doses may be given to secure the effect. It is said to be particularly useful for the treatment of night sweats, whooping cough and for the relief of enuresis.

Dosage.—Internally as an antihidrotic, 0.001 to 0.0025 Gm. (1/60 to 1/24 grain). Externally as mydriatic, in solutions about one-tenth stronger than the usual atropine solutions.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). German patent Nos. 137,622 and 138,443.

EUPHORIN—Æthylis Phenylcarbamas.—Phenyl Urethane—Phenylethylurethane—Phenylcarbamic Acid Ethyl Ester.—Euphorin, $CO(NH.C_6H_5)(OC_2H_5) = C_9H_{11}O_2N$, is a compound closely allied to Æthylis Carbamas, U. S. P. (urethane) and differing from this by the replacement of the group NH_2 by NHC_6H_5.

It is prepared by the action of aniline on chlorformic acid ethyl ester.

It forms colorless needles or a white powder, melting at 50°-51° C. (122° to 123.8° F.), having a faint aromatic odor and clove-like taste. It is almost insoluble in water, readily soluble in diluted alcohol, in alcohol and in ether.

Actions and Uses.—Euphorin is anodyne, antipyretic and antiseptic.

It is said to be useful in rheumatism, sciatica, headache, etc. Externally it is recommended to be applied as a dusting powder in venereal and skin diseases, ulcers, burns, etc.

Dosage.—0.5 to 1 Gm. (8 to 15 grains) dissolved in wine or suspended in water; externally in powder, in lanolin ointment and in superfatted soap.

Manufactured by Fabrik von Heyden, Radebeul near Dresden, Germany. U. S. trademark.

EUPHTHALMIN—Euphthalmine Hydrochloride—Phenylglycolyl-Methyl-Vinyl Diacetonalkamine Hydrochloride.—Euphthalmin, is 1,2,6,6-tetramethyl-4-mandeloxy-piperidine hydrochloride, $C_5H_6N(CH_3)_4(C_6H_5.CHOH.COO).HCl$. It is closely related to trimethyl-benzoxy-piperidine hydrochloride (see Beta Eucaine Hydrochloride).

It is prepared by methylating vinyldiacetonalkamine (obtained as explained under beta-eucaine), treating the methylvinyldiacetonalkamine produced with a weak solution of mandelic acid (phenylglycollic acid) dissolving the base (euphthalmine) so obtained in ether, passing gaseous hydrochloric acid into the solution, and crystallizing the salt from its ether solution.

Actions and Uses.—Euphthalmin produces prompt mydriasis free from anesthetic action, pain, corneal irritation, or rise in intraocular tension. It has little or no effect on accommodation, and this disappears more rapidly than with atropine, cocaine, homatropine, etc. In its effects on the general system, euphthalmine very closely resembles atropine.

It is useful as an aid in ophthalmoscopic examinations in place of atropine, homatropine, etc.

Dosage.—2 or 3 drops of a 5 to 10 per cent. solution, according to age of the patient and the nature of the case, are instilled into the eye.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 663,754 (Dec. 11, 1900; expires 1917). U. S. trademark No. 35,541.

EUPYRINE. — Vanillin-Ethylcarbonate-Para-Phenetidin. — Eupyrine, $C_6H_4(OC_2H_5)N:[CH.C_6H_3(O.CO.OC_2H_5)(OCH_3)]$ 1:4 $= C_{19}H_{23}O_5N$ is a compound of para-phenetidin, differing from acet-phenetidine in that the acet-amino group, $NH(CH_3CO)$, is replaced by the group, $N:[CH.C_6H_3(O.CO.OC_2H_5)(OCH_3)]$.

It is prepared by the action of vanillin ethyl-carbonate, $C_6H_3(COH)O.CH_3)(O.CO.OC_2H_5)$ 1:3:4 on an equivalent amount of para-phenetidin, $C_6H_4(O.C_2H_5)(NH_2)$ 1:4. Chemically it differs from acetphenetidin (phenacetin) in that the vanillin ethyl-carbonate group has replaced the acetyl group of acetphenetidin.

It occurs in light yellow, needle-shaped crystals, melting at 87° to 88° C. (188.6° to 190.4° F.); tasteless, with faint odor of vanillin. It is insoluble in cold water, sparingly soluble in warm water and in cold alcohol, readily soluble in warm alcohol and in ether or chloroform.

Concentrated sulphuric acid is colored by eupyrine greenish yellow in the cold and dark brown on heating to the boiling point. Heated on platinum foil it burns without residue. Acids and alkalies decompose it.

Actions and Uses.—The toxic action of phenetidin is said to be counteracted in eupyrine by the vanillin. Doses twenty times as great as those used for man show no production of an amount of methemoglobin recognizable by the spectroscope. It is claimed to be a stimulant antipyretic.

Eupyrine is claimed to be useful as an antipyretic, especially for patients with a weak stomach or otherwise sensitive, on account of its freedom from side effects. For internal use it is open to the same objections as the other coal tar derivatives (see Acetphenetidin).

Dosage.—For adults, 1.5 Gm. (23 grains) once or twice daily. It can be given by itself as a powder.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany. (C. Bischoff & Co., New York.) U. S. patent No. 658,446 (Sept. 25, 1900; expires 1917). U. S. trademark No. 39,577.

EURESOL.—Resorcin Monacetate.—Euresol is resorcinyl acetate, $C_6H_4(OH)(CH_3COO) = C_8H_8O_3$, the acetic acid ester of resorcinol, $C_6H_4(OH)_2$,1:4.

It is obtained by acting on resorcinol with acetic anhydride or acetyl chloride, $C_6H_4(OH)_2 + CH_3COCl = C_6H_4(OH)(CH_3COO) + HCl$ or by otherwise replacing one hydroxyl group in resorcinol with an acetyl group.

It is a thick, honey-yellow, oily liquid, having an agreeable odor, boiling at 283° C. (541.4° F.) and soluble in acetone.

Actions and Uses.—Its action is similar to that of resorcinol, but milder and more lasting because of the gradual liberation of the phenol.

Euresol is said to be useful in acne, sycosis, seborrhea, and particularly in the treatment of chilblains.

Dosage.—It is applied in 5 to 20 per cent. ointments and in acetone solution.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. German patents Nos. 103,857 and 122.145.

Euresol Soap.—A soft soap, supplied in tubes, containing euresol, eucalyptol and oil of turpentine.

EUROPHEN — Di-Isobutyl-Cresol Iodide. — Europhen, $C_6H_3(C_4H_9)(CH_3)(OI).C_6H_2(CH_3)(:O)(.C_4H_9) = C_{22}H_{29}O_2I$, is a condensation product of 2 molecules of isobutylorthocresol, with 1 atom of iodine, analogous to Thymolis Iodidum, U. S. P.

It is prepared by the addition of a solution of iodine in potassium iodide to an alkaline solution of isobutylcresol, washing the precipitate with water, and drying it at a moderate temperature.

It forms a yellow, voluminous powder, fusing at 110° C. (230° F.), containing 28 per cent. of iodine, and having a faint saffron-like odor. It is insoluble in water or glycerin, but readily soluble in alcohol, ether, chloroform and the fixed oils. It is permanent in the dry state, but splits off iodine readily when moistened and rapidly when heated with water at 70° C. (158° F.), particularly in the presence of alkalies.

When triturated with glycerin and water, it yields a filtrate which is turned bluish by the addition of freshly prepared starch paste. Its alcoholic solution produces a yellow precipitate with mercuric chloride.

It should not be exposed to heat, light or damp air; it is incompatible with starch, metallic oxides, mercuric salts, and alkaline hydrates and carbonates.

Actions and Uses.—Its action is similar to that of iodoform and thymol iodide. It is claimed to be useful especially in the treatment of venereal ulcerations.

Dosage.—Europhen may be given internally in the form of pills in doses of from 0.2 to 0.3 Gm. (3 to 5 grains). Locally it may be used as a dusting powder in substance or mixed with an equal quantity of finely powdered boric acid, as an ointment, with wool fat (lanolin), or as a 5 per cent. embrocation, dissolved in olive oil.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 495,204 (expired); German patent No. 56,830. U. S. trademark No. 17,888.

EXODIN.—Exodin is a mixture of derivatives of rufigallic acid (hexahydroxy-anthraquinone). It contains diacetyl rufigallic acid tetra-methyl ester, acetyl-rufigallic acid pentamethyl ester and rufigallic acid hexa-methyl ester.

According to the patent it is obtained by treating rufigallic acid tetra-methyl ester with acetic anhydride and sodium acetate and purifying the product by crystallization.

Actions and Uses.—Exodin is claimed to be a pleasant and reliable cathartic. It is said to produce a mild and protracted tonic effect on the digestive tract and to produce neither gastric pains nor colic.

Exodin is claimed to be useful in acute and chronic constipation of the atonic form and also in cases in which regular evacuation of the bowels must be stimulated in consequence of hemorrhoids, etc.

Dosage.—For children, 0.5 Gm. (7½ grains); adults, 1 to 1.5 Gm. (15 to 22 grains) in tablets or in powder stirred up with water.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 751,216 (Feb. 2, 1904; expires 1921). U. S. trademark No. 43,029.

FERRATIN—Sodii Ferrialbuminas.—Sodium Ferrialbuminate.—Ferratin is the sodium salt of ferrialbuminic acid, containing iron in the ferric state in organic combination, equivalent to 6 per cent. metallic iron.

Sodium ferrialbuminate occurs naturally in the organs of mammals, especially in the liver Ferratin is prepared from egg albumin and chemically pure iron salts in the presence of alkalies.

Ferratin is a light brown, tasteless powder, having a faint odor. It is soluble in weak alkaline aqueous solutions, from which solutions it is precipitated by hydrochloric acid. On dissolving 0.3 Gm. ferratin in 10 Cc. of water with the aid of a few drops of ammonia water, and then adding an equal volume of a 25 per cent. potassium carbonate solution, no precipitation occurs.

Actions and Uses.—See Organic Iron Compounds.

Dosage.—0.5 Gm. (7½ grains) three to four times daily.

Manufactured by C. F. Boehringer & Soehne, Waldhof, Mannheim, Germany. (Merck & Co., New York). U. S. patent No. 505,986 (expired) U. S. trademark No. 24,228.

FERRIC ARSENITE, SOLUBLE—Ferri Arsenis Solubilis.—Ferric Arsenite and Ammonium Citrate.—Soluble Ferric Arsenite is Ferric Arsenite made soluble by the addition of ammonium citrate.

Soluble ferric arsenite occurs in green scale, easily soluble in water; it contains 1.06 per cent. arsenic, equivalent to 1.4 per cent. arsenous oxide, and iron, equivalent to from 15 to 18 per cent. elementary iron.

Actions and Uses.—Soluble ferric arsenite is a hematinic said to be particularly indicated in anemia complicated with malaria, in pernicious anemia and in pellagra.

Dosage.—0.03 to 0.065 Gm. (½ to 1 grain). It may be given by subcutaneous injections in the gluteal region in doses of 0.03 Gm. (½ grain) dissolved in 1 Cc. (15 minims) of water every two or three days.

Non-Proprietary Preparations:

Ampules Iron Arsenite Solution S. & D.—Each ampule is said to contain soluble iron arsenite, 0.06 Gm. (1 grain), dissolved in 1 Cc. (16 minims) of distilled water, representing closely 0.00092 Gm. (1/70 grain) of arsenic trioxide and 0.0092 gm. (1/7 grain) of metallic iron.

Prepared by Sharp & Dohme, Baltimore, Md.

FERRO-MANGAN Dieterich—Liquor Ferro-Mangani Peptonati "Dieterich."—Ferro-mangan is a solution of a compound of peptone with iron and manganese, containing 0.6 per cent. of iron, 0.1 per cent. of manganese and 1.5 per cent. of peptone.

It is prepared by covering 40.0 Gm. of iron and manganese peptonate "Dieterich" with distilled water for one hour, then heating to boiling with 550.0 Cc. of distilled water and allowing to cool. An aromatic mixture is added consisting of 100.0 Cc. cognac, 75.0 Cc. alcohol, 90 per cent., 0.25 Gm. saccharin, 12.5 Cc. aromatic tinctures, and sufficient distilled water to make 1000.0 Cc.

Ferro-mangan is a clear liquid of a dark-brown color and pleasant odor and taste. It is slightly acid in reaction.

The iron is in the organic or non-ionic form (see "Organic Iron preparations").

Method of Valuation: The specific gravity at 15° C. (59° F.) should be about 1.056. The percentage of dry residue at 100° C. (212° F.) varies between 13.25 and 16.80. The percentage of residue after ignition varies between 0.99 and 1.05. The percentage of iron and manganese determined by well-known methods varies between 0.58-0.64 per cent. of iron and 0.13-0.19 per cent. of manganese.

Actions and Uses.—It has the actions of iron and manganese.

It is said to be useful in anemia, chlorosis, convalescence and as a general tonic.

Dosage.—4 to 16 Cc. (1 to 4 fluidrams), according to age, three times a day.

Manufactured by Chemische Fabrik Helfenberg A. G., near Dresden, Germany (The Reinschild Chemical Co., New York). Not patented or trademarked.

FERROUS LACTATE—Ferri Lactas.—Iron Lactate—Ferrum Lacticum. (U. S. P., 1890; Pharm. Germanica, edit. 4; Pharm. Helvetica, edit. 4; Pharm. Belgica, edit. 3; Pharm Francaise, 1908); Ferrous lactate, $Fe(C_3H_5O_3)_2 + 3H_2O$ is the ferrous salt of lactic acid. The salt contains approximately 19 per cent. of metallic iron.

Ferrous lactate occurs in pale greenish-white crusts, consisting of small needle-shaped crystals, or transparent green scales, having a slight, peculiar odor and a sweetish, ferruginous taste.

It is slowly soluble in about 40 parts of cold, and in 12 parts of boiling water; almost insoluble in alcohol; freely soluble in a solution of an alkali citrate yielding a green solution.

When strongly heated the salt froths, gives out dense, white, acid fumes, chars and finally leaves a brownish red residue.

The aqueous solution of the salt has a greenish-yellow color, a slighly acid reaction, and gives a deep blue precipitate with potassium ferricyanide, and a light blue one with potassium ferrocyanide.

A 2 per cent. aqueous solution of the salt should not yield more than a faint opalescence with a solution of lead acetate (limit or absence of sulphate, chloride, citrate, tartrate and malate). The aqueous solution after acidulation with hydrochloric acid should not yield any precipitate or coloration when treated with hydrogen sulphide (absence of foreign metals).

The aqueous solution, acidulated with nitric acid, should not afford more than a slight opalescence with barium chloride solution or with silver nitrate solution (limit of sulphate or chloride). If 25 Cc. of a 2 per cent. aqueous solution of the salt be mixed with 5 Cc. of diluted sulphuric acid, the mixture boiled for a few minutes, an excess of sodium hydroxide added and the mixture filtered, the filtrate when mixed with a few drops of alkaline cupric tartrate solution and boiled, should not yield a red precipitate (absence of sugar).

If a portion of the salt be triturated with strong sulphuric acid no offensive odor should be developed (absence of butyric acid), nor should any gas be evolved (absence of carbonate), and the mixture after standing for some time should not assume a brown color (absence of sugar, gum, or other readily carbonizable impurities).

If 1 Gm. of the salt, contained in a porcelain crucible, be moistened with nitric acid and carefully ignited, it should leave a residue of ferric oxide weighing not less than 0.270 nor more than 0.278 Gm. This residue should not have an alkaline reaction on litmus paper, nor yield anything soluble to water (absence of foreign salts).

Actions and Uses.—Ferrous lactate is a mild chalybeate which because of its feeble taste may be taken without difficulty.

Dosage.—0.06 to 1.3 Gm. (1 to 20 grains). Owing to its liability to oxidation, it is best prescribed in solutions containing much sugar. Syrup dissolves 1 Gm. in 120 Gm. (4 grains to the fluidounce).

FILICIC ACID AND RELATED SUBSTANCES

Aspidium and pharmaceutical preparations thereof have long been used as teniafuges. The most recent work indicates that aspidium probably contains the following constituents, in approximately the amount indicated: Filicic acid, 3.5 per cent.; flavaspidic acid, 2.5 per cent.; albaspidin, 0.05 per cent.; aspidinol, 0.10 per cent.; flavaspidin, 0.10 per cent.; amorphous acid, 5.0 per cent. and filicic nigrine, 6.0 per cent. These substances are, for the greater part, derivatives of phloroglucinol, and some of them are ketones possessing acid characters.

The various formulas assigned to the filicic acids and the different results reported regarding their physiological activity, have given rise to much confusion, leaving the chemistry in an unsettled condition. One of the first formulas assigned to filicic acid is that of Luck—$C_{26}H_{30}O_9$, which differs considerably from the formula—$C_{14}H_{18}O_5$—given this substance by Grabowski and $C_{14}H_{16}O_5$, as suggested by Daccoma. Later two forms, a crystalline and an amorphous filicic acid, were recognized by Poulson, who suggested the formula, $C_{36}H_{40}O_{12}$ for the crystalline filicic acid and $C_{36}H_{42}O_{13}$ for the amorphous acid, which latter he considered as the active therapeutic principle of aspidium. Poulson believed the crystalline acid to be the anhydride of the amorphous acid. More recently, Gallas has stated the formula for both the crystalline and the amorphous filicic acid to be $C_{15}H_{22}O_6$. Gallas and later Kraft concluded that one form of the acid was the lactone of the other form. Filicinic acid, which has the formula ($C_8H_{16}O_3$) is sometimes confused with filicic acid. Besides a difference in the theories regarding the constitution of the various filicic acids, there has been considerable controversy over the anthelmintic properties of these substances.

Our knowledge of the subject is very imperfect, but the majority of authors still accept filicic acid as one of the active constituents of aspidium.

FILICIC ACID, AMORPHOUS.—Acidum Filicicum Amorphum.—Amorphous filicic acid is an organic acid $C_{30}H_{42}O_{13}$, obtained from several species of aspidium.

Amorphous filicic acid is a white, or yellowish powder, without odor or taste, melting at 125° C. (257° F.), soluble in cold alcohol.

Actions and Uses.—Amorphous filicic acid has been recommended as an anthelmintic, and is generally considered one of the active principles of several species of aspidium.

Dosage.—0.5-1.0 Gm. (8 to 15 grains) given with calomel or calomel and jalap.

Note :—The crystalline filicic acid, also designated as filicinic acid, which is considered as an anhydride of the amorphous, is devoid of anthelmintic action, and must not be used in place of the amorphous.

FILMARON.—Filmaron, $C_{47}H_{54}O_{16}$, is an active anthelmintic constituent obtained from the ethereal extract of aspidium (the rhizome of Dryopteris Filix Mas).

Filmaron is obtained from the male fern extract by isolating it in the form of a metallic salt, from which the free filmaron is liberated and suitably purified.

Filmaron occurs as a straw-colored amorphous powder, insoluble in water, difficultly soluble in ethyl and methyl alcohols, and rather difficultly soluble in petroleum ether. It is readily soluble in all proportions in ether, acetic ether, amyl alcohol, chloroform, benzine, carbon disulphide, and acetone, and also, though with partial decomposition, in solutions of the alkalies and alkali carbonates. The alcoholic solution exhibits a slightly acid reaction. Filmaron melts at about 60° C. (140° F.). It exhibits a strong tendency to cake together to form a resinous mass, which is difficult to reduce to powder and dispense; hence it is not marketed in substance, but as a 10 per cent. castor oil solution, which is known as "Filmaron oil."

0.5 Gm. filmaron and 5 Gm. pumice stone, and 1 Gm. magnesia are finely triturated with 250 Cc. water, the mixture shaken for half an hour, and then filtered. On passing a rapid current of carbon dioxide through the filtrate a voluminous, flocculent precipitate forms; the filtrate should afford but very slight precipitate on the addition of hydrochloric acid.

On dissolving 0.1 Gm. filmaron in 0.2 Gm. acetic ether or 0.2 Gm. carbon disulphide by rotation in a test tube, and setting the stoppered tube aside for three days, no separation should have taken place at the end of this time (absence of other male fern constituents; filicic acid and flavaspidic acid).

0.1 Gm. filmaron should completely dissolve in 0.5 Gm. warm petroleum ether, and leave no more than a slight trace of undissolved substance. To detect the filmaron in the castor oil solution (filmaron oil), dilute the filmaron oil with ether, shake out with sodium hydroxide solution, acidulate the alkaline liquid, and then take up the liberated filmaron with ether. On evaporating the ether the filmaron is obtained as a residue.

Actions and Uses.—Filmaron is said to exhibit the specific action of male fern extract and to be useful as an anthelmintic for expelling intestinal parasites.

It is claimed to be devoid of the injurious side actions sometimes exhibited by the oleoresin of male fern and to be harmless when given in the dose necessary for the expulsion of tape worm.

Dosage.—See Filmaron Oil.

Manufactured by C. F. Boehringer & Soehne, Waldhof near Mannheim, Germany (Merck & Co., New York). U. S. trademark No. 40,558.

Filmaron Oil.—Filmaron oil is a 10 per cent. solution of Filmaron in castor oil.

Dosage: 10 Cc. (2½ fluidram).

FLUORESCEIN—Fluoresceinum. — Resorcinolphthalein (a term not strictly correct but commonly used), dioxyfluoran.—Fluorescein, $O:(C_6H_3OH)_2:C.C_6H_4.COO = C_{20}H_{12}O_5$, is the anhydride of fluoresceinic acid $O:(C_6H_3OH)_2:C(OH).C_6H_4(COOH) = C_{20}H_{14}O_6$.

Fluorescein is prepared by the fusion of phthalic anhydride and resorcinol at 195-200° C. (383-392° F.) till the mass becomes solid. This is extracted with water and the residue dissolved in potassium hydroxide solution, which is then filtered and the fluorescein precipitated with acid.

Fluorescein is an orange red powder, insoluble in water, ether, chloroform, and benzol; soluble in hot glacial acetic acid and boiling alcohol. It dissolves in alkaline solutions with formations of a salt

The alkaline solution by transmitted light is red; by reflected light it has a green fluorescence even in very dilute solutions. When fluorescein is boiled, with chalk and water, the calcium salt of fluorescein is formed which is recognized by its red brown color and green sheen.

Actions and Uses.—The soluble sodium salt of fluorescein (fluorescein 2 Gm., sodium bicarbonate 3 Gm., water to make 100 Cc.) has been used for the diagnosis of corneal lesions and detection of minute foreign bodies imbedded in the cornea. While a weak solution of fluorescein will not stain the normal cornea, ulcers or parts deprived of epithelium will become green and remain so for a time; foreign bodies will appear surrounded by a green ring; loss of substance in the conjunctiva is indicated by a yellow hue. Fluorescein also reveals defects or disease of the endothelium of the cornea, producing a deep coloration of the diseased area.

Non-Proprietary Preparation:

Tabloid (Ophthalmic) Fluorescein B.-W. & Co.—Each tablet contains fluorescein 0.00026 Gm. (1-250 grain) in combination with sodium, and weighs 0.0032 Gm. (1-20 grain).

Prepared by Burroughs-Wellcome & Co., London, England, and New York.

FORMIC ACID—Acidum Formicum.—Acidum formicum (Pharm. Helvetica, edit. 4; Pharm. Germanica, edit. 4).

Formic acid is a liquid containing 24-25 per cent. of anhydrous formic acid (HCOOH).

Formic acid is a clear colorless liquid possessing a sharp acid odor and taste. It has a specific gravity of 1.058-1.061. With lead acetate, formic acid produces a white crystalline precipitate. On warming with silver nitrate a gray turbidity and with mercuric chloride a white turbidity is produced. A solution (1-10) after the addition of a few drops of nitric acid should yield no precipitate with silver nitrate or barium chloride; and after neutralizing with ammonia water calcium chloride or hydrogen sulphide should produce no precipitate. If 1 Cc. formic acid is mixed with 5 Cc. water and 1.5 Gm. mercuric oxide (yellow) and heated on the water bath there will follow an evolution of gas leaving a mixture which when filtered will yield a filtrate which should not react acid (acetic acid). Five Cc. formic acid should quire 27.6 Cc. to 28.8 Cc. normal alkali for neutralization, denoting a content of 24-25 per cent. by weight or 254-265 Gm. anhydrous formic acid per liter. The titrated solution should yield no burned or sharp odor (Pharm. Helv. and Pharm. Germ.).

Action and Uses.—The actions resemble those of acetic acid but it is more volatile, more irritant and more antiseptic Formic acid is much more resistant to oxidation, in the body than the other organic acid, and is therefore excreted to a large extent as formates, in the urine. These have an irritant action on the kidneys and urinary tract, and are diuretic Large doses cause methemoglobinemia, but the toxicity is quite low. It has no effect on the general circulation or on the motor system, as has been claimed. It has been lauded in a great variety of disorders, but there is no good evidence that its internal use produces any benefits other than psychical Its external use as a counterirritant is rational, but it possesses no special advantages.

Dosage.—Internally, 1-20 drops of the 25 per cent. acid, largely diluted; or 0.1-0.25 Gm. (1½-4 grains) of sodium formate. Externally usually in a solution containing 1 per cent. of the absolute acid in alcohol or diluted alcohol.

FORTOIN—Methylene-Dicotoin.— Fortoin, $CH_2(C_{14}H_{11}O_4)_2 = C_{29}H_{21}O_8$, is a condensation product of cotoin and formaldehyde.

It is prepared by condensation of cotoin and formaldehyde by means of dehydrating agents (hydrogen chloride): $2C_{14}H_{12}O_4 + CH_2O = CH_2(C_{14}H_{11}O_4) + H_2O$.

Fortoin forms yellow, needle-shaped, tasteless crystals, melting at 211° to 213° C. (411.8° to 415.4° F.) It is insoluble in water, sparingly soluble in alcohol, ether or benzol, but freely soluble in dilute alkalies, acetone or chloroform.

Fortoin dissolves in cold concentrated sulphuric acid with an orange color, and on warming the solution becomes ruby red. Heated on platinum foil it should burn without leaving any residue. On shaking with cold water or alcohol it should not yield any soluble constituents.

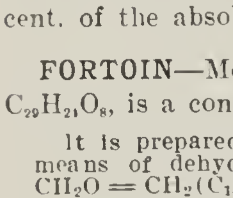
Actions and Uses.—Fortoin has an antiputrefactive, bactericidal action. It is said to cause an active, not passive, dilatation of the intestinal vessels by which the nutrition of the epithelium is improved and its regeneration hastened.

Fortoin is said to be useful as an antidiarrheic in acute and chronic intestinal catarrh and in the obstinate diarrheas due to pellagra and to tuberculosis. (See note under Beta-naphthol Benzoate.)

Dosage.—0.25 Gm. (4 grains) three times a day for adults.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany (C. Bischoff & Co., New York). German patent No. 104,362. U. S. trademark No. 39,523.

GALLOGEN — Ellagic Acid. — Benzoaric Acid. — Gallogen,



$$C_6H(OH)_2 \cdot CO \cdot O \cdot C_6(OH)_2.COOH = C_{14}H_6O_8$$

$= C_{14}H_6O_8$ is anhydrous ellagic acid prepared from Divi-divi, the pods of *Cæsalpina coriaria*.

It is prepared by prolonged boiling of an aqueous extraction of divi-divi, whereby the amorphous acid assumes a crystalline condition and is completely precipitated, then collecting the precipitate, washing and drying.

It is a yellowish, odorless, tasteless powder, insoluble in all acid and neutral liquids, but soluble in alkaline liquids to the amount of 2 per cent., such solutions being, however, very readily oxidized.

Its solutions in alkaline media give all the reactions of tannic acid with iron salts, gelatin solution, etc. With fuming nitric acid it gives a characteristic dark red color.

It is incompatible with alkaline liquids.

Actions and Uses.—Gallogen is an astringent and antidiarrheic, slowly decomposed in the intestinal tract, thus exerting its astringent action gradually during its passage.

It is said to be useful in dysentery, cholera infantum, diarrhea, even in cases of a syphilitic or tuberculous origin.

Dosage.—0.3 to 0.5 Gm. (5 to 8 grains) for children; 0.6 to 1 Gm. (10 to 15 grains) for adults, suspended in neutral or slightly acid media.

Manufactured by Ad. Heinemann, Eberswalde, Germany (C. Bischoff & Co., New York). German patents Nos. 137,033 and 137,034.

GELSEMINE HYDROCHLORIDE—Gelseminæ Hydrochloridum.—Gelsemine hydrochloride is the hydrochloride of an alkaloid, $C_{24}H_{28}N_2O_4,HCl$ (Gerrard) ($C_{22}H_{26}N_2O_2$ by Spiegel, Ber. d. deut. Chem. Ges., vol. 26, p. 1054) derived from Gelsemium (Gelsemium sempervirens (L) Ait. f. Fam. Loganiaceæ).

Gelsemine hydrochloride occurs in prismatic crystals or a white crystalline powder. Soluble in water, but difficultly soluble in alcohol.

With concentrated sulphuric acid it gives a yellowish, and with concentrated nitric acid a green coloration. If potassium dichromate is introduced into a solution of gelsemine in strong sulphuric acid a cherry red coloration shading into violet which soon becomes green is produced at the point of contact.

Action and Uses.—Pure gelsemine appears to have a very slight toxic action, increasing reflex action in frog, to some extent, its action resembling strychnine. The effects of the commercial preparations are thought to be due to the gelseminine which they contain in varying quantities.

It has been used in neuralgia, especially trigeminal.

Dosage.—0.0005 to 0.002 Gm. (1/134 to 1/33 grain).

Note.—Gelseminine is a very poisonous alkaloid, found in gelsemium, which has an action very similar to that of coniine but is more depressant to the central nervous system, and must be carefully distinguished from gelsemine. Gelseminine is a mydriatic but is seldom used as such owing to its irritating action. Merck's "gelseminin" appears to consist of gelsemine and not gelseminine.

Gelsemine (Gerrard) is, according to Cushny (Proc. Am. Ph. Assn., Vol. 41, p. 850), the same as the German "crystallized gelsemine."

GLUTOL-Schleich.—Formalin Gelatin.—A chemical combination of gelatin and formaldehyde.

It is prepared by dissolving 500 Gm. of gelatin in 375 Gm. of water, adding 25 drops of formaldehyde solution, exposing the mass so obtained, in a covered box over lime, to the vapor of formaldehyde by the aid of a layer of cotton wool saturated with it until a dry mass is produced, and reducing this to powder.

It is a white, odorless powder, insoluble in water under ordinary conditions, but dissolved when heated with water under pressure, the solution thus produced gelatinizing on cooling. It is not changed by the action of acids, but is slowly decomposed in contact with living cells. It may be sterilized without decomposition.

Actions and Uses.—It is claimed that while in itself nonantiseptic, non-irritant and non-toxic, it becomes antiseptic and bactericidal in contact with living cells, in consequence of the elimination of nascent formaldehyde, which is split off very slowly but steadily.

Glutol is said to be useful as an odorless, non-irritant, nonpoisonous aseptic dressing, having sustained antiseptic action for wounds, ulcers, burns, etc. (See note under Creosote Carbonate.)

Dosage.—It is employed undiluted as a dusting powder, etc

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). German patent No. 104,365. U. S. patent No. 572,295 (Dec. 1, 1896; expires 1913). U. S. trademark No. 28,431.

GLYCEROPHOSPHATES.

Glycerophosphates are the salts of glycerophosphoric acid, $H_2(CH_2OH.CHOH.CH_2)PO_4$.

The calcium compound is prepared by heating glycerin and phosphoric acid under certain conditions for a considerable time and then neutralizing with lime. The precipitated calcium phosphate is removed, while the calcium glycerophosphate remains in solution From the calcium salt the other salts can be prepared by precipitating calcium by the appropriate salt of the metal whose glycerophosphate is desired. Thus the addition of sodium carbonate to a solution of calcium glycerophosphate yields insoluble calcium carbonate and a solution of sodium glycerophosphate.

The potassium and sodium glycerophosphates are dense syrupy liquids, exceedingly soluble in water, and represent 75 per cent. of the respective salts in a dry condition. The calcium, iron, lithium, magnesium and manganese glycerophosphates are pulverulent salts, moderately soluble in water.

When a solution of glycerophosphate is tested by ammonium molybdate for the presence of a phosphate, only a slight yellow precipitate should form at once.

The watery solutions of glycerophosphates decompose in a short time. They should be made from sterilized water, but hot liquids should not be used for their preparation.

Actions and Uses.—These salts were introduced as "nerve foods" and tonics on the theory that their phosphorus, being a step nearer lecithin, is assimilated more readily than that of hypophosphites. Neither the experimental nor the clinical evidence is considered conclusive by all authorities.

Dosage.—The potassium and sodium salts may be given hypodermically 0.2 to 0.25 Gm. (3 to 4 grains) in normal saline solution, or *per os* 0.25 to 0.65 Gm. (4 to 10 grains) in water or syrup. The calcium, iron, lithium, magnesium and manganese salts 0.2 to 0.65 Gm. (3 to 10 grains) doses, preferably in the form of tablets; the quinine salt in 0.1 to 0.33 Gm. (1½ to 5 grains), and the strychnine salt in 0.001 to 0.003 Gm. (1/60 to 1/20 grain) doses.

TONOLS.—The name applied by E. Schering to identify glycerophosphates of his manufacture. See appendix, Schering & Glatz.

GUAIACOL COMPOUNDS.

Guaiacol Carbonate is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the United States Pharmacopeia and National Formulary.

DUOTAL.—A name applied to Guaiacolis Carbonas, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No 466,913 (expired). U. S. trademark.

DUOTAL-Heyden.—A name applied to Guaiacolis Carbonas, U. S. P.

Manufactured by Chemische Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York). U. S. patent No. 466,913 (expired). U. S trademark No. 28,957.

BENZOSOL—Guaiacolis Benzoas.—Guaiacol Benzoate—Benzoyl-guaiacol. — Benzosol, $C_6H_4(OCH_3)(C_6H_5COO) = C_{14}H_{12}O_2$, is methoxy-benzoxy-benzene. It is closely related to guaiacol, $C_6H_4(OH)(CH_3)$, from which it differs in that the hydroxy-group is replaced by the benzoxy-group.

It is prepared by warming the potassium salt of guaiacol with benzoyl chloride and crystallizing the product from hot alcohol.

It forms colorless, minute crystals which melt at 59° to 61° C. (138.2° to 141.8° F.); they are odorless and tasteless or nearly so. It is practically insoluble in water, sparingly soluble in ether, but readily soluble in hot alcohol. It contains 54 per cent. of guaiacol.

It forms with sulphuric acid a permanent yellow coloration which on the addition of acetone assumes a characteristic, brilliant cherry red color, distinguishing it from salol, which gives a yellow color. Ferric chloride produces in the benzosol sulphuric acid mixture a violet color, changing to green and blue, and on the further addition of nitric acid, to orange and green, or of potassium nitrite to green, violet and yellow. When heated (saponified) with alcoholic potash, the odor of guaiacol is developed.

It is incompatible with the alkalies, which split up benzosol into guaiacol and benzoic acid.

Actions and Uses.—Benzosol is decomposed slowly in the intestinal tract into guaiacol and benzoic acid which exert their usual actions. The liberated constituents are absorbed and excreted in the urine. It is claimed to be not irritating.

Its uses are analogous to those of creosote and of benzoic acid. It is said to be useful in incipient pulmonary tuberculosis, as an intestinal antiseptic in fermentation, diarrhea, typhoid fever, diabetes mellitus and as a urinary disinfectant in cystitis, etc. (See note under Beta-naphthol Benzoate.)

Dosage.—0.2 to 0.6 Gm. (3 to 10 grains), in powder, capsule, pill, or suspended in liquids or as an emulsion.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 453,035 (expired).

GUAIACODEINE. — Codeine - Ortho - Guaiacol - Sulphonate. Guaiacodeine is Codeine - Ortho - Guaiacol - Sulphonate $C_{18}H_{21}NO_3C_6H_3(OH)(OCH_3)(HSO_3)\ 1:2:6 = C_{25}H_{29}O_8NS$, the neutral codeine salt of guaiacol sulphonic acid.

Guaiacodeine is produced by the double decomposition of a soluble salt of codeine with the potassium or barium salts of ortho-guaiacol-sulphonic acid taken in molecular quantities.

It is a white crystalline powder Soluble in 90 parts of water, 450 parts of alcohol and 30 parts of methyl alcohol, insoluble in ether; very slightly soluble in chloroform. Very soluble in hot water.

A drop of solution of ferric chlorid added to a solution of the salt in water or alcohol produces a deep blue color, indicating the presence of ortho-guaiacol-sulphonic acid.

The salt melts between 163° C. and 165° C. (325.4 and 327.20 F.) to a white liquid. 0.1 Gm. dissolves in 10 Cc. concentrated sulphuric acid without color.

Theoretically the salt contains 59.44 per cent. anhydrous codein, or 63.20 U. S. P. codeine (containing 1 molecule of water of crystallization) and 40.56 per cent. ortho-guaiacol-sulphonic acid.

Ammonia and alkalies precipitate from a concentrated solution of the salt the alkaloid, codeine, which should respond to the tests of the U. S. P. for that alkaloid

Actions and Uses.—Those of Codeine. Since the proportion of guaiacol is small it cannot well be used to secure the action of this agent.

Manufactured by the New York Quinine and Chemical Works, New York.

U. S. patent No. 963,254 (July 5, 1910; expires 1927). Not trademarked.

GUAIACOL-SALOL—Guaiacolis Salicylas.—Salicylate of Guaiacol.—Guaiacol-salol is guaiacyl salicylate, $C_6H_4.OH.COO(.C_6H_4.OCH_3) = C_{14}H_{12}O_4$, the salicylic acid ester of guaiacol, closely related to phenyl salicylate (salol).

It is prepared by treating a mixture of sodium salicylate and sodium guaiacolate, in molecular proportions, with phosphorus oxychloride, washing the product of the reaction with water and crystallizing from alcohol.

It is a white crystalline powder, tasteless, but having a salol-like odor. It is insoluble in water, but soluble in alcohol, ether and chloroform. It melts at 65° C. (149° F.).

Being an ester, it is decomposed by alkalies and alkaline carbonates with the formation of alkali salicylate and alkali guaiacol and salicylic acid. The alcoholic solution is colored wine red by the addition of ferric chloride, but if the alcoholic solution be dropped into a watery solution of ferric chloride a turbidity but no coloration is produced.

Actions and Uses.—This compound acts like its constituents, being antiseptic and antirheumatic. It is said to be useful in phthisical diarrhea, dysentery, rheumatism, marasmus, chorea, etc. (See note under Beta-naphthol Benzoate.)

Dosage.—1 Gm. (15 grains).

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Merck & Co., New York).

GUAIAMAR — Guaiacolglycerylester.—Guaiamar is glyceryl guaiacolate, $C_6H_4.OCH_3.O(CH_2OH.CHOH.CH_2)$, $1:2 = C_{10}H_{14}O_4$, the monoguaiacol ester of glycerin.

It is prepared by the reaction of two molecules of sodium hydroxide, one of guaiacol and two of monochlorhydrin at from 140° to 150° C. (284° to 302° F.). When the alkaline reaction has disappeared, the mass is diluted with water which leaves the greater part of the glycerin ester undissolved. The portion dissolved in the water solution may be extracted from the latter by ether.

It is a white crystalline, non-hygroscopic powder, melting at 75° C. (167° F.) and having a bitter, aromatic taste. It is soluble in 20 parts of water at the ordinary temperature, but dissolves best in warm water; it is soluble in alcohol, chloroform, ether and glycerin. Its solutions are neutral to test paper. It is decomposed by soluble hydroxides and carbonates and by strong acids.

Actions and Uses.—Guaiamar liberates guaiacol, partly in the stomach and partly in the intestinal canal, it being split up by the gastric and intestinal contents, with the assimilation of one molecule of water, into guaiacol and glycerin. By this evolution of guaiacol it is believed to exert an antiseptic action in the intestinal canal. It is said not to interfere with the normal process of digestion, but, on the contrary, exerts a tonic action. (See note under Beta-naphthol Benzoate.)

It is intended to be used as a substitute for guaiacol in any cases where the latter is indicated. In the form of ointment it has been recommended in acute articular rheumatism.

Dosage.—0.3 to 1.3 Gm. (5 to 20 grains) in capsules or dissolved in warm water. Locally, in the form of 25 per cent. ointment with wool fat (lanolin), by itself, or combined with belladonna, zinc or mercurial ointment, etc.

Manufactured by Mallinckrodt Chemical Works, St. Louis. U. S. patent No. 599,123 (Feb. 15, 1898; expires 1915).

GUJASANOL — Diethylglycocoll-Guaiacol Hydrochloride.—Gujasanol, $C_6H_4(OCH_3)(CH_2N(C_2H_5)_2.COO).HCl = C_{13}H_{19}NO_3HCl$, is the hydrochloride of diethylglycocoll-guaiacol.

It is prepared by the action of chloracetylchloride on guaiacol and decomposition of the product with diethylamine.

It forms small, colorless, prismatic crystals, melting at 183° to 184° C. (361.4° to 363.2° F.), having a slight odor of guaiacol and a bitter saline taste. It is soluble in its own weight of water and in 25 parts of alcohol, but insoluble in ether.

The solution in water should be clear, colorless, and give a white precipitate with silver nitrate. The oily base separates on the addition of an alkali hydroxide. When incinerated on platinum it leaves no residue.

It is incompatible with alkalies and their carbonates.

Actions and Uses.—It is antiseptic and anesthetic. It is readily absorbed and splits off guaiacol in the organism with facility. Its antiseptic power is said to be about equivalent to that of boric acid.

Gujasanol has been recommended for the treatment of tuberculosis, both internally and subcutaneously. It is also said to be useful as a deodorant and to have given good results in putrid cystitis.

Dosage.—1 to 3 Gm. (15 to 45 grains) in wafers; subcutaneously, 3 to 4 Gm. (45 to 60 grains) in 20 per cent. aqueous solution; locally it may be used in from 0.1 to 2 per cent. solutions.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 624,772 (May 9, 1899; expires 1916).

MONOTAL—Guaiacolis Methylglycolas.—Monotal is guaiacyl methyl glycolate, $CH_2(O.CH_3).COO.(C_6H_4.OCH_3) = C_{10}H_{12}O_4$, the methyl-glycolic acid ester of guaiacol.

Monotal is prepared by the action of methoxacetyl chloride on guaiacol.

Monotal occurs as a limpid, colorless oil, of a faintly aromatic odor, easily soluble in alcohol, ether, benzol, and chloroform; difficultly soluble in water. It is soluble in about 6 parts of olive oil. It boils under 15 mm. pressure at about 156° C. (312.8° F.). It is split up into guaiacol and methylglycolic acid when treated with caustic alkalies.

Monotal is easily saponified by aqueous or alcoholic solutions of potassium hydroxide and then gives the reactions characteristic of guaiacol and methylglycolic acid. When incinerated on platinum foil it leaves no residue. Its watery solution is not rendered turbid by solution of silver nitrate. It has a specific gravity of 1.17 to 1.18 at 20° C.

Actions and Uses.—Monotal is said to give the systemic effects of guaiacol without having its caustic and poisonous properties. It is easily absorbed by the skin. (See note under Creosote Carbonate.)

It is said to be useful as an analgesic for various painful affections in phlebitis and in pulmonary tuberculosis.

Dosage.—2 to 4 Cc. (½ to 1 fluidram) rubbed in or painted over the affected area once or twice daily.

Manufactured by Farbenfabriken vorm. Friedr, Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 822,339 (June 5, 1906; expires 1923). U. S. trademark No. 62,612.

STYRACOL—Guaiacolis Cinnamas.—Guaiacol Cinnamate.—Styracol is guaiacyl cinnamate, $C_6H_5CH:CH.COO(C_6H_4.OCH_3 = C_{16}H_{14}O_3$, the cinnamic acid ester of guaiacol.

It is prepared by allowing guaiacol and cinnamyl chloride in molecular proportions to react on each other for two hours at the ordinary temperature, then heating the mixture on the water bath for a short time and purifying the product of the reaction by several crystallizations from boiling alcohol.

It forms colorless, odorless and tasteless crystalline needles, melting at 130° C. (266° F.). It is insoluble in water, but easily soluble in alcohol, acetone, chloroform and benzine. It contains 55 per cent. of guaiacol, which is split off by the action of alkalies.

It is incompatible with alkalies.

Actions and Uses.—Styracol is claimed to be an intestinal antiseptic and to combine the antituberculous actions of guaiacol and cinnamic acid. It is said to liberate in the intestinal canal a larger proportion of its guaiacol (up to 85 per cent.) than other synthetic preparations of that substance.

It is said to be useful in the initial stage of phthisis, chronic enteritis and intestinal disturbances in general, catarrh of the bladder, etc. (See note under Beta-naphthol Benzoate.)

Dosage.—1 Gm. (15 grains) in powder or tablets.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. German patent No. 62,176. U. S. trademark No. 42,487.

THIOCOL—Potassii Guaiacolsulphonas.—Potassium Guaiacol-Sulphonate.—Thiocol is potassium guaiacol sulphonate, $C_6H_3(OH)\ (OCH_3)\ (KSO_3)1:2:6 = C_7H_7O_5KS$, the potassium salt of ortho-guaiacol sulphonic acid.

It is prepared by sulphonating guaiacol at a temperature not exceeding 70° to 80° C. (158° to 176° F.) with concentrated sulphuric acid, converting the guaiacol sulphonic acid produced into the barium salt, and this by double decomposition with potassium sulphate into the potassium guaiacolsulphonate.

It is a colorless, crystalline powder, neutral or faintly alkaline, odorless, and having a faint bitter, followed by a sweet taste.

It is readily soluble in water, slightly soluble in ordinary alcohol, but insoluble in absolute alcohol and in ether or oils.

Its aqueous solution is not precipitated by barium chloride; ferric chloride produces an intense violet-blue color, which disappears on the addition of ammonia, or of concentrated solution of alkali chlorides or sulphates.

Actions and Uses.—Thiocol is said to be non-irritating to the mucous membranes of the digestive tract, readily absorbed, and is claimed to promote appetite and improve nutrition.

It is claimed that it is useful in pulmonary tuberculosis, acute and chronic bronchitis, pneumonia, whooping cough, emphysema of the lungs, etc., as a means of lessening expectoration, diminishing night sweats and improving nutrition.

Dosage.—0.3 to 1.3 Gm. (5 to 20 grains), in solution with orange syrup or in tablets.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). U. S. patent No. 650,218 (May 22, 1900; expires 1917). U. S. trademark No. 78,327.

Syrup Thiocol Roche.—A syrup containing thiocol 10.5 Gm. in 100 Cc. (6 grains in a fluidram).

HEDONAL—Methylpropylcarbinol Urethane.—Pentan-2-Ol-urethane.—Hedonal is pentan-2-ol urethane, $CH_3.CH_2.CH_2.CH(CH_3)O.CO.NH_2 = C_6H_{13}O_2N$. It is a derivative of urethane differing from ethyl carbamate, U. S. P., in that the ethyl radicle has been replaced by the radicle of methyl-propylcarbinol (pentan-2-ol).$CH_3.CH_2.CH_2.CHOH.CH_3$.

It is prepared by heating the secondary methylpropylcarbinol or pentan-2-ol, $CH_3.CH_2.CH_2.CHOH.CH_3$ with urea nitrate under pressure (U. S. patent No. 659,202), also by other methods (German patents Nos. 120,863, 120,864, 120,865).

It is a white, crystalline powder, having a faint aromatic odor and taste, melting at 74° C. (165.2° F.), and boiling at 215° C. (419° F.). It dissolves in 120 parts of water at 37° C. (98.6° F.), but is more soluble at higher temperatures and is readily soluble in alcohol, ether, chloroform and other organic solvents. It is readily volatilized with the vapors of water or alcohol, and when boiled with alkalies is split up into its constituents, methylpropylcarbinol, ammonia and carbon dioxide.

On boiling with dilute sodium hydroxide, ammonia is evolved and recognized by the odor and the usual reagents; if then an aqueous solution of iodine in potassium iodide is added, and the mixture allowed to cool, the odor of iodoform derived from the alcohol is distinctly manifested.

It is incompatible with alkalies, their carbonates and bicarbonates.

Actions and Uses.—Hedonal appears to have a greater hypnotic effect than ethyl carbamate. It is said to be followed by no after-effects and is oxidized in the body to urea and carbon dioxide. It is employed in insomnia due to mental overwork or nervous excitement occurring in the course of neurasthenia or hysteria. It is claimed to be particularly useful preliminary to anesthesia, a hypnotic dose being given and anesthesia effected with chloroform after the patient has been asleep for an hour.

Dosage.—1 to 2 Gm. (15 to 30 grains), administered dry, followed by a swallow of water, or in wafers or capsules.

Manufactured by Farbenfabriken, vorm. Friedr, Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 659,202 (Oct. 9, 1900; expires 1917); German patents Nos. 11,496, 120,863, 120,864, 120,865.

Hedonal Tablets, 8 grains.—Each tablet contains hedonal 0.52 Gm. (8 grains).

HEMABOLOIDS.—Hemaboloids is a liquid said to contain in each 100 Cc. iron, combined with proteins, equivalent to 0.40 Gm. elementary iron, proteins and nucleoproteins (nitrogen x 6.25) 4.0 Gm., bone marrow extract 5.0 Gm., nuclein 0.04 Gm., in a menstruum containing 17 per cent. alcohol by volume. It is claimed that 75 per cent. of the iron is in a stable organic combination with vegetable nucleoproteins and does not react with hematoxylin (see Organic Iron), while the remaining 25 per cent. is more loosely combined.

Actions and Uses.—Hemaboloids is claimed to act as a promptly absorbable and non-irritant form of food-iron. It is said not to constipate nor stain the teeth.

Dosage.—15 Cc. (½ fluidounce) after each meal. Children in proportion. Each average dose of 15 Cc. (½ fluidounce) contains iron 0.06 Gm. (0.92 grains), proteins and nucleoproteins 0.62 Gm. (9.6 grains), bone marrow extract 0.775 Gm. (12 grains), nuclein 0.006 Gm. (0.1 grain).

Manufactured by the Palisade Manufacturing Company, Yonkers, N. Y. U. S. trademark.

HEMOGLOBIN DERIVATIVES.

Hemoglobin is the coloring matter of the blood corpuscles and is the most important iron-containing compound of the body. It exists in venous blood as hemoglobin, sometimes called reduced hemoglobin, and in the lungs takes on oxygen in a loose chemical combination becoming oxyhemoglobin.

Hemoglobin is obtained from oxyhemoglobin by the action of various reducing agents.

When ingested it is decomposed in the stomach, being converted into a protein, globin, and into hematin, an acid nonalbuminous substance, containing the iron of hemoglobin. The same decomposition is produced by heating in solution to 70°, and by various chemical agents. It is doubtful whether hematin is absorbed into the blood from the gastrointestinal canal.

Various preparations of hemoglobin have been put on the market. These are of two classes. 1. Preparations consisting essentially of oxyhemoglobin usually sold under the name hemoglobin. 2. Preparations derived by the action of reducing agents on the blood, such as zinc, pyrogallol, etc. They consist of reduced hemoglobin, or of some modification of it.

CUPRO-HEMOL—Hæmolum Cupratum.—Cupro-hemol is hemol containing 2 per cent. of copper and 0.4 per cent. of iron in organic combination.

It is prepared by precipitating a solution of blood with a dilute neutral solution of a copper salt at a temperature not materially exceeding 0° C. (32° F.).

Actions and Uses.—Cupro-hemol is said to be useful in tuberculosis, scrofula, anemia, chlorosis, etc.

Dosage.—The maximum dose is 0.5 Gm. (8 grains).

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). German patent No. 86,146.

HEMOGALLOL.—Hemogallol is an organic iron compound produced from blood by reduction of its hemoglobin by means of pyrogallol.

Fresh defibrinated blood suitably diluted with water is mixed with an equal volume of saturated solution of pyrogallol which causes the precipitation of a voluminous precipitate which is separated, washed with water to remove pyrogallol, and finally with alcohol.

It is a reddish-brown, almost tasteless powder, insoluble in water, alcohol, etc.

It does not show the spectroscopic absorption bands of hemoglobin between D and E.

Actions and Uses.—It is claimed that hemogallol acts as a preparation of organic iron (see Organic Iron).

It is claimed to be useful in anemia, chronic nephritis, and convalescence.

Dosage.—0.25 to 0.5 Gm. (4 to 8 grains), one-half hour before meals in powder with sugar or in tablets.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 541,096 (June 18, 1895; expires 1912).

HEMOGLOBIN — Hæmoglobinum. — Hæmoglobin, Hæmatocrystallin. Hemoglobin is the red coloring matter of blood.

Hemoglobin is a brownish-red powder, soluble in water. It is decomposed by extremely small amounts of acids, coagulates at 64° C. (147.2° F.) and is dextro-rotatory. It does not give characteristic albumin or iron reactions until decomposed. A solution mixed with a little sodium chlorid, evaporated over sulphuric acid to a syrupy consistence, mixed with 15 times its volume of glacial acetic acid and heated on a water bath for several hours, yields on cooling flat rhombic crystals of haematin hydrochloride with a dark violet-red color and metallic luster.

Action and Uses.—See organic iron. It is converted into hematin in the stomach.

Dosage.—0.3 to 2 Gm. (5 to 30 grains).

HEMOL—Hæmolum.— Reduced Hemoglobin—Parahemoglobulin—Hemoglobin Deoxidized by Zinc, Merck.—Hemol is an organic iron compound produced from blood by reduction, said to contain about 3 per cent. of iron in organic combination.

Neutralized blood is shaken with zinc dust and water, and the zinc removed from the product of the reduction (Zinc parahemoglobulin).

Hemol is a dark-brown, almost tasteless powder, insoluble in water, alcohol, etc. It contains traces of zinc oxide. The amount of iron may be determined by the method described in Merck's Prüfungsvorschriften für die pharmazeutischen Spezial-Präparate.

Actions and Uses.—It is claimed to have the action of an organic iron compound.

Hemol is claimed to be useful in anemia, chlorosis, etc.

Dosage.—0.12 to 0.5 Gm. (2 to 8 grains) in powder with sugar or in wafers.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 541,933 (July 2, 1895; expires 1912).

HEXAMETHYLENAMINE AND HEXAMETHYLENAMINE COMPOUNDS

Hexamethylenamine is official in the United States Pharmacopeia. For description see the pharmacopeia, or the Physician's Manual of the United States Pharmacopeia and National Formulary.

AMINOFORM. — A name applied to Hexamethylenamina, U. S. P.

Sold by C. Bischoff & Co., New York.

FORMIN.—A name applied to Hexamethylenamina, U. S. P.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

UROTROPINE.—A name applied to Hexamethylenamina, U. S. P.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. trademark No. 58,394.

HEXAMETHYLENAMINE METHYLENCITRATE — Hexamethylenaminæ Methylencitras.—Hexamethylenamine methylencitrate, $C_6H_8O_7(CH_2)_6N_4 = C_{12}H_{20}O_7N_4$, is a compound of hexamethylenamine with anhydromethylencitric acid.

It is a white, crystalline powder, melting with decomposition at 165° to 175° C. (329° to 347° F.), having an agreeable, acidulous taste and acid reaction. It is soluble in about 10 parts of water, but almost insoluble in alcohol and ether. By dilute acids and more easily by alkalies it is decomposed with the liberation of formaldehyde. On addition of 1 per cent. solution of phloroglucin to a solution of hexamethylenamine methylencitrate, followed by sodium hydroxide, the intense rose-red color characteristic of the liberated formaldehyde is developed.

It is incompatible with acids and alkalies.

Actions and Uses.—It is a urinary antiseptic and germicide claimed to be more prompt and energetic in its action than hexamethylenamine, acting equally well whether the urine be alkaline or acid in reaction, rapidly clearing it up and allaying pain.

It is said to be useful in cystitis, pyelitis, prostatic diseases and urethritis. It is also said to be an efficient urinary antiseptic in infectious diseases in which bacteria are present in the urine.

It may be used as a phophylactic against infection in case of operations or instrumental manipulation of the genitourinary tract.

Dosage.—0.6 to 1 Gm. (10 to 15 grains).

Proprietary Preparation.

HELMITOL.—A name applied to Hexamethylenamine Methylencitrate.

Manufactured by Farbenfabriken, vorm. Friedr, Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 722,275 (March 10, 1903; expires 1920). U. S. trademark No. 39,580.

Helmitol Tablets, 5 grains. Each tablet contains helmitol 0.3 Gm. (5 grains).

SALIFORMIN—Hexamethylenaminæ Salicylas, Merck.—Hexamethylenamine salicylate, Merck.—Saliformin is hexamethylenamine salicylate, $(CH_2)_6N_4C_6H_4.OH.COOH$, a weak salt of hexamethylenamine and salicylic acid.

It is prepared by dissolving equal weights of hexamethylenamine and salicylic acid in water and evaporating the solution to dryness at a temperature below 60° C. (140° F.).

It is a white, crystalline powder, having an acidulous and disagreeable taste, readily soluble in water or alcohol.

It is soluble in cold sulphuric acid without color, becoming crimson on heating. Its aqueous solution is colored deep green by copper sulphate, violet by ferric chloride, and forms a yellow precipitate with bromine.

It is decomposed by basic substances (soluble hydroxides, carbonates, etc.) and by strong acids. It is incompatible with salts of iron and other metals which form insoluble compounds with salicylates.

Actions and Uses.—Saliformin is recommended as a genitourinary antiseptic and uric-acid solvent. Its action does not differ materially from that of a mixture of hexamethylenamine and salicylic acid, for it is largely hydrolysed into its constituents in the presence of water.

It is said to be useful in cystitis, lithiasis and bacterial affections of the urinary passages, also in gout, etc.

Dosage.—0.3 to 2 Gm. (5 to 30 grains) in tablets or elixir.

Manufactured by E. Merck, Darmstadt (Merck & Co., New York).

HOLOCAINE HYDROCHLORIDE — Holocainæ Hydrochloridum.—Ethenyl-Paradiethoxy-Diphenyl-Amidine Hydrochloride.—Holocaine hydrochloride is phenetidyl-acetphenetidin hydrochloride, $CH_3.C(:N.C_6H_4.OC_2H_5)(.NH.C_6H_4.OC_2H_5).HCl = C_{18}H_{22}N_2O_2HCl$. Phenetidyl-acetphenetidin hydrochloride is the hydrochloride of a basic condensation product of para-phenetidin (para-ethoxy-amino-benzene) and acetparaphenetidin (phenacetin).

It is prepared by the interaction of molecular proportions of paraphenetidin sulphate and acetphenetidin (phenacetin) in the presence of phosphorus oxychloride, decomposing the resulting holocaine sulphate with sodium hydroxide, crystallizing the base from alcohol, neutralizing it with hydrochloric acid, and crystallizing.

It forms small, colorless crystals, neutral or faintly alkaline, melting at 189° C. (372.2° F.), odorless, faintly bitter and producing transient numbness on the tongue. It is soluble in 50 parts of water and freely soluble in alcohol. On boiling in glass vessels the aqueous solution becomes turbid, owing to a separation of a small quantity of the free base by alkali derived from the glass.

It should form a clear, colorless solution in water, neutral or faintly alkaline, yielding a white precipitate on addition of silver nitrate or of ammonia. The base obtained by precipitation with ammonia and crystallized from alcohol forms colorless needles, which melt at 121° C. (249.8° F.). Incinerated on platinum, it leaves no weighable residue.

It is incompatible with alkalies and their carbonates and the usual alkaloidal reagents. Glass vessels should be avoided in preparing the solution, porcelain being used instead.

Actions and Uses.—It is a local anesthetic like cocaine, but having the advantage of a quicker effect and an antiseptic action. Five minims of a 1 per cent. solution when instilled into the eye are usually sufficient to cause anesthesia in from 1 to 10 minutes. It is said not to cause the scaliness of the cornea which sometimes results after the use of the older remedy.

Dosage.—It is applied in a 1 per cent. aqueous solution prepared in porcelain vessels.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patents Nos. 79,868, 80,568.

HOMATROPINE HYDROCHLORIDE—Homatropinæ Hydrochloridum.—Homatropine Hydrochloride, $C_{16}H_{21}NO_3HCl$, is the hydrochloride of the alkaloid homatropine, obtained by the condensation of tropine and mandelic acid.

Homatropine hydrochloride occurs as small white crystals, soluble in water and alcohol and melting at 216° to 217° C. (420.8° to 422.6° F.).

If sulphuric acid containing a trace of potassium dichromate be added to a crystal of the salt an evanescent pink color will be produced which rapidly changes to green. If 0.01 Gm. of the salt be added to 5 drops of nitric acid and evaporated to dryness in a porcelain dish the residue should not acquire a violet red color upon the addition of a few drops of alcoholic potassium hydroxide test solution (absence of atropine, hyoscyamine or hyoscine). If 1 Cc. of an aqueous solution of the salt (1 to 100), be made alkaline with ammonia water, shaken out with chloroform and the chloroformic solution evaporated to dryness, the residue should turn yellow and finally brick red when warmed with about 1.5 Cc. of a solution of 1 part mercuric chloride in 30 parts of a mixture of 5 volumes alcohol and 3 of water (absence of most other alkaloids except atropine and hyoscyamine). If to an aqueous solution containing 0.1 Gm. of the salt an excess of potassium hydroxide test solution be added, liquid extracted with ether and the latter evaporated spontaneously, the crystals which form should melt at 96° C. (204.8° F.).

Actions and Uses.—Homatropine is less poisonous than atropine, but the same symptoms are produced by it when exhibited in large doses.

The hydrochloride is used as a mydriatic in ophthalmic surgery. The mydriatic effect begins in ¼ to ½ hour and reaches a maximum in one hour and disappears in 36 to 48 hours. Accommodation paresis ceases earlier.

Homatropine hydrochloride is given for the same indications as the hydrobromide, but has no advantage over the latter.

Dosage.—It is applied to the eye in 1 per cent. solution.

ICHTHYOL AND RELATED COMPOUNDS

ICHTHYOL—Ammonii Ichthosulphonas.—Ammonium Sulpho-Ichthyolate. Ammonium Ichthyol Sulphonate. Ammonium-Ichthyol.—Ichthyol consists largely of the ammonium salts of sulphonic acids derived from the tar of a bituminous shale which is found in the Tyrol and which contains the remains of many fossil fishes. The exact composition and nature of ichthyol is still doubtful.

It is prepared by dry distillation of the bituminous mineral, sulphonating the crude volatile oil obtained with concentrated sulphuric acid, removing the excess of sulphuric acid by repeated precipitation with strong brine, and saturating the ichthyolsulphonic acid with strong ammonia.

Ichthyol is a brown, viscid liquid, translucent in thin layers, having a bituminous odor and taste. It is soluble in water and in mixtures of equal volumes of alcohol and ether, but insoluble in the last two liquids by themselves. It is miscible with glycerin, oils and fats. It contains about 10 per cent. of sulphur in natural combination, and further 7 per cent. introduced by the sulphonation.

Ichthyol is precipitated from its aqueous solutions by acids, and the dark, resinous mass thus formed is soluble in ether and in pure water, but not in dilute acids or in salt solutions. The fixed alkalies develop the odor of ammonia, and if the mass is then dried and carbonized, the residual mass gives off hydrogen sulphide on addition of hydrochloric acid. When dried on a water bath it yields about 55 per cent. of residue.

It is incompatible with acid and saline solutions, fixed alkalies, their carbonates and iodides, alkaloidal salts, mercuric chloride, etc.

Actions and Uses.—Ichthyol penetrates the unbroken skin and, it is claimed, acts as a vasoconstrictor on mucous surfaces. It has an antiseptic action and is believed to act as an alterative in consequence of the sulphur which it contains.

It is said to be useful internally in phthisis, skin diseases, scrofula, etc. Externally it has been applied in erysipelas, burns, chilblains, carbuncles, rheumatism, ivy poisoning, etc., also in uterine and vaginal inflammations, gonorrhea, etc.

Dosage.—Internally, 0.2 to 2 Cc. (3 to 30 minims) mostly in simple solution in water, or peppermint water, sometimes in the form of pills or capsules. Locally, in vaginal, uterine or rectal suppositories, in 0.06 to 0.18 Cc. (1 to 3 minims) bougies, or 1 to 3 per cent. solution for gonorrheal treatment.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York). German patent No. 35,216. U. S. trademark.

CALCIUM ICHTHYOL.—A derivative of ichthyol in which calcium is substituted for ammonium.

It is a brown, tasteless powder, insoluble in water, and containing 2.5 per cent. of calcium.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York).

ICHTHALBIN—Ichthyol Albuminate.—A compound of ichthyolsulphonic acid and albumin analogous to tannalbumin.

It is prepared by precipitating a solution of ichthyol and albumin with diluted sulphuric acid and removing adhering odorous oil by heating the well washed and dried precipitate for 24 hours at 120° C. (248° F.), or by washing with alcohol, benzene, petroleum benzin, chloroform, etc.

It is an extremely fine, grayish white powder, odorless and practically tasteless. It is insoluble in water, in the gastric juice or in acid liquids, but completely soluble in alkaline liquids.

Actions and Uses.—Its actions and uses are the same as those of ichthyol, with the asserted advantage of freedom from such side effects as nausea, eructations, etc. It is recommended for the same purposes as ichthyol.

Dosage.—For infants 0.13 to 0.3 Gm. (2 to 5 grains), in gruel; older children, 0.6 to 1 Gm. (10 to 15 grains), mixed with scraped chocolate; adults, 1 to 1.3 Gm. (15 to 20 grains), in chocolate tablets.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York. English patent No. 11,344. U. S. trademark No. 31,114.

ICHTHARGAN—Argenti Ichthosulphonas.—Silver Sulphichylolate—Silver Ichthyolate.—A compound of ichthyol and silver claimed to contain 30 per cent. of metallic silver and 15 per cent. of sulphur in organic combination.

It is prepared, according to the patent specifications, by neutralization of ichthyol sulphonic acid with silver oxide and extracting the water soluble silver ichthyol sulphonate.

It is a brown, amorphous, perfectly stable powder, having a faint chocolate-like odor. It is freely soluble in water, glycerin, or diluted alcohol, but insoluble in absolute alcohol, ether or chloroform. Its aqueous solution darkens with precipitation of metallic silver when exposed to the light, but is said to suffer no change in amber colored bottles.

It is incompatible with the soluble chlorides. Its solutions should not be exposed to the light.

Actions and Uses.—It is said to be bactericide, astringent and antiphlogistic. It is reported to combine the bactericidal action of the silver salt with the penetrating and antiphlogistic action of ichthyol.

It is recommended in gonorrhea in all its forms as a succedaneum for organic salts of silver. It is claimed to be the strongest in silver content of all the various organic compounds of silver introduced in late years.

Dosage.—0.04 to 0.2 per cent. solution in gonorrhea; 3 per cent. solution in posterior urethritis; ½ to 3 per cent. solution in trachoma.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York). German patent No. 112,630.

ICHTHERMOL—Hydrargyri Ichthosulphonas.—Mercury Ichthyolate.—A compound of ichthyosulphonic acid and mercury, containing 24 per cent. of metallic mercury.

It is a dark colored, odorless powder, insoluble in water.
Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York).

ICHTHOFORM—Ichthyol Formaldehyde.—A compound of ichthyol and formaldehyde.

It is a dark brown, practically odorless, and tasteless powder. It is permanent and insoluble in the usual solvents.

Actions and Uses.—Ichthoform is said to be antiseptic and antiphlogistic. It is reported to be efficacious in arresting intestinal decomposition and inflammation, and to be nontoxic. (See note under Beta-naphthol Benzoate and under Creosote Carbonate.)

It is recommended by the manufacturer locally in endometritis, in ozena, and in wounds, ulcers, etc.

Dosage.—Internally, 0.6 to 2 Gm. (10 to 30 grains), in powders taken plain, or suspended in gruel or cacao, or as a "shake" mixture; externally as pure powder, as 30 to 50 per cent. triturations, or as 10 to 25 per cent. ointments.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York). German patent No. 107,233.

FERRICHTHYOL—Ferric Ichthyol. — A derivative of ichthyol in which about 2.5 per cent. of iron is contained.

It is a brown-black, voluminous, non-hygroscopic powder, nearly odorless and tasteless. It is insoluble in the ordinary solvents as also in diluted acids and alkalies.

Actions and Uses.—It is said to be alterative, antiseptic, hematinic and tonic. It is recommended in anemia, chlorosis, etc.

Dosage.—1 to 2 Gm. (15 to 30 grains) in tablets.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York).

LITHIUM ICHTHYOL.—A lithium derivative of ichthyol.

It is a dark brown mass, somewhat more consistent, but otherwise resembling ammonium ichthyol in appearance.

Actions and Uses.—It is an antiseptic and bactericide. It is claimed to be useful as a wound antiseptic.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York).

SODIUM ICHTHYOL—Sodii Ichthosulphonas.—Sodium Ichthyolsulphonate.—A derivative of ichthyol containing sodium instead of ammonium.

It is prepared by neutralizing ichthyolsulphonic acid with solution of sodium hydroxide and evaporating the excess of water.
It is a dark brown mass, more solid in consistency than ammonium ichthyol, otherwise having identical physicial properties. It contains 15 per cent. of sulphur.
It is distinguished from ichthyol by not giving off ammonia on the addition of sodium hydroxide.

Actions, Uses and Dosage.—These are the same as those of ichthyol. Its firmer consistence makes it more suitable for pills.

Manufactured by the Ichthyol Co., Hamburg, Germany (Merck & Co., New York). German patent No. 107,233.

TUMENOL—Tumenol Venale.—Tumenol is a crude mixture of tumenol sulphone and tumenol sulphonic acid derived from bituminous shale.

It is prepared by sulphonating the mineral oil obtained by the distillation of bituminous shale quarried in the Mossel mine.
It is a dark oil of syrupy consistency, almost insoluble in water, but easily soluble in fats.

Actions and Uses.—It is said to be a non-toxic and nonirritant protective and palliative to the skin.

It is said to be useful in eczema, excoriations, erosions, superficial ulcerations and burns as a palliative and protective covering, etc.

Dosage.—As 5 to 20 per cent. ointment or 10 per cent. solution in water or glycerin and in the form of soap plaster (with salicylic acid).

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patent No. 56,401.

TUMENOL-AMMONIUM.—Tumenol-ammonium is the ammonium salt of tumenol sulphonic acid.

Tumenol-ammonium is a dark oil with a faint tarry odor and acrid taste. It is soluble in water in all proportions with a neutral reaction. It is also soluble in alcohol, ether and glycerin.

Actions and Uses.—See Tumenol.

Dosage.—Tumenol-ammonium is applied as a local dressing in the form of a 5 to 10 per cent. aqueous solution, a 5 to 20 per cent. tincture containing equal parts of ether, alcohol and water or glycerin, and as a 5 to 20 per cent. ointment. The manufacturers state that its use is to be preferred to that of the ordinary tumenol.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). Not patented in U. S.

IODALBIN.—Iodalbin is a compound of iodine and blood albumin, containing approximately 21.5 per cent. of iodine.

It is prepared by treating blood albumin with a solution of iodin whereby an insoluble precipitate is produced. This precipitate is separated, purified by the removal of free iodin, dried, powdered and assayed.
Iodalbin is a reddish colored powder, practically tasteless and possessing a peculiar, rather pleasant odor, suggestive of cane syrup or molasses. It is almost insoluble in water, acids, alcohol and other ordinary solvents, but is readily soluble in strong alkaline solutions; more slowly soluble in dilute alkaline solutions. On heating it evolves iodine vapors copiously and is subsequently consumed to an ash, leaving a small amount of residue.
Tests. The presence and amount of iodine can be determined by the usual processes for detecting and estimating this element in organic substances.

Actions and Uses.—When administered to animals Iodalbin appears to suffer little change in the acid contents of the stomach, but on passing into the intestines it is dissolved by contact with the alkaline secretion and on absorption exerts a physiologic action similar to that of the soluble iodides. It is indicated in the same cases as the soluble iodides.

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains) repeated according to indications, or until the desired effects are obtained.

Manufactured by Parke, Davis & Co., Detroit, Mich. Not patented or trademarked.
Iodalbin Capsules, 5 grains.—Each capsule contains iodalbin 0.3 Gm. (5 grains).

IODIPIN—Iodized Sesame Oil.—Iodipin is an iodine addition product of sesame oil.

It is prepared by the action of iodine chloride on sesame oil in sufficient quantity, theoretically calculated, to produce the required iodization.
It is a yellow, oily liquid, having a purely oleaginous taste. It is insoluble in water.
If to 1 Cc. of iodipin in 10 Cc. of chloroform a few drops of phenolphthalein test solution are added, the addition of one drop of half normal potassium hydroxide V. S. should produce a red color (limit of acidity).
Estimation of iodine: 3 Gm. of iodipin, 10 per cent., or 1 Gm. of iodipin, 25 per cent., are saponified by heat with 5 Gm. of potassium hydroxide and 25 Cc. of alcohol. The solution is evaporated to dryness on the water bath and the residue carefully incinerated. The residue is extracted with water and the washings filtered into a Topf distilling apparatus. Then 10 Cc. of hydrochloric acid and 10 Cc. of ferric chloride solution are added and the liberated iodine distilled with the usual precautions into a solution of potassium iodide. Finally the iodine is determined by titration with tenth normal sodium thiosulphate solution V. S. and the per cent. of iodine calculated.

Actions and Uses.—Iodipin acts in the system similarly to the iodides, being broken up in a manner analogous to that described under bromipin, which see. Its action is claimed to be more lasting and iodism is less likely to be caused.

Dosage. 2 to 6 c.c. (30 to 90 minims) of iodipin, 25 per cent. hypodermically or 4 to 8 Cc. (1 to 2 fluidrams) of iodipin 10 per cent. 3 to 4 times a day.

Manufactured by E. Merck, Darmstadt, Germany (E. Merck & Co., New York). German patent No. 96,495.
Iodipin, 10 per cent.—Iodized sesame oil, 10 per cent iodine. Iodipin 10 per cent. is an iodized sesame oil containing 10 per cent. of iodine in organic combination.
Iodipin, 25 per cent.—Iodized sesame oil, 25 per cent. iodine. Iodipin 25 per cent. is a preparation similar to the preceding, but intended for hypodermic administration.
Capsules of Iodipin, 25 per cent.—Each capsule contains iodipin, 25 per cent. 2 Gm. (30 grains).

IODOFORMOGEN — Iodoformalbumen. — Iodoformogen is a nearly odorless mixture of iodoform and albumin.

It is prepared by precipitating a solution of albumin with alcoholic solution of iodoform and heating the precipitate at 120° C. (248° F.).

It is a very fine, voluminous, light-yellow, nearly odorless powder, non-hygroscopic and non-conglutinating. It is insoluble in water, and sterilizable at 100° C. (212° F.) without decomposition or change. It contains about 12 per cent. iodine.

Actions and Uses.—Its action is that of iodoform, which is slowly liberated when it is in contact with wound surfaces, making the action more persistent. It limits secretion, favors granulation and promotes drying.

Iodoformogen is recommended by the manufacturer as a dusting powder for ulcerated surfaces.

Dosage.—Being about three times as voluminous as iodoform, it is usually applied undiluted to the affected parts. It may be used as a snuff in ozena, mixed with an equal amount of boric acid.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany and New York. German patent No. 95,580. U. S. trademark No. 31,186.

IODO-MANGAN — Liquor Ferro-Mangani Iodopeptonati "Dieterich."—Iodo-mangan is Ferromangan Dieterich with the addition of 1 per cent. of iodopeptone.[1] Iodopeptone contains 15 per cent. of iodine.

The process of preparation is the same as that given under Ferro-Mangan "Dieterich," with the addition of a solution of iodopeptone.

Iodo-mangan is a clear dark-brown liquid of agreeable odor and taste, and a slight acid reaction.

Method of Valuation: After determination of the percentage of iron and manganese a test method should be employed, as described by Dr. Karl Dieterich in Helfenberg Annals, 1901, pages 162-165, to ascertain the percentage of halogens in Iodopeptone: About 0.5 iodopeptone should be thoroughly mixed with a few grams of a mixture of 1 part potassium nitrate and 2 parts sodium carbonate either in a porcelain or platinum crucible. The mixture is then covered with a light layer of sodium carbonate, covered and carefully heated until reaction sets in. When finished a little potassium nitrate is added to obtain a smooth flux, then the molten mass is exposed to glowheat for about 15 minutes. After cooling it is dissolved in hot water, rinsed into a beaker, filtered if necessary, acidulated dith diluted acetic acid and any iodate reduced with sulphurous acid. The excess of acid is driven off by heat, the liquid strongly acidulated with nitric acid, again heated, until the gas formation ceases, then precipitated while hot with silver nitrate. The silver iodide is collected on a weighed filter, washed with very dilute ammonia water, as the preparation contains hydrochloric acid, dried and weighed.

Actions and Uses.—It is claimed to be a reconstructive tonic and blood making adjuvant, with favorable action in affections of the glandular system.

Iodo-mangan is said to be useful in scrofulosis, rheumatism, etc.

Dosage.—4 to 16 Cc. (1 to 4 fluidrams), according to age, three times a day.

Manufactured by Chemische Fabrik Helfenberg A. G., near Dresden, Germany. (Reinschild Chemical Co., New York.) No patents. U. S. trademark No. 57,870.

IODONE.—Iodonum—Iodone $(C_6H_4C_2O_2)_2\ KI.I_4$, is a periodide of phthalic acid anhydride.

Iodone is prepared by treating a solution of phthalic-acid anhydride in acetic ether, with a solution of iodine and potassium iodide, and crystallizing the product from suitable solvents.

Iodone occurs in the form of dark green prismatic crystals which melt with decomposition at 163° C. (325.4° F.). When freshly prepared it is odorless, but on standing, traces of iodine are liberated, giving it a faint odor of iodine. It is gradually decomposed into phthalic acid, iodine, and potassium iodide by water, in which the decomposition products dissolve until a saturated iodine potassium iodide solution results. Any excess of iodine remaining in contact with the supernatant liquid remains unchanged. Alcohol, chloroform, and ether decompose iodone, but more slowly than water. Iodone crystals are stable in dry air; exposed to damp air, they gradually liberate iodine.

When 0.1 Gm. iodone is heated in a crucible at not more than a dull red heat, the compound chars, iodine vapor is driven off, and a residue of white potassium iodide remains. At a bright red heat the latter is dissipated, leaving no weighable residue (absence of metallic impurities).

About 0.1 Gm. iodone, accurately weighed, is allowed to react, with occasional agitation, with a solution of 1 Gm. potassium iodid in 50 c.c. water. At the end of 15-20 minutes the titration of this solution with tenth-normal thiosulphate solution should indicate the presence of not less than 51.1 per cent. iodine.

Iodone surgical dressing and dusting powder, assayed by the above process, should yield not less than 2 per cent. of available iodine. (About 2.5 Gm. should be taken for the assay.)

Actions and Uses.—Like iodine, iodone is a potent germicide and stimulant to the processes of repair in wounds. It is said to be useful in all conditions in which the local use of iodine is indicated.

Dosage.—Iodone is not used in substance but the employment of its preparations should be regulated on the basis of their iodine content.

Manufactured by the Henry C. Blair Co., Philadelphia, Pa. U. S. patent applied for. Not trademarked.

Iodone Oil—Oleum Iodoni.—Iodone oil is a 2 per cent. solution of iodone crystals in a mixture of alcohol, castor oil, and cotton seed oil. It is said to yield about 1 per cent. of iodine, slowly liberated on prolonged contact with moisture and to contain about 20 per cent. alcohol.

Iodone oil is prepared by dissolving iodone crystals in a mixture of alcohol and oils to which sufficient iodine has been added to overcome the decomposing effects of the solvent on iodone.

It is a clear dark reddish-brown oily liquid, having a specific gravity of about 0.912 at 25° C. (78° F.) and a faint alcohol-like odor.

When shaken with chloroform and water the chloroform acquires a violet color, which is decolorized by shaking with a solution of sodium thiosulphate.

If 5 Cc. of the oil is dissolved in 15 Cc. of chloroform and treated as under iodone ointment, considerable time being allowed during the titration for the complete liberation of the iodine (at least twenty-four hours), about 1 per cent. iodine, calculated from the volume of volumetric sodium thiosulphate solution, should be indicated.

Actions and Uses.—Iodone oil has the germicidal and alterative actions due to the iodine which is liberated on contact with moisture.

It is said to be useful in all catarrhal affections of mucous membranes, hay fever, etc.

Dosage.—Its employment should be regulated on the basis of its liberating 1 per cent. of iodine on contact with moisture. It may be applied as a spray or on pledgets of cotton or tampons. It can be injected hypodermically into tuberculous joints, etc.

Iodone Ointment—Unguentum Iodoni.—Iodone ointment is a mixture of iodone crystals with petrolatum, said to contain about 4 per cent. of iodine and to yield about 2 per cent. of available iodine slowly liberated on contact with moisture.

Iodone ointment is a dark green unctuous mass, having the consistency of petrolatum and a faint iodine-like odor.

A small amount dissolved in chloroform in a test tube and shaken with water should impart to the chloroform a violet color, which is destroyed by addition of sodium thiosulphate solution.

If 2 to 3 Gm. of iodone ointment be weighed and dissolved in 15 Cc. of chloroform and 30 Cc. of water added, the mixture shaken frequently during one hour, and titrated with tenth normal sodium thiosulphate solution using starch as indicator, not less than 2 per cent. of iodine should be indicated.

Actions and Uses.—Iodone ointment has germicidal, alterative and stimulant powers due to the iodine liberated.

It is said to be useful in all conditions in which the local use of iodine in ointment is indicated.

Dosage.—Its employment should be regulated on the basis of the liberation of 2 per cent. of available iodine on contact with moisture.

Iodone Surgical Dressing and Dusting Powder—Pulvis Iodoni Compositus.—Iodone surgical dressing and dusting powder is a mixture of four parts of iodone and 96 parts pure sterile talcum.

Dosage.—Its employment as a surgical dressing and dusting powder should be regulated on the basis of its containing 2 per cent. of available iodine, slowly liberated on contact with the moisture of wound secretions, etc.

IOTHION — Di-Iodo-Hydroxy-Propane. — Iothion is 1,3-di-iodo-propane-2-ol $CH_2I.CHOH.CH_2I = C_8H_6OI_2$.

Dichlorhydrin, obtained by chlorinating glycerin, is heated with the theoretical quantity of potassium iodide in the presence of water, chlorine being replaced by iodine with the production of di-iodo-hydroxy-propane.

Iothion is a yellowish, oily, heavy liquid, of sp. gr. 2.4 to 2.5, containing 77 per cent. of iodine. It is volatile at the body temperature, and not unpleasantly odorous. It is insoluble in water but soluble in glycerin, oils, alcohol and other organic solvents. It is incompatible even with weak alkalies.

If Iothion be heated on the water bath under a reflux condenser for 5 to 6 hours, with 33 per cent. solution of potassium hydroxide and the iodine liberated from the residue by sulphuric acid and sodium nitrite and extracted with carbon disulphide, the titration of this iodine carbon disulphide solution with sodium thiosulphate in the usual way, should indicate 77 per cent. of iodine.

Actions and Uses.—Iothion acts like iodine and the iodides, but it is said to be rapidly absorbed by the intact skin.

It is said to be a satisfactory substitute for iodine and iodides. It is applied to the surface of the body in the same manner as mercurial inunctions.

Dosage.—It is applied in the form of a 25 to 50 per cent. ointment with a mixture of equal parts of wool fat (lanolin) and petrolatum as a base.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark No. 39,252.

KEFIR FUNGI—Kefir fungi is a mixture of bacteria and yeasts capable of causing lactic acid fermentation of milk.

Kefir occurs in the form of white irregular roundish bodies, of the size of a walnut, with a very rough, furrowed surface, and of a tough gelatinous consistency. The substance contains Saccharomyces cerevisiæ (Heyden), Bacillus acidi lactici (Pasteur),

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[1] Iodomangan formerly contained 0.45 per cent. of iodopeptone.

Dispora Caucasica (Kern). It acts on milk as follows: Fat, salt and water of the milk remain unaffected. The lactose is gradually decreased and the lactic acid increased. Alcohol is produced along with carbon dioxide. 10 per cent. of the casein is converted into acid albumin and peptones, 10 per cent. into hemialbumose and the rest loses its lime. (U. S. Disp., 19th ed., p. 1540.)

Action and Uses.—Kefir fungi are used for the preparation of fermented milk which contains lactic acid, alcohol, the fats, salt and water of the milk. Kefir milk acts as an easily digestible food in many cases of dyspepsia and lack of digestive power. It is also serviceable in some cases in the prevention of intestinal putrefaction.

Dosage.—Kefir kumyss may be prepared by adding active kefir grains to fresh cows' milk, kept at a temperature of 21°-27° C. (70° to 80° F.) until the effect of fermentation becomes apparent by the rising of the grains to the surface. The grains may then be strained off, and the milk, which now contains sufficient yeast-cells to insure continuance of the fermentation, left to itself in well-corked bottles.

KERATIN—Keratinum.—Keratin is a proteid substance which forms the chief part of horns, hoofs, feathers, wool, etc.

To prepare keratin horn shavings are macerated for some days in a mixture of equal parts of ether and alcohol, decanting the liquid and washing the residue with warm water. The washed shavings are then treated with an acid solution of pepsin at 40° C. (104° F.). After further washing with water the residue is dried and powdered.

Keratin occurs as a brownish yellow powder or in transparent white or grayish white scales, tasteless and odorless. It is soluble in concentrated acetic acid, caustic alkalies and ammonia, but insoluble in water, alcohol, ether, dilute acetic acid or acid pepsin solutions. It is decomposed by long boiling under pressure forming a turbid solution with the liberation of hydrogen sulphide. Boiling with dilute sulphuric acid converts it to leucine, tyrosine and other products. On ignition it emits the odor of burning feathers and the remaining carbon is very difficultly burned. On complete combustion the ash should not exceed 1 per cent. 24 hours' digestion with 15 times its volume of ammonia or glacial acetic acid solution at 25°-40° C. (77°-104° F.) should not leave more than 0.3 per cent. insoluble matter.

Uses.—For coating pills to pass the stomach unchanged.

LACTOPHENIN — Lactopheninum. — Phenetidinum lactylatum (Pharm. Helvetica. edit. 4)—Lactylparaphenetidin.—Lactophenin is lactylparaphenetidin. $C_6H_4.OC_2H_5.NH(CH_3.CHOH.CO=C_{11}H_{15}NO_3$. a phenetidin derivative differing from acetphenetidine (Phenacetin) in that the acetic-acid radicle of acetphenetidine is replaced by the lactic-acid radicle (lactyl).

It is prepared by heating lactic acid and paraphenetidin, in molecular proportions, at 180° C. (356° F.) until all the liberated water is expelled and crystallizing the product from hot water.

Lactophenin occurs as a white, crystalline, odorless powder, of slightly bitter taste and neutral reaction. It melts at 117.5° to 118° C. (243.5° to 244.4° F.). It is rather difficultly soluble in cold water (1:330), and is soluble in 55 parts of boiling water. It is soluble in 8.5 parts of alcohol, and is not precipitated from this solution by water. In ether and petroleum it is difficultly soluble.

On boiling 0.2 Gm. of lactophenin with 2 Cc. hydrochloric acid for one minute, then diluting the solution with 20 Cc. water, and filtering when cold, the filtrate will become colored a ruby red on the addition of chromic acid solution.

On dissolving 0.1 Gm. lactophenin in 10 Cc. hot water, and filtering when cold, the filtrate, on the addition of bromin water, should afford a decided turbidity which disappears on the addition of much water.

The aqueous solution of lactophenin must not have an acid reaction.

No blue coloration should develop on adding potassium dichromate solution to the cold aqueous solution of lactophenin (absence of phenetidin salts).

Lactophenin should dissolve in concentrated sulphuric acid in the cold without coloration (absence of foreign organic mixtures), and on incineration should leave no weighable residue (absence of inorganic admixtures).

Actions and Uses.—Lactophenin is an antipyretic and analgesic similar to acetphenetidin (phenacetin). It is claimed that it has a more marked action as a hypnotic than acetphenetidin (phenacetin) and that at the same time respiration and circulation remain unchanged. It is also claimed that the lactic acid constituent is more easily separated from the compound than is the case with the acetic acid radicle of acetphenetidin. It is stated that the preparation is absorbed from the stomach to a large extent, so that the activity of the doses given reaches its maximum in a short time.

The therapeutic indications of lactophenin are similar to those of acetphenetidin (phenacetin). It is claimed by the manufacturers to be particularly valuable in the treatment of typhoid fever on account of its combined antipyretic and sedative properties. On the other hand, it is the general opinion that antipyretics should not be used in the treatment of typhoid fever unless under very exceptional circumstances. In the opinion of good authorities the action and uses of lactophenin do not materially differ from those of acetphenetidin (phenacetin).

Dosage.—The initial dose is 0.5 Gm. (8 grains) for adults and the maximum daily dose 3 to 5 Gm. (45 to 75 grains).

Manufactured by C. F. Boehringer & Soehne, Waldhof near Mannheim, Germany (Merck & Co., New York). U. S. patent No. 503,743 (expired). U. S. trademark No. 24,643.

LECITHIN PREPARATIONS

LECITHIN.—Lecithin consists of the esters of oleic, stearic, palmitic or other fatty acid with glycerophosphoric acid combined with cholin; occurring in combination with proteids in many animal and vegetable tissues, especially in nervous matter and egg-yolk.

Lecithin is best prepared from egg-yolk (in which it exists as vitellin) by dissolving out the lecithin by strong alcohol.

It is a yellowish-brown, waxy solid of peculiar odor, soluble in an equal volume of cold absolute alcohol, readily soluble in chloroform, petroleum, benzin, and fats, less readily in ether. It is insoluble in water, but swells, giving the peculiar "myeline forms," and decomposes on prolonged contact. It is hygroscopic on exposure to air.

The alcoholic solution is precipitated by platinum or cadmium chloride. It is decomposed by alkalies with the formation of cholin and trimethylamine. The ash contains phosphoric acid. The different lecithins contain from 3.84 to 4.12 per cent, of phosphorus and 1.73 to 1.86 per cent. of nitrogen. The ratio of nitrogen to phosphorus should be as 1 to 2.21.

Lecithin is incompatible with alkalies; it should be kept in well-stoppered bottles and should be protected from the light.

Actions and Uses.—Lecithin is supposed to act as a stimulant to nutrition and not as a direct nutrient, and to increase the number of the red blood corpuscles and the amount of hemoglobin. Some investigators state that there is a slight increase in the proportion of large mononuclear leukocytes, that the appetite is improved, that there is a retention of nitrogen and a diminution in the excretion of phosphoric and sulphuric acids, indicating a storage of proteids, and that uric acid is perhaps slightly diminished. Lecithin, even in large doses, is not toxic. (See note under Creosote Carbonate.)

The ordinary diet contains from 5 to 15 Gm. (75 to 225 grains), and some observers claim that the benefits of the administration of lecithin can be obtained by an increased use of lecithin-containing food (eggs, etc.), but others claim that the raw or combined lecithin is ineffective.

Dosage.—It may be given by mouth in doses of 0.1 to 0.5 Gm. (1.5 to 8 grains) per day, in pill form, before meals, or, hypodermically 1 Cc. (15 minims) of a 5 per cent. solution in oil, daily. Infants, one-third of these doses.

GLYCEROLE OF LECITHIN—Glyceritum Lecithini.—Glycerole of lecithin is a solution of lecithin in pure glycerin, containing in each 100 Cc., 1.6 Gm. of pure lecithin.

Actions and Uses.—See Lecithin.

Dosage.—4 Cc. (1 fluidram) containing 0.06 Gm. (1 grain) of lecithin.

Manufactured by Fairchild Bros. & Foster, New York. Not patented or trademarked.

LECIBRIN.—Lecibrin is lecithin from the brain in combination with nucleoproteins, containing 33⅓ per cent. by weight of lecithin.

Lecibrin is put up in gelatin coated "pepules," each containing 0.2 Gm. (3 grains), the equivalent of 0.0027 Gm. (1/25 grain) of elementary phosphorus.

Actions and Uses.—See Lecithin. Said to be better borne than lecithin in some cases.

Dosage.—One to three pepules.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 50,967.

LECITHIN SOLUTION.—A solution of lecithin containing 1.6 Gm. of lecithin in 100 Cc. of a glycerin-alcoholic menstruum containing 18.5 per cent. of alcohol by volume.

Actions and Uses.—See Lecithin.

Dosage.—4 Cc. (1 fluidram), containing 0.06 Gm. (1 grain) of lecithin.

Manufactured by Fairchild Bros. & Foster, New York. Not patented or trademarked.

LECITHOL.—An emulsion-like solution of lecithin containing 18 per cent. of absolute alcohol by volume, and .06 Gm. (1 grain) of lecithin per 4 Cc. (1 fluidram).

The lecithin is separated from hogs' brains.

An opalescent yellow liquid of pleasant taste and odor.

Test: From lecithol, 10 Cc., the alcohol is removed by evaporating on the water-bath; then water, 90 Cc., is added. Next concentrated hydrochloric acid, 2 Cc. is added, and then, with thorough shaking, gradually 2 Cc. chloroform. The liquid precipitate which separates out, containing nearly all the lecithin, is collected and treated with strong sulphuric acid and fuming nitric acid. After all the organic matter is decomposed, the phosphorus is determined in the usual way. From this the percentage of lecithin is calculated.

Actions and Uses.—See Lecithin.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) immediately before or after meals.

Manufactured by Armour & Co., Chicago.

NEURO-LECITHIN-Abbott. — Neuro-lecithin-Abbott is a preparation of lecithin with small amounts of fats and cholesterin, the amount of lecithin being determined by assay.

Neuro-lecithin is said to be made from the brain and spinal cord of animals. The water and fat are separated by heat; the soluble portions are extracted from the residue with ether; this is precipitated with acetone.

For properties and tests see Lecithin. The amount of lecithin is determined by a quantitative estimation of phosphorus and nitrogen. The material is exhausted with ether-alcohol at the boiling point of the mixture, the solution evaporated, the residue fused with sodium carbonate and potassium nitrate and phosphorus determined in the fusion. The amount of phosphorus found multiplied by 26 (806/31) is taken to indicate the amount of lecithin.

Actions, Uses and Dosage.—See Lecithin.

Manufactured by the Abbott Alkaloidal Co., Chicago. U. S. trademark No. 65,384.

Neuro-Lecithin Tablets-Abbott.—Each tablet contains neuro-lecithin 0.03 Gm. (½ grain).

Neuro-Lecithin Pills-Abbott.—Each pill contains neuro-lecithin 0.03 Gm. (½ grain).

LENIGALLOL—Pyrogallol Triacetas. — Triacetylpyrogallol. Lenigallol is pyrogallol triacetate, $C_6H_3(CH_3CO_2)_3 = C_{12}H_{12}O_6$, obtained by replacing the hydroxyl groups of pyrogallol with acetyl groups.

It is prepared by boiling 10 parts of pyrogallol, 1 part of sodium acetate, and 25 parts of acetic anhydride for 2 hours, and washing the crystalline product on a filter with water.

It is a white, crystalline powder, melting at 165° C. (329° F.). It is insoluble in water, but soluble with decomposition in warm aqueous alkalies.

It is incompatible with alkalies, strong acids and oxidizing agents

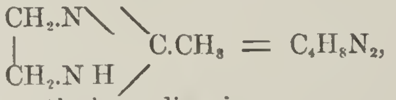
Actions and Uses.—Lenigallol is said to be non-poisonous and non-irritating, but a mild and painless corrosive. (See note under Creosote Carbonate.)

It is introduced as a substitute for pyrogallol in psoriasis, lupus, acute and subacute eczema of children and other skin diseases.

Dosage.—In 5 to 10 per cent. ointment with zinc oxide.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany. German patent No. 105,240.

LYSIDIN.—Lysidin is a 50 per cent. solution of ethylene-ethenyl-amidine,



$$\begin{array}{l}CH_2.N \diagdown \\ | \qquad\qquad\quad C.CH_3 \\ CH_2.NH \diagup\end{array} = C_4H_8N_2,$$

a monatomic base derived from ethylene diamine.

It is prepared by subjecting ethylenediamine hydrochloride and sodium acetate to dry distillation, decomposing the hydrochloride of the new base with concentrated potassium hydroxide and crystallizing.

It forms small, colorless, very hygroscopic needles, melting at 105° to 106° C. (221° to 222.8° F.). It is very soluble in water and in alcohol forming alkaline solutions; it is also soluble in chloroform, but insoluble in ether. It forms a very soluble salt with uric acid.

It should form a clear and colorless solution and give the usual alkaloidal reactions.

Being a strong base it is incompatible with acids and with the salts of many metals and of the alkaloids, which it decomposes.

Actions and Uses.—Lysidin is said to be a diuretic and is recommended as a uric acid solvent on the theory that, because it forms a very soluble salt with uric acid, it will facilitate the elimination of that substance. It is claimed that it is superior to piperazine.

It is said to be useful in gout, lithiasis and the various forms of the so-called uric acid diathesis.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

MASSOLIN—Cultura Bacilli Bulgarici-Lederle.—Massolin is a pure culture of the *Bacillus bulgaricus* of Massol, grown on one of the following media: Calcium carbonate lactose broth, calcium carbonate dextrose broth, calcium carbonate Cohendy broth, or Cohendy broth.

The material for one of the above broths is sterilized for thirty minutes on three successive days and then placed in the incubator for at least forty-eight hours to determine its sterility before using. The material is then put into large flasks, inoculated from test tube cultures of the bacillus and incubated at 37° C. (98.5° F.) for from twenty-four to ninety-six hours. It is then tested to see that it is free from contaminating organisms.

The preparation is of an amber color and has the odor and taste of the particular medium employed as its base.

The material should be inoculated into milk and into the above media in test tubes and smeared on Cohendy agar. The cultures should be examined microscopically for the detection of contaminating organisms.

Actions and Uses.—The culture tends to prevent the growth of putrefactive and pathogenic organisms. It is said to be useful in the treatment of suppurative conditions and is said to have been found especially beneficial in atrophic rhinitis, chronic nasal catarrh, inflammations of the frontal sinus, antrum, ethmoidal cells, middle ear, etc.

Dosage.—The culture should be liberally applied directly to the diseased area and in ordinary nose and throat affections the contents of one bottle, 7.5 Gm. (¼ ounce) may be employed at each treatment.

Manufactured by Lederle Antitoxin Laboratories, New York (Schieffelin & Co., New York).

No patent or trademark. U. S. Government License No. 17.

MEDICINAL FOODS

The so-called "Liquid Foods," "Medicinal Foods" or "Predigested Foods," as found on the market, are solutions containing as the essential constituents small amounts of protein substances and carbohydrates, preserved by alcohol.

The protein substances should be rendered soluble, i. e., converted to peptones and proteoses, by means of enzymes. While the hydrolysis of proteids to soluble proteoses may also be effected by means of acids or superheated steam, these products should be excluded from medicinal foods because of the uncertainty as to their composition and behavior—being held toxic and dangerous by some. The protein content of these liquid medicinal foods (obtained by multiplying the total nitrogen content by 6.25) ranges from 0.5 to more than 6 per cent. The carbohydrates present in these foods are sucrose (cane sugar), maltose, glucose, invert sugar, dextrin and possibly also lactose (milk sugar). In these foods, as found on the market, the quantity of carbohydrates ranges from 0.55 to more than 15 per cent. The alcohol content varies from 12.0 to 19 per cent. of absolute alcohol by weight. Some contain large amounts of glycerin.

Actions and Uses.—The value of medicinal foods depends on the proteins and carbohydrates contained therein. Glycerin does not, so far as known at present, possess any recognized food value, although there are a number of experiments on record to indicate that it influences metabolism. While the value of alcohol in the treatment of disease is fully appreciated, its value as a food product, pure and simple, in disease is an open question. It probably acts as a saver of fat and carbohydrate, but not as a tissue builder. The nutritive value of these medicinal foods, therefore, should be considered as based on their carbohydrate and protein content, exclusive of alcohol or glycerin. The calculated food value of a considerable number of medicinal foods, on the basis of the potential energy (calorific value) due to proteins and carbohydrates shows that some possess but one-sixth the value of milk, while the best have a trifle greater calorific value. The Council has decided that no liquid medicinal or predigested food be given consideration which contains less nutritive value, exclusive of alcohol and glycerin, than milk; and at least one-fourth of this should reside in nitrogenous constituents.

Dosage.—None of the commercial liquid medicinal or predigested foods contains sufficient food material to maintain normal nutrition. A man doing moderate work requires an amount of food which furnishes energy to 3,000 calories per day, and while, in sickness, this amount is not required, it should not fall much below 1,500 calories per twenty-four hours. The examination of commercial liquid food shows that the average daily dose recommended supplies from 10 to 111 calories based on protein and carbohydrate. To sustain the vitality of a patient during a serious illness, 2,000 Cc. of milk, giving about 1,430 calories, are required; to supply the same number of calories, even if the alcohol is considered to have direct food value, from 700 to 1,500 Cc. of the medicinal foods will be required. In many cases the amount of alcohol exhibited by these quantities would keep the patient in an alcoholic stupor continually. It should, therefore, be remembered that the patient is receiving a starvation diet when these preparations are given in ordinary doses. Unless the daily dose advised contains at least 100 calories, exclusive of alcohol and glycerol, a preparation should not be depended on as of noteworthy importance in helping to sustain life even for a very limited period.

DEXTROSE.—Saccharum Amylaceum.

Dextrose, $C_6H_{12}O_6 + H_2O$, is a carbohydrate prepared by the action of dilute acids on starch; it also occurs naturally.

Dextrose containing a molecule of water of crystallization occurs in white crystalline masses. It is soluble in its own weight of water at 15° C. (59° F.); in 50 parts alcohol (85 per cent.) at 17° C. (62.6° F.) and in 11 parts at the boiling temperature.

An aqueous solution (1-10) of dextrose should yield after the addition of dilute nitric acid not more than a slight turbidity with either barium nitrate or silver nitrate; and after the addition of ammonia should produce no precipitate with ammonium oxalate.

An aqueous solution (1-20) of dextrose should not change when heated with hydrogen sulphide.

Actions and Uses.—Dextrose is quite readily digested and may be used in place of cane sugar as a food.

Dosage.—180 Gms. (6 oz.) daily.

DRY PEPTONOIDS.—Dry peptonoids is stated to contain 40 per cent. of proteins and 53 per cent. of carbohydrates.

It is said to be made from beef, milk and wheat, by digesting the protein with pepsin and pancreatin and the carbohydrates with pancreatin and malt diastase. The resultant solutions are assayed, mixed in proper proportions and, the acid used in the digestion having been neutralized, concentrated *in vacuo*, sterilized, dried and brought to uniform composition by the addition of milk sugar.

It consists of light brown granules of pleasant odor and taste and is very soluble in water and other fluid media.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Dry Peptonoids corresponds to approximately 2,000 calories, of which 870 are due to protein and 1,130 to carbohydrates and fat. The largest dose usually given (16 Gm.) equals, therefore, almost 64 calories. It is claimed to be especially useful for nutrient enemata.

Dosage.—For an adult 8 to 16 Gm. (¼ to ½ ounce), taken in water, milk, wine, broths, soups, etc., also in gruels, in which case it should first be dissolved in a small quantity of water.

Manufactured by the Arlington Chemical Co., Yonkers, N. Y. U. S. trademark. Oct. 17, 1882.

LIQUID PEPTONOIDS.—Liquid peptonoids contain 4.5 to 5 per cent. nitrogenous matter (nitrogen x 6.25), 10.6 to 11.5 per cent. carbohydrates (glucose, lactose and sucrose) and 17.5 to 17.8 per cent. alcohol by volume (14 to 14.1 by weight).

It is said to be made from beef, milk and wheat by digesting the protein with pepsin and pancreatin and the carbohydrates with pancreatin and malt diastase.

It is a light brown fluid of aromatic taste and odor and acid in reaction. Its specific gravity is 1.047 to 1.049.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Liquid Peptonoids corresponds to 335 to 345.1 calories, of which 108.7 to 118.3 are due to protein and 216.7 to 236.4 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein and 98.4 to carbohydrates.

Dosage.—15 to 30 Cc. (4 to 8 fluidrams) from 3 to 6 times a day. Children in proportion.

Manufactured by the Arlington Chemical Co., Yonkers, N. Y. U. S. trademark.

LEVULOSE-Schering — Levulosum-Schering. — Fruit Sugar —Fructose.—Levulose Schering is a pure, crystallized fructose (levulose), $CH_2OH.CHOH.CHOH.CHOH.CO.CH_2OH = C_6H_{12}O_6$, absolutely free from dextrose (ordinary glucose).

It is prepared from invert sugar by precipitation as calcium salt, decomposing the precipitate with carbonic acid, and crystallizing. It is a colorless, odorless, slightly hygroscopic, crystalline powder, having a sweet taste compared with that of ordinary cane sugar (saccharose). It is readily soluble in water and in diluted alcohol, slightly soluble in alcohol, insoluble in absolute alcohol and in ether.

Its aqueous solution reduces Fehling's solution and rotates the ray of polarized light to the left.

Actions and Uses.—Levulose is in part at least metabolized in the body by other agencies than those that act on dextrose and most of the other sugars and appears to be sometimes more completely utilized by the diabetic organism than the other sugars.

It has been recommended for the nutrition and for sweetening the food and drink in suitable cases of diabetes, in pulmonary tuberculosis, infantile malnutrition and marasmus.

Dosage.—It is given in diabetes in daily quantities of 30 to 60 Gm. (1 to 2 ounces): in grave forms of the disease the amount is reduced to from 12 to 24 Gm. (3 to 6 drams) daily.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. trademark No. 21,864

NUTROSE — Sodii Caseinas. — Sodium Caseinate — Casein-Sodium.—Nutrose is a sodium salt of milk casein, containing 65 per cent. of proteids.

It is prepared by dissolving moist casein, freshly precipitated from skimmed milk and washed with water, in solution of sodium hydroxide, evaporating the solution to dryness *in vacuo*, powdering the residue, washing it successively with alcohol and ether, and drying.

It is a coarse, white, odorless and tasteless powder, forming a turbid, adhesive solution with water, having an alkaline reaction toward litmus, but being acid toward phenolphthalein.

Incinerated on platinum foil, it evolves vapors similar in odor to burning horn and leaves at least 3 per cent. of a white, nonvolatile residue, which has an alkaline reaction and colors the Bunsen flame yellow. Casein can be detected by the biuret reaction.

It is incompatible with acids.

Actions and Uses.—Nutrose has been recommended as a nonirritant nutrient in wasting diseases, such as the cachexias in carcinoma, anemia, diabetes, etc., and in acute and chronic febrile ailments, such as pneumonia, typhoid fever and tuberculosis.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). German patent No. 85,057.

PANOPEPTON.—Panopepton contains 6.33 to 6.38 per cent. of nitrogenous matter (nitrogen x 6.25), 10.05 to 11.92 per cent. of carbohydrates and 17 to 20.9 per cent. alcohol by volume (15 to 18.5 per cent. by weight).

It is said to be prepared from beef and wheat by digestion with gastric and pancreatic juices. The substance obtained by the digestion is mixed in fixed proportion of protein and carbohydrate, sterilized, concentrated *in vacuo* and dissolved in fortified Spanish sherry wine.

It is a light brown fluid, acid in reaction and possessing largely the odor and taste of sherry wine. Its specific gravity is 1.063 to 1.023.

Actions and Uses.—See Medicinal Foods. The nutritive value of 500 Gm. of Panopepton corresponds to 359.1 to 396.3 calories, of which 151.9 to 153.1 are due to protein and 244.4 to 206 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein and 98.4 to carbohydrates.

Dosage.—8 to 16 Cc. (2 to 4 fluidrams) several times a day and at bedtime; for infants from a few drops to 2 Cc. (30 minims).

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark.

PEPTONE—Peptonum.—Peptonum (Pharm. Belgica., edit. 3); Peptona Medicinalia (Pharm. Française, 1908).

Peptone is a product of the peptic or pancreatic digestion of albuminoid substances.

Peptone may be produced artificially as follows: Mince 1000 parts of lean beef freed from bone, etc., and mix it with 4000 parts of water, to this add a solution of 5 parts of pepsin in 1000 parts of water with 50 or 25 parts of hydrochloric acid. The mixture thus prepared is kept at a temperature not exceeding 50° C. (122° F.) until 10 Cc. of the filtrate or the addition of 1.5 Cc. of nitric acid in the cold no longer produces a precipitate. (Formation of a coagulum indicates incomplete peptonization.) The solution is then filtered, neutralized with sodium bicarbonate and evaporated to dryness *in vacuo*. It may be purified if necessary from adherent sodium chloride by dialysis or by precipitation by alcohol washing with ether and drying. By desiccating its concentrated solution upon plates peptone may be obtained in scales. (Brit. Codex.)

Peptone occurs as a white or yellowish-brown amorphous powder or in scales, with a somewhat cheesy but not unpleasant taste and nearly odorless. The pure substances when added to water hisses and froths at the same time evolving heat. It is soluble in water (1 in 20) forming a neutral solution or slightly acid. Aqueous solutions are pale yellow and clear or may be made quite clear by the addition of a little hydrochloric acid. The addition of alcohol precipitates peptone. Aqueous solutions are not coagulated by heat. No precipitate is formed in aqueous solution on the addition of nitric acid or potassium ferrocyanide (difference from albumen) nor is a precipitate formed by solutions of ferric chloride or cupric sulphate nor by saturation with ammonium sulphate or zinc sulphate (distinction from albumoses). The aqueous solutions are levarotatory. Neutral solutions are precipitated by tannin and by various salts of mercury. Acid solutions give precipitates with bismuth potassium iodide, potassium mercuric iodide, bromine water and other precipitants of alkaloids. Peptone is colored yellow with Millon's reagent on warming a red color and precipitate; with cupric sulphate and caustic alkali a violet red color (biuret reaction). Picric acid gives yellow flakes. Peptone should not be precipitated by lead acetate, alum or hydrogen sulphide. On ignition it should not yield more than 2 per cent. ash.

Action and Uses.—Peptone is given as a nutrient in malnutrition and certain forms of dyspepsia. Its value is limited because larger amounts, often even small quantities, cause irritation.

Dosage.—Peptone is given in the form of pastilles, 5 Gm. in each prepared with gelatine. It is administered in rectal alimentation in the form of suppositories or it may be added to rectal enemata.

MERCURIC BENZOATE—Hydrargyri Benzoas.—Hydrargyrum benzoicum (Pharm. Française, 1908), Mercuric Benzoate, $Hg(C_6H_5COO)_2+H_2O$, is the mercuric salt of benzoic acid.

10 Gm. glacial acetic acid is diluted with 100 Cc. water and 10 Gm. yellow mercuric oxide added and the mixture agitated until solution is effected. 14 Gm. sodium benzoate is dissolved in 100 Cc. water and added to the mercury solution. The precipitate which forms is collected and washed with water till free from acid and dried at 100° C. (212° F.). (Pharm. Française, 1908).

Mercuric benzoate is a white crystalline powder, slightly soluble in water, yielding a weakly acid solution, but insoluble in alcohol or ether. At 20° C. (68° F.) a 10 per cent. solution of sodium benzoate dissolves 1 per cent. of its weight of mercuric benzoate. Heated with alcohol it is decomposed into a basic salt of a yellow color. (Pharm. Française, 1908).

A solution of 1 Gm. mercuric benzoate and 0.5 Gm. sodium chloride in 20 Cc. water yield a black precipitate with hydrogen sulphide and with ferric chloride solution it yields a fawn colored precipitate of ferric benzoate.

A solution produced by shaking 1 Gm. mercuric benzoate with 20 Cc. water should not produce more than a faint turbidity when added to silver nitrate solution, acidified with nitric acid (limit of chloride). 2 Cc. of a similar solution when mixed with ferrous sulphate solution and then concentrated sulphuric acid added so as to form a layer beneath, should produce no brown coloration ta the zone of contact of the two solutions (absence of nitrates).

Action and Uses.—The same as mercuric chloride.

Dosage.—Mercuric benzoate has been recommended for hypodermic use and in gonorrhea. In urethral cases the solution may be 1-2000 or 1-1000 with an equal quantity of sodium chloride. For hypodermic injection the following may be given: Mercury benzoate, 0.02 to 0.03 Gm.; sodium chloride, 0.01 Gm.; cocaine hydrochloride, 0.15 Gm.; distilled water, 40 Cc.

MERCURIC CYANIDE—Hydrargyri Cyanidum.—Hydrargyrum cyanatum (Pharm. Française, 1908).

Mercuric cyanide, $Hg(CN)_2$ is the mercuric salt of hydrocyanic acid.

Prussian blue and mercuric oxide in water are boiled until the mixture is brown; the mixture is filtered, acidified with hydrocyanic acid, evaporated and allowed to crystallize in a cool place. It is also prepared by the action of hydrocyanic acid on mercuric chloride. Colorless or white, prismatic crystals, odorless, and having a bitter, metallic taste (the salt is exceedingly poisonous). It is darkened on exposure to light. Soluble at 15° C. (59° F.) in 12.8 parts of water, and in 15 parts of alcohol; in 3 parts of boiling water, and in 6 parts of boiling alcohol; very sparingly soluble in ether.

When slowly heated in a glass tube, the salt decrepitates, and decomposes into metallic mercury and inflammable cyanogen gas, which burns with a purple flame. On further heating, the blackish residue, consisting of para-cyanogen with globules of metallic mercury, is wholly dissipated.

If 1 part of the salt be gently heated with 1 part of iodine in a dry test-tube, it will produce at first a yellow sublimate which afterwards becomes red, and above this a sublimate of colorless, needle-shaped crystals.

On adding hydrochloric acid to the aqueous solution of the salt, the odor of hydrocyanic acid is evolved.

A 5 per cent. aqueous solution of the salt should be neutral to litmus paper, and should not yield, on the gradual addition of a few drops of potassium iodide test solution, either a red or a reddish precipitate, soluble in an excess of the precipitant, nor should it yield a white precipitate with silver nitrate test solution (absence of mercuric chloride).

If mercuric cyanide be dissolved in an aqueous solution of sodium chloride the addition of phenolphthalein to this solution should produce no red coloration (absence of mercuric oxide).

Ammonia should not color an aqueous solution blue (absence of copper) nor should a solution of copper give a brown color or precipitate (absence of potassium ferrocyanide). The presence of large quantities of potassium sulphate may be demonstrated by igniting, leaching the ash and testing the filtrate with barium. Dilute sulphuric acid should not liberate hydrocyanic acid (absence of potassium cyanide). Ammonia should dissolve mercuric cyanide without producing a white precipitate (absence of oxycyanide). (Pharm. Française, 1908).

Action and Uses.—Mercuric Cyanide has been reported to be as actively antiseptic as mercuric chloride and to be less irritating; but this has been questioned. It is used locally and internally like mercuric chloride.

Dosage.—Internally from 0.004 to 0.008 Gm. (1/16 to 1/8 grain); locally, solutions of 1-4000 to 1-2000 may be used for applications to the eye or mucous membranes; 25 to 35 minims of a 1 per cent. solution may be used hypodermically without causing local irritation. Death has occurred from the use of a vaginal injection containing 0.9 Gm. (14 grains) of mercuric cyanide.

In diphtheria and croup it is used in 0.01 per cent. solution as a gargle or internally in doses of 0.0005 Gm. to 0.001 Gm. (0.0077 to 0.0154 grain). In rhinitis fibrinosa it is used on a tampon in 0.04 per cent. solution.

MERCURIC OXYCYANIDE—Hydrargyri oxycyanidum.—Hydrargyrum oxycyanatum (Pharm. Helvetica, edit. 4).

Mercuric oxycyanide, $Hg(CN)_2.HgO$, is basic-mercuric cyanide.

22.2 Gm. mercuric oxide is triturated with 52 Cc. water and 12 Cc. of sodium hydroxide solution (U. S. P.) and then 27 Gm. of pulverized mercuric cyanide is added and the mixture triturated until it becomes colorless or nearly so. If the product is not entirely decolorized heating on a water bath for a short time will complete the reaction. The mixture is allowed to settle, the liquid portion decanted off and the solid residue recrystallized from hot water or is simply washed several times with cold water, collected and dried between filter papers. (Rupp and Goy, Arch. d. Pharm., 1908, p. 369.)

Mercuric oxycyanide occurs as a white, or nearly white, microcrystalline powder which colors moist litmus paper blue. It is soluble in 17 parts water.

Boiled with a mixture of sodium hydroxide, ferrous sulphate and ferric chloride solutions, cooled and then treated with hydrochloric acid, mercuric oxycyanide yields a blue precipitate. A 1 to 20 solution gives a white precipitate with ammonia water soluble in excess of the precipitant. Tannic acid solution gives a yellow precipitate. Stannous chloride produces a grey-black precipitate. Hydrogen sulphide and ammonium sulphide produce a black precipitate. When potassium iodide is added to a solution of mercuric oxycyanide until it becomes yellow the addition of ammonia produces a red color which finally becomes a brown precipitate, which dissolves to a colorless solution in potassium iodide. An aqueous solution should not give a test for chloride nor should 0.2 Gm. leave a weighable residue when ignited. (Pharm. Helvetica, edit. 4.)

1 Gm. of mercuric oxycyanide digested with 1 Gm. sodium chloride in 20 Cc. water yields a solution which should require not less than 37 Cc. of tenth normal hydrochloric acid for neutralization, methyl orange or paranitrophenol indicator being used.

Action and Uses.—Mercuric oxycyanide is recommended as a substitute for mercuric chloride. Its antiseptic power is said to be greater and it is claimed to be less irritating than mercuric chloride, because it does not act on albumin to the same extent. It has the advantage over the chloride that it does not corrode steel instruments.

Dosage.—It may be given by hypodermic injections in the same doses as mercuric chloride or may be applied locally in solution, 1-5,000 or slightly stronger.

MERCURIC SALICYLATE—Hydrargyri Salicylas.—Hydrargyrum salicylicum (Pharm. Germanica, edit. 4; Pharm. Helvetica, edit. 4).

Mercuric salicylate, $Hg.C_6H_4.O.COO$. is a mercuric salt of salicylic acid in which one atom of mercury has combined with one molecule of salicylic acid by replacing the hydrogen atoms of the phenolic hydroxyl and carboxyl groups.

Mercuric salicylate may be prepared by precipitating the mercuric oxide from 27 parts of mercuric chloride as directed in the case of Hydrargyri Oxidum Flavum, washing, placing in a flask with a little water and 15 parts of salicylic acid, and heating on a water-bath with agitation until the mixture is perfectly white. Collect the precipitate, wash until free from acid, dry at 30° to 40° C. (86°-104° F.), and finally at 100° C. (212° F.).

Mercuric salicylate occurs as a white amorphous powder, tasteless, odorless and neutral to litmus paper, slightly soluble in water or alcohol, but soluble at the ordinary temperature in solutions of sodium hydroxide and sodium carbonate with formation of a double salt. From these solutions it is reprecipitated by acids. It is soluble also in warm solutions of chlorides, bromides and iodides. On ignition it is entirely volatilized. Strong mineral acids decompose it, especially on heating, and after this decomposition hydrogen sulphide precipitates black mercuric sulphide from the solution.

When shaken with water the resulting solution gives a violet coloration with ferric chloride.

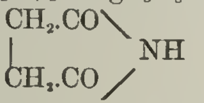
An aqueous solution of mercuric salicylate is not precipitated or colored immediately by hydrogen sulphide or ammonium sulphide.

0.1 Gm. of mercuric salicylate heated in a small tube with a small crystal of iodine produces the characteristic orange to red colored mercuric iodide (Pharm. Germanica, edit. 4). 0.3 Gm. mercuric salicylate mixed with about 3 Gm. sodium chloride and dissolved in 100 Cc. boiling water should upon diluting to 400 Cc., acidifying with hydrochloric acid and passing hydrogen sulphide, yield 0.2 Gm. mercuric sulphide.

Action and Uses.—Antiseptic and antisyphilitic. It has been stated that it is well tolerated by the stomach and that it does not produce salivation, but it may produce some gastrointestinal irritation occasionally, even when used hypodermically. The lack of salivation is probably due to its insolubility and slow absorption and not to any peculiarity of its effects. It is used as a disinfectant and as a remedy in syphilis and in certain skin diseases.

Dosage.—0.003 to 0.008 Gm. (1/20-1/8 grain). For hypodermic injections a suspension in liquid paraffin, one part in 10, is used; before injecting the mixture must be well shaken in order that the insoluble salt may not remain at the bottom. The needle and syringe should be thoroughly cleansed after each injection, as the insoluble drug readily clogs the instrument. At first, 0.65 Cc. (10 minims) of the mixture described should be injected deeply into the gluteal region every fourth day and this may be increased to every second day if no symptomatic evidences of the action of the drug appear. It is used in the form of dusting powder and ointment (1 in 10). A suspension in a mucilaginous vehicle (1 in 300) is used as an injection in gonorrhea, 1 Cc. (15 minims) being injected at a time. As a disinfectant the salicylate is as powerful as mercuric chloride, its great drawback being its insolubility; in order to overcome this difficulty the following formula has been devised: Mercuric chloride, 1 part; sodium salicylate, 3 parts; dissolved in distilled water, 100 parts.

MERCURIC SUCCINIMIDE—Hydrargyri Succinimidum.—Mercury succinimide $(Hg(CH_2.CO)_2N)_2 = HgC_8H_8O_4N_2$, is the mercuric salt of succinic acid-imide,



$$\begin{array}{l} CH_2.CO \diagdown \\ \quad | \qquad\qquad NH \\ CH_2.CO \diagup \end{array}$$

Mercury Succinimide may be prepared by dissolving freshly precipitated mercuric oxide in warm aqueous solution of succinimide and evaporating the mixture, which then deposits crystalline needles. (Schmidt's Pharm. Chemie, vol. II, pt. I, p. 482.) It may also be prepared by adding an alcoholic solution of succinimide containing a few drops of ammonia to an ethereal solution of mercuric chloride (Proceedings A. Ph. A., vol. 40, p. 1029).

Mercury succinimide is a white crystalline powder, soluble in 25 parts hot water and in 75 parts of cold water, and in 300 parts of alcohol. It is very stable in solution. The aqueous solution is not affected by albumin. Mercury succinimide should be protected from light. Toward hydrogen sulphide and potassium iodide it reacts as an inorganic mercuric compound. Addition of sodium hydroxide to an aqueous solution of mercuric succinimide produces a yellowish-white precipitate, which on heating is reduced to metallic mercury. If mercuric succinimide is heated with five times its bulk of zinc dust, pyrrol is given off, which may be recognized by the red color which is developed when a pine shaving moistened with hydrochloric acid is held in its vapors.

The aqueous solution must be neutral and should not be affected by solutions of silver nitrate or egg albumin (absence of mercuric chloride and other mercuric salts).

On ignition it should volatilize completely, leaving no residue. If one gram is shaken with 10 Cc. of dry ether, the liquid filtered and the ether removed by evaporation, no residue should remain. If one gram is suspended in ether and hydrogen sulphide passed through the mixture for some time, the mercury succinimide will be decomposed, the mercury being precipitated as mercuric sulphide. If the ether be filtered from this precipitate, and evaporated, a residue of succinimide will remain which should have a melting point of 124-125° C.

Actions and Uses.—Mercuric succinimide has the action of other salts of mercury, but its solutions are said to be nonirritating. This preparation is used like other compounds of mercury in the treatment of syphilis.

Dosage.—Mercuric succinimide is used mainly by hypodermic injection, a 2.5 per cent. solution being employed. From ½ to 1 Cc. (8 to 16 minims) of this solution may be injected once daily. Mercuric succinimide may be given by the mouth in doses of 0.01 to 0.015 gm. (1/6 to 1/4 grain).

Non-Proprietary Preparations:

Tabloid Mercury Succinimide (Hypodermic) 1/5 grain: Each tablet contains mercuric succinimide 0.013 Gm. (1/5 grain). Prepared by Burroughs-Wellcome & Co., London and New York.

Hypodermic Tablets Mercuric Succinimide, 1/5 grain: Each tablet contains mercuric succinimide 0.013 Gm. (1/5 grain). Prepared by Sharpe & Dohme, Baltimore Md.

Hypodermic Tablets Mercuric Succinimide, 1/10 grain: Each tablet contains mercuric succinimide 0.006 Gm. (1/10 grain). Prepared by Sharpe & Dohme, Baltimore Md.

MERCUROL—Hydrargyri Nucleinas.—Mercury Nucleinate.—Mercurol is an organic compound of mercury with nucleinic acid from yeast, containing 10 per cent. of metallic mercury.

It is prepared by adding a solution of mercuric chloride to an alkaline solution of nuclein, containing an excess of alkali, precipitating the resulting nucleinate of mercury by the addition of alcohol and a concentrated solution of a neutral salt (sodium chloride), separating the precipitate, washing and drying it.

It is a brownish-white powder, soluble in water, especially in warm water, insoluble in alcohol. Its watery solution has a distinct metallic taste, a weak alkaline reaction, and is not precipitated by alkalies, nor by albuminous liquids.

The mercury in this preparation resists the action of hydrogen sulphide to a marked degree.

Actions and Uses.—Mercurol does not coagulate albumin; it has marked bactericidal power and possesses the pharmacologic action of soluble mercury compounds.

It is recommended as a local antiseptic application and as an antisyphilitic remedy.

Dosage.—0.3 to 0.12 Gm. (½ to 2 grains).

Manufactured by Parke, Davis & Co., Detroit, Mich. U. S. patent No. 637,355 (Nov. 21, 1899; expires 1916).

MERGAL.—Mergal is a mixture of 1 part of mercuric cholate and 2 parts of albumin tannate put up in capsules. Each capsule said to contain approximately 0.15 Gm. (2¼ grains) of mergal equivalent to 0.05 Gm. (¾ grain) mercuric cholate and 0.1 Gm. (1½ grains) albumin tannate. Mergal contains approximately 4.4 per cent. mercury.

Mercuric cholate is prepared by a patented process, mixed with albumin tannate, and inserted into gelatin capsules in the usual way.

Mergal is a yellowish white, loose, somewhat light powder, insoluble in water and alcohol and almost insoluble in solution of sodium chloride.

When 0.1 Gm. of mergal is shaken with a few drops of saturated solution of cane sugar and underlaid with concentrated sulphuric acid, a purplish red to reddish violet zone is produced.

If 0.2 Gm. of mergal is warmed on the water bath with 10 Cc. of hydrochloric acid for about fifteen minutes and the evaporated water replaced after cooling and filtering, there results a colorless or slightly yellowish solution which gives a black precipitate with solution of hydrogen sulphide. The same filtrate gives with a drop of stanuous chloride solution an immediate precipitation of metallic mercury.

Mergal should leave no weighable residue on incineration.

0.2 Gm. of mergal boiled for one minute with 20 Cc. of water gives a clear filtrate which is colored dark violet on the addition of a drop of solution of ferric chloride.

0.1 Gm. of mergal when heated with a mixture of 5 Cc. of concentrated sulphuric acid and 5 Cc. of water to boiling, produces a turbid reddish solution. The filtrate after dilution with 3 to 4 parts of water and the addition of a drop of solution of copper sulphate gives on careful underlaying or on mixture with an excess of sodium hydroxide solution an evanescent violet-red color. Mergal should be protected from the light.

Actions and Uses.—Mergal is said to pass through the stomach without decomposition and to be decomposed into its constituents in the small intestine, where the mercury is quickly absorbed into the blood and excreted through the kidneys. It is said to be useful in all forms of syphilis and in the para-syphilitic affections, such as tabes and general paralysis. It is also said to be useful for the intermittent treatment according to the method of Fournier and Neisser.

Dosage.—One capsule three times a day after meals, gradually increasing to two capsules five or six times a day.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). U. S. patent No. 811,193 (Jan. 30, 1906; expires 1923). U. S. trade-mark No. 53,919.

MESOTAN—Ericin.—Mesotan is methyl-oxymethyl salicylate, $C_6H_4.OH.COO(CH_2.O.CH_2) = C_9H_{10}O_4$, an ester of salicylic acid, analogous to methyl salicylate.

It is prepared by the action of chlormethyl ether on salicylates thus: $C_6H_4.OH.COONa + CH_2Cl.O.CH_3 = NaCl + C_6H_4.OH.COO(CH_2.O.CH_3)$.

It is a clear, yellowish, faintly aromatic, oily fluid, sp. gr. 1.2 at 15° C. (60° F.) and boiling at about 162° C. (323.6° F.). It is difficultly soluble in water, but readily soluble in the usual organic solvents and miscible with oils in all proportions. Above 100° C. (212° F.) it is decomposed, yielding salicylic acid, formaldehyde and methyl alcohol and it is likewise decomposed to a certain extent by moisture in the air.

Its watery solution gives a violet color with ferric chloride and after heating or exposure to moisture it responds to the usual tests for formaldehyde. Concentrated sulphuric acid colors it red.

It should be kept in a cool place and preserved dry in well-stoppered bottles.

Actions and Uses.—The action of mesotan is similar to that of oil of wintergreen, but it is more irritating to the skin. It is said to be useful in all forms of rheumatism.

Dosage.—Being quite irritating when applied pure to the sensitive skin, it is employed diluted with an equal volume of olive oil, and without friction. Simple application to the affected part, which need not be covered, or, if so, only slightly, is said to give prompt relief.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfield, Germany (Farbenfabriken of Elberfield Co., New York). U. S. patent No. 706,018 (Aug. 5, 1902; expires 1919).

METHYL CHLORIDE—Methyl Chloridum.—Methyl chloride, CH_3Cl, is the hydrochloric acid ester of methyl alcohol. It occurs, in the compressed state, as a colorless liquid, having an ethereal odor, and a sweet taste.

Methyl chloride is insoluble in water, more readily in alcohol, freely in ether and chloroform, and also in acetic acid. It should be neutral to litmus paper. At about —25° C. (—13° F.) it has a specific gravity of 0.991, and boils at about —21° C. (—5.8° F.). It burns in air with a greenish flame, though it is not highly inflammable. The neutral solution is not precipitated by solution of silver nitrate, nor is there any reaction with potassium iodide and starch paste. In the liquid condition it is a powerful refrigerating agent. At very low temperatures it forms with water a hydrate, $CH_3Cl,9H_2O$. It should not react alkaline to litmus (absence of ammonia and methylated ammonia—methylamine). It should not immediately form a precipitate with silver nitrate. On evaporating it should leave no residue and emit no odor of methylamine.

Action and Uses.—By its evaporation a temperature of —23° (—9.4° F.) is produced, while if evaporation be accelerated by means of a current of air a temperature of —55° (—67° F.) may easily be reached. On account of this property it is used as a local anesthetic in the form of a spray, but its use requires caution, since it is apt to produce blisters. The diluted vapor is said to be non-poisonous. Methyl chloride is said to be an efficient general anesthetic, which has practically no influence on the circulation, but fails to produce complete muscular relaxation. It is used as a general anesthetic mixed with ethyl chloride and ethyl bromide.

Dosage.—When sprayed on the skin the part should be partly protected by a thin layer of cotton wool. When used locally cotton wool soaked in liquid methyl chloride may be applied to the skin over the painful area, but care should be taken that blisters are not formed. In order to avoid this a mixture with ethyl chloride has been recommended.

MORPHINE DERIVATIVES

By the substitution of various radicles for hydrogen in morphine, substances are produced, the action of which varies somewhat from that of morphine and which possess, it is claimed, certain advantages over the parent alkaloid. Codeine is a natural substitution product of the same type. The principal derivatives of this class are methyl-morphine (codeine,) ethyl-morphine and diacetyl-morphine.

DIACETYL-MORPHINE—Morphina Acetylata.—Diacetyl-morphine, $C_{17}H_{17}(C_2H_3O_2)_2NO = C_{21}H_{23}O_5N$, is a synthetic alkaloid obtained by the acetylization of morphine.

Diacetyl-morphine was first introduced under the name Heroin by the Farbenfabriken, vorm. Friedr. Bayer & Co. It may be obtained by heating morphine with acetylchloride, washing the product with water and dilute solution of sodium carbonate and crystallizing it from alcohol.

It is a white, odorless powder, having a bitter taste, an alkaline reaction and melting at 173° C. (343.4° F.). It is soluble in about 1,600 parts of water, 25 parts of alcohol, 2 parts of chloroform, 70 parts of ether and 6 parts of benzin; also soluble in 3 parts of boiling alcohol. It forms salts with acids which are soluble in water. On prolonged warming with mineral acids it is saponified, splitting off acetic acid and reforming morphine.

A solution of 1 part diacetyl-morphine in 100,000 parts of water becomes distinctly turbid on addition of solution of iodine. Its color reactions are similar to those of morphine, with the following exceptions: It does not liberate iodine from iodic acid and does not at once produce a blue coloration with potassium ferricyanide and ferric chloride. No blue color is produced by the addition of ferric chloride to a neutral solution (1 in 100) made by the careful addition of dilute sulphuric acid. Its solutions reduce potassium permanganate.

Actions and Uses.—When given in small doses Diacetyl-morphine and its hydrochloride have apparently no effect on any of the vital functions except respiration, which it renders slower, the volume of the individual respirations being increased, but usually not sufficient to compensate the slowing, the result being a diminution in the total amount of air respired. In large doses it may produce dizziness, nausea and occasionally constipation, and, in poisonous amounts, twitching of the extremities, great exhaustion, and dimness of vision may be added. The temperature becomes subnormal and the pulse rapid and thready. The habit is readily formed and leads to the most deplorable results. It is said not to produce costiveness. (This is not true, according to some observers.) It is readily absorbed from mucous membranes. It lessens irritability of the respiratory center, thus allaying cough, but does not depress the respiration as much as morphine.

On withdrawing the drug from habitués there is said to be a tendency to respiratory failure which may be dangerous.

Diacetyl-morphine and its hydrochloride have been recommended chiefly for the treatment of diseases of the air passages attended with cough, difficult breathing and spasm, such as the different forms of bronchitis, pneumonia, consumption, asthma, whooping cough, laryngitis, and certain forms of hay fever. It has also been recommended as an analgesic, in the place of morphine in various painful affections.

Toxic symptoms should be treated by the administration of caffein hypodermically and of hot coffee by the stomach. To avoid respiratory failure in the treatment of diacetyl-morphine addiction, it has been suggested to substitute morphine for the diacetyl-morphine and then treat the patient for morphine addiction.

Dosage.—See Diacetyl-morphine Hydrochloride.

Proprietary Preparation:

HEROIN.—A name applied to Diacetyl-morphine, which see.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark.

DIACETYL - MORPHINE HYDROCHLORIDE — Morphinæ Acetylatæ Hydrochloridum.—Diacetyl-morphine hydrochloride, $C_{17}H_{17}(C_2H_3O_2)_2NO.HCl$, is the diacetyl-morphine salt of hydrochloric acid.

It is prepared by dissolving diacetyl-morphine in dilute hydrochloric acid, concentrating the neutral solution by evaporation and crystallizing.

It is a white, crystalline, odorless powder, having a bitter taste, showing a neutral reaction with congo and melting at 230° to 231° C. (446° to 447.8° F.).

It is soluble in 2 parts of water and soluble also in alcohol, but insoluble in ether.

Its aqueous solutions are precipitated by alkaline hydroxides, the precipitate being soluble in excess of the reagent, and by alkaline carbonates. In other respects the reactions are the same as those given under diacetyl-morphine (which see).

It is incompatable with alkalies and their carbonates, tannic acid and other precipitants of alkaloids. It is decomposed by mineral acids, particularly when heated.

Actions and Uses.—See Diacetyl-morphine.

Dosage.—0.0025 to 0.005 Gm. (1/24 to 1/12 grain) to adults three to four times a day, the maximum dose being 0.01 Gm. (1/6 grain). To children it may be given in doses varying from 0.0002 to 0.001 Gm. (1/300 to 1/60 grain), according to the age. Hypodermically it may be administered in the form of a 2 per cent. solution in the same doses. It has been applied locally to the throat, to the uterus on tampons, and by suppository for painful pelvic affections generally, but there is no evidence that it produces any local anesthetic action.

Proprietary preparation:

HEROIN HYDROCHLORIDE.—A name applied to Diacetyl-morphine Hydrochloride, which see.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark.

ETHYL - MORPHINE HYDROCHLORIDE — Morphinæ Æthylatæ Hydrochloridum. — Ethyl-morphine hydrochloride, $C_{17}H_{17}NO(OH)\ (OC_2H_5)\ HCl + H_2O = (C_{19}H_{42}O_3ClN + H_2O$, is the hydrochloride of the ethyl ester of morphine.

The product was first introduced by Merck & Co., under the trade name Dionin. It may be obtained by the action of ethyl iodide on morphine in the presence of alkali, the basic product being purified by crystallization from hot alcohol, dissolving the crystals in hydrochloric acid and crystallizing.

It is a white, microscopically crystalline powder, odorless and only slightly bitter. It is soluble in about 7 parts of water and in 2 parts of alcohol, insoluble in ether and in chloroform. It melts completely with decomposition at 125° C. (257° F.).

It gives the usual reactions for alkaloids. It is distinguished from morphine salts by its insolubility in excess of alkali, and by not producing an immediate blue color, but gradually developing a blue-green coloration, when its solution is added to dilute ferric chloride solution containing a fragment of potassium ferricyanide.

It is incompatible with alkalies and their carbonates and alkaloidal reagents, as potassio-mercuric iodide, tannic acid, picric acid, etc.

Actions and Uses.—It is claimed that this compound acts like morphine without producing constipation, nausea or lassitude. It is the conclusion of some good observers that it possesses no advantage over codeine. Applied to the eye, it causes a local vaso-dilation, leading to acute conjunctival edema.

Ethyl-morphine Hydrochloride is recommended to relieve pain, especially in respiratory affections, as an antispasmodic in whooping-cough, for insomnia and externally in the treatment of corneal affections, conjunctivitis, iritis, etc.

Dosage.—0.015 to 0.06 Gm. (¼ to 1 grain). Externally it is applied in 10 to 20 per cent. solutions.

Proprietary Preparation:

DIONIN.—A name applied to Ethyl-morphine-Hydrochloride, which see.

Manufactured by E. Merck, Darmstadt, Germany. (Merck & Co., New York). German patents Nos. 102,654, 107,225 and 108,075. U. S. trade-mark.

MORPHINE MECONATE.—Morphinæ Meconas.—Morphine meconate, $(C_{17}H_{19}O_3N)_2.C_7H_4O_75H_2O$, is the normal salt of morphine, $C_{17}H_{19}O_3N$, and meconic acid, $H_2(C_7H_2O_7)$, a dibasic acid obtained from opium.

Morphine meconate may be prepared by dissolving 10 Gm. crystallized meconic acid in 60 Cc. warm water, adding gradually 24 Gm., or sufficient crystallized morphine alkaloid to produce a neutral solution and evaporating to dryness at a temperature below 80° C. (176° F.). (Hager, 1903, vol. 2, p. 403.)

Morphine meconate occurs in minute colorless crystals or a yellowish white powder, soluble in 34 parts of water, also soluble in alcohol. It contains 66.3 per cent. anhydrous morphine.

Action, Uses and Dosage.—The same as other salts of morphine.

Non-Proprietary Preparation:

Tabloid Morphine Meconate (Hypodermic) 1/8 grain.—Each tablet contains morphine meconate 0.008 Gm. (1/8 grain). Prepared by Burroughs-Wellcome & Co., London, England, and New York.

NEUROCAINE.—Billets of Cocaine, Schieffelin.—

Each billet contains cocaine hydrochloride 0.005 Gm. (1/12 grain), without excipient. The billets are ⅛ inch long, 1/20 inch in diameter and very soluble.

Neurocaine is used for pressure anesthesia or as a local anesthetic in dental practice.

Prepared by Schieffelin & Co., New York. U. S. trademark, No. 43,837.

NOVARGAN — Argenti Proteinas. — Silver Proteinate. — Novargan is an organic silver-albumin compound containing 10 per cent. of silver.

It is a fine yellow powder, soluble in water, forming a practically neutral solution, from which it is not precipitated by sodium chloride, nor affected by the usual reagents for silver salts. Solutions must not be heated and must be protected from the light.

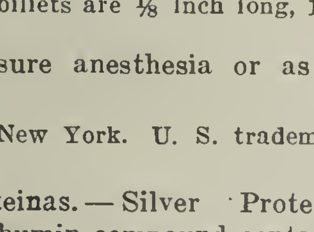
The solution is darkened by hydrogen sulphide or ammonium sulphide, but no precipitate is produced.

Actions and Uses.—Novargan is a bactericide; it is claimed to be more effective and less irritating than other protein-silver compounds.

It is said to be useful for the treatment of gonorrhea, especially as an abortive in the first stage.

Dosage.—0.5 Cc. (8 minims) of a 15 per cent. solution, by instillation on the anterior portion of the urethra, through a catheter 23 Cm. (9 in.) long, No. 13 French scale, as an abortive.

Manufactured by the Heyden Chemical Works, Radebeul, Germany, and Garfield, N. J. U. S. trademark No. 19,989.

NOVASPIRIN—Methylene-Citrylsalicylic Acid.—Novaspirin is methylene-citrylsalicylic acid,  $= C_{21}H_{16}O_{11}$, a compound of anhydro-methylene-citric acid (see Citarin) and salicylic acid.

Novaspirin is prepared by the action of methylene citric acid dichloride on salicylic acid.

Novaspirin is a white, odorless, crystalline powder, having a faint acidulous taste. It is easily soluble in alcohol, difficultly soluble in chloroform, ether, and scarcely soluble in water. It contains 62 per cent. of salicylic acid.

On heating with caustic alkalies salicylic acid is generated. On prolonged standing with water and more easily with alkalies it is split up into its components. When heated in a test tube it melts with the generation of formaldehyde. On adding dilute acid to the warm alkaline solution, white crystals of salicylic acid are separated.

Actions and Uses.—Novaspirin is not decomposed in the stomach and is said to be non-irritating to that organ, but it is broken up in the intestine into salicylic acid and methylene-citric acid. From its chemical constitution it is reasonable to expect it to have the same systemic actions and uses as salicylic acid.

It is said to be useful in influenza, coryza, tonsillitis, rheumatic conditions, gout and neuralgic conditions.

Dosage.—1 Gm. (15 grains) several times daily.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 858,142 (June 25, 1907; expires 1924). U. S. trademark No. 62,613.

Novaspirin Tablets, 5 grains. Each tablet contains novaspirin 0.33 Gm. (5 grains).

NOVOCAINE.—Novocaine is 1-para-aminobenzoyl-2-diethylaminoethane hydrochloride. $CH_2(C_6H_4.NH_2.COO).CH_2[N(C_2H_5)_2].HCl$, the monhydrochloride of para-aminobenzoyldiethylaminoethanol.

Novocaine crystallizes from alcohol in fine, colorless needles, which melt at 156° C. (312.8° F.). It is soluble in an equal weight of water, but requires 30 parts of alcohol. From the aqueous solution, which is neutral, alkali hydroxides and carbonates precipitate the free base in the form of a colorless oil, which soon congeals to a crystalline mass, but solution of sodium bicarbonate is miscible with solutions of novocaine without producing either precipitation or turbidity. The free base crystallizes from diluted alcohol with 2 molecules of water, but from ether or ligroin in the form of anhydrous shining prisms, which melt at 58° to 60° C. (136.4° to 140° F.), while the hydrated base melts at 51° C. (123.8° F.).

The aqueous solution of the salt may be heated to boiling without decomposition, and remains perfectly clear when kept for days in loosely stoppered vials. It gives precipitates even in very dilute solutions with the usual alkaloidal reagents, such as potassium mercuric-iodide, picric acid, potassium iodide, etc.

It is incompatible with alkalies and their carbonates and the alkaloidal reagents.

Actions and Uses.—It is a local anesthetic similar to cocaine, but said to be far less toxic than any of the cocaine substitutes. When injected subcutaneously it is said to exert a prompt and powerful anesthetic action, but the effect is not sustained. This may be remedied by the simultaneous injection of suprarenal alkaloid. Novocaine is not irritant. (See note under Creosote Carbonate.)

It is said to be useful in all cases in which cocaine is indicated.

Dosage.—For infiltration anesthesia, solutions of 0.25 Gm. (4 grains) novocaine in 100 or 50 Gm. (3.2 or 1.6 ounces) physiologic salt solution, with 5 or 10 drops of epinephrine solution (1-1000); for instillations and injections, solutions of 0.1 Gm. (1½ grains) novocaine in 10 or 5 Gm. (150 or 75 grains) salt solution, with or without 10 drops of epinephrine solution (1-1000). In ophthalmology, 1 to 5 to 10 per cent. solution, in rhino-laryngology 5 to 20 per cent. solutions are recommended, with the addition of 6 to 8 drops of epinephrine solution (1-1000) to each 10 Cc. (160 minims). Internally, owing to its feeble toxicity, it may be given in doses up to 0.5 Gm. (7½ grains) to adults.

Manufactured by Farbwerke, vorm. Meister, Lucius & Breuning, Hoechst a. M., Germany (Victor Koechl & Co., New York).

Hypodermic Tablets Novocaine, 1/3 grain. Each tablet contains novocaine 0.020 Gm. (⅓ grain).

NOVOCAINE NITRATE—Novocainæ Nitras.—Novocaine nitrate is, 1-para-aminobenzoyl-2-diethylamino-ethane nitrate, $C_6H_4.NH_2(COO.C_2H_4.N(C_2H_5)_2.HNO=C_{13}H_{21}O_5N_3$, the nitrate of p-aminobenzoyldiethylaminoethanol, the base contained in novocaine.

Novocaine nitrate occurs in small colorless and odorless crystals, soluble in water and alcohol. The aqueous solution is neutral in reaction. Melting point 100°-102° C. (212°-215° F.).

If 0.1 Gm. novocaine nitrate be dissolved in 1 Cc. concentrated sulphuric acid and a solution of ferrous sulphate carefully floated above it, a brown zone is formed at the surface of contact of the two solutions. 1 part novocaine nitrate dissolved in 10 parts water and acidified with nitric acid, should yield no precipitate upon the addition of silver nitrate solution.

Actions and Uses.—As for novocaine; may be prescribed in combination with silver salts, with which it forms no precipitate.

Dosage.—Used in 3 per cent. solutions.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).
U. S. patent No. 812,554 (Feb. 13, 1906; expires 1923). Trademark No. 53,072.

NUCLEIN, NUCLEIC ACID AND NUCLEATES

Nucleins are modified nucleoproteins obtained by peptic digestion or by treatment with dilute acids. They are split up by the action of alkalies or by tryptic digestion into a protein constituent and a nucleic acid. The exact composition of the protein and of the nucleic acid varies somewhat with the source of the nucleoprotein from which it is derived. The nucleic acids of commerce are apt to contain some protein in combination. They are most commonly made from yeast cells, but have been made, also, from the wheat embryo, the sperm of certain fishes and from the thymus and pancreas glands. In composition they approximate the formula: $C_{40}H_{52}N_{14}O_{25}P_4$. From the wheat embryo products with relatively more nitrogen have been obtained.

Nucleins are colorless, amorphous, insoluble in alcohol and ether and insoluble or slightly soluble in water. They are more or less readily dissolved by dilute alkalies. They give the biuret test and Millon's reaction. They show a great affinity for many dyes, taking them up from aqueous or alcoholic solutions. The term nuclein is sometimes used to designate an impure nucleic acid, which usage has led to confusion as the nucleic acids are bodies of definite composition.

Both nucleins and nucleic acids yield metaphosphoric acid on incineration. On fusion with potassium nitrate and sodium carbonate they yield alkali phosphates.

Actions and Uses.—Nuclein and nucleic acid and nucleates are said to increase the number of white corpuscles, and it has been claimed that this increases the resistance to infections. These results have been obtained by intravenous or hypodermic injection, and on this basis therapeutic deductions have been made; it is doubtful whether we are warranted in applying these conclusions to the administration of the remedy by the mouth.

Nuclein and nucleic acid and nucleates have been used in tuberculosis and various infections, but their true value is undetermined.

They are transformed in the organism into purin compounds and may cause the amount of uric acid in the urine to be increased.

NUCLEIN—Nucleinum.—Nuclein is a modified nucleoprotein obtained by peptic digestion or by treatment with dilute acids.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—0.5 to 1 Gm. (8 to 15 grains) three times a day.

NUCLEIC ACID.—Acidium Nucleicum.—Nucleinic Acid.—Nucleic acid is an organic acid obtained from nuclein by the action of alkalies or by tryptic digestion.

Nucleic acid is an amorphous, white powder and has an acid reaction. It is readily soluble in ammoniacal or alkaline water with the formation of water-soluble salts. From these solutions it is precipitated by slight excess of hydrochloric acid but not by acetic acid. It is insoluble in alcohol and ether. When chemically pure it does not give the biuret test or Millon's reaction, but a slight response to these reagents does not indicate a degree of impurity incompatible with its use as a medicinal agent.

It should contain between 14.5 and 16.5 per cent. of nitrogen and between 8.5 and 10.5 per cent. of phosphorus, the relative proportion being 4 atoms of P to 14 or 16 N, approximately.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—0.06 to 0.3 Gm. (1 to 5 grains) three times a day.

Non-Proprietary Preparation:

Nucleinic Acid Merck (from Yeast).—Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

SODIUM NUCLEATE.—Sodii Nucleas.—Sodium Nucleinate. Sodium Nucleate is the sodium salt of nucleic acid.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—Practically the same as that of Nucleic Acid.

Proprietary Preparations:

NUCLEIN, Abbott.—Sodium Tritico-Nucleinate, Abbott. A sodium nucleate derived from the wheat germ.

It is a grayish-white powder, soluble in water and insoluble in alcohol. On incineration it yields approximately 26 per cent. of ash, which is slightly alkaline and readily soluble in water. It contains phosphorus and nitrogen in the ratio of 1 atom of P. to 3.66 N. When the aqueous solution is decomposed by weak hydrochloric acid, a voluminous precipitate of the free nucleic acid is formed.

Actions and Uses.—See Nuclein, Nucleic Acid and Nucleates.

Dosage.—See Nucleic Acid.

Manufactured by the Abbott Alkaloidal Co., Chicago. Not patented or trademarked.

Nuclein Solution, Abbott.—Liquor Sodii Tritico-Nucleinatis Abbott.—A solution of Nuclein-Abbott containing approximately 10 Gm. of the salt in 100 Cc. (6 grains in one fluidram) of a menstruum containing 15 per cent. of alcohol. The solution is standardized to contain 1 mg. phosphorus in 1 Cc.

The aqueous extract of the wheat germ is treated with sodium chloride and acid, the precipitate digested with pepsin, neutralized with sodium hydroxide and purified by precipitation with alcohol. The resulting sodium tritico-nucleinate is dissolved in distilled water and 15 per cent. of alcohol as a preservative.

Nuclein Tablets, Abbott.—Each tablet is said to contain 0.13 Cc. (2 minims) of Nuclein Solution. Abbott.

OIL OF PINE NEEDLES—Oleum Pini.—Oil of Pine (British Pharm., edit. 8), Oleum Pini Pumilionis (Pharm. Austriaca, edit. 8). Oil of pine needles is the oil distilled from the fresh leaves of Pinus Pumilio, Haenke (British Pharm., edit. 8).

Oil of pine occurs as a colorless or faintly yellowish liquid, having a pleasant, aromatic odor, and a pungent taste. The oil is soluble in 4.8 volumes 90 per cent. alcohol (Hager, 1908). Specific Gravity, 0.865 to 0.875; begins to boil at 165° C. (329° F.). (British Codex, 1907.)

It should rotate the plane of a ray of polarized light from 5° to 10° to the left at 15.5° C. (60° F.) in a tube 100 millimeters long. Not more than 10 per cent. should distil below 165° C. (329° F.).

Action and Uses.—Oil of pine is employed principally as an inhalant with hot water for its stimulating and disinfecting action in catarrh of the respiratory passages, chronic laryngitis and bronchitis. It has been applied locally and given internally in the treatment of chronic rheumatic affections. When added to ether it is said to allay the irritation and diminish the bronchial secretion, which frequently become excessive, during or after the production of anesthesia by the latter drug.

Dosage.—0.05 to 0.3 Cc. (1 to 5 minims). The oil is given internally as a respiratory antiseptic and "expectorant," being taken on sugar, in capsules, or in the form of pastilles. It is rubbed over rheumatic joints, which are then covered with cotton wool, or 4 Cc. (1 fluidram) of the oil may be added to a warm bath.

Vapor Olei Pini.—Oil of pine, 10 Cc.; Magnesium Carbonate, 5 Gm.; Distilled water, sufficient to produce 100 Cc.

Mix the oil with the magnesium carbonate and add the water. A quantity sufficient for one inhalation, 4 Cc. (1 fluidram), is to be placed with 300 Cc. (10 fluidounces) of cold water and 300 Cc. (10 fluidounces) of boiling water in an apparatus so arranged that the air to be inhaled may pass through the solution.

Pine oil inhalation is used as a mild antiseptic in catarrhal affections of the respiratory passages.

OLEORESIN OF PARSLEY SEED—Oleoresina Apii.—Apiol, Green.—An oleoresin obtained from parsley seed by extraction with alcohol.

Parsley seed is extracted with alcohol, the alcohol recovered, and the liquid portion of the residue freed from the solid, waxy matter which separates on standing.

Oleoresin of parsley seed is a greenish, oily liquid, insoluble in water, but soluble in alcohol, ether, and chloroform. Sp. gr. about 1.05.

Actions and Uses.—See Apiol.

Dosage.—0.3 to 1 Cc. (5 to 15 minims) in capsules

ORGANIC IRON PREPARATIONS

The term, "organic iron" ("masked" or "non-ionic" iron) is confined by modern usage to those organic compounds of iron which do not give the chemical tests of this metal (blue color with potassium ferrocyanide, blue-black color with hematoxylin, etc.) until the structure of the molecule has been destroyed by reagents. The resistance to this destruction varies greatly; some (such as hemoglobin) require incineration or the action of concentrated acids; while others give the iron-tests after treatment with even fairly dilute acids. The organic iron compounds occurring naturally in animal and vegetable tissues (which are often termed "food-irons") belong generally to the more resistant class, while the iron of the synthetic preparations is usually liberated fairly readily. This does not, however, constitute a sharp line of distinction between the two classes, nor is there any good evidence that they differ in therapeutic action. Until this difference is established all organic iron preparations, whatever their source, may be placed in a single class. It is evident, however, that an organic iron (chemically) which is destroyed by 0.2 per cent. hydrochloric acid at the body temperature, cannot be classed as an organic iron in the therapeutic sense. It should also be emphasized that salts of iron (which give the iron tests directly) are classed as inorganic iron, whatever the acid radicle. True albuminates, peptonates, etc., of iron are, therefore, inorganic.

Actions and Uses.—Organic iron preparations are used to increase the hemoglobin in conditions of anemia. Bunge supposed that only organic iron could be absorbed and assimilated by the body, the reputed action of inorganic iron being altogether indirect, and due to its local effects on the alimentary canal. This theory was modified by Abderhalden, to the effect that inorganic iron, while it could not be converted into hemoglobin, nevertheless stimulated the assimilation and conversion of organic iron. The later work, however (Tartakowski) seems to prove conclusively that inorganic iron is assimilated and converted into hemoglobin, and is in so far therapeutically, fully equal to organic iron. Many authors, nevertheless, still adhere to the theories of Bunge and Abderhalden At all events, a real difference exists between the organic and most of the inorganic preparations, namely, in the local irritant and astringent action of the latter, and the absence of these effects in most of the organic compounds. These actions may be desirable in some cases, and undesirable in others. It should also be remembered that organic iron may often be administered in sufficient amount, and most economically, by selecting a dietary rich in iron, such as red meats, egg-yolks, green vegetables, whole wheat, etc.

ORGANS OF ANIMALS

The discovery of the importance of internal secretions has led to extensive clinical trials with preparations of the so-called ductless glands, and other tissues which elaborate, or are supposed to elaborate such internal secretions. Two of these, the thyroid and suprarenal glands, have given decisive therapeutic results and have become official in the Pharmacopeia; preparations of the active principle of the suprarenal are described in this book under the heading of "Epinephrin." The other organ products are scarcely beyond the experimental stage, and may therefore be described together. Their active principles have not been isolated, and they are most commonly used in the form of the powdered dried gland. The gross fat and connective tissue should be removed as completely as possible, and the drying should be conducted at a relatively low temperature. The powder is frequently compressed into tablets. It is recommended that the strength of these should be stated in terms of the dried gland. Since there are no tests for the quality, or even identity, of these powdered products, the physician, unless he can himself supervise their preparation, is forced to rely on the general reputation of the manufacturer.

After the description of each gland a list of such preparations as have been submitted to the Council, and which are being marketed in an unobjectionable manner, is given. For the reasons stated, however, the Council disclaims any responsibility for their quality or identity.

CORPUS LUTEUM

It is generally recognized that one or more of the most important of the internal secretions of the ovaries originate in the corpora lutea and the latter have been tried recently to a considerable extent in some of the classes of cases in which the entire gland has been used. Thus, it is stated that in cases of artificial menopause, following operation, the use of the dried corpus luteum has been followed by great improvement: It may be given in the form of tablets, each of which is composed of a dried corpus luteum, obtained from a pregnant animal, usually a pig; or it may be given as "lutein" in twenty grain doses, three times a day, in some cases given continuously, in others periodically when the discomforts are greatest, and continued for about ten days at a time. The "lutein" is made by squeezing out the corpora lutea from the ovaries of the pig obtained at the slaughter house. The corpora are then rapidly dried, powdered, and compressed into tablets. These preparations are stated to frequently give good results when the ordinary ovarian extract made from the dried tissues of the ovary itself fails.

Corpus luteum has also been recommended in obesity associated with amenorrhea and in other conditions of "ovarian insufficiency" and in dysmenorrhea. This substance also, however, is still of questionable value in these various conditions, the evidence being not yet sufficient for judgment.

Drevet recommends that an extract of the corpora lutea, prepared as follows, be used: 1 kilo of finely divided corpora lutea are macerated in the cold for forty-eight hours with a mixture of 500 Cc. glycerine, 500 Cc. distilled water and 10 Cc. sulphuric acid. The liquid is filtered, neutralized with soda and the precipitate after being washed, is dissolved in acetic acid and again precipitated. The precipitate is then dried in vacuo. Dose of this extract, 0.04 Gm. to 0.08 Gm. (⅔ to 1⅓ grain) gradually increased to 0.12 Gm. (2 grains).

DESICCATED CORPUS LUTEUM—Armour.—Desiccated corpus luteum—Armour, consists of the fresh substance from the corpora lutea from cow's ovaries, removed, dried and powdered without the addition of preservative or diluent.

A yellowish powder, having a peculiar odor. Partly soluble in water.

One part represents approximately 5 parts of the fresh corpus luteum substance. It contains a true lipochrome which may be extracted by alcohol, ether or chloroform. On incineration, it should yield not more than 6 per cent. of ash.

Actions and Uses.—See Corpus Luteum.

Dosage.—0.03 to 0.06 Gm. (½ to 1 grain) twice daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

MAMMARY GLAND

The extracts of the mammary gland are said to have an effect upon the uterus. They have been used in the treatment of profuse and painful menstruation and of uterine and ovarian tumors, but the beneficial results reported can hardly be accepted until confirmed by further observations.

MAMMARY SUBSTANCE—Armour.—Mammary Substance—Armour, consists of the mammary gland of the sheep freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A yellowish to orange colored powder, having a slight peculiar odor. Only partially soluble in water.

One part represents approximately 4½ parts of the fresh mammary gland of the sheep. It contains nucleoproteid which, when treated with dilute sulphuric acid, yields guanin. (S. Fränkel. Descriptive Biochemie, p. 386). Upon incineration, it should not yield more than 9 per cent. ash.

Actions and Uses.—See Mammary Gland.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Mammary Substance Tablets-Armour.—Each tablet contains desiccated mammary substance 0.13 Gm. (2 grains).
Dose.—1 to 3 tablets three times a day.

OVARY

The ovaries produce internal secretions which are necessary for the proper functioning of the uterus and which also have obscure effects on metabolism and the nervous system. Diminution or cessation of the activity of the ovaries (as at menopause, natural or artificial) often leads to a variety of nervous symptoms; irregularities in their activities seems to be sometimes accompanied by dysmenorrhea. Ovarian substance has been administered, often with apparently good results, for the relief of symptoms following the natural or artificial menopause and in dysmenorrhea, intermenstrual pain, etc.

OVARIAN SUBSTANCE—Armour. — Ovarian Substance—Armour, consists of the entire fresh ovaries (including the corpora lutea) of the hog, cleaned, dried and powdered, without the addition of either preservative or diluent.

A yellowish colored powder having a peculiar odor. Partially soluble in water.

One part represents approximately 6¾ parts of the fresh ovary of the hog. It contains gelatin, mucin, nuclein and the active constituent of the corpus luteum. Upon incineration, it should not yield more than 7 per cent. ash.

Actions and Uses.—See Ovary.

Dosage.—0.06 to 0.2 Gm. (1 to 3 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or copyrighted.

Ovarian Substance Tablets-Armour.—Each tablet contains ovarian substance 0.13 Gm. (2 grains).

Dose.—1 to 2 tablets three times a day.

Parathyroid Gland

The parathyroid gland, even in small doses, has a pronounced action on the course of the tetany resulting from the removal of or injury to the parathyroid glands. Its use checks the convulsions and removes the feeling of fear, the nausea and diarrhea and has undoubtedly at times greatly prolonged life or saved it while the injured parathyroid glands regained their functions. The fresh gland seems to be more active than the dried commercial preparation.

The drug has been used most successfully in tetany following removal of the parathyroids; its use in idiopathic and other non-operative forms of tetany has been much less satisfactory.

DESICCATED PARATHYROID GLAND—Armour.—Desiccated Parathyroid Gland—Armour, consists of the exterior parathyroids of the ox freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A light yellow powder, having a peculiar odor. Partly soluble in water.

One part represents approximately six parts of the fresh tissue. On incineration it should yield not more than 7 per cent. ash. It contains very small amounts of organically combined iodine.

Action and Uses.—See Parathyroid Gland.

Dosage.—0.006 Gm. (1/10 grain) four times a day.

Manufactured by Armour & Co., Chicago.

Parathyroid Tablets, Armour.—Each tablet contains desiccated parathyroid gland 0.003 Gm. (1/20 grain).

Parotid Gland

The suggested uses are similar to those for the mammary and ovary; it has been recommended in artificial menopause, intermenstrual pain and other conditions in which the ovary or corpus luteum are used.

DESICCATED PAROTID GLAND—Armour. — Desiccated Parotid Gland—Armour, consists of the fresh parotid gland of the ox, freed from fat, cleaned, dried and powdered, without the addition of either preservative or diluent.

A yellowish colored powder, having a slight peculiar odor. Partially soluble in water.

One part represents approximately 5 parts of the fresh parotid gland of the ox. Upon incineration, it should yield not more than 7 per cent. ash.

Actions and Uses.—See Parotid Gland.

Dosage.—0.2 to 0.3 Gm. (3 to 5 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Parotid Tablets-Armour.—Each tablet contains desiccated parotid gland 0.13 Gm. (2 grains).

Dose.—1 to 2 tablets three times a day.

Pituitary Gland

The removal of this body in animals is followed by symptoms of motor disturbances, depression, emaciation, and rapid death. The infundibular portion of the gland causes, when injected intravenously, a rise of blood pressure and slows but strengthens the action of the heart. It contains a substance soluble in water, and not destroyed by boiling, which is stated to cause dilation of the renal vessels and a marked increase in the secretion of urine. The gland has been found to be abnormal in many cases of acromegaly and so is believed by many to have an internal secretion acting on the growth of bones. The anterior lobe is claimed to have properties similar to those of thyroid extract.

The drug has a doubtful effect on the circulation when given by the mouth, but the infundibular portion may be useful in cardiac debility. An extract of this part of the gland has been recommended as a diuretic. The results of the use of the gland in acromegaly are uncertain, but the output of phosphates is said to be increased. It may be given at the first symptom of debility or functional disturbances.

DESICCATED PITUITARY SUBSTANCE (ANTERIOR LOBE)—Armour.—Desiccated pituitary substance (anterior lobe)—Armour consists of the anterior lobe from the pituitary of the ox, separated, dried and powdered without the addition of preservative or diluent.

A light grayish yellow powder, having a slight peculiar odor. Partly soluble in water.

One part represents approximately 4.5 parts of the fresh substance. On incineration, it should yield not more than 6.5 per cent. ash.

Action and Uses.—See pituitary gland above.

Dosage.—0.05 to 0.20 Gm. (1 to 4 grains) in powder or tablet.

Manufactured by Armour & Co., Chicago.

DESICCATED PITUITARY SUBSTANCE (POSTERIOR LOBE)—Armour.—Desiccated pituitary substance (posterior lobe)—Armour consists of the posterior lobe from the pituitary of the ox, separated, dried and powdered without the addition of preservative or diluent.

A light grayish yellow powder having a slight peculiar odor. Partly soluble in water.

One part represents approximately 4.5 parts of the fresh substance. On incineration, it should yield not more than 6.2 per cent. of ash.

Action and Uses.—See pituitary gland.

Dosage.—0.05 to 0.20 Gm. (1 to 4 grains) in powder or tablet.

Manufactured by Armour & Co., Chicago.

PITUITARY BODY, DESICCATED—Armour.—Desiccated pituitary body—Armour, consists of the dried substance of the entire pituitary body of the ox, including the infundibulum and the anterior and posterior lobes without the addition of preservative or diluent. It is said to contain all the active principles naturally existing in the gland.

A light yellowish-gray powder, practically odorless and tasteless. One part represents approximately 4 parts of fresh gland.

Actions and Uses.—See pituitary gland.

Dosage.—0.06 to 0.2 Gm. (1 to 3 grains) three times a day.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Pituitary Tablets.—Armour.—Each tablet contains desiccated pituitary body 0.06 Gm. (1 grain).

Red Bone Marrow

Red bone marrow consists largely (more than 90 per cent.) of fat. In new born animals a third or more of this fat consists of lecithin. The marrow of the bones of new-born animals contains iron (up to 1 per cent. or more) in various forms of organic combination. Both lecithin and iron decrease rapidly in the first weeks after birth. The commercial preparations contain very variable amounts of these constituents.

Action and Uses.—Red bone marrow is supposed to stimulate the formation of red blood corpuscles; whatever action it may have in this direction is probably due largely to the iron and lecithin which it contains.

It is recommended in simple and pernicious anemias.

EXTRACT OF RED BONE MARROW.—Extract of red bone marrow is a glycerin extract of the red marrow of bones. It contains about 2 per cent. of proteids, about 0.1 per cent. of lecithin and about 85 per cent. of glycerin.

It is a brownish liquid of an agreeable aromatic taste.

Actions and Uses.—This preparation is claimed to stimulate the formation of the red blood corpuscles.

It is recommended in simple and pernicious anemia, but its value is not yet beyond question.

Dosage.—4 to 8 Cc. (1 to 2 fluidrams) in water, milk or wine, three times a day.

Prepared by Armour & Co., Chicago.

Spleen

Spleen has been used empirically in anemia, chlorosis, myxedema and various other diseases with no definite results.

DESICCATED SPLEEN—Armour. — Desiccated Spleen—Armour, consists of the spleen of the calf, freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A dark yellowish colored powder, having a peculiar odor. Partially soluble in water.

One part represents approximately 4¾ parts of the fresh spleen substance. It contains nuclein and iron. Upon incineration, it should yield not more than 7 per cent. ash.

Actions and Uses.—See Spleen.

Dosage.—0.13 to 0.25 Gm. (2 to 4 grains) every three or four hours.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Spleen Tablets-Armour.—Each tablet contains desiccated spleen 0.065 Gm. (1 grain).

Dose.—1 to 3 tablets three times a day.

Testicle

Subcutaneous injections of testicular extracts were claimed to increase muscular energy from 10 to 20 per cent. Oxidation has been said to be somewhat increased and extracts of the gland have been used in obesity, but the results have been most uncertain. It has also been employed in prostatic hypertrophy and many other conditions.

ORCHIC SUBSTANCE—Armour. — Orchic Substance—Armour, consists of the pulp from fresh ram testicles removed, dried and powdered, without the addition of preservative or diluent.

A light yellow powder, having a peculiar odor. Partly soluble in water.

One part represents approximately 7 parts of the fresh pulp from the ram testicle. Upon incineration, it should yield not more than 10 per cent. ash.

Actions and Uses.—See Testicle.

Dosage.—0.13 to 0.3 Gm. (2 to 5 grains) three times a day.

Manufactured by Armour & Co., Chicago. Not patented or copyrighted.

Orchic Substance Tablets-Armour.—Each tablet contains orchic substance 0.13 Gm. (2 grains).

Dose.—1 to 3 tablets three times a day.

Thymus Gland

Little is known as to the functions of the thymus, but it is believed to have an important relation to growth. There also seems to be some relation between the thymus and thyroid, for the former is frequently abnormal in diseases involving the latter (exophthalmic goiter).

The use of thymus is purely empirical. It has been employed in the treatment of exophthalmic goiter, rickets, tuberculosis, hemophilia, and infantile marasmus and atrophy; its use in the latter conditions is said to be the most promising. It is claimed on very doubtful grounds to exert a somewhat favorable effect in certain cases of cancer.

DESICCATED THYMUS—Armour.—Desiccated Thymus—Armour, consists of the fresh thymus gland of the calf freed from fat, cleaned, dried and powdered, without the addition of preservative or diluent.

A very light yellow powder, having a peculiar odor. Partly soluble in water.

One part represents approximately 5 parts of the fresh thymus gland. It is rich in nucleoprotein and in lymphoid tissue. Upon incineration, it should yield not more than 12 per cent. ash.

Actions and Uses.—See Thymus Gland.

Dosage.—0.13 to 0.25 Gm. (2 to 4 grains) three times daily.

Manufactured by Armour & Co., Chicago. Not patented or trademarked.

Thymus Tablets-Armour.—Each tablet contains desiccated thymus 0.065 Gm. (1 grain).

Dose.—2 to 4 tablets three times a day.

ORPHOL—Bismuthi Beta-Naphtholas.—Orphol is bismuth beta-naphtholate, a bismuth salt of beta-naphthol.

Bismuth beta-naphtholate occurs in the form of a brownish or grayish powder without odor, almost tasteless and insoluble in water. It is slightly soluble in alcohol.

1 to 2 Gm. bismuth beta-naphtholate is shaken in a separator during one hour with 25 Cc. chloroform and 25 Cc. concentrated hydrochloric acid, and then 50 Cc. water added and again shaken. The chloroform solution drawn off and the acid mixture extracted with three more portions of 10 Cc. chloroform and the combined extracts evaporated and dried to constant weight over sulphuric acid, a residue should remain weighing at least 15 per cent. of the material used, and should respond to tests of identity for beta-naphthol.

The acid solution from which the naphthol has been extracted is transferred to a beaker, diluted to 200 Cc., heated to boiling, ammonia water added till turbidity appears, then sufficient hydrochloric acid to clear up the turbidity and then 50 Cc. of 10 per cent. ammonium phosphate solution is added to the boiling liquid. The precipitate is allowed to subside, the clear liquid decanted through a tared porcelain Gooch crucible, the precipitate washed with hot water by decantation and finally transferred completely to the crucible. The precipitate and crucible are dried, placed in a nickel crucible, and exposed to the full heat of a bunsen flame till the weight is constant. The weight of the resulting bismuth phosphate multiplied by 0.6869 should yield a figure (representing bismuth, Bi) equal to not less than 60 per cent. of the material taken.

1 to 2 Gm. bismuth beta-naphtholate is weighed to a small asbestos plugged percolating tube, 5 Cc. chloroform added, mixed by means of a glass rod, and allowed to percolate into a tared dish. When the liquid ceases to drop, a further portion of 5 Cc. of chloroform is poured into the percolator and also allowed to percolate into the tared dish. The stem of the percolator is washed with a little chloroform, and the combined washings and the percolates allowed to evaporate spontaneously and the residue brought to constant weight over sulphuric acid. The residue should not exceed 1 per cent. of the material taken.

Actions and Uses.—Bismuth beta-naphtholate is decomposed into its constituents in the intestines, where it exerts the effects of bismuth salts and of beta-naphthol. Hence it is used in catarrhal and fermentative gastroenteric disorders, such as gastritis, dysentery, diarrhea, etc. (See note under Betanaphthol Benzoate.)

Dosage.—For children 0.1 to 0.3 Gm. (1½ to 5 grains) and for adults 1.5 to 5 Gm. (22 to 75 grains) daily.

A mixture of beta-naphtholate with acacia should be avoided as a viscid precipitate rapidly becoming hard is likely to be formed.

Manufactured by the Chemische Fabrik von Heyden, Radebeul near Dresden, Germany (Schering & Glatz, New York). U. S. patent No. 516,358 (March 13, 1894; expires 1911)). U. S. trademark No. 27,482.

Orphol Tablets.—Each tablet contains orphol, 0.3 Gm. (5 grains).

ORTHOFORM-NEW — Meta-Amido-Para-Oxybenzoate of Methyl.—Orthoform-new is methyl meta-amino-para-oxybenzoate, $C_6H_3.NH_2.OH.COO(CH_3)$, 3:4:1 $= C_8H_9O_3N$, the meta-amino-para-oxybenzoic acid ester of methyl alcohol.

It is prepared by the nitration of para-oxybenzoate of methyl and reduction of the nitro-product obtained.

It occurs in a fine, white, crystalline powder, neutral in reaction, and melting at 141° to 143° C. (285.8° to 289.4° F.), odorless and tasteless. It is scarcely soluble in water, but soluble in 5 or 6 parts of alcohol and 50 parts of ether. It is decomposed by boiling with water or by warming with alkalies or their carbonates, into methyl alcohol and paroxybenzoic acid. When crystallized from chloroform it sometimes assumes the form of white crystals melting at 110° to 111° C. (230° to 231.8° F.) returning on melting to the ordinary form.

The filtrate obtained after shaking a small portion with water produces a fugitive color with ferric chloride and should not give a reaction with silver nitrate. A solution of 0.1 Gm. in 2 Cc. of water by the aid of hydrochloric acid is colored yellowish red on addition of sodium nitrate and then deposits a yellow precipitate, deepening to red on exposure to the air.

It is decomposed by heating with water; it is incompatible with alkalies and their carbonates.

Actions and Uses.—Orthoform-new is a local anesthetic, resembling cocaine in its local action, but not penetrating the tissues on account of its insolubility. It has practically no action on the unbroken skin and produces no irritation except slight corrosion about the place of application. It is somewhat antiseptic and practically non-toxic in the usual doses.

It is used internally to relieve the pain of gastric ulcer. Since it acts only on ulcerated surfaces, the relief of pain has been assumed to be evidence of the existence of an open ulcer. It has been applied locally as an analgesic to wounds of every description. It has been used in dentistry, in nasal catarrh, hay fever, etc.

Dosage.—Internally, 0.5 to 1 Gm. (8 to 15 grains) in emulsion; locally, in substance as a dusting powder or mixed with milk sugar for insufflation, dissolved in ether and mixed with oil for pencilings, or as salve with wool fat, etc.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechi & Co., New York). U. S. patents Nos. 610,348 (Sept. 6, 1898; expires 1915) and 625,158 (May 16, 1899; expires 1916).

ORTHOFORM-NEW HYDROCHLORIDE. — Orthoform-new hydrochloride, $C_8H_9O_3N.HCl$, is the hydrochloride of methyl meta-amino-para-oxybenzoate.

It is a white, crystalline powder, having an indefinite melting point and an acid reaction. It is soluble in 10 parts of water. Its reactions are the same as those of orthoform-new, except that it gives a reaction for chlorides with silver nitrate and has an acid reaction; 3.65 Gm. dissolved in 50 Cc. of alcohol require not less than 17.8 Cc. nor more than 18 Cc. of normal solution of sodium hydroxide to produce a neutral liquid.

Its incompatibilities are the same as those of orthoform-new.

Actions and Uses.—The actions, uses and dosage of this compound are similar to those of orthoform-new, which see.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York).

OSMIUM TETROXIDE—Osmium Tetroxidum.—Osmic acid, Osmium anhydride-Osmium tetroxide, OsO_4, the anhydride of a theoretical acid is obtained by the action of nitrohydrochloric acid on osmium.

Osmium tetroxide occurs in the form of white or yellowish crystals which are slowly soluble in water (1-50); it is also soluble in alcohol and ether but the solutions decompose. Osmium tetroxide melts at 40° C. (104° F.) and boils at about 100° C. (212° F.). It vaporizes even at ordinary temperatures yielding very irritating and extremely poisonous vapors, attacking the eyes and lungs. It is decomposed by contact with organic substances. (Brit. Codex, 1907).

From aqueous acidified solutions of osmium tetroxide, hydrogen sulphide precipitates brown osmium sulphide, OsS_4 which is insoluble in ammonium sulphide. An aqueous solution of osmium tetroxide decolorizes indigo solution. Iodine is liberated from potassium iodide solutions by osmium tetroxide. Treated with sulphuric acid, aqueous solutions of osmium tetroxide become yellow, turning to brown and finally becoming blue; tannic acid produces a red color becoming brown; ferric chlorid and alcohol reduce osmium tetroxide to the metal osmium.

Action and Uses.—Intraneural injections are used to produce degeneration of nerves for the relief of persistent neuralgias. The treatment is best applied by injecting ½ to 1 Cc. of a fresh 1 to 2 per cent. solution directly into the, preferably exposed, nerve. The result is sometimes immediate, but more commonly it is not complete until after one or two weeks, or it may even fail entirely. If successful, the effects may persist for several months, when it may become necessary to repeat the injection as the cure is rarely, if ever, permanent. The local reaction is always painful, but not serious. It is not advisable, perhaps, to use osmium tetroxide in renal disease.

OVOFERRIN—Ferri Vitellinum Syntheticum.—Ovoferrin is a solution containing 5 per cent. of an artificial proteid-product in which iron is present in the so-called "organic" or "masked" form (a form which does not give the iron-test directly) equivalent to 0.4 Gm. metallic iron to each 100 Cc. The solution also contains 9 per cent. of alcohol.

Ovoferrin is prepared by modifying serum-albumin by electrolysis, producing a proteid which is classed by the manufacturers as a vitellin, and introducing ferric hydrate into this proteid by heating under pressure. The "vitellin" constituent of this preparation should not be confounded with the well-known vitellin of yolk of eggs.

The solution has a reddish-brown color, little odor, and a flat, slightly aromatic and alcoholic taste.

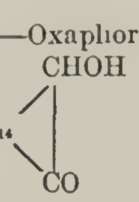
The solution does not give a blue color on the addition of potassium ferrocyanide solution; a blue tint develops slowly if an equal volume of 5 per cent. hydrochloric acid is added to the mixture; a deep blue color develops at once if this mixture is boiled (difference from the egg yolk).

The solution is not precipitated by boiling, but gives precipitates with the alkalies, with which it is incompatible. It is also precipitated on half saturation with ammonium sulphate. It is not precipitated by acids.

Actions and Uses.—Ovoferrin is stated to be not appreciably affected by the gastric juice, a 0.5 per cent. solution of hydrochloric acid liberating its iron very slowly and incompletely. The product ranks with the other forms of artificially masked iron, which are devoid of the local action of the soluble inorganic iron salts, and, according to some authorities, are more readily absorbed and utilized.

Dosage.—8 to 16 Cc. (2 to 4 fluidrams) corresponding to 0.03 to 0.06 Gm. (½ to 1 grain) of elemental iron three times a day.

Manufactured by A. C. Barnes Co., Philadelphia. U. S. trademark.



OXAPHOR.—Oxaphor is a 50 per cent. solution of oxycamphor, $C_8H_{14}\left<\begin{matrix}CHOH\\ CO\end{matrix}\right| = C_{10}H_{16}O_2$, a derivative of camphor in which a hydrogen atom has been replaced by a hydroxyl group.

Oxycamphor is prepared by reducing camphor quinone $C_8H_{14}(CO)_2$ by means of zinc dust and acids, extracting the oxycamphor from the liquid product of the reaction with an immiscible solvent and purifying it by distillation with steam.

Oxycamphor is a white crystalline powder, neutral in reaction, melting at 203° to 205° C. (397.4° to 401° F.). It is soluble in about 50 parts of cold water, more soluble in warm water, and readily soluble in all organic solvents except petroleum benzin, in which it is soluble, but from which it crystallizes in feathery aggregations. On prolonged keeping it is prone to undergo decomposition, but it keeps permanently in alcoholic solution. It volatilizes gradually at ordinary temperature and readily with steam.

Oxycamphor, being decomposed on prolonged exposure to the air, is marketed only in the form of the 50 per cent. alcoholic solution under the name of "oxaphor."

Oxaphor should be completely soluble in alcohol and in benzene, forming clear solutions. Its filtered aqueous solution after aciduiation with nitric acid should not afford a precipitate with silver nitrate or barium chloride. When incinerated it should yield no weighable residue.

Actions and Uses.—Oxaphor is a depressant to the respiratory center, but is said to have no effect on circulation and secretion.

It is said to be useful as a substitute for morphine in respiratory disorders, chiefly in cardiac dyspnea and asthma. It is said to have been used with advantage in renal affections, in emphysema, bronchitis, etc. Freedom from undesirable side-effects is claimed as an advantage over morphine.

Dosage.—2 to 3 Gm. (30 to 45 grains) of oxaphor in a little water, wine, syrup or other desirable adjuvant.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 610,361 (Sept. 6, 1898; expires 1915).

OXYNTIN.—Oxyntin is a compound of protein and hydrochloric acid containing 5 per cent. hydrogen chloride (absolute hydrochloric acid) in unstable combination.

Oxyntin is prepared by combining hydrochloric acid with the albumin of fresh egg, desiccating the product at low temperature, and standardizing it to a uniform content of hydrochloric acid.

Oxyntin is a dry, granular powder, readily miscible with water, to which it imparts but a slightly acidulous taste.

The method of assay by which the acidity is determined is as follows:

1. About 1 Gm. oxyntin is weighed and mixed with 20 to 25 Cc. water and then titrated with standard sodium hydroxide, phenolphthalein being used as the indicator, and the result calculated to hydrogen chloride.

2. (a) About 3 Gm. oxyntin is weighed moistened with sodium carbonate solution in excess, dried, charred and extracted with hot water until free from chloride. The extract is slightly acidified with nitric acid and neutralized by the addition of an excess of calcium carbonate. This solution is titrated with standard silver nitrate potassium chromate being used as an indicator. From the result the total chloride content of oxyntin is calculated.

(b) About 3 Gm. oxyntin is weighed and treated as in 2 (a), the addition of sodium carbonate being omitted. From this result the fixed chloride is calculated.

The volatile chloride is calculated from the difference in the results between (a) and (b), and expressed as hydrogen chloride.

Actions and Uses.—Oxyntin is said to be useful as a substitute for dilute hydrochloric acid in the digestion of protein.

Dosage.—Being one-half the strength of diluted hydrochloric acid, U. S. P., oxyntin may be given 0.3 to 1.0 Gm. (5 to 15 grains) dry upon the tongue or in capsules, followed by a draught of water; or mixed with two or three tablespoonfuls of cold water, plain or sweetened to taste.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 50,968.

PARA COTO—(Coto[1]).—Para Coto is the bark of an undetermined South American tree, probably a species of Cryptocarya.

Para Coto occurs in pieces which are of considerable size and thickness, 30 cm. (12 in.) wide and 1.5 cm. (⅝ in.) thick. The outer surface is of reddish-brown or cinnamon-brown color. It is sometimes fissured longitudinally and transversely, and sometimes nearly smooth, with occasional patches of whitish cork. The inner surface is coarsely striated. It breaks with a fibrous, splintery fracture, and the smoothed transverse section exhibits a thin, brown cork within, which is a narrow cortex separated by a line of sclerenchymatous cells from the very thick bast, which is well characterized by the presence of abundant groups of sclerenchymatous cells. The odor is spicy and characteristic, the taste aromatic and pungent. (Para coto is exported from Para at the mouth of the Amazon, and should therefore be called Para coto and not paracoto.)

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[1] While commercially, Para coto and coto are sold indiscriminately, botanists make a definite distinction between them.

The chief constituent of Para coto is paracotoin, an indifferent crystalline, bitter principle along with hydrocotoin, methyl hydrocotoin protocotoin, methyl protocotoin (oxyleucotoin), phenyl coumarin, piperonylic acid, volatile oil, resin and tannin.

Para coto is distinguished from coto by the action of nitric acid on the ether extractive matter. In the case of Para coto the result is the formation of a yellow color and in the case of coto a red color appears.

Actions and Uses.—Paracotoin is irritant to the gastrointestinal tract and is similar to cotoin but is weaker. Para coto is used like coto as an appetizer and for diarrhea and dysentery and similar disorders.

Dosage.—0.05 to 0.5 Gm. (1 to 8 grains).

PARACOTOIN.—Paracotoin is a principle, $C_{12}H_8O_4$, from Para coto.

Para coto is extracted with ether and the ether extract distilled. The residue is fractionated by repeated crystallizations from hot alcohol. The first body to separate out is paracotoin.

Paracotoin is a pale yellow, crystalline body, neutral in reaction, tasteless and odorless, melting at 149°-152° C. (300.2°-305.6° F.). It is difficultly soluble in water, but easily in ether, chloroform and boiling alcohol. Concentrated sulphuric and nitric acids dissolve it, forming a yellowish-brown solution. On boiling with a solution of caustic alkalies, a colorless crystalline body, melting at 82°-83° C. (179.6°-181.4° F.), and having the odor of coumarin is formed; this body is acetopiperon (paracumarhydrin) $C_9H_8O_3$ or $C_6H_3\ O_2CH_2.CO.CH_3$, and paracotoic acid $C_{12}H_{10}O_5$ a yellow amorphous mass melting at 108° C. (226.4° F.). Paracotoin fused with potassium hydroxide yields principally piperonylic acid $C_8H_6O_4$.

1 Gm. of paracotoin shaken up with 10 Cc. of fuming hydrobromic acid forms a semi-solid mass of yellow crystals, which on drying over potassium hydroxide lose hydrobromic acid. This residue decomposed with water and recrystallized forms paracotoin, recognized by its crystalline form and melting point.

By gradually adding about 1 Gm. paracotoin to about 10 Cc. concentrated nitric acid, a red-brown solution will result, which, when heated for a short time on the water bath and cooled, deposits a yellow crystalline mass. This product recrystallized from acetone and then from benzene or glacial acetic acid forms golden yellow crystals, melting at 195° C. (323.0° F.). This body is dinitro paracotoin, probably of the formula $C_{12}H_6\ (NO_2)_2O_4$.

An excess of bromine added to a 10 per cent. solution of paracotoin in chloroform cooled to 0° C. produces a deep yellow precipitate, which loses hydrobromic acid, and when recrystallized from alcohol forms the mono-bromide of paracotoin($C_{12}H_7BrO_4$), melting at 200°-201° C. (392°-393.8° F.).

Actions and Uses.—See para coto.

Dosage.—0.06 to 0.18 Gm. (1 to 3 grains).

Actions, Uses and Dosage.—Bitter stomachic, 0.002 to 0.02 Gm. (1/30 to 1/3 grain) before meals.

PERHYDROL—Thirty per cent. Solution of Hydrogen Dioxide.—Perhydrol is a 30 per cent. solution of hydrogen dioxide which is free from acid.

While perhydrol is stable, dilutions of perhydrol rapidly deteriorate unless they are preserved by the addition of some acid.

Actions and Uses.—By suitable dilution a preparation is obtained equivalent to the official solution of hydrogen dioxide. An advantage is claimed for this preparation that it is less irritating on account of the absence of acid. The full strength preparation is said to be useful as an application to nevi, ulcers, gummata, etc. Diluted one-half to two-thirds, it may be applied to syphilitic ulcers, gangrenous processes, ulcerating buboes, in endometritis, suppuration of the middle ear, etc.

Manufactured by E. Merck, Darmstadt, Germany. (Merck & Co., New York). U. S. trademark No. 44,147.

PHENOCOLL HYDROCHLORIDE — Aminoacetphenetidini Hydrochloridum. — Glycocoll-Paraphenetidin Hydrochloride — Phenamine.—Phenocoll hydrochloride is the hydrochloride of amino - acet - phenetidin, $C_6H_4.OC_2H_5NH(CH_2NH_2.CO)HCl = C_{10}H_{14}O_2N_2.HCl$, a synthetic base produced by the combination of phenetidin (paraamidophenetol) and glycocoll (aminoacetic acid). Amino acet-phenetidin (phenocoll), $C_6H_4.OC_2H_5.NH(CH_2NH_2.CO)$, differs from acetphenetidin (phenacetin), $C_6H_4.OC_2H_5.NH(CH_3.CO)$, in that one hydrogen atom in the acetyl group has been replaced by the NH_2 group.

It is prepared by the action of chloracetylchloride on phenetidin, treating the product of the reaction with ammonia, neutralizing the aminoacetphenetidin (phenocoll) so produced with hydrochloric acid, and crystallization.

It is a white, microcrystalline powder, soluble in 16 parts of water at the ordinary temperature, more soluble in hot water, from which it crystallizes in cubes, while from hot alcoholic solution it crystallizes in needles. It is barely soluble in chloroform, ether or benzene (benzol). The free base (phenocoll) obtained by precipitating the aqueous solution with fixed alkalies or their carbonates forms white, matted needles, containing one molecule of water. In its hydrated condition it melts at 95° C. (203° F.), while the anhydrous base melts at 100.5° C. (212.9° F.). It is stable and not chemically affected by acids or alkalies unless subjected to prolonged boiling with these reagents, by which phenocoll is split into phenetidin and glycocoll.

It should produce a clear solution with 30 parts of water, a turbidity indicating the presence of di- or tri-phenocoll, and the solution should not produce a red color with ferric chloride, showing absence of free phenetidin. No ammonia should be evolved on the addition of sodium hydroxide to the warm solution, and the precipitated base should be of a pure white color.

Phenocoll hydrochloride is incompatible with soluble hydroxides or carbonates.

Actions and Uses.—Phenocoll hydrochloride is similar to acetphenetidin (phenacetin) in its effects and acts as an antineuralgic and antipyretic. It is claimed by some observers to be less depressing than other antipyretics derived from aniline, such as acetanilid and acetphenetidin. It has been asserted to have an antiperiodic action and to be efficient as a substitute for quinine in malaria and free from unpleasant by-effects. Its use for this purpose is, however, to be deprecated, for it obviously obscures the symptoms only and does not destroy the malarial parasite. In somewhat larger doses than are usually employed it is said to have a beneficial action in rheumatic fever, but is both more dangerous and less efficient than the salicylates. See Acetphenetidin.

Dosage.—0.3 to 1.3 Gm. (5 to 20 grains) in powder, dissolved in water before taking; hypodermically, in 0.25 to 0.5 Gm. (4 to 8 grains) doses.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 543,214 (July 23, 1895; expires 1912).

PHENOCOLL SALICYLATE.—Phenocoll salicylate, $C_6H_4.OC_2H_5.NH(CH_2NH_2.CO).C_6H_4.OH.COOH = C_{17}H_{20}O_5N_2$, is the salicylate of the synthetic base phenocoll (see phenocoll hydrochloride).

It is prepared by neutralizing a hot aqueous solution of salicylic acid with phenocoll (obtained as described under phenocoll hydrochloride) and cooling the solution.

It forms fine, white, crystalline needles, having a sweetish taste, sparingly soluble in cold water (1 :200), readily soluble in hot water. It gives a violet reaction with ferric chloride.

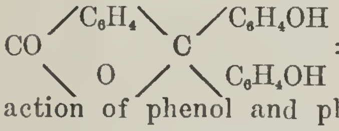
It is incompatible with soluble hydroxides and carbonates and with bodies which are incompatible with the salicylates in general.

Actions and Uses.—It combines the therapeutic action of phenocoll (antipyretic, analgesic, see phenocoll hydrochloride) with those of salicylic acid (antiseptic, antirheumatic).

It is said to be useful in rheumatism, gout, chorea, pleuritis and fevers, especially in influenza, but is more toxic than the salicylates alone.

Dosage.—1 to 2 Gm. (15 to 30 grains).

PHENOLPHTHALEIN.—Phenolphthalein,



$$CO\begin{matrix}\diagup C_6H_4 \diagdown \\ \diagdown\ O\ \diagup\end{matrix}C\begin{matrix}\diagup C_6H_4OH \\ \diagdown C_6H_4OH\end{matrix} = C_{20}H_{14}O_4$$

$= C_{20}H_{14}O_4$ is a product of the interaction of phenol and phthalic anhydride.

It may be prepared by heating together 10 parts of phenol 5 parts of phthalic anhydride and 4 parts of concentrated sulphuric acid for 10 to 12 hours at 115° to 120° C. (239° to 248° F.). The product of the reaction is boiled with water, and the residue dissolved in soda lye. From this solution the phenolphthalein is precipitated by the addition of acetic acid. The precipitate after washing is dissolved in six times its weight of absolute alcohol and the solution decolorized by animal charcoal. A part of the alcohol is then distilled, the mixture filtered and the phenolphthalein separated from the filtrate by the addition of water.

Phenolphthalein occurs as a crystalline or amorphous powder, white or grayish-white, melting at 250° to 253° C. (482° to 487.4° F.). It is soluble in 600 parts of water and in 10 of alcohol. Its solutions in acid liquids are colorless, but turn red when the liquid is alkaline. The red color of the solution disappears if it be boiled with zinc dust, phenolphthalin, $C_{20}H_{16}O_4$, being formed.

Phenolphthalein heated on platinum foil should burn, leaving no residue.

Actions and Uses.—Phenolphthalein acts as a purgative, but appears to possess no further physiologic action. A case of poisoning from taking 1 Gm. (15 grains) is reported.

Dosage.—For adults the average dose is 0.1 to 0.2 Gm. (1.5 to 3 grains) given as powder, in cachets, capsules or pills. It may be given with safety in doses of 0.5 Gm. (8 grains), and these doses seem to be necessary to secure its effects in bedridden patients or in obstinate cases.

PHLORIDZIN—Phloridzinum.—Phlorizin.—Phloridzin is a glucoside, $C_{21}H_{24}O_{10} + 2H_2O$, from the root of the apple, pear, cherry, etc.

Phloridzin occurs as minute white slightly pinkish crystals, of a silky texture, or as a pale yellow light crystalline powder.

odorless and having a bitter but later a sweet taste. It is sparingly soluble in cold but freely soluble in hot water, from which it crystallizes on cooling. It is soluble in alcohol (1-4) and sparingly soluble in ether. The solutions are lævogyrate. At 100° C. (212° F.) it loses water and at 107° C. (224.6° F.) melts When heated to 130° C. (266° F.) it becomes solid again and then melts again at 17° (338° F.). At 200° (392° F.) it assumes a red color, due to the formation of rufin.

Boiled with dilute acids it is converted into sugar, phlorose and phloretine. Exposed to air in the presence of ammonia it assumes a purple color. Cold concentrated sulphuric acid dissolves it to a yellow solution and at 25°-50° C. (77°-122° F.) it becomes red.

Action and Uses.—Phloridzin destroys malarial parasites. When administered to man or animals, it produces glycosuria of renal origin. Polyuria is also produced. It has been recommended as an antiperiodic in malaria, but its use is not justified in view of the possible injury to the kidney which it may cause. It is used as a means of testing the functional activity of the kidney.

Dosage.—To test the permeability of the kidney 0.005 Gm. (1-12 grain) is dissolved in 1 Cc. (15 minims) of a 0.5 per cent. solution of sodium carbonate and injected hypodermically. Glucose should appear in the urine in from 15 minutes to one-half hour and the secretion of sugar should continue for from two to four hours. The test gains in diagnostic value if the urine of each kidney is collected separately. Phloridzin may be given per os in pills massed with glucose syrup or suspended in a mixture with acacia or tragacanth. The internal dose is 0.3 to 0.6 Gm. (5 to 10 grains).

PICRIC ACID—Acidum Picricum.—Acidum Picricum (Pharm. Française, 1908). Picric acid is 2,4,6-tri-nitro-1-phenol, $C_6H_3O_7N_3$ or $C_6H_2.OH.(NO_2)_3(1:2:4:6)$, an acid obtained by nitrating phenol.

Picric acid occurs as orthorhombic yellow prisms, odorless, but with a very bitter taste, with a specific gravity of 1.81 and melting at 122° C. (251.6° F.). It is explosive when heated to a high temperature. It is slightly soluble in cold water, imparting a yellow color to a very large volume of water. It is soluble in 81 parts water at 20° and in 25 parts at 80°. It is easily soluble in alcohol and in 5.7 parts of dry pure ether it dissolves to an almost colorless solution. (Pharm. Française, edit. 1908.)

Aqueous solutions dye organic matter, such as silk, wool and skin a characteristic yellow, but do not dye vegetable fibre.

1 part picric acid dissolved in 9 parts water at 60° C. and a warm solution of 2 parts potassium cyanide in 4 parts water when mixed give a red color. This solution on being cooled yields reddish brown plates of potassium picrocyanin or isopurpuric acid $C_8H_4KN_5O_6$.

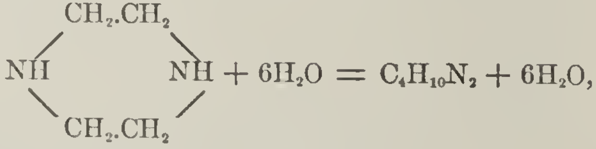
Ammonium sulphide produces a red color in solutions of picric acid which becomes deeper on heating. (Pharm. Française, edit. 1908.)

The absence of salts of picric acid is demonstrated by its complete solubility in ether. (Pharm. Française, edit. 1908.)

Action and Uses.—Picric acid is an irritant to the skin and mucous membranes. Taken internally, it may produce nausea. vomiting and diarrhea. The urine is colored red or yellow and may show signs of nephritis. The skin and mucous membranes may be stained yellow and thus jaundice may be simulated. Red blood cells are partly dissolved and the white cells are increased in number. It is said to be a very useful application for burns, but the application has been said to be painful in certain cases. Toxic symptoms have been produced in some instances, especially in children, by absorption through the skin.

Dosage.—0.025 to 0.1 Gm. (½ to 2 grains). A solution containing 6 parts of picric acid, 60 parts of alcohol to 1,000 parts of water has been recommended for local application.

PIPERAZINE COMPOUNDS

PIPERAZINE—Piperazina. — Diethylenediamine.—Ethylene-imine.—Piperazine, 

$$\mathrm{NH}\begin{array}{c}\diagup\mathrm{CH_2.CH_2}\diagdown\\ \diagdown\mathrm{CH_2.CH_2}\diagup\end{array}\mathrm{NH} + 6H_2O = C_4H_{10}N_2 + 6H_2O,$$

is a synthetic base obtained by the condensation of two $.CH_2.CH_2.$ groups, with two :NH groups, containing 6 molecules of water of crystallization.

It is prepared by the interaction of ammonia on ethylene chloride, treating the complex mixture of different salts produced with sodium nitrate at 60° to 70° C. (140° to 158° F.), purifying the sparingly soluble dinitroso-piperazine, which separates as a scaly crystalline mass, by repeated crystallizations from hot water, and subjecting the pure dinitroso-piperazine so obtained to distillation with an alkali. It is also prepared by several other patented processes.

It forms colorless, lustrous, tabular crystals, hygroscopic, which melt at 44° C. (111.2° F.). It is extremely soluble in water, forming strongly alkaline but non-caustic solutions. It is not so readily soluble in alcohol. It is volatile. It forms soluble salts with acids, and with uric acid it forms a very soluble salt (in 50 parts of water; lithium urate requires 368 parts of water). It is not affected by chromic acid, but is slowly oxidized by potassium permanganate.

In aqueous solution it gives a characteristic scarlet-red precipitate with potassium-bismuth iodide, a white precipitate with Nessler's reagent, and is precipitated light blue by copper sulphate, white by mercuric chloride, lemon-yellow (crystalline) by picric acid and grayish by tannic acid.

It is incompatible with acetanilide, acetphenetidin (phenacetin), alkaloidal salts, nitrites, metallic salts in general and with picric and tannic acids. It should not be exposed to moisture.

Actions and Uses.—A part of the piperazine ingested passes undecomposed into the urine and is claimed by some to form a very soluble compound with the urinary uric acid; others state that the piperazine which is excreted is largely in combination with the stronger mineral acids. It has been shown that urine containing piperazine has no greater solvent power on uric acid than ordinary urine. Piperazine seems to produce no symptoms in man or animals, even when administered in fairly large quantities, although it is stated that, after large doses, tremors, clonic spasms and general depression have occurred.

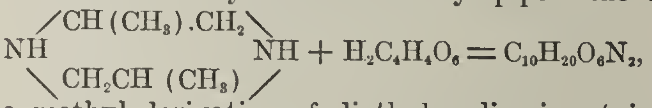
Piperazine is claimed by the manufacturer to be useful in the prevention of the formation of renal and vesical calculi and for the relief of irritation of the bladder due to excess of uric acid in the urine and in cases of chronic gout, rheumatism, renal colic, etc. The attempt to secure the solution of uric acid in the body by this as well as other remedies has not been successful in the experience of many clinicians. There is no reliable evidence to warrant the acceptance of these claims.

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains); daily dose, 1 to 2 Gm. (15 to 30 grains). Owing to its hygroscopic character, it is impracticable to dispense it in powder; it should, therefore, be dispensed in solution in water, plain or carbonated, but in quantities sufficient for a day's supply only.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 482,108 (expired). Also by Chemische Fabrik auf Actien vorm. E. Schering, Berlin (Schering & Glatz, New York). U. S. patent No. 543,214 (July 23, 1895; expires 1912).

Piperazine Tablets, 16 grains. Each tablet contains piperazine 1.03 Gm. (16 grains).

Prepared by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York).

LYCETOL.—Lycetol is dimethyl piperazine tartrate, 

$$\mathrm{NH}\begin{array}{l}\diagup\mathrm{CH(CH_3).CH_2}\diagdown\\ \diagdown\mathrm{CH_2CH(CH_3)}\diagup\end{array}\mathrm{NH} + H_2C_4H_4O_6 = C_{10}H_{20}O_6N_2,$$

a tartrate of a methyl derivative of diethylenediamine (piperazine).

It is prepared by the distillation of glycerin with ammonium chloride or bromide, reduction of the dimethylpyrazine (isolated from the distillation products) with metallic sodium and converting the base so obtained, after purification, into the tartrate.

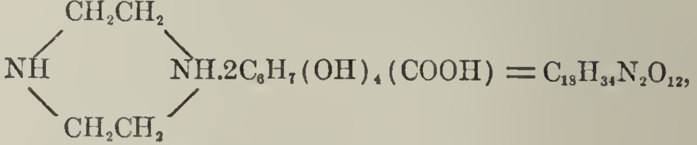
It is a white, odorless powder, melting at 250° C. (482° F.), anhydrous, but slightly hygroscopic. It is soluble in water, forming agreeably acidulous solutions.

It is incompatible with alkalies which liberate the insoluble free base.

Actions and Uses.—Lycetol is claimed to be a serviceable diuretic and uric acid solvent. It is said to be free from disturbing effects on the stomach and to be well tolerated for long periods.

Dosage.—1 to 2 Gm. (15 to 30 grains), well diluted, and preferably in carbonated water, sweetened with sugar if desired.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York) U. S. patent No. 523,018 (July 17, 1894; expires 1911). U. S. trademark No. 24,722.

SIDONAL—Piperazinæ Quinas.—Piperazine Quinate—Kinate of Piperazine.—Sidonal is piperazine quinate, 

$$\mathrm{NH}\begin{array}{c}\diagup\mathrm{CH_2CH_2}\diagdown\\ \diagdown\mathrm{CH_2CH_2}\diagup\end{array}\mathrm{NH.2C_6H_7(OH)_4(COOH)} = C_{18}H_{34}N_2O_{12},$$

the normal salt of piperazine and quinic acid.

It is prepared by heating 1 molecule of piperazine with 2 molecules of quinic acid and maintaining the mixture at its melting point for some time, or by dissolving equivalents of piperazine and quinic acid in the smallest practicable quantity of water, concentrating the solution on a water bath, removing the residual water by repeated additions of small quantities of alcohol, evaporating and finally drying the residue in a vacuum.

It forms a white, crystalline powder, melting at 168° to 171° C. (334.4° to 339.8° F.), and having a faint acid taste and reaction. It is very soluble in water and forms salts on mixing the aqueous solution with solutions of alkali carbonates and evaporating to dryness.

It responds to tests for piperazine (precipitate with potassium-bismuth iodide, etc.) and quinic acid.

Its incompatibilities are those of the alkaloidal salts generally.

Actions and Uses.—Sidonal is said to be useful as a uric acid solvent in gout, neurasthenia, etc.

Dosage.—1 to 1.3 Gm. (15 to 20 grains) 5 or 6 times a day, dissolved in water.

Manufactured by Vereinigte Chemische Werke Actiengesellschaft, Charlottenburg, Germany (Victor-Koechl & Co., New York). Eng. patent No. 11,420. U. S. patent No. 665,879 (Jan. 15, 1901; expires 1918). U. S. trademark No. 34,706.

POLLANTIN, FALL—Dunbar's Serum.—An antitoxic serum from horses treated with pollen toxin derived from ragweed.

Horses are injected with gradually increased doses of pollen toxin (derived from ragweed), which results in the formation of an antitoxin after two or three months of treatment. The horses are then bled and the strength of the serum is estimated by determining the proportion which will prevent the action of a solution of pollen toxin, of which one drop is barely sufficient to produce a reaction when instilled into the conjunctival sac of a hay-fever patient. The serum is preserved by the addition of 0.25 per cent of phenol.

It is a clear, slightly yellowish liquid, having the odor and taste of a dilute solution of phenol. On standing, the liquid deposits a slight precipitate. The liquid is alkaline in reaction and not irritating to the normal conjunctiva.

It should neutralize the effects of a solution of pollen toxin when mixed with it and dropped into the eye or when a drop is applied immediately after a drop of the toxin solution.

The liquid does not keep well if exposed to the air. When it becomes cloudy or a bad odor develops, decomposition has occurred and the preparation should no longer be used.

Actions and Uses.—It has no pharmacologic action except the neutralization of the pollen toxin. The serum is not intended for use hypodermically. It is employed for the relief of hay fever and it seems to be effective in a proportion of cases. It may be used as prophylactic.

Dosage.—One drop should be instilled by means of a pipette into the outer angle of each eye and one or two drops into one nostril, the other being kept closed, every morning before rising. If the first application causes sneezing or reddening of the mucous membrane of the eye, the directions are to repeat the application, even for the fourth time, if necessary.

Manufactured by Schimmel & Co., Miltitz, near Leipsic, Germany (Fritzsche Bros., New York). U. S. patent No. 745,333 (Dec. 1, 1903; expires 1920). U. S. trademark No. 40,562.

POLLANTIN POWDER, FALL.—A powder obtained by evaporating, *in vacuo*, pollantin serum derived from ragweed toxin at about 45° C. (113° F.) and mixing it with sterilized sugar of milk.

It is a fine, slightly yellowish, almost odorless powder, almost but not entirely soluble in water, and having a slight alkaline reaction. The tests are the same as for the liquid. It should reduce Fehling's solution. The powder keeps well.

Actions and Uses.—The same as those of the liquid.

Dosage.—The powder is applied to the eyes by dusting on the conjunctiva and to the nose by snuffing into one nostril, the other being closed, a piece as large as a lentil.

Manufactured by Schimmel & Co., Miltitz, near Leipsic, Germany (Fritsche Bros., New York). U. S. trademark No. 40,562.

POTASSIUM MERCURIC-IODIDE — Potassii Hydrargyro-iodidum.—Potassium mercuric-iodide is a complex salt formed by interaction of mercuric iodide with potassium iodide.

When mercuric iodide is added to an excess of potassium iodide solution a colorless liquid is obtained containing the mercuric iodide as a complex salt, approximately K_2HgI_4 (or $2KI + HgI_2$). Under suitable conditions (Naylor and Chappell, Pharm. J., Mar. 7, 1908, p. 315) the salt having the composition $K_2HgI_4 + 3H_2O$ (or $2KI + HgI_2 + 3H_2O$) may be obtained in yellow needle-shaped crystals.

Potassium mercuric-iodide is deliquescent and is decomposed by water.

Actions and Uses.—The same as mercuric iodide, over which it is claimed to have some advantages because of its solubility.

Proprietary Preparation:

SOLOID MERCURIC POTASSIUM IODIDE.—Tablets said to contain in each tablet mercuric potassium iodide (potassium mercuric-iodide) ($HgI_2 2KI = K_2HgI_4$) 0.113 Gm. (1.75 grains), an excess of potassium iodide, which prevents the decomposition of the potassium mercuric-iodide when water is added, and a trace of coloring matter.

Prepared by Burroughs-Wellcome & Co., London, England, and New York.

PROTAN—Tannin Nucleo-Proteid, Mulford—Protan is said to be a chemical combination of casein with tannic acid containing about 50 per cent. tannic acid.

It is made by adding a solution of tannic acid to an alkaline solution of casein, collecting and drying the precipitate. Protan is a light brown powder, tasteless, and free from astringent action on the mouth and stomach; insoluble in water or dilute acids, and does not coagulate albumen or precipitate pepsin or peptones.

When shaken with water and filtered, a colorless solution should be obtained, which should give not more than a faint trace of color with ferric chloride solution, showing absence of more than traces of free (uncombined) tannic acid.

The resistance of Protan to the action of the gastric juice may be shown by mixing 2 Gm. (dried at 100 degrees C.) with 40 Cc. 0.2 per cent. hydrochloric acid containing ten times the theoretical amount of 1:3000 pepsin necessary to digest the proteid present, warming to 40 degrees C. for six hours, filtering off the residue, drying and weighing; 60 to 70 per cent. of the amount taken may thus be recovered.

The tannin may best be determined by difference, the casein being determined by decomposing it by the Kjeldahl-Gunning method and estimating the nitrogen.

Actions and Uses.—It is employed as an intestinal astringent in all forms of diarrhea.

Dosage.—For infants and children, 0.3 to 0.6 Gm. (5 to 10 grains) every hour; in acute catarrhal diarrhea (cholera morbus), 1 to 2 Gm. (15 to 30 grains) every one or two hours; in chronic diarrhea, 1.3 to 2 Gm. (20 to 30 grains) every hour or two hours.

Manufactured by the H. K. Mulford Co., Philadelphia. Not patented. U. S. trademark No. 38,616.

Friable Tablets Protan. 2½ grains.—Each tablet contains protan, 0.16 Gm. (2½ grains).

Friable Tablets, Protan, 5 grains.—Each tablet contains protan, 0.32 Gm. (5 grains).

Friable Tablets, Protan, 7½ grains.—Each tablet contains protan, 0.48 Gm. (7½ grains).

Protan and Opium Tablets, No. 1.—Each tablet contains opium 0.005 Gm. (1/12 grain) and protan 0.162 Gm. (2½ grains).

Protan and Opium Tablets, No. 2.—Each tablet contains opium 0.03 Gm. (½ grain) and protan 0.5 Gm. (7½ grains).

PROTARGOL—Protein Silver Salt.—Protargol is a compound of albumin and silver containing 8.3 per cent. of silver in organic combination.

According to the patent specification insoluble protein silver compounds, obtained by treating protein bodies with silver salt, are rendered soluble by treatment with a solution of albumoses.

It is a light-brown powder, soluble in twice its weight of cold water, producing a solution which is not affected by the ordinary precipitants of silver salts, such as alkalies, sulphides, chlorides, bromides, iodides, nor by heat.

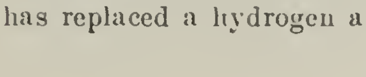
Ammonium sulphide gives a dark color to the solution without precipitation. Addition of strong hydrochloric acid produces a precipitate of unchanged protargol, soluble in a large quantity of water. A solution containing sulphuric acid is not colored blue by diphenylamine. It is compatible with picric acid and picrates and with most metallic salts. It should not be exposed to light. It is precipitated by cocaine hydrochloride, but this is prevented by addition of boric acid.

Actions and Uses.—Protargol is claimed to be a non-irritant bactericide and antiseptic. It is said to be useful in acute and chronic gonorrhea as a non-irritant substitute for silver nitrate and in diseases of the mucous membranes of the eye, ear, nose and throat, and particularly in the treatment of conjunctivitis.

Dosage.—From 0.25 or 1 per cent. solution in acute gonorrhea, to 5 or 10 per cent. instillations in chronic cases, in cystitis and urethritis; in solutions of 1:1000 to 1:2000 as irrigations. Used also in form of bougies and tampons (5 to 10 per cent.). Its solutions in water are made by pouring on the protargol a little *cold* water, stirring into a thick paste, and gradually adding the remainder of the water under stirring; or by sprinkling the protargol on the surface of the whole of the water (cold) and setting it aside until solution occurs.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 615,970 (Dec. 13, 1898; expires 1915). U. S. trademark No. 30,882.

PYRAMIDON. — **Dimethylaminoantipyrina.** — Pyramidon is phenyl-dimethyl-dimethylamino-pyrazolon,



$$C_6H_5N\begin{cases}CO\text{——}C.N(CH_3)_2\\N(CH_3).C(CH_3)\end{cases} = C_{13}H_{17}N_3O,$$

differing from antipyrine, $C_{11}H_{12}N_2O$, in that a dimethylamino group, $N(CH_3)_2$, has replaced a hydrogen atom of the pyrazolon nucleus.

It is prepared by the reduction of nitroso-antipyrine to amido-antipyrine and treating this with methyl chloride or iodide.

It forms small, colorless, slightly alkaline crystals, melting at 108° C. (226.4° F.); almost tasteless; soluble in 11 parts of cold water and readily soluble in alcohol, ether and benzene. Its aqueous solution saturated at 70° C. (158° F.) deposits oily globules of pyramidon on boiling.

Ferric chloride colors the neutral or slightly acidulated solution of pyramidon a bluish violet color; nitrous or nitric acid produces a fugitive blue-violet color; silver nitrate produces an intense violet coloration when added to the aqueous solution, followed by the formation of a black precipitate of metallic silver, and the same color is produced by platinum chloride, by ammonium persulphate and by lead dioxide. In hydrochloric acid solution pyramidon gives a fine crystalline double salt with mercuric chloride.

Its incompatibilities are in general the same as those of antipyrine. Oxidizing agents (also acacia) often produce colored solutions.

Actions and Uses.—Pyramidon acts as an antipyretic and anodyne, like antipyrine, but is effective in smaller doses. The action, while somewhat slower at the beginning, is more lasting. It is claimed to be devoid of harmful influences on the blood, heart or kidneys. It is said to be useful, particularly in the chronic fevers of tuberculosis, as well as in the acute febrile conditions incident to typhoid fever, erysipelas and pneumonia. In the treatment of infectious fevers, it, like other antipyretics, should be cautiously employed. See Acetphenetidin.

Dosage.—0.3 to 0.4 Gm. (5 to 6 grains), most conveniently in the form of tablets, a single dose usually sufficing for 24 hours.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 579,412 (March 23, 1897; expires 1914).

PYRAMIDON ACID CAMPHORATE.—Pyramidon acid camphorate, $C_{13}H_{17}N_3O.C_{10}H_{16}O_4$, is an acid salt of pyramidon and camphoric acid.

It is prepared under the same conditions as the neutral salt.

It is a white, crystalline powder of acid reaction, melting (indefinitely) at 84° to 94° C. (183.2° to 201.2° F.); soluble in 20 parts of water or in 4 parts of alcohol.

It gives the characteristic reaction of pyramidon (which see) with silver nitrate. If the solution in hot water is made alkaline with caustic soda, the pyramidon may be shaken out with chloroform; if the residual aqueous liquid is then acidified with sulphuric acid the camphoric acid (melting point 186° C., 366.8° F.) may be shaken out with ether.

Actions and Uses.—The acid and neutral salts combine the antipyretic action of pyramidon with the antihidrotic action of camphoric acid. It is claimed that in these compounds the respective action of the component is modified, the antihidrotic effect of the camphoric acid being materially increased, while the toxicity of the pyramidon is diminished; but the latter statement is hypothetical. In the neutral salt the antipyretic action of the pyramidon predominates; in the acid salt the antihidrotic effect of the camphoric acid.

They are said to be especially useful in the febrile conditions of phthisis, attended by profuse sweating. See Pyramidon.

Dosage.—0.75 to 1 Gm. (12 to 15 grains), given in powders or aqueous solution.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 686,999 (Nov. 19, 1901; expires 1918).

PYRAMIDON NEUTRAL CAMPHORATE.—Pyramidon neutral camphorate $(C_{13}H_{17}N_3O)_2.C_{10}H_{16}O_4$, is a neutral salt of pyramidon and camphoric acid.

It is prepared by combining its components with the aid of suitable solvents, under exclusion of light, moisture and heat.

It is a white, crystalline powder, melting (indefinitely) at 80° to 90° C. (176° to 194° F.). It dissolves with acid reaction in 15 parts of water or 2 parts of alcohol.

It gives the characteristic reaction of pyramidon (which see) with silver nitrate. If the solution in hot water is made alkaline with caustic soda, the pyramidon may be shaken out with chloroform; if the residual aqueous liquid is then acidified with sulphuric acid the camphoric acid (melting point 186° C., 366.8° F.) may be shaken out with ether.

Dosage.—Neutral camphorate, 0.5 to 0.75 Gm. (8 to 12 grains) given in powders or aqueous solution.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 686,998 (Nov. 19, 1901; expires 1918).

PYRAMIDON SALICYLATE.— Pyramidon salicylate, $C_{13}H_{17}N_3O.C_7H_6O_3$, is a salt of pyramidon and salicylic acid.

It is prepared by combining its components with the aid of a suitable solvent and avoidance of exposure to light, moisture and heat

It is a white, crystalline powder, having an acid reaction and melting indefinitely at 68° to 70° C. (154.4° to 158° F.). It is soluble in 16 parts of water or 5 to 6 parts of alcohol.

The aqueous solution is colored intensely red by ferric chloride, and produces a white precipitate with silver nitrate, the solution assuming a violet color after a short time.

It is incompatible with ferric salts.

Actions and Uses.—It is antipyretic, analgesic and antiseptic, combining the activity of its components.

It is said to be useful in rheumatic and gouty affections, neuralgia, pleuritis, etc. See Pyramidon.

Dosage.—0.5 to 0.75 Gm. (8 to 12 grains) in powder or aqueous solution.

Manufactured by Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 680,278 (Aug. 13, 1901; expires 1918).

PYROXYLIN

Pyroxylin is official in the United States Pharmacopœia. For description see the pharmacopeia or the Physicians' Manual of the Pharmacopeia and National Formulary.

CELLOIDIN.—A name applied to a preparation of the character of a purified Pyroxylin, U. S. P.

Celloidin is prepared by solution of pyroxylin in a mixture of alcohol and ether, filtration and recovering the solvent from the filtrate. It is supplied in shreds immersed in water.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 299,857 (expired).

QUASSIN[1]—Quassine (Pharm. Française, 1908)—Quassinum—Quassin is a bitter principle found in quassia.

The alcoholic extract of Jamaica quassia wood (Quassia U. S. P.) is neutralized with magnesia, then acidified with tartaric acid and the alcohol distilled off. The residue is shaken up with chloroform and the solution evaporated to syrupy consistency and dissolved in a mixture of equal parts of absolute alcohol and ether. This solution is evaporated and the residue dissolved in as little absolute alcohol as possible, the solution covered with a layer of ether and allowed to evaporate. The crystals which form are recrystallized from alcohol. The product thus prepared consists of two bitter principles α-picrasmin ($C_{35}H_{48}O_{10}$) melting at 204° C. (399.2° F.) and β-picrasmin ($C_{36}H_{46}O_{10}$) melting at 209-212° C. (408.2° to 413.6° F.).

Quassin crystallizes in oblique rhomboidal needles with a pearly lustre. It is odorless, but has a bitter taste. Its melting point is 210° C. (410° F.) and cooling it forms an amorphous mass. It is soluble in about 400 parts of water at 15° C. (59° F.); in 30 parts alcohol (85 per cent.) and in 21 parts of cold chloroform. It is very soluble in boiling alcohol, in acetic acid, and very slightly soluble in ethyl and petroleum ethers. It is soluble in concentrated acids and alkalies, but not in alkaline carbonates. Continued action of alkalies forms resins (Pharm. Française, 1908). It is dextrorotatory in its chloroform solution; 4.22 gm. in 100 Cc. chloroform rotating the plane of polarized light to the right with a specific rotation of plus 38° 8′. Solutions of quassin are neutral.

It dissolves to a colorless solution in concentrated sulphuric acid, which becomes red on the addition of sugar. (Pharm. Française, 1908).

QUININE DERIVATIVES

ARISTOCHIN — Diquinine carbonic Ester.—Aristoquin—Carbonyl Quinine. — Aristochin is quinine carbonate, $CO(C_{20}H_{23}N_2O_2)_2 = C_{41}H_{46}N_4O_5$, the neutral carbonic acid ester of quinine.

It is prepared according to the patents by acting on quinin dissolved in pyridin or chloroform with carbonyl chloride or by heating together quinine and phenol carbonate in the proportion of one molecule of the latter to two molecules of the former.

It forms a white, absolutely tasteless powder, melting at 189° C. (372.2° F.) insoluble in water, difficultly soluble in alcohol, more soluble in warm alcohol and chloroform, very sparingly soluble in ether. It is capable of combining with one and two molecules of hydrochloric acid forming soluble salts. It is gradually decomposed by acids with liberation of quinine, thus acquiring a bitter taste; hence it is incompatible with acids.

It should be free from bitter taste. As it is decomposed by acids and alkalies with the formation of quinine, it should respond to tests for quinine after such treatment.

Actions and Uses.—The same as those of quinine, but, since it is only slowly acted on by acids, it is said not to produce disturbance of the stomach and to be much freer from tendency to production of cinchonism.

Dosage.—The same as that of quinine, in powder, mixed with milk sugar, dry on the tongue or suspended in liquids.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). German patents No. 105,666, 134,307 and 137,308. U. S. patent No. 625,075 (May 16, 1899; expires 1916).

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[1] Quassin (amorphous) is not identical with the above and should not be confounded with it.

CHINAPHENIN—Phenetidin Quinine Carbonic Acid Ester.—Chinaphenin is phenetidin quinine carbonate, $CO(NH.C_6H_4OC_2H_5)(C_{20}H_{23}N_2O_2=C_{29}H_{33}N_3O_4$, the carbonic acid ester of phenetidin and quinine.

It is prepared by the action of quinin on p-ethoxyphenyl carbamic acid chloride.

It is a white, odorless and tasteless powder, difficultly soluble in water, but readily soluble in alcohol, ether, chloroform and benzene. Acids dissolve it with the formation of soluble salts.

It gives the thalleioquin reaction for quinine salts, but forms a yellow herapathite.

It is decomposed by acids with the liberation of quinine.

Actions and Uses.—Chinaphenin combines the antiperiodic properties of quinine with the analgesic power of acetphenetidin (phenacetin), with the advantage of tastelessness and asserted freedom from symptoms of cinchonism. It has been recommended in febrile diseases, especially la grippe; in spasmodic conditions, such as whooping-cough; in certain forms of malaria and in neuralgia.

Dosage.—Adult: 0.3 to 0.6 Gm. (5 to 10 grains) ordinarily, or 1.5 to 2 Gm. (22 to 30 grains), given in two doses as an antipyretic in neuralgia and malaria; in whooping-cough, 0.13 to 0.3 Gm. (2 to 5 grains), according to age.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 637,839 (Nov. 28, 1899; expires 1916). Vereinigte Chininfabriken. Zimmer & Co., Frankfort a. M., Germany. German patent No. 109,259.

EUQUININE—Quininæ Æthylcarbonas.—Quinine Ethyl Carbonate—Euchinin.—Euquinine is quinine ethyl carbonate. $C_2H_5O.CO.OC_{20}H_{23}N_2O=C_{23}H_{28}O_4N_2$, the quinine ester of ethyl Carbonic acid ester.

It is prepared by the action of chlorocarbonic ethyl ester on quinine, $C_2H_5O.COCl + C_{20}H_{24}N_2O_2=HCl + C_2H_5O.COO.C_{20}H_{23}N_2O$.

It is a light, fleecy conglomeration of delicate, white needles, melting at 95° C. (203° F.) and practically tasteless. It is sparingly soluble in water, but readily soluble in alcohol, ether and chloroform. It is slightly alkaline in reaction, forming well crystallizable, bitter salts with acids. It produces a tasteless tannate.

Its solutions in acidulated water have the characteristic bitter taste of quinine. On heating a mixture of 0.2 Gm. of euquinine, 3 Cc. of solution of sodium hydroxide and a little iodine, the odor of iodoform is manifested. Like quinine its solution in dilute sulphuric acid exhibits strong, blue fluorescence, and it gives also the so-called thalleioquin reaction, but not the herapathite reaction. A solution in nitric acid should not change on addition of either silver nitrate or barium chloride.

It should leave no residue on combustion.

It is incompatible with acids which will develop the bitter quinine taste.

Actions and Uses.—Euquinine is claimed to have the same action as quinine, with the advantage of being tasteless, owing to its insolubility in water and alkaline media.

Dosage.—The same as quinine.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany (Merck & Co., New York). U. S. patent No. 585,068 (June 22, 1897; expires 1914). U. S. trademarks Nos. 640,977 and 701,523.

QUININE LYGOSINATE—Quininæ Lygosinas.—Quinine lygosinate. $CO(CH:CH.C_6H_4.C_{20}H_{24}N_2O_2)_2=C_{57}H_{60}N_4O_5$, is a quinine compound of dioxy-dibenzal-acetone.

It is prepared by the reaction of quinine hydrochloride with sodium lygosinate.

Quinine lygosinate is a fine, orange yellow, amorphous powder, melting at 114° C. (237.2° F.), having a faintly aromatic odor and a bitter taste, which is gradually developed on account of its sparing solubility in water. It is slightly soluble in water, soluble in 6 parts of alcohol, in 20 parts of hot oil and readily soluble in chloroform and benzene. It is decomposed by acids and alkalies. It contains 70.8 per cent. of quinine.

Burned on platinum foil, quinine lygosinate develops the odor of bitter almonds and leaves no residue. Its alcoholic solution dyes cotton gauze a bright yellow color, which becomes red-brown on drying.

If 1 Gm. quinine lygosinate be shaken with 20 Gm. of 20 per cent. sodium hydroxide solution and extracted twice with 10 Gm. of ether, the quinine remaining after evaporation of the ether should not weigh less than 0.7 Gm. If the alkaline solution thus obtained be acidified, lygosin separates as a thick yellow precipitate.

It is incompatible with acids and alkalies.

Actions and Uses.—It is stated that this preparation is capable of preventing completely the development of cultures of staphylococcus. Given to rabbits by mouth in doses of 1 Gm. per kilo of the body weight it is said to be entirely harmless. It is claimed to be a styptic useful in parenchymatous hemorrhages and free from unfavorable side effects, such as cauterization of the wound surfaces.

Dosage.—It is employed as a dusting powder, in bandages, gauzes, suppositories, in the form of court plaster and in glycerin suspensions.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany. (C. Bischoff & Co., New York.)

QUININE AND UREA HYDROCHLORIDE.—Quininæ et Ureae Hydrochloridum.—Chininum bihydrochloricum Carbamidum. — Quinine and urea hydrochloride, $C_{20}H_{24}N_2O_2.HCl + CH_4N_2O.HCl + 5H_2O$. is a compound of quinine hydrochloride and urea hydrochloride containing approximately 60 per cent. of anhydrous quinine.

Quinin and urea hydrochloride is prepared by dissolving 400 parts quinin hydrochloride in 300 parts of dilute hydrochloric acid, sp. gr. 1.061, mixing the solution with 60 to 61 parts of pure urea $CO(NH_2)_2$ warming the mixture until dissolved, filtering it through glass wool and setting the filtrate aside for crystallization. After twenty-four hours the crystals are brought on a filter, drained, washed with very cold distilled water, spread on flat plates and dried at room temperature. The mother liquor is evaporated and again set aside for crystallization. The second mother liquor which is colored brown is exposed in a dish to spontaneous evaporation, during which all of the double salt of quinine slowly crystallizes out and may be separated.

The hydrochloride of quinine and urea crystallizes from hot solutions in hard white interlaced four sided prisms. On spontaneous evaporation of a concentrated solution very large transparent prisms are formed. The salt dissolves at ordinary temperature in its own weight of water forming a somewhat viscid straw colored liquid, not altered by exposure to light. During its solution a marked lowering of temperature occurs.

It is not hygroscopic and is unalterable in the air excepting when warmed, the crystals lose their transparency and become yellowish. They fuse at from 70° to 75° C. (158° to 167° F.) with the loss of 10 per cent. of water forming a yellowish liquid which congeals on cooling to a yellow mass. If this mass is allowed to stand in the air it takes up after a few days the whole amount of water expelled and becomes again white. If the melted salt is dissolved in water it may be completely recovered in a crystalline form. It is also soluble in alcohol and from this solution a salt of somewhat variable composition is precipitated by ether.

It is soluble in about 800 parts of chloroform.

Its aqueous solutions are of a strong acid reaction.

A solution of the salt in water 1 to 20 shows no fluorescence, but if one drop of this solution is added to 10 Cc. of distilled water in a test tube a vivid blue fluorescence is developed.

On drying the salt at 125 C. to constant weight and cooling in a desiccator, it should not lose more than 16.5 per cent. of its weight (corresponding to five molecules of water of crystallization).

On ignition the pure salt is slowly consumed, leaving no residue.

Ammonia water, alkaline hydroxides or alkali carbonates throw down from the aqueous solution of quinine and urea hydrochloride a white precipitate of alkaloidal quinine, which when carefully washed with cold distilled water until free from chlorides and dried at a low temperature, should conform to the reactions and tests given in the United States Phramacopeia under quinine. One gramme dissolved in 2 Cc. of distilled water and well shaken in a stoppered test tube with 6 Cc. of ether and 2 Cc. of 10 per cent. ammonia water should be dissolved completely and no crystals should separate out from the ethereal solution on standing for six hours. If the ethereal stratum is removed to a tared beaker and the contents of the test tube washed successively with three portions of 5 Cc. each of ether and these ether washings also added to the tared beaker, the alkaloidal quinine remaining after evaporating off the ether, dried at 125 C. to constant weight, should weigh not less than 0.592 Gm.

If 2 Gm. of the salt be dissolved in a test tube in 4 Cc. of distilled water, the solution cooled and 4 Cc. of nitric acid U. S. P. (free from nitrous acid) be added, the solution quickly cooled again in ice water and the cold mixture set aside at a low temperature, separation of crystals will commence after a few minutes and crystallization will be completed after the solution has stood in a cold place over night. The crystals may be separated by the use of a small glass funnel provided with a pellet of glass wool. The test tube should be washed with three portions of 2 Cc. each of cold diluted nitric acid 1 and 1 and the acid carefully poured over the crystals in the funnel, drop by drop, to remove all traces of quinin. The remaining crystals should consist of urea nitrate. This is demonstrated by taking 3 Cc. of water, heating in the test tube in which the crystals have been crystallized, and after carefully draining off the acid which may be held back by the stem of the funnel, pouring the hot water slowly on the crystals in the funnels and repeating with another 2 Cc. of hot water. The resulting well-mixed solution is divided into two equal parts in two test tubes and cooled. To the first is added from a pipette 10 drops of solution of mercuric nitrate, U. S. P., and then, gradually, normal solution of sodium hydroxide until only a slightly acid reaction is obtained, when a copious white precipitate should result.

The second part of the filtrate is made strongly alkaline by the use of a solution of sodium hydroxide, 1 in 4, and to the resulting clear liquid is added 2 Cc. of a strong solution of sodium hypochlorite. The mixture is warmed to about 40 C., when a development of gas will take place at once.

Actions and Uses.—Quinine and urea hydrochloride has the actions of quinine. It is non-irritating when injected hypodermically. Recent investigations have shown that when injected hypodermically or when applied locally to mucous membranes it exerts an anesthetic action similar to that of cocaine. It is reported that the anesthesia is in some cases prolonged for several days.

Quinine and urea hydrochloride is said to be especially useful in the treatment of malaria by hypodermic injections. It has also been applied as a substitute for cocaine in the production of local anesthesia for operations.

Dosage.—The same as Quinine. For the production of local anesthesia injections of a solution of from ¼ to 1 per cent. strength are used. The ¼ per cent. solution is said to be free from the risk of producing fibrous indurations, which sometimes occurs with the stronger solution. For application to mucous membranes solutions varying in strength from 10 to 20 per cent. should be used.

SALOQUININE—Quinine Salicylic Ester.—Salochinin—Salicylquinine.—Saloquinine is quinine salicylate, $C_6H_4.OH.COO(C_{20}H_{23}N_2O)=C_{27}H_{28}O_4N_2$, the salicylic acid ester of quinine, containing 73.1 per cent. of quinine.

According to the patent specifications it is obtained by heating a mixture of phenyl salicylate (salol) with anhydrous quinine to 170° to 190° C. (338° to 374° F.) in a vacuum, whereby quinine salicylic acid ester and phenol are formed. The phenol set free is removed by distillation and the residue washed with dilute acetic acid to remove unchanged quinine.

It is a white, crystalline powder, melting at 138° C. (280.4° F.), perfectly tasteless and odorless. It is insoluble in water, soluble in acidulated water and moderately soluble in alcohol and in ether. It forms neutral salts which are tasteless, and acid salts. Its acid solutions are precipitated by alkalies and the usual alkaloidal reagents. The filtrate obtained after shaking saloquinine with water, does not give a violet color with ferric chloride (absence of free salicylic acid).

It is incompatible with acids.

Actions and Uses.—It is a tasteless substitute for quinine and salicylic acid.

Dosage.—0.5 to 2 Gm. (8 to 30 grains).

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Merck & Co., New York). U. S. patent No. 678,401 (July 16, 1901; expires 1918). U. S. trademark No. 37,373 (salochinin), No. 37,374 (saloquinine).

SALOQUININE SALICYLATE. — Saloquinine salicylate $C_6H_4.OH.COO(C_{20}H_{23}N_2O).C_6H_4OH.COOH=C_{34}H_{34}N_2O_3$, is the salicylate of the salicylic acid ester of quinine.

It is prepared by the addition of salicylic acid to a hot alcoholic solution of salicylic acid ester of quinine (see saloquinine) and collection of the crystals which separate out on cooling.

It is a white, tasteless powder, melting at 182° to 183° C. (359.6° to 361.4° F.), sparingly soluble in water, soluble in benzene, chloroform and hot alcohol.

It is incompatible with alkaline liquids.

Actions and Uses.—It has been recommended in acute rheumatism, neuralgia, tabes, gonorrheal inflammations, etc.

Dosage.—1 Gm. (15 grains).

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 698,079 (April 22, 1902; expires 1919).

RED GUM—Eucalypti Gummi.—Eucalyptus gum. Eucalyptus Kino.

Red gum is an exudation from the bark of Eucalyptus rostrata, Schlecht, and other species of Eucalyptus.

Red gum occurs in small, dark reddish brown, opaque and more or less dusty pieces which yield a pale red powder. It is usually collected from artificial incisions. When chewed it is tough, and colors the saliva red. Water dissolves 80-90 per cent. Its chief constituent is tannic acid, to the extent of 47 per cent.

Action and Uses.—Red gum is an active astringent. It is used as an astringent in sore throat, diarrhea and in catarrhal affections of various mucous membranes. Largely used in the form of lozenges where an astringent is needed in throat affections.

Dosage.—0.1 to 0.3 Gm. (2 to 5 grains).

SABROMIN — Dibromebehenate of Calcium. — Sabromin, $(C_{21}H_{41}Br_2COO)_2Ca=C_{44}H_{82}O_4Br_4Ca$, is the calcium salt of dibrombehenic acid.

It is prepared from erucic acid by the addition of bromine and transformation of the diobrombehenic acid thus obtained into the calcium salt.

Sabromin is a colorless, odorless and tasteless powder claimed to contain about 29 per cent. bromin and about 3.8 per cent. calcium. It is insoluble in water and alcohol, soluble in ether, acetone, benzol, ligroin and tetrachloride of carbon. On heating on platinum foil it is decomposed with liberation of bromine.

Tests: Sabromin is recognized by its solubilities and the liberation of bromine on heating.

Action and Uses.—Sabromin is converted in the stomach into dibrombehenic acid, a substance which is free from any action on that organ, but which is absorbed from the intestine. Its effect is less rapid than that of the bromides, but more prolonged. It is said to be devoid of the disadvantages of the bromides, such as their unpleasant taste, irritating action on the stomach, and systemic by-effects.

Sabromin is indicated in the same class of cases in which the bromides are useful.

Dosage.—The dose is about the same as that of potassium bromide.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 848,230 (March 26, 1907; expires 1924).

Sabromin Tablets, 8 grains.—Each tablet contains sabromin 0.5 Gm. (8 grains).

SAJODIN—Monoiodobehenate of Calcium.—Sajodin, $(C_{21}H_{42}ICOO)_2Ca=C_{44}H_{84}O_4I_2Ca$, is the calcium salt of monoiodobehenic acid.

It is prepared from erucic acid, $C_{22}H_{42}O_2$, by addition of hydrogen iodide, forming monoiodobehenic acid, $C_{22}H_{43}O_2I$. This is converted into the calcium salt.

Sajodin is a colorless, odorless and tasteless powder, insoluble in water. On heating it generates an abundance of iodine vapor; on exposure to light the superficial portion becomes yellow without material decomposition.

It should contain 26 per cent. of iodine and 4.1 per cent. of calcium.

Actions and Uses.—Although containing a smaller quantity of iodine than potassium iodide, sajodin is claimed to be equally efficient. It is said to have been proven exceptionally free from the unpleasant and deleterious by-effects of the iodides.

It is used for the same purposes as potassium iodide.

Dosage.—1 to 3 Gm. (15 to 45 grains) daily.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany, and Farbwerke vorm. Meister, Lucius & Bruening, Hoechst a. M., Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 848,230 (March 26, 1907; expires 1924). Trademark pending.

Sajodin Tablets, 8 grains. Each tablet contains sajodin 0.52 Gm. (8 grains).

SALOPHEN — Acetylparamidophenol Salicylate.—Acetparamidosalol. — Salophen is 1,4-acetamino-phenyl salicylate, $(C_6H_4.OH.COO).C_6H_4NH.(CH.CO)$, the salicylic acid ester of 1,4-acetaminophenol, $C_6H_4(NHCH_3CO)(OH)$.

It is made by preparing paranitrophenol salicylate by a process similar to that of preparing phenyl salicylate (salol); converting this by means of reducing agents into paramidophenol salicylate, and this into acetylparamidophenol salicylate by the action of acetic acid. This crude salophen so obtained is then purified by crystallization from benzene or alcohol.

It forms small, white, crystalline leaflets or powder, odorless and tasteless, melting at 187° to 188° C. (368.6° to 370.4° F.), and containing 51 per cent. of salicylic acid. It is almost insoluble in cold water, more soluble in warm water, but freely soluble in watery solutions of the alkalies and in alcohol, ether and benzene, but not in petroleum benzin.

If its alkaline solution be boiled it gradually becomes blue; on continuing the boiling the color is discharged, but is again produced on cooling and exposure to air. On addition of ferric chloride to the alkaline solution the violet color characteristic of salicylic acid is produced, but a simple aqueous solution of salophen does not react with ferric chloride and should not be changed by silver nitrate. It forms a colorless solution with concentrated sulphuric acid.

It is incompatible with alkalies, which decompose it.

Actions and Uses.—The actions of salophen resemble those of phenyl salicylate (salol). It is not changed in the stomach, but is broken up in the intestine, liberating salicylic acid and acetylparamidophenol, which, unlike phenol, is not toxic. It acts as an antirheumatic, antipyretic, antiseptic and analgesic. It is said to be useful in rheumatism, gout, typhoid fever, and as an intestinal antiseptic, in diarrhea and dysentery. Externally it has been applied in psoriasis and other itching skin diseases.

Dosage.—0.3 to 1 Gm. (5 to 15 grains), in powder, wafers or capsules. Externally in 10 per cent. ointment.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 492,868 (expired). U. S. trademark 20,759.

SANGUINARINE NITRATE — Sanguinarinæ Nitras.—Sanguinarine nitrate is the nitrate $(C_{20}H_{15}NO_4.HNO_3)$ of the alkaloid sanguinarine, obtained from sanguinaria canadensis and other plants.

Sanguinarine nitrate occurs in orange-yellow crystalline needles or deep-orange colored powder. It is soluble in water and in alcohol.

Action and Uses.—Sanguinarine is a violent poison producing in mammals vomiting, purging, convulsions with loss of reflex activity and cardiac depression. The blood pressure is said to be raised by small doses.

The principal use of sanguinarine nitrate is as a stimulant expectorant in chronic bronchitis and in the later stages of acute bronchitis. It is said to be an emmenagogue and may be used in functional amenorrhea.

Dosage.—0.004 to 0.06 Gm. (1/16 to 1 grain); as an expectorant 0.004 to 0.008 Gm. (1/16 to ⅛ grain); as an emetic 0.015 to 0.06 gm (¼ to 1 grain); average dose 0.015 Gm. (¼ grain) to be given with caution.

SANTYL—Santalolis Salicylas.—Salicylic Ester of Santalol.—Santyl is santalyl salicylate, $C_6H_4OH.COO(C_{15}H_{23}) = C_{22}H_{28}O_3$, the salicylic acid ester of santalol.

According to the German patent the neutral esters of sandalwood oil are produced by heating the oil with the respective acid anhydrides and subsequent purification of the product.

Santyl is a yellowish oil with only a faint balsamic odor and taste; specific gravity, 1.07 at 15° C. (59° F.); it boils under 20 mm. pressure at 121° C. (250° F.) to 126.6° C. (260° F.) with partial decomposition; insoluble in water, but soluble in about 10 parts of alcohol.

It is incompatible with alkalies and with the usual incompatibles of sandalwood oil and of salicylates.

Santyl should possess the physical constants given above. On saponification with alcoholic sodium hydroxide it should yield approximately 40 per cent. of salicylic acid and 60 per cent. of santalol.

Actions and Uses.—It is said that santyl passes the stomach unchanged, but is slowly split up in the intestines into its constituents, santalol and salicylic acid. Santyl is claimed to have the same actions as sandalwood oil, except that because of the slow liberation of santalol, it produces no irritation of the gastrointestinal tract nor of the kidneys and urinary passages, nor any unpleasant odor or eructations.

It is claimed to be useful like santal oil for gonorrheal urethritis.

Dosage.—1.5 Cc. (24 minims) usually given in three capsules of 0.5 Cc. (8 minims) each, three times a day.

Manufactured by Knoll & Co., Ludwigshafen, a. R., Germany (Knoll & Co., New York). German patent No. 173,240. U. S. patent No. 862,858 (Aug. 6, 1907; expires 1924). U. S. trademark No. 61,255.

SECACORNIN.—Ergotin Roche.—Secacornin is a solution of the active principles of ergot in a menstruum consisting of distilled water, glycerin and 7.5 per cent. of alcohol. 1 Cc. of secacornin corresponds to 4 Gm. of ergot U. S. P. and is said to be standardized according to the method of Kehrer (Arch. f. exp. Path. u. Pharm., vol. lviii).

Secacornin is prepared from ergot by removing fat by means of benzin or similar solvent and exhausting by percolation with diluted alcohol. The total percolate is then deprived of its alcohol by distillation in vacuo. The resinous mass which separates after cooling is then carefully drained off and the clear filtrate having been evaporated to the consistency of an extract is mixed with the general vehicle.

Secacornin is a dark brown solution, said to be sterile. It is claimed that it does not deteriorate on keeping.

Secacornin responds to the following identity test: 1.6 Cc. secacornin is mixed with 3.0 Cc. distilled water, and 5 drops of 10 per cent. ammonia water, and shaken out in a separatory funnel with 20.0 Cc. of ether. After complete separation of the two liquids, the aqueous solution is allowed to flow off, the remaining ether washed with 2.0 Cc. distilled water, and the wash-water likewise carefully separated. After this the ethereal solution is filtered into an Erlenmeyer flask, and traces of water removed by the use of as much anhydrous sodium sulphate as can be held on the point of a knife. Following this it is filtered into a small glass dish and cautiously evaporated.

The residue is then dissolved in from 1 to 1½ Cc. ferric-chloride-acetic acid (1 drop of Liq. ferri chloridi with 200 Cc. acetic acid). To this solution is added with a pipette, cautiously and without mixing, in order to form an understratum, 3.0 Cc. pure concentrated sulphuric acid. At the point of contact of the two liquids a characteristic blue to violet ring forms after a time.

Action and Uses.—The same as ergot.

Dosage.—0.5 Cc. (8 minims) are equivalent to 2 Cc. (30 minims) of fluid extract of ergot U. S. P. It may be given by intramuscular injection in doses of 0.5 to 1 Cc. (8 to 15 minims).

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). Not patented. U. S. trademark No. 58,830.

SERUMS AND VACCINES

The vaccines, viruses and serums constitute one of the most important groups of drugs with which the physician has to deal. Some preparations of this group are specific cures for certain diseases; others are invaluable in prophylaxis and diagnosis. The great importance of exercising some degree of governmental control over these products was recognized by the passage by Congress in 1902, of a law entitled "An Act to Regulate the Sale of Viruses, Serums, Toxins and Analogous Products in the District of Columbia, to Regulate Interstate Traffic in Said Articles, and for Other Purposes." The law provides for the licensing of manufacturers who make these products. In order to obtain such a license it is necessary for an establishment desiring it to request the Surgeon-General of the U. S. Public Health and Marine-Hospital Service to have an inspection made of its laboratories, methods, products, etc. This inspection is made by an officer of that service, and consists in a careful examination of the stables, laboratory facilities, methods, animals, collection of the serum, standardization, and tests for potency, purity and amount of preservation. Samples of the products from licensed manufacturers are bought on the open market and examined at frequent intervals in the Hygienic Laboratory of the Public Health and Marine-Hospital Service. The inspection of the laboratories is repeated at least once a year and if unsanitary conditions are found, or if the products are not what they are claimed, the license is suspended.

Antidiphtheric and antitetanic serums are required to conform strictly to the standards which have been established by the United States Government. There being no established standard for the various other products they are not examined for their therapeutic value in the laboratory, but are tested for the amount of preservative and freedom from bacterial and toxic contaminations. Vaccine virus is examined particularly for its freedom from pathogenic bacteria, especially tetanus, and also for its potency.

The following pages contain a description of the preparations which may be legally sold in interstate commerce in the United States and which have not been found to conflict with the rules of the Council:

Serums and Viruses

SERUM ANTIDIPHTHERICUM AND ANTIDIPHTHERIC GLOBULINS.—Antidiphtheric Serum or Diphtheria Antitoxin is an official preparation; for description see the U. S. Pharmacopeia, 8th decennial revision. The diphtheria antitoxin sold in interstate commerce in the United States and in the District of Columbia is required to conform to the standard established by the United States Public Health and Marine-Hospital Service. Some manufacturers mix serums of different strengths so as to secure a preparation containing approximately a definite number of units per c.c. Most of the firms also market a concentrated diphtheria antitoxin or antidiphtheric globulins prepared by the removal, by precipitation with neutral salts, of most of the constituents of the serum except that fraction of the globulins bearing antitoxic potency.

Inasmuch as the ordinary (not concentrated) serum antidiphthericum is contained in the U. S. P., it is desirable that the term "U. S. P." be used in connection with this product (and only with this one) in order to avoid confusion with the globulin preparations.

The French, German and Spanish Pharmacopeias recognize both liquid and desiccated preparations.

H. M. Alexander & Co., Marietta, Pa.

Diphtheria Antitoxin. Only the antidiphtheric globulin is marketed; the antidiphtheric serum is concentrated and refined in accordance with recent improvements of the Gibson method. Marketed in syringes containing from 500 to 5,000 units.

Burroughs, Wellcome & Co., London, England, and New York City.

Diphtheria Antitoxin Serum. Serums of different values from a number of horses are mixed to yield a definite value (from 450 to 500 units per Cc.), also a high potency serum, 1 Cc. of which contains 1,000 units. Trikresol (0.3 per cent.) is added as a preservative. Marketed in hermetically-sealed vials containing 1,000 to 4,000 (Ehrlich-Behring) units; also a high potency serum containing from 1,000 to 10,000 units.

Cutter Laboratory, Berkeley, Cal.

Diphtheria Antitoxin. Marketed in syringes containing 4,000 units; also in bulbs. Diphtheria antitoxin globulin marketed in syringes containing 1,000 units.

Farbwerke, vorm. Meister, Lucius and Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.)

Diphtheria Antitoxin "Behring;" imported into the United States only upon special order.

Department of Health, City of New York.

Refined and Concentrated Diphtheria Antitoxin (Globulin). The preparation is a solution of the globulins of the blood which are soluble in a saturated sodium chloride solution; this contains most of the antitoxin. Preserved with chloroform. Marketed in syringes containing from 2,000 to 5,000 units, each Cc. containing 800 to 1,500 units. Also in bulk.

Wm. R. Hubbert, Detroit, Mich.

Diphtheric Antitoxin. Marketed only in bulk (usually from 1 to 10 liters).

Lederle Antitoxin Laboratories, New York City. (Schieffelin & Co., New York.)

Diphtheria Antitoxin. Only antidiphtheric globulin is sold; this is marketed in syringes containing from 500 to 10,000 units each; also in vials containing from 1,000 to 5,000 units each. The latter are prepared more particularly for the use of Boards of Health.

Memorial Institute for Infectious Diseases, Chicago.

Antidiphtheritic Serum. Most of the antitoxin prepared is concentrated. Marketed in packages of from 1,000 to 5,000 units each, both in syringes ready for use and in bottles.

H. K. Mulford Co., Philadelphia.

Diphtheria Antitoxin, Concentrated (globulin). Prepared from serum antidiphthericum by the removal, by precipitation at 33⅓ per cent. saturation with ammonium sulphate, of the serum albumins and globulins. The product consists essentially of a soluble serum globulin freed from inorganic salts by dialysis and redissolved in physiological salt solution. Preserved with not more than ¼ per cent. trikresol or not more than 1/10 to 1 per cent. chloroform. Marketed in syringes containing from 1,000 to 5,000 units.

National Vaccine and Antitoxin Institute, Washington, D. C.

Diphtheria Antitoxin, Concentrated; prepared according to Gibson's method. Preserved with chloroform. Marketed in syringes containing from 500 to 6,000 units.

Parke, Davis & Co., Detroit, Mich.

Antidiphtheric Serum, U. S. P.; preserved with 0.4 per cent. trikresol; marketed in piston syringe containers of from 500 to 5,000 units each.

Antidiphtheric Globulins. Marketed as above.

Antidiphtheric Globulins (dry). Marketed in packages of 3,000 units each. The dry powder is readily soluble in water and will keep indefinitely.

Frederick Stearns & Co., Detroit, Mich.

Diphtheric Antitoxin, U. S. P. Preserved with 0.4 per cent. trikresol. Marketed in syringe containers holding from 1,000 to 4,000 units.

Concentrated Diphtheric Antitoxin. Prepared by the Gibson process; preserved with chloroform (2.4 minims per fluid ounce). Marketed as above; also in syringes containing 5,000 units.

ANTIDYSENTERIC SERUM.—

H. K. Mulford Co., Philadelphia, Pa.

Antidysenteric Serum. The blood serum of horses immunized against the Shiga bacillus. Recommended in dysentery and summer diarrheas where the bacillus of Shiga is an etiologic factor. Marketed in syringes containing 10 Cc. Dose 10 to 40 Cc. every four to eight hours; to be injected hypodermically.

ANTIGONOCOCCIC SERUM.—Favorable results have been reported from the use of antigonococcic serum in the treatment of chronic complications of gonorrhea involving serous cavities, especially the joints. The results in the case of the chronic stages and sequels of gonorrhea involving the genitourinary tract seem to be less favorable while it seems to have still less value in acute gonorrheal affections.

Parke, Davis & Co., Detroit, Mich.

Antigonococcic Serum, prepared from the blood of rams immunized against both dead and living cultures of virulent gonococci according to the method of Rogers and Torrey[1]. Marketed in bulbs

Dosage. Two Cc. subcutaneously, to be repeated in 1 to 4 days.

ANTIMENINGOCOCCUS SERUM.—

Farbwerke, vorm. Meister, Lucius und Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York..

Meningococcus Serum "Hoechst." A serum prepared by the immunization of horses with virulent cultures of diplococcus intracellularis or its products according to Ruppel's method. Recommended as a diagnostic agent for distinguishing (by the agglutination test) the meningococcus from other diplococci and as a prophylactic and curative agent. It is injected subcutaneously or intralumbarly or in the dry form may be used as a dusting powder applied to the nasopharyngeal space or tonsils. Marketed in powder form mixed with 49.5 per cent. milk sugar and 0.5 per cent. alumnol, for use as a dusting powder; also in the dried form to be dissolved in 10 parts of water and injected subcutaneously or intralumbarly; also in the liquid form, preserved with 0.5 per cent. phenol (for agglutination tests).

Dose. 2.5 Gm. of the dried serum, dissolved in 25 Cc. water, subcutaneously to be followed, after lumbar puncture, by 10 to 15 Cc. or more, intralumbarly. In severe cases much larger amounts are recommended. 1 Gm. as a protective dose.

H. K. Mulford Co., Philadelphia.

Antimeningitis Serum. A serum prepared from the blood of horses immunized to the meningococcus of Weichselbaum (Diplococcus intracellularis), according to the method of Flexner (inoculation of autolyzed cultures followed by living organisms).

It is useful for the treatment of epidemic cerebrospinal meningitis, due to the meningococcus.

Dose. 15 to 30 Cc. (4 to 8 fluidrams) given by intraspinal injection. For young infants, 10 Cc. (2½ fluidrams). The serum is marketed in aseptic glass syringes with sterilized needle.

ANTIPNEUMOCOCCUS SERUM.—Antipneumococcus serum is the blood serum of horses immunized against pneumococci. Frequently both dead and living pneumococci are used.

Use.—It has been said to be useful in the treatment of pneumonia when injected subcutaneously. Hektoen, Weaver and Tunnicliff have recently examined the serums of this class found on the American market. They summarize their views as follows: "In the antipneumococcus serums it was impossible to demonstrate antibodies for pneumococci by any method employed."

"It is our belief that the claims for the usefulness of antistreptococcus and antipneumococcus serums rest on impressions from results in clinical cases in man, and have in most cases no foundation whatsoever in experimental tests."

H. K. Mulford Co., Philadelphia.

Antipneumococcic Serum, stated to be prepared by immunizing horses with both dead and living pneumococci. Marketed in syringes containing 20 Cc. Dose: 20 to 100 Cc.

Frederick Stearns & Co., Detroit, Mich.

Pneumolytic Serum, stated to be a composite polyvalent serum prepared by injecting horses with virulent pneumococci from various sources. The horses are first immunized with diphtheria toxin. Marketed in syringes containing 20 Cc. Dose: 10 to 20 Cc., to be repeated in 12 to 24 hours.

ANTISTAPHYLOCOCCUS SERUM.—

Burroughs, Wellcome & Co., London, England, and New York.

Antistaphylococcus Serum is stated to be obtained from horses injected with killed cultures of staphylococcus pyogenes aureus, albus and citreus. Preserved with trikresol. Marketed in vials containing 25 to 50 Cc. Recommended in the treatment of various staphylococcus infections.

ANTISTREPTOCOCCUS SERUM.—Antistreptococcus serums are prepared by immunizing horses with virulent cultures of streptococci. Most manufacturers employ several strains of streptococci, thus obtaining polyvalent serums. In some cases humanized strains of streptococci are used; in others, cultures, the virulence of which has been much increased by passage through animals. In a few cases both human and animal strains are employed. Some manufacturers employ horses immunized against diphtheria, making the doubtful claim that such serum is especially active in stimulating leucocytosis and phagocytosis.

Actions and Uses.—Antistreptococcus serum has been claimed to be useful in the treatment of streptococcus infections such as erysipelas, scarlet fever, puerperal septicemia, tuberculosis (mixed infection), etc. It has also been used as a prophylactic prior to surgical operations, after labor, in scarlet fever epidemics, etc. Its value is doubtful.

Hektoen, Weaver and Tunnicliff recently examined the preparations found on the American market; in a preliminary report (1) they state: "Streptococcus opsonins could not be demonstrated in any of the serums tested, and activation by fresh serums was not accomplished to any significant degree. When they were injected into rabbits, increase in streptococcus opsonins could not be demonstrated in the animals' serums in any notable degree, except in some instances. Attempts to obtain protective and curative effects from the injection of antistreptococcus serums in rabbits, guinea pigs, and in a more limited scale in mice, met failure. The serums often seemed to reduce the natural resistance and to hasten death."

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[1] The Journal A. M. A., Sept. 14, 1907, xlix, 918.

containing 2 Cc. each.

"It is our belief that the claims for the usefulness of antistreptococcus and antipneumococcus serums rest on impressions from results in clinical cases in man, and have in most cases no foundation whatsoever in experimental tests."

Antistreptococcus serum (liquid and desiccated) is recognized by the French pharmacopeia.

Burroughs, Wellcome & Co., London, England, and New York.

Polyvalent Antistreptococcus Serum is stated to be obtained from horses injected with killed cultures of a number of strains of cases of erysipelas, scarlet fever, puerperal fever, rheumatism, septicemia, angina, pneumonia and ulcerative endocarditis.

Antistreptococcus Serum (Erysipelas) is stated to be obtained from horses injected with killed cultures of a number of strains of streptococci obtained from cases of erysipelas.

Antistreptococcus Serum (Rheumatism) obtained from horses injected with killed cultures of a number of strains of streptococci obtained from cases of rheumatism.

Antistreptococcus Serum (Scarlatina) obtained from horses injected with killed cultures of a number of strains of streptococci obtained from cases of scarlet fever.

Antistreptococcus Serum (Puerperal Fever) obtained from horses injected with killed cultures of a number of strains of streptococci obtained from cases of puerperal fever.

All of the above are prepared with trikresol and are marketed in hermetically-sealed vials containing in most cases 25 to 50 Cc.

Cutter Laboratory, Berkeley, Cal.

Polyvalent Streptococcic Serum, stated to be prepared by the injection of many strains of living humanized cultures of streptococci into horses immunized with diphtheria toxin. Marketed in piston syringe containers, each containing 10 Cc. of serum.

Chemische Fabrik auf Actien (vorm. E. Schering), Berlin, Germany. (Schering & Glatz, New York.)

Aronson's Antistreptococcus Serum, stated to be a polyvalent serum obtained by inoculating horses with streptococci the virulence of which has been highly exalted by animal passage and with various humanized strains of streptococci. Preserved with 0.4 per cent. trikresol. Dose: 20 to 100 Cc., according to the severity of the case and the age of the patient.

Farbwerke, vorm. Meister, Lucius and Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.)

Antistreptococcic Serum, Hoechst, stated to be a polyvalent serum, prepared by immunizing horses against streptococcus cultures of the most varied origin and with highly virulent passage cultures according to the method of Meyer and Ruppel. Contains no artificial preservatives. Dosage: 1 to 10 Cc. for immunization. 2 to 25 Cc. for single curative dose. 3 to 50 Cc. for double curative dose.

Lederle Antitoxin Laboratories, New York City. (Schieffelin & Co., New York.)

Antistreptococcic Serum Polyvalent; marketed in 10 Cc. syringes. Dose: as a prophylactic, 10 Cc.; curative, 20 to 100 Cc.

H. K. Mulford Co., Philadelphia.

Antistreptococcic Serum, stated to be the serum of horses which have been treated with streptococci of various strains. Marketed in 10 Cc. syringes. Dose: 20 to 80 Cc.

Parke, Davis & Co., Detroit, Mich.

Antistreptococcic Serum, stated to be a polyvalent serum; prepared by immunizing horses with killed cultures of streptococci; the latter are obtained from various human streptococcus infections and certain pathologic conditions common to animals. Preserved with trikresol. Marketed in 10 Cc. piston syringe containers, also in bulbs containing 10 Cc. each.

Frederick Stearns & Co., Detroit, Mich.

Streptolytic Serum, stated to be a composite and polyvalent serum; composite because it contains diphtheric antitoxin in addition to the streptococcus antibodies. Marketed in 10 Cc. syringes some of which have attachments for subcutaneous injection, others for rectal injection.

ANTITUBERCLE SERUM.—

Parke, Davis & Co., Detroit, Mich.

Antitubercle Serum. A serum prepared by treating horses for several months with the toxic products of the tubercle germs. Stated to be an experimental remedy claimed by some to give favorable results in tuberculosis. Marketed in 1, 2 and 4 Cc. bulbs and in 1 ounce bottles. Dose: 1 to 4 Cc. daily hypodermically.

ANTITYPHOID SERUM.—Antityphoid serum is a serum obtained from horses which have been injected with killed cultures of bacillus typhosus.

Actions and Uses.—Antityphoid serum has been employed in the treatment of typhoid fever, but the evidence as to its value is conflicting.

Burroughs, Wellcome & Co., London, England, and New York.

Anti-typhoid Serum is stated to be obtained from horses injected with killed cultures of Bacillus typhosus. Marketed in hermetically-sealed vials containing 25 to 50 Cc.

TETANUS ANTITOXIN.—(Antitetanic Serum and Antitetanic Globulin).—Antitetanic Serum is the blood serum of horses immunized to the toxin of the tetanus bacillus. It is marketed in both liquid and dry forms. Some manufacturers prepare an Antitetanic Globulin; this contains a solution of the globulins of the blood, which are soluble in a saturated sodium chloride solution, together with the antitoxin, and contains the latter in concentrated form.

The antitetanic serum sold in interstate commerce in the United States should conform to the standard established by the United States Public Health and Marine-Hospital Service. This standard is defined as follows (Treasury Department Circular No. 61, Oct. 25, 1907; Bulletin 43, Hygienic Laboratory): "The immunity unit for measuring the strength of tetanus antitoxin shall be ten times the least quantity of antitetanic serum necessary to save the life of a 350-gram guinea pig for ninety-six hours against the official test dose of a standard toxin furnished by the Hygienic Laboratory of the Public Health and Marine-Hospital Service."

Uses.—Antitetanic serum is used both as a prophylactic and a curative agent in tetanus. The dried product may be used as a dusting powder.

Dose.—Immunizing, 1,500 units; in tetanus, 3,000 to 20,000 units every four to eight hours.

Serum Antitetanicum is official in the Belgian, French and Swiss Pharmacopeias. Both liquid and desiccated preparations are recognized by the French Pharmacopeia.

Department of Health, City of New York.

Antitetanic Globulin. Preserved with chloroform. Marketed in vials containing 1,500 to 5,000 units.

Lederle Antitoxin Laboratories, New York City. (Schieffelin & Co., New York.)

Only the concentrated antitoxin (globulin) is marketed; this is offered in syringes containing from 1,500 to 5,000 units each.

H. K. Mulford Co., Philadelphia, Pa.

Tetanus Antitoxin, marketed in syringes containing 1,500 units.

Parke, Davis & Co., Detroit, Mich.

Antitetanic Serum, marketed as follows:

1. In piston containers, 1,500 units.
2. In bulbs containing 1,500 units.
3. Dry.
4. Antitetanic Dusting Powder; the dried serum mixed with a small quantity of chloretone (chlorbutanol).

VACCINE VIRUS.—Vaccine virus is the material obtained from the skin eruptions of calves having vaccinia. The "pulp" is ground and mixed with varying percentages of glycerin. The latter has a certain degree of antiseptic action. It is usually marketed in capillary tubes or as glycerinated points. The serums which exude after the removal of the crusts have been used by some manufacturers for the preparation of "dry lymph points." These are generally regarded as unsatisfactory and the new federal regulations forbid interstate traffic in them after Jan. 1, 1910.

Some firms test the activity of their products on the cornea of rabbits and on calves.

Vaccine virus is official in the Belgian Pharmacopeia under the name "Vaccinum"; in the Swiss as "Virus Vaccinum."

H. M. Alexander & Co., Marietta, Pa.

Marketed as "glycerinated lymph" in capillary tubes; also as "glycerinated vaccine points" and as "dry points."

Cutter Laboratory, Berkeley, Cal.

Marketed in two forms; ivory points (dry) and in capillary tubes.

Lederle Antitoxin Laboratories, New York City. (Schieffelin & Co., New York.)

Glycerinated Vaccine Virus: (a) in glass capillary tubes and in bulk (for 10, 20 or 50 vaccinations); (b) upon Lederle's Protected Ivory Points; the latter are contained in capsule-like glass tubes which do not require breaking.

H. K. Mulford Co., Philadelphia.

Glycerinated Vaccine Lymph, in sealed capillary tubes. Glycerinated Glass Vaccine Points; glycerinated lymph on sterile glass points.

National Vaccine and Antitoxin Institute, Washington, D. C.

Glycerinated Vaccine Virus marketed in capillary tubes; Glycerinated Vaccine Virus on Ivory Points; special capsule.

Parke, Davis & Co., Detroit, Mich.

Glycerinated Vaccine: (a) in capillary tubes, (b) on ivory points. The points are contained in sealed glass tubes provided with Lee's breakable ring so that they may be opened without difficulty.

Bacterial Vaccines

Bacterial vaccines (cf. also tuberculin) are suspensions of the killed bacteria in physiologic salt solution; phenol (0.5 per cent.) is usually added as a preservative. Being suspensions, there is a tendency for the bacteria to settle on standing; hence the vial should be shaken before the syringe is filled and the latter should be shaken before injecting.

Pharmacopeial Preparation.—The French Pharmacopeia contains a *"Vaccin antipesteux,"* consisting of a suspension of killed plague bacilli and a *"Vaccin antipesteux sensibilisé,"* prepared by treating killed plague bacilli with antiplague serum. (Antiplague Serum is also official in the French Pharmacopeia.)

Actions and Uses.—The use of many of these vaccines is in the experimental stage. Bacterial vaccines are often prepared from cultures obtained from the individual to be treated (autogenous vaccines); these usually give the best results. In fact some authors maintain that "stock" vaccines should be used only when it is impracticable to secure the autogenous agent.

Bacterial vaccines are used to aid the production of an active immunity. Great care and skill are necessary for their proper use and no definite statements as to dosage, etc., can be given; the physician must be guided by the condition of the patient and the manner in which the latter reacts to the treatment.

The following were licensed to manufacture and sell in interstate commerce products of this character prior to July 15, 1909. (Cf. also Tuberculin).

Burroughs Wellcome & Co., London, England and New York City.
Lederle Antitoxin Laboratories, New York City.
H. K. Mulford Co., Philadelphia, Pa.
National Vaccine and Antitoxin Institute, Washington, D. C.
Parke, Davis & Co., Detroit, Mich.
Swiss Serum and Vaccine Institute, Berne, Switzerland.

The following products have been submitted to the Council:

Some of the licensed firms do not market stock vaccines, but prepare them only from cultures from patients.

ACNE VACCINE—A vaccine prepared from acne bacilli (Bacillus acnes). Said to be useful in the milder forms of acne.

H. K. Mulford Co., Philadelphia.

Acne-Bacterin. This product is marketed in four syringes containing respectively 25 million, 50 million, 100 million and 200 million killed acne bacilli, sold in a package or as separate syringes.

Dose. Initially 5 to 25 millions.

BACILLUS COLI VACCINE.—Bacillus Coli Vaccine seems to cause distinct improvement in certain infections of the urinary tract, due to the colon bacillus. Pain and frequency of micturition are said to be quickly relieved, but complete elimination of the bacteria is stated to be rare. It has also been used in subacute and chronic appendicitis and in gall bladder fistulas where there was an infection with the colon bacillus.

H. K. Mulford Co., Philadelphia.

Coli-Bacterin. Marketed in 1 Cc. vials; each Cc. is said to contain approximately 50,000,000 killed bacilli suspended in normal salt solution.

BACILLUS PYOCYANEUS VACCINE.—This is said to be useful in local infections in which this organism is present. A recent writer states that he has never experienced the slightest beneficial effect either from the autogenous or stock vaccines prepared from this organism, and considers its use illogical.

H. K. Mulford Co., Philadelphia.

Pyocyano-Bacterin. Each Cc. is said to contain about 30,000,000 killed bacilli.

FRIEDLANDER VACCINE.—A vaccine prepared from the Friedlander bacillus. It is said to be useful in infections by the Friedlander bacillus, such as chronic nasal catarrh and chronic gleet.

H. K. Mulford Co., Philadelphia.

Friedlander Bacterin. This product is marketed in packages of four syringes, containing respectively 50 million, 100 million, 200 million and 400 million killed Friedlander bacilli. The single syringes may be obtained separately.

GONOCOCCUS VACCINE.—Gonococcus vaccine has been used with much success in subacute and chronic gonococcus infections involving the prostate, joints, eyes, etc. It has been stated that the strains of the gonococcus are not so diversified as are those of many other organisms and that therefore better results may be expected from stock vaccines of this organism than in many other cases.

Cutter Laboratory, Berkeley, Cal.

Gonococcic Vaccine. Marketed in 1 Cc. vials; each Cc. containing about 50,000,000 cocci suspended in physiological salt solution with 0.4 per cent. trikresol.

H. K. Mulford Co., Philadelphia.

Neisser Bacterin. Each Cc. is said to contain approximately 50,000,000 killed gonococci; preserved by 0.5 per cent. phenol.

National Vaccine and Antitoxin Institute, Washington, D. C.

Gonococcic Vaccine. Marketed in syringes each said to contain 2,000,000 to 50,000,000 bacteria; sterilized by heat.

Parke, Davis & Co., Detroit, Mich.

Gonococcus Vaccine. P., D. & Co. Marketed in bulbs each said to contain 20,000,000 bacteria; sterilized by heat.

MICROCOCCUS NEOFORMANS VACCINE.—Micrococcus neoformans vaccine is claimed to be beneficial in ulcerated tumors in which this organism occurs as a secondary infection.

H. K. Mulford Co., Philadelphia.

Neoformans-Bacterin. Each Cc. is said to contain approximately 50,000,000 killed neoformans micrococci.

PNEUMOCOCCUS VACCINE.—Pneumococcus vaccine has been claimed to be useful in pneumococcic infections. In laboratory experiments it was found inert so far as indicated by any change in the opsonic index when injected into rabbits.

H. K. Mulford Co., Philadelphia.

Pneumo-Bacterin. Each Cc. is said to contain about 50,000,000 killed pneumococci.

STAPHYLOCOCCUS VACCINES.—These have been used with much success in localized surface infections such as acne, acute boils, carbuncles and septic wounds, in multiple subcutaneous abscesses, sinuses, chronic osteomyelitis, etc. The best results are obtained with autogenous vaccines. Laboratory experiments have also shown that these vaccines possess distinct antigenic properties when tested by infections in rabbits with subsequent opsonin determinations.

Cutter Laboratory, Berkeley, Cal.

Staphylococcus Vaccine. Each Cc. contains about 500,000,000 cocci preserved with 0.4 per cent. trikresol.

H. K. Mulford Co., Philadelphia.

Four varieties of vaccine are offered:

1. *Staphylo-Albus Bacterin.* From staphylococcus pyogenes albus.
2. *Staphylo-Aureus Bacterin.* From Staphylococcus pyogenes aureus.
3. *Staphylo-Bacterin.* Containing a mixed culture of staphylococcus albus, aureus, and citreus.
4. *Staphylo-Acne-Bacterin.* A mixed vaccine prepared from cultures of staphylococcus albus, aureus, and citreus with bacillus acnes.

All the above are marketed in packages of four syringes containing respectively 250 million, 500 million, 1 billion and 2 billion killed staphylococci. The syringes of staphylo-acne bacterin contain in addition, respectively, 25 million, 50 million, 100 million and 200 million acne bacilli. The single syringes may be obtained separately.

Parke, Davis & Co., Detroit, Mich.

Four forms of vaccines are offered.

1. From staphylococcus pyogenes albus.
2. From staphylococcus pyogenes aureus.
3. From staphylococcus pyogenes citreus.
4. From the three preceding combined.

Each Cc. contains about 400,000,000 bacteria.

STREPTOCOCCUS VACCINE.—Recommended in various infections by streptococci (scarlet fever, puerperal septicemia, erysipelas, etc.).

H. K. Mulford Co., Philadelphia.

Strepto-bacterin. Each Cc. contains about 50,000,000 killed streptococci.

Parke, Davis & Co., Detroit, Mich.

Streptococcus Vaccine. Each Cc. contains about 40,000,000 streptococci pyogenes.

TYPHOID VACCINE.—Inoculations with typhoid vaccines have been practiced extensively in various armies; the results, both as regards the morbidity and the mortality from typhoid fever seem to have been distinctly favorable. Such inoculations have been recommended in institutions where many of the personnel are not infrequently exposed to typhoid infection and in communities threatened with or affected by typhoid epidemics. It has been suggested that typhoid vaccines may be of value in the treatment of typhoid carriers.

H. K. Mulford Co., Philadelphia.

Typho-bacterin. Each Cc. contains about 50,000,000 killed typhoid bacilli.

Tuberculin Preparations

Tuberculins represent the toxins of the tubercle bacillus. They may be in the form of a filtered extract of the bacilli or may be composed of the pulverized insoluble substance of the bacilli themselves. In the latter, or emulsified form, tuberculin is known as tubercle vaccine, and might be classed with the "Bacterial Vaccines" (which see). Tuberculins are therefore of two general classes:

1. Those prepared from the germ-free culture media, and containing for the most part only soluble products of the bacillus. This class includes Tuberculin "old" (or Tuberculin Koch) and Tuberculin Denys (Bouillon Filtré).

2. Those which contain the greater part of the germ body itself; they include the new tuberculins of Koch ("T. R." and the "New Tuberculin Koch [Bacillus emulsion]").

OLD TUBERCULIN, "O. T." (Tuberculin Originale, "T. O."; Tuberculin Koch).

Old Tuberculin is prepared by evaporating a 6 to 8 weeks' bouillon culture of tubercle bacilli at boiling temperature to 1/10 of its volume and filtration through clay or porcelain. A clear, syrupy, amber colored fluid; containing about 50 per cent. glycerin[1]. Frequently marketed in "serial dilutions" by which the doses may be gradually increased.

TUBERCULIN "DENYS" ("B. F."; Bouillon Filtrate; Bouillon Filtré, Denys).

This is the bouillon from cultures on which tubercle bacilli of the human type have grown to maturity (5 to 6 weeks) freed from germs by filtration through porcelain.

"NEW TUBERCULIN"—"T. R."—New Tuberculin represents a portion of the tubercle bacillus.

It is prepared as follows: A suspension of ground virulent tubercle bacilli is centrifugalized; the upper layer, consisting of extractives and fatty substances mixed with bacilli, is removed while other bacilli and fragments are thrown to the bottom. The sediment is again ground and centrifugalized; the process is repeated until almost no sediment remains. The second and supernatant liquids are united and to them glycerin, 20 per cent., and a little formaldehyde in solution are added; this emulsion is the "T. R." Each Cc. represents the residue from approximately 10 mg. dry originally virulent tubercle bacilli (human).

NEW TUBERCULIN, KOCH, BACILLI EMULSION ("B. E."). This represents the entire bacilli whether soluble or insoluble.

The germs are simply crushed and pulverized and mixed with equal parts of water and glycerin. The suspension contains 5 mg. dry, originally virulent, tubercle bacilli (human).

Action and Uses.—The different modifications and preparations of tuberculin are practically identical in their physiologic effects. They vary chiefly in a quantitative way and in absorbability. They are used both for diagnostic and therapeutic purposes:

Diagnostic Use.—"Tuberculin depends for its diagnostic value on a special sensitiveness acquired by the tissues after a tuberculous infection. This sensitiveness is manifested by an inflammatory response when tuberculin is brought in contact with the skin or mucous membrane."[1] The original tuberculin of Koch is considered the most satisfactory preparation for diagnosis but other filtered extracts are suitable. There are four principal methods of applying the test: 1. The Cutaneous Test (von Pirquet); 2. The Inunction Test (Moro); 3. The Conjunctival Test (Wolff-Eisner, Calmette); 4. The Subcutaneous Test. The proper performance and correct interpretation of these tests require much knowledge and experience. Some of them, notably the conjunctival and subcutaneous tests, may, under certain circumstances and in the hands of inexperienced or careless persons, do much harm.

Use in Therapeutics.—The successful employment of tuberculin in therapeutics depends upon a thorough knowledge of the disease and the individual patient; in many cases its use may do much harm. Baldwin[2] states the general principle involved as follows:

"The therapeutic use of tuberculin may have two fairly definite objects in view: One is to diminish the sensitiveness to the toxin—i. e., to itself—the other is to create intermittent local reactions and thus to stimulate the disease focus to heal or become absorbed. The possibility of the production of a recognizable immunity to the disease thus far by any form of tuberculin treatment is open to question. A certain degree of resistance is indirectly accomplished when sensitiveness to tuberculin is decreased to a marked degree, accompanied by constitutional improvement. Such specific resistance as can be obtained by tuberculin is gradually lost after the treatment is discontinued, so that statements that patients can be made 'immune' are unjustified."

As regards the choice of tuberculin and the method of administration Baldwin says:

"For therapeutic use the choice chiefly lies between the solutions and emulsions or vaccines. Opinions are too variant to permit the formulation of rules. In general the dosage is more controllable with solutions, and reactions are less frequent from emulsions." "Owing to the uncertain absorption of emulsions, reactions may ensue unexpectedly if the dose is increased greatly. The solutions are therefore safer for tuberculin immunization until some accurate standards for determining the dosage shall be made. The dosage is at present empirical; each individual case must be an experiment, and the symptoms carefully observed before each dose. The subcutaneous injection is the only satisfactory method for the administration of tuberculin. Tuberculin pills or capsules for stomach ingestion and suppositories per rectum are too uncertain of absorption to warrant any recommendation. Inunctions of tuberculin have a possible field in treatment of skin tuberculosis; otherwise they are also impracticable."

Pharmacopeial Preparations.— Koch's "old tuberculin" is official in the German Pharmacopeia under the name "Tuberkulinum-Kochi, Tuberkulin"; in the Belgian under the name "Tuberculinum"; in the Swiss under the name "Tuberkulinum Concentratum"; and in the French under the name "Tuberculine Brute." The French and Swiss Pharmacopeias contain also diluted tuberculin ("Tuberkulinum Normale Dilutum" of the Swiss, "Tuberculine Diluée" of the French, Pharmacopeia), prepared by diluting 1 Cc. of the concentrated tuberculin with 10 Cc. of 0.5 per cent. phenol. The French Pharmacopeia contains also a "Tuberculine Solide Purifiée" prepared by precipitating the "Tuberculine Brute" with ten times its volume of 80 per cent. alcohol, washing the precipitate with ether and drying *in vacuo.* For use 0.01 Gm. of this is dissolved in 100 Gm. distilled water.

TUBERCULOSIS SERUM VACCINE.—An emulsion of human tubercle bacilli, sensitized by the application of tuberculosis serum.

The production of sensitized tubercle bacilli, or bacilli which are capable of complement fixation, is accomplished with the assistance of an efficient tuberculosis-immune serum, which has a considerable content of specific amboceptor antituberculin. The content of this serum in specific amboceptor is ascertained according to the method of complement fixation. Besides antituberculin, this serum contains agglutinating, precipitating and bacteriotrope immune bodies.

Emulsions of sensitized tubercle bacilli are prepared as follows: Human tubercle bacilli, after having been thoroughly washed and briskly dried, are mixed with fresh tuberculosis serum, the quantity of which is calculated from the determination of the immunity bodies. This mixture is left for several days in the incubator, at a temperature of 37° C., and is then shaken in an apparatus, with glass beads, until intact tubercle bacilli are no longer demon-

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[1] Some firms add trikresol to their preparations of this tuberculin; the necessity or advisability of this is considered questionable if the glycerin is of the proper strength. It is stated that trikresol will, in the course of time, weaken the tuberculin.

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[1] Baldwin: The Journal A. M. A., 1910, liv, 260.
[2] Baldwin: The Journal A. M. A., 1910, liv, 260.

strable in the removed sample. The broken-up masses of bacilli are then separated from the serum, through centrifugalization, washed with physiologic salt solution, and finally worked into fine emulsions, with 40 per cent. glycerin water, to which has been added phenol 0.5 per cent. The contents of this emulsion in bacillary substance amounts to 0.005 Gm. in 1 Cc. The original emulsions and dilutions are to all intents and purposes permanently durable, provided they are kept in a cool place, not exposed to freezing, and protected from the light.

Actions and Uses.—It is claimed that this emulsion contains specific immune bodies which are non-poisonous for healthy and tuberculous subjects, but are capable of exerting a remarkable effect on tuberculous processes.

Preparations[1]:

The use of ready made "serial dilutions" as a routine practice is not to be commended. Such solutions deteriorate rapidly, especially in the presence of phenol or trikresol and the rate of such deterioration may not be the same in different dilutions; competent authorities think it desirable to limit the use of dilutions to one month or even less in the case of soluble tuberculins. Some firms state the date of manufacture on the labels; it is desirable that this should de done in all cases. Sufficient precautions are often not given as to the care necessary in passing from a weak to a stronger solution.

The dangers from the use of tuberculin in the eye are not sufficiently emphasized by some firms.

The "conclusions" which some manufacturers state may be drawn from a "positive reaction" seem to the Council to be in some cases stated too dogmatically.

H. M. Alexander & Co., Marietta, Pa.

Original Tuberculin "O. T." (Koch); marketed in 1 and 3 Cc. vials.

Tuberculin.—Bouillon Filtrate "B. F." (Human). 1 and 3 Cc. vials.

Tuberculin Residue. T. R. (Human) (Koch).

Bacillin Emulsion "B. E." (Human).

Dixon's Tubercle Bacilli Extract (See "Fluid of Dixon," Medical News, Jan. 17, 1891). An extract of tubercle bacilli dissolved in normal saline solution. Marketed in syringes containing the extract from 1 mg. bacilli. The standard therapeutic dose is a weekly injection of the contents of 1 syringe, to be reduced in amount and frequency if the patient shows signs of reaction.

Dixon's Suspension of Dead Tubercle Bacilli (See "Possibility of Establishing Tolerance for Tubercle Bacilli," Medical News, Oct. 19, 1889). A suspension of dead tubercle bacilli in physiologic salt solution which have been decreased by prolonged treatment with alcohol and ether. Marketed in syringes containing 0.001 mg. bacilli, which is the standard therapeutic dose (cf. preceding).

Tuberculin for the Cutaneous Test (von Pirquet). A solution of *tuberculin original* in capillary tubes. Solutions of two strengths, one for children and one for adults, are prepared.

Tuberculin Ointment Capsules (for the Moro Test). Consists of equal parts by weight of Koch's Old Tuberculin and anhydrous wool fat. Marketed in capsules.

Tuberculin for the Ophthalmic Test. Tuberculin Precipitatum, "T. P." Prepared by precipitation with 95 per cent. alcohol from Koch's Old Tuberculin. Marketed in tubes in solutions of two strengths (0.5 per cent. and 1 per cent.).

Tuberculins for the Detre Differential Diagnostic Test. Three capillary tubes: 1. Tuberculin Original, "T. O." 2. Bouillon Filtrate, "B. F." (Human). 3. Bouillon Filtrate, "B. F." (Bovine).

Cutter Laboratory, Berkeley, Cal.

Tuberculin "Old," Koch; Concentrated; in 1 Cc. vials and preserved with trikresol; for use in solutions only. Also in serial dilutions; the latter in packages containing 5 bottles each holding about 8 Cc., ranging from 0.01 to 100 mg. per Cc.

Deny's Bouillon Filtrate; in 1 Cc. vials; preserved with trikresol; for use in dilutions only. Also in serial dilutions.

Tuberculin, Koch (concentrated).—For the *cutaneous reaction*; in capillary pipettes.

Tuberculin, Purified; 1 per cent. solution, for the ophthalmic reaction.

Farbwerke vorm. Meister, Lucius and Bruening, Hoechst a. M., Germany. (Victor Koechl & Co., New York.)

Tuberculin "Koch" (old). Marketed in vials containing 1 Cc., 5 Cc. or 50 Cc.

New Tuberculin "Koch" (T. R.). Marketed in vials containing 1 Cc. and 5 Cc.

Koch's Bacilli Emulsion. Marketed in vials containing 1 Cc. and 5 Cc.

Tuberculosis Diagnostic "Hoechst." Dried tuberculin free from glycerin, prepared from Tuberculin Koch (old Tuberculin). To be used in 0.1 per cent. solutions for the tuberculo-ophthalmic reaction.

Tuberculosis Diagnostic "Hoechst" Dry in Tubes. Each tube contains 0.005 Gm. (1/10 grain).

Dosage. The contents of a tube are dissolved in 5 Cc. of cold sterile water.

Tuberculosis Diagnostic "Hoechst" 0.1 per cent. solution.

Dosage. The contents of the tube are ready for use.

Tuberculin T. O. A. Original Tuberculin T. O. A. This preparation is a bouillon filtrate. For preparation see Tuberculin "Deny's," Supplied in bottles containing 1 Cc. and 5 Cc.

Vacuum Tuberculin. Tuberculin T. O. A. reduced to 1/10 of its volume in a partial vacuum at a low temperature.

Actions and Uses. It is intended solely for the treatment of patients who exhibit too violent reactions to Old Tuberculin, to Tuberculin T. R. and to Tuberculin Bacilli Emulsion.

Vacuum Tuberculin is marketed in glass bottles containing 1 Cc. and 5 Cc.

Dry Dead Tubercle Germs. For use in making the bacillary emulsion for the tuberculo-opsonic test.

Bovine Tuberculin. Tuberculin corresponding to Tuberculin "Koch" Old but prepared from bovine bacilli. Marketed in bottles containing 1 Cc. or 5 Cc.

Bovine Bacilli Emulsion. Corresponding to Koch's Bacilli Emulsion but prepared from bovine bacilli. In original bottles containing 1 Cc. and 5 Cc.

Bovine Tuberculin T. R. Corresponding to Tuberculin T. R. but prepared from bovine bacilli. In bottles containing 1 Cc.

Bovine Tuberculin Old. A bouillon filtrate from bovine bacilli. Indications similar to those for Tuberculin T. O. A. Supplied in glass bottles containing 1 Cc. and 5 Cc.

Vacuum Bovine Tuberculin. A tuberculin prepared from bovine bacilli by the process for vacuum tuberculin. The advantage of the vacuum preparations is only in their better keeping qualities. Vacuum bovine tuberculin is supplied in glass bottles containing 1 Cc. and 5 Cc.

Polygenous Tubercle Bacilli Emulsion. A bacilli emulsion prepared from eight different cultures of tubercle bacilli which differ as much as possible from each other.

Dead Bovine Tubercle Bacilli. Supplied in flasks containing 1 Gm. and 5 Gm.

Tuberculin Residue. Tuberculin residue is supplied in the form of a moist paste and a dry preparation in vials of 1 Gm. and 5 Gm. each.

Tuberculosis Serum Vaccine "Hoechst." Emulsions of sensitized tubercle bacilli are supplied in the original concentration, in vials of 1 and 5 Cc. each, and also in serial dilutions.

Dosage. The treatment is begun with 0.1 Cc. of a dilution 1/1,000,000 and the dose gradually increased until 0.5 Cc. of the original emulsions are readily tolerated and the corresponding clinical effects are demonstrable. It should not be used in the presence of cachexia, mixed infection or permanent rise of temperature.

Tuberculin Gesellschaft, St. Petersburg, Russia. (Morgenstern & Co., New York.)

Endotin.—Tuberculinum Purum. Endotin is the purified extract of a filtered culture of human bacilli in 50 per cent. glycerin.

Endotin is prepared exactly as Koch's "Old" tuberculin, but is subsequently treated with alcohol, ether, chloroform and xylol in order to eliminate the deuteroalbumoses present.

Tuberculinum purum is now supplied in a carton of 4 series which are intended to represent a course of tuberculin treatment. Each series consists of 7 ampuls.

H. K. Mulford Co., Philadelphia.

Tuberculin "Old" (O. T.). Marketed in 1 Cc. vials; also in serial dilutions in 5 vials of 8 Cc. each progressing by doses of 2 minims containing 0.001 mg. to 2 minims containing 10 mg.; in rectal suppositories containing from 1 to 500 mg. tuberculin in cacao butter.

Tuberculin, Bouillon Filtrate, Denys. Marketed in 1 Cc. vials; also in serial dilutions.

Tuberculin "R." Marketed both in concentrated form and in serial dilutions.

Bacillin Emulsion "B. F." Marketed in 1 Cc. vials; also in serial dilutions.

Tuberculin Ophthalmic Test Solution. Prepared from the precipitate obtained on treating Tuberculin "Old" with 70 per cent. alcohol; ½ and 1 per cent. solutions in physiological salt solutions are made of the dry precipitate.

Tuberculin Ophthalmic Test Tablets. The precipitate as prepared above; each tablet contains 1 mg. dried tuberculin; to be dissolved in 0.13 Cc. (2 minims) of water.

Tuberculin Ointment. An ointment consisting of 50 per cent. of tuberculin "Old" with an equal part of adeps lanae hydrosus.

Parke, Davis & Co., Detroit, Mich.:

Tuberculin, "Old" (Koch). Marketed in ½ Cc. bulbs.

Tuberculin B. E. (concentrated). Bacillus Emulsion, marketed in bulbs containing 1 mg. of dry tubercle solids per Cc.

Tuberculin B. F.; marketed in 1 Cc. bulbs; contains 0.4 per cent. trikresol.

Tuberculin T. R. Marketed in 1 Cc. bulbs in 2 strengths; one contains 0.001 mg. of tubercle solids per Cc., the other 1 mg. per Cc.

Tuberculin Discs for the Ophthalmic Reaction. Prepared by precipitating concentrated tuberculin with alcohol. Each disc contains 3.3 mg. tuberculin which when dissolved in 0.3 Cc. (5 minims) of water makes a 1 per cent. solution.

Moist Dead Tubercle Germs. For use in making the bacillary emulsion for the tuberculo-opsonic test.

Bacterio-Therapeutic Laboratory, Asheville, N. C.

This laboratory is licensed to manufacture all tuberculin preparations including Watery Extract of Tubercle Bacilli (von Ruck) and Tubercle Bacilli Emulsions (von Ruck); they are supplied only to physicians who make special applications for them.

Other Serum Products

ANTIRABIC VACCINE.—An emulsion of the cords of rabbits that have died as a result of the subdural injection of fixed rabies virus. The fixed virus is obtained by passage of rabies virus through a long series of rabbits until the animals die after a uniform period of incubation; this period may vary according to the strain of virus. The cords are removed from the rabbits and, as a rule, dried over potassium hydroxide for a period of from 2 to 15 days.

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[1] The directions given by some manufacturers as to the method of using and the conclusions to be drawn from the use of their preparations seem to the Council to be open to criticism in certain respects. Thus many firms enclose droppers for use in making dilutions; droppers are not sufficiently accurate for use with strong solutions. Pipettes, accurately calibrated in the metric system, should be used

Use.—Antirabic vaccine is used for the preventative treatment of rabies. Emulsions of the cords are prepared with broth or saline solution and injected subcutaneously. The "scheme of dosage" varies according to circumstances, but the general principle consists in daily injections, beginning with an emulsion of a cord dried for from 8 to 14 days and gradually increasing until a "2 day" cord is used.

H. M. Alexander & Co., Marietta, Pa.

Antirabic Vaccine. The fixed virus is of the strain employed by the Hygienic Laboratory, Washington, D. C. An emulsion of vaccine in glycerin sufficient for one dose, together with a syringe and needle, is contained in a vacuum tube by which a low temperature may be maintained for a period of 36 hours. A dose is sent each day by mail; the treatment requires 18 to 22 days.

ERYSIPELAS AND PRODIGIOSUS TOXINS (Coley).—Parke, Davis & Co., Detroit, Mich. A mixed culture of Streptococcus Erysipelatis and Bacillus Prodigiosus made according to the specifications of Dr. W. B. Coley. Marketed in 1 oz. bottles.

Action and Uses.—Loeb summarizes the results of the treatment of sarcoma with these toxins as follows: "It is therefore likely that the treatment of inoperable sarcoma with the toxins of streptococcus and Bacillus prodigiosus leads to a cure in approximately 4 to 9 per cent. of cases. And some results obtained so far suggest that this method of treatment may prove of value as a postoperative procedure in diminishing the number of recurrences, and that in a certain number of cases it might limit the necessity for amputation of the limb in cases of sarcoma of the long bones. As to its mode of action, nothing definite can be stated, but it is likely that the toxins themselves, as well as the local and general reactions they produce, frequently affect the life of the sarcoma cells unfavorably."

The toxins are injected in gradually increasing doses, at first in a part of the body removed from the tumor, and later, if possible, directly into the tumor itself.

NORMAL HORSE SERUM.—Injection of this has been recommended in various conditions where the coagulative power of the blood is deficient, as in hemophilia, severe anemias and purpura with hemorrhagic tendencies. Applied locally to bleeding surfaces it is said to act as a styptic and to have a favorable action on septic wounds. There is, however, an element of danger in the use of this or any other serum in certain conditions (Anaphylaxis), and while this is slight because of the rarity of dangerous effects it is sufficient to make the use of serums for purposes in which their value is extremely doubtful a questionable procedure.

National Vaccine and Antitoxin Institute, Washington, D. C.

Sterile Normal Horse Serum. Marketed in syringes containing 10, 15 and 20 Cc.

H. K. Mulford Co., Philadelphia.

Normal Serum (From the Horse). Marketed in packages of two syringes, each containing 10 Cc.

Noguchi Test for Syphilis

Noguchi test for syphilis is a modification of the method of Wassermann and involves the use of two standardized papers as follows:

Amboceptor Paper.—This is obtained by injecting washed human blood corpuscles (erythrocytes) into rabbits, at intervals of five to seven days, over a period of five or six weeks. Ten days are allowed to elapse after the last injection. The rabbits are then bled and the serum collected. Filter paper is now saturated with this serum and allowed to dry. The paper is cut in strips and set aside until wanted for use. In this form amboceptor will keep for a considerable length of time.

Amboceptor paper is standardized by measuring its specific activity. The measurement of specific activity consists of finding the amount of amboceptor necessary to cause hemolysis in 1 Cc. of suspended human red corpuscles, one drop of blood in 4 Cc. normal saline solution with 0.02 Cc. of fresh guinea-pig serum. Incubate this at a temperature of 37½ C. for one hour. The quantity of paper necessary to cause hemolysis under these conditions is known as 1 unit.

Antigen Paper.—Antigen is made by rubbing liver tissue with sand and extracting with alcohol. One Gm. of liver tissue is macerated in 10 Cc. of alcohol for one week at 37.5 C., shaking the container every day. It is filtered until clear and the filtrate evaporated. The resulting extract is dissolved in ether and this solution poured into a large quantity of acetone. The acetone precipitates certain lipoid substances, which are then collected and redissolved in ether-alcohol and constitute the antigen. Antigen papers are now prepared by saturating filter paper with this solution and allowing it to dry, after which it is cut into strips. The unit of standardization is the amount of antigen paper necessary to prevent hemolysis of human red corpuscles in the presence of syphilitic serum. The antigen paper must not of itself cause hemolysis.

H. K. Mulford Co., Philadelphia.

Noguchi Test Mulford. Noguchi test Mulford consists of amboceptor paper and antigen paper in a package accompanied with full directions for use.

Amboceptor Paper. Amboceptor paper is marketed in a glass tube.

Antigen Paper. Antigen paper is marketed in tubes containing acetone, because it is believed to prevent oxidation. When wanted for use, a strip of the paper is removed from the vial and the acetone allowed to evaporate.

SILVER CITRATE.—Silver citrate, $Ag_3C_6H_5O_7$, is the normal silver salt of citric acid.

Solution of citric acid is neutralized with sodium carbonate and a solution of silver nitrate added with constant stirring. The precipitate is allowed to subside, washed with water, and dried on porous plates. The entire operation must be conducted under protection from the light.

Silver citrate forms a white, odorless, heavy powder which is moderately sensitive to the light. It dissolves in 3,800 parts of water. On heating to redness a residue of metallic silver remains, weighing 63.16 per cent. of the original salt.

It should be carefully protected from the light.

Actions and Uses.—Silver-citrate is a non-irritating antiseptic.

It is said to be useful in the treatment of wounds, ulcers, gonorrhea and other affections of the mucous membranes.

Dosage.—It may be applied in substance to wounds. Solutions of from 1 to 4,000 to 1 to 10,000 are recommended for injection into the body cavities, the urethra, etc.

Proprietary Preparations:

ANTISEPTIC-Credé.—A name applied to Silver Citrate, which see.

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York).

SILVER LACTATE.—Silver lactate, $Ag.C_3H_5O_3 + H_2O$, is the normal silver salt of lactic acid.

It is prepared by dissolving freshly precipitated silver carbonate in a solution of lactic acid by the aid of heat and concentrating the solution until crystallization begins. The operation must be conducted in a darkened room.

Silver lactate forms colorless crystalline needles, turning brown on exposure to light; it dissolves in 15 parts of water. On heating it leaves a residue of metallic silver weighing 50.2 per cent. It is usually colored somewhat brown and gives with water a brownish or reddish solution. The salt must be protected from the light.

Actions and Uses.—The 1 to 300 to 1 to 500 aqueous solution is said to be equal in disinfecting power to a 1 to 1000 solution of mercuric chloride. It is irritating if applied in substance to wounds.

It is intended for all purposes for which a powerful antiseptic is desired.

Dosage.—1 to 100 to 1 to 2,000 solutions.

Proprietary Preparations:

SILVER LACTATE-Credé.—A name applied to Silver Lactate, which see.

Manufactured by Fabrik von Heyden, Radebeul, near Dresden, Germany (Schering & Glatz, New York).

SODIUM CACODYLATE—Sodii Cacodylas.—Sodium Dimethylarsenate.—Sodium cacodylate, $(CH_3)_2AsO.ONa + 3H_2O$, is the sodium salt of cacodylic acid (dimethyl arsenic acid), $(CH_3)_2AsO.OH$.

It is prepared by distilling arsenous oxide with potassium acetate, oxidizing the distillate, composed of cacodyl AS_2 $(CH_3)_4$, and cacodyl oxide, $(As_2$ $(CH_3)_4O$, with mercuric oxide, neutralizing the cacodylic acid with solution of sodium hydroxide and concentrating to crystallization.

It is a white powder, very soluble in water, forming needle-shaped crystals, hygroscopic, but otherwise of marked stability. The aqueous solution is alkaline toward litmus, but nearly neutral toward phenolphthalein.

On addition of silver nitrate T. S. to a solution of 1 Gm. of sodium cacodylate in 20 Cc. of water, a white precipitate is formed which is soluble in nitric acid and in ammonia water.

If to 1 Cc. of a 1 per cent. solution of sodium cacodylate 10 Cc. of hypophosphorous acid are added and put aside for 1 hour in a closed container, a disgusting odor of cacodyl (caution on account of extreme poisonous properties of the gas) is apparent (distinction from sodium monomethyl arsenate).

If calcium chloride T. S. solution be added to a solution of sodium cacodylate (1:20) no precipitate will be produced in the cold nor on warming (distinction from sodium monomethyl arsenate).

When warmed with ammonium molybdate T. S. a solution of sodium cacodylate (1:20) should not produce a yellow precipitate; nor should a yellow precipitate form when the 1:20 solution is treated with sodium thiosulphate T. S. or with hydrogen sulphide T. S.: nor should a white precipitate form when, after acidulating with hydrochloric acid, barium chloride T. S. is added to the 1:20 solution.

Estimation: A weighed quantity (approximately 1 Gm.) is dissolved in 25 Cc. of water, one drop of methyl orange T. S. added, and then normal hydrochloric acid V. S. added until a faint pink color appears; 1 Cc. normal hydrochloric acid V. S. = 0.2125 Gm. of sodium cacodylate. If to the finished titration phenolphthalein T. S. is added a volume of normal potassium hydroxide V. S. equal to the volume of normal acid used, should be required to produce a red color; $(CH_3)_2AsO.OH$ being a monobasic acid toward phenolphthalein.

Actions and Uses.—The action of sodium cacodylate is similar to other arsenic compounds, but it is said to be much less toxic than the ordinary preparations of arsenic and is also less apt to cause undesirable side effects. This superiority is due to the slow liberation of the arsenous acid in the body.

The cacodylate has been particularly recommended in obstinate psoriasis, pseudoleukemia, diabetes, anemia, chlorosis, tuberculosis, malarial cachexia, etc.

Dosage.—0.025 to 0.12 Gm. (½ to 2 grains) in pills, hypodermically or by enema.

SODIUM CINNAMATE—Sodii Cinnamas.—Sodium Phenylacrylate. Sodium cinnamate, $C_6H_5.CH:CH.COONa = NaC_9H_7O_2$, is the sodium salt of cinnamic acid (benzene-propenoic) acid, $C_6H_5CH:CH.COOH$.

Sodium cinnamate may be prepared by saturating a hot aqueous solution of sodium carbonate with cinnamic acid, evaporating and crystallizing. Cinnamic acid is obtained from balsam of tolu or may be produced synthetically by heating together benzaldehyde, sodium acetate, and acetic anhydride. By the latter method of preparation a purer product is produced which it is claimed is free from any by-effects of the acid from natural sources.

Sodium cinnamate is a white, crystalline powder, soluble in water, 1 part in 20, the solution being faintly alkaline. On boiling the alkalinity becomes stronger on account of the decomposition of the cinnamic acid forming sodium carbonate. Solution of sodium cinnamate (1 to 25) yields on the addition of ferric chloride a yellow precipitate. On adding it to potassium permanganate solution, the red color of the permanganate is destroyed and the odor of benzaldehyde developed. If a solution of sodium cinnamate is treated with dilute sulphuric acid, a precipitate of cinnamic acid appears, which after purification should melt at 133° C. (271.4° F.).

It is incompatible with acids and with oxidizing agents, e. g., potassium permanganate.

Actions and Uses.—Balsam of Peru, cinnamic acid and sodium cinnamate are recommended by Landerer for the treatment of phthisis, the drugs being injected intravenously under strict aseptic precautions. The effect is referred by him to an inflammatory reaction, localized about the tuberculous foci which leads to cicatrization. He records very favorable results in well-selected early cases, and other clinicians have also reported some successes, although the treatment fails very often. The synthetic cinnamate is preferred on account of its greater purity.

Dosage.—0.001 Gm. (1/60 grain), gradually increased to 0.02 Gm. (1/3 grain), in 1 to 5 per cent. solution, injected intravenously thrice weekly for long periods (3 to 18 months).

SODIUM LYGOSINATE—Sodii Lygosinas.—Lygosin Sodium.—Sodium lygosinate, $CO:(CH:CH.C_6H_4.ONa)_2 + 7H_2O = Na_2C_{17}H_{12}O_3 + 7H_2O$, is the sodium salt of dioxy-dibenzal acetone.

It is prepared by condensation of 2 molecules of salicylic aldehyde with 1 molecule of acetone and combining the product with sodium.

Sodium lygosinate occurs in glossy, greenish prisms, soluble in 16 parts of water at 18.4° C. (67.12° F.), or in about 9.5 parts at 37° C. (98.6° F.). It is soluble to the extent of 1 per cent. in cold alcohol, easily soluble in hot alcohol and in glycerin. Its aqueous solution has a ruby-red color and is alkaline in reaction.

On ignition, 1 Gm. of sodium lygosinate leaves a residue of sodium carbonate weighing 0.243 Gm. From the aqueous solution acids precipitate a thick yellow precipitate of diortho-cumarketone. The solution is fairly stable when kept in a cool place, protected from the air, and is not decomposed on boiling, but is decomposed by weak acids, even the carbonic acid of the air.

Actions and Uses.—The powder causes sneezing. Sodium lygosinate is said to possess a germicidal power similar to that of the silver salts, slightly weaker, but practically non-irritant.

It is claimed to be useful in gonorrhea, especially of the uterus.

Dosage.—Injections of a 3 to 8 per cent. solution daily or every second or third day.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany. (C. Bischoff & Co., New York.) German patent No. 110,521. U. S. trademark No. 40,177.

SODIUM OLEATE[1]—Sodii Oleas.—Sodium oleate, $NaC_{18}H_{33}O_2$, is the sodium salt of oleic acid.

Sodium oleate is obtained by neutralizing sodium hydroxide with oleic acid.

Sodium oleate is a white solid, which crystallizes from absolute but not from aqueous alcohol. When heated it melts and burns leaving a residue of sodium carbonate. It is soluble in about 10 parts of water, in about 20 parts of alcohol, and in about 100 parts of boiling ether. When dissolved in water it is partly decomposed (hydrolysed) into oleic acid and sodium hydroxide; hence its aqueous solution has an alkaline reaction to phenolphthalein; its solution in strong alcohol is neutral to this indicator. It is precipitated from its aqueous solution by saturation with sodium chloride.

Acids separate from its aqueous solution oleic acid, which collects at the surface of the liquid, in an oily layer. If a solution of 5 Gm. of sodium oleate, in 50 Cc. of water be mixed with 3 Cc. of tenth-normal oxalic acid solution, the subsequent addition of a few drops of phenolphthalein test solution should not produce a pink coloration.

An aqueous solution of sodium oleate (1 in 20) should remain unchanged in color upon the addition of ammonium sulphide test solution; and upon acidulating another portion of the solution with hydrochloric acid and filtering, the filtrate should remain unchanged in color when an equal volume of hydrogen sulphide test solution is added and the mixture is allowed to stand well stoppered in a warm place for half an hour (absence of metallic impurities).

Action and Uses.—Sodium oleate is antacid and mildly laxative. It is commonly added to laxative pills. It has been claimed without any definite evidence that it is especially useful in disease of the biliary tract.

Dosage.—0.12 to 1.3 Gm. (2 to 20 grains).

SODIUM PERBORATE—Sodii Perboras.

Sodium perborate, $NaBO_3.4H_2O$, is the sodium salt of perboric acid. It should contain not less than 9 per cent. of available oxygen.

Sodium perborate may be prepared by the action of an alkali peroxide and carbon dioxide on an alkali borate (U. S. Pat. No. 842,470) and by other methods.

Sodium perborate occurs as a white granular salt, odorless and soluble in water; the solution has a saline taste. It is decomposed by water into hydrogen peroxide and sodium metaborate, $NaBO_3 + H_2O = H_2O_2 + NaBO_2$ producing an alkaline solution. It is decomposed by catalyzers, ferments and animal tissues. Heated to 60° C. (140° F.) it evolves oxygen and when heated to a higher temperature it gradually loses all its available oxygen and water of crystallization.

On adding to 10 Cc. water in a test tube, one drop of potassium dichromate test solution then ten drops of dilute sulphuric acid and pouring a few Cc. of ether on top, the subsequent addition of a few drops of an aqueous solution of sodium perborate will cause a blue color to appear at the zone of contact of the two liquids. After shaking the ether layer will separate with a blue color.

If 0.20-0.03 Gm. sodium perborate accurately weighed be dissolved in 50 Cc. water and 10 Cc. dilute sulphuric acid added, to produce a permanent pink color, not less than 11.25 Cc. tenth normal permanganate solution should be required for each 0.1 Gm. of substance taken (indicating not less than 9 per cent. of available oxygen).

Action and Uses.—Sodium perborate is an antiseptic, deodorant and bactericide, and is used in wounds, purulent sores, varicose ulcers, etc. In general, it is used in place of hydrogen peroxide, over which it has the advantage of yielding an alkaline solution. It is applied as a dusting powder or in a 2 per cent. solution.

Non-proprietary Preparation:

Sodium Perborate Merck.—Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

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[1] This preparation should not be confounded with the preparations sold as "Acid sodium oleate" or "Sodium Oleate, acid" which are mixtures of sodium oleate and free oleic acid, containing from about 5 to 30 per cent. of the latter.

Proprietary Preparation:

PEROGEN BATH—Oxygen Bath Salts. Perogen.—Perogen bath is a preparation consisting of a catalyzer and sodium perborate capable of yielding 10 per cent. of oxygen, the two substances being wrapped separately.

The catalyzer is a light yellow odorless powder, and is made by a method which is the subject of a patent application now pending. The oxygen contents may be determined by any of the well-known methods.

Actions and Uses.—The catalyzer is a medicinally indifferent substance. When the two substances are mixed with water the catalyzer causes the liberation of the available oxygen of the sodium perborate. The oxygen bath thus obtained is said usually to reduce blood pressure and the pulse rate to a much greater extent than the ordinary bath. It is claimed to have marked tranquilizing and somnifacient effects. It is said to be useful in cardiac affections with high vascular tension and excitement, neuroses, insomnia, chronic nephritis, and skin diseases in which hydrogen dioxide is indicated.

Dosage.—One bath daily until 24 or 48 have been taken, with occasional intermissions.

Manufactured by Morgenstern & Co., New York. U. S. trademark 75,982. U. S. patent No. 969,073 (Aug. 30, 1910; expires 1927).

SODIUM PEROXIDE—Sodii Peroxidum.—Bioxydum natri (Pharm. Hispanola, edit. vii).

Sodium Peroxide is the sodium salt of hydrogen peroxide containing at least 75 per cent. Na_2O_2.

Sodium peroxide occurs in the form of a white, or yellowish, amorphous powder. It is soluble in water, with evolution of heat, and forms a solution of hydrogen peroxide, from which latter, oxygen is liberated by the heat of the reaction. It dissolves in cold dilute acids forming a solution of hydrogen peroxide. When heated sodium peroxide becomes darker, but on cooling resumes its original color. It does not react with alcohol, but it ignites ether on contact. A mixture with red phosphorus explodes under pressure or on being struck. It is an extremely powerful oxidizing agent.

Sodium peroxide should not respond to tests for sulphates, chlorides, phosphates, nitrogen and heavy metals.

Action and Uses.—Sodium peroxide is not used internally but has been used in acne, applied in the form of a paste prepared with liquid paraffin, or as a soap to remove comedones.

It has been suggested as an air purifier, based on the theory that the moisture of the air would liberate oxygen and the alkali simultaneously formed would absorb carbon dioxide.

Proprietary Preparation:

OXONE.—Oxone is a name applied to fused sodium peroxide containing a fractional percentage of a catalytic agent. It is said to yield its entire content of available oxygen in gaseous form, upon contact with water.

Manufactured by the Roessler & Hasslacher Chemical Co., New York. U. S. patent No. 788,256 (April 25, 1905; expires 1922). U. S. trademark No. 46,673.

SOLUTION OF FORMALDEHYDE

Solution of Formaldehyde is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

FORMALIN.—A name applied to Liquor Formaldehydi, U. S. P.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. trademark No. 65,625.

SOPHOL.—Sophol is a compound of silver and methylennucleinic acid, the silver being in organic ("masked") form.

It is prepared by conversion of insoluble silver compounds of methylennucleinic acid into soluble silver compounds by treatment with neutral salts, such as chloride of sodium. Sophol is a yellowish powder, having a metallic taste and claimed to contain silver, equivalent to not less than 20 per cent. metallic silver. Sophol is readily soluble in water, the aqueous solution having a faint alkaline reaction; it does not give a precipitate on the addition of dilute solution of sodium hydroxide or of sodium chloride; it is insoluble in ether and alcohol.

If 0.3 Gm. sophol is heated in a test-tube decomposition occurs with the development of brownish-red pungent vapors. If the ash is treated with dilute nitric acid, the solution filtered, a white cheesy precipitate is formed on addition of hydrochloric acid, which dissolves in ammonia water.

If 0.5 Gm. sophol is boiled with 5 Cc. of sodium hydroxide solution, the latter assumes a black color with the development of a formaldehyde odor.

If 0.1 Gm. sophol is heated with 3 Cc. nitric acid, a dirty yellow precipitate is formed, disappearing on addition of an excess of ammonia water with the formation of an orange colored solution.

A solution of 0.5 Gm. sophol in 10 Cc. water should have a faintly alkaline reaction and should not at once become turbid on the addition of sodium chloride solution.

If 1.0 Gm. sophol is shaken with 10 Cc. of alcohol and filtered, the filtrate should not be changed on addition of hydrochloric acid.

Actions and Uses.—It is said to act as a germicide and to be free from irritating effects in the solutions ordinarily employed.

It is said to be especially useful for the prevention and treatment of ophthalmia neonatorum and may be employed in other eye affections and for the general indications of the silver salts.

Dosage.—Sophol may be applied in from 2 to 5 per cent. solutions.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 852,545 (May 7, 1907; expires 1924). U. S. trademark No. 62,900.

SPIROSAL.—Spirosal is monoglycol salicylate, $C_6H_4OH.CO.O.CH_2.CH_2.OH = C_9H_{10}O_4$, the salicylic acid ester of monoglycol.

It is prepared by the action of ethyleneglycol on salicylic acid.

Spirosal is an almost odorless and colorless oily fluid, with a boiling point of 169° to 170° C. (336.2° to 338° F.) at 12 mm. pressure. It is easily soluble in alcohol, ether, chloroform and benzol and soluble in about 110 parts of water and 8 parts of olive oil.

Tests. 0.5 Gm. spirosal is saponified with 5 Cc. soda lye by slight warming, the clear fluid diluted with water and acidified with dilute sulphuric acid; fine crystalline needles of salicylic acid are formed, which after being extracted with ether and the latter then evaporated, can be identified by the melting point and ferric chloride reaction. The saturated watery solution obtained by shaking 1 Cc. spirosal with 50 Cc. of water gives a filtrate, which becomes intensely violet on addition of ferric chloride, but should not be changed by barium nitrate or silver nitrate; 0.5 Gm. of spirosal when added to 2 Cc. of concentrated sulphuric acid should be given a light yellow and not a brownish color; 0.3 Gm., if incinerated on platinum foil, should not leave any weighable residue.

Actions and Uses.—Spirosal is said to be easily absorbed by the skin without causing irritation even when rubbed in thoroughly. It splits off salicylic acid in the tissues.

Spirosal is said to be useful for the external treatment of rheumatic affections.

Dosage.—It is used undiluted or mixed with 2 to 3 parts of alcohol or in a mixture with olive oil, 1 to 8, or in ointments with equal parts by weight of petrolatum or lard.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 794,982 (July 18, 1905; expires 1922). U. S. trademark No.. 62,856.

STOVAINE—Benzoyl-Ethyl-Dimethylaminopropanol Hydrochloride.—Stovaine is 2-benzoxy-2-methyl-1-dimethyl-amino butane hydrochloride, $CH_3.CH_2.C(C_6H_5COO)(CH_3)CH_2N(CH_3)_2.HCl = C_{14}H_{22}O_2NCl$. It is closely related to alypin (which see).

It is prepared by causing a reaction of benzoyl chloride on the *a*-dimethyl-amino-pentonal-*b*, which is itself the product of reaction of ethylmagnesium chloride on methylaminoacetone.

It crystallizes in small, brilliant scales, which melt at 175° C. (347° F.). It is extremely soluble in water and easily in methyl alcohol and acetic ether, but requires 5 parts of absolute alcohol for solution and is only slightly soluble in acetone. It is quite stable and its solutions may be sterilized at 115° C. (239° F.) without suffering decomposition.

The aqueous solution is slightly acid to litmus, neutral to methyl orange. It is precipitated by all the alkaloidal reagents and is decomposed even by very dilute alkalies.

It is incompatible with alkalies and all alkaloidal reagents.

Actions and Uses.—Stovaine acts as a local anesthetic. It has about the same power as cocaine, but dilates the blood vessels, whereas cocaine contracts them. It is only ⅓ to ½ as toxic as cocaine. Stovaine also is said to exert a tonic action on the heart.

It is used as a local anesthetic; while most reports are favorable, one case of gangrene has been reported following the use of a 10 per cent. solution.

Dosage.—Internally, 0.002 Gm. (1/30 grain) pill form. Locally it may be used in the eye in 4 per cent solution and applied to other mucous membranes, as in laryngology, in from 5 to 10 per cent. solution. For hypodermic injections for local anesthesia it can be used in 0.75 to 1 per cent. solution.

Manufactured by the Poulenc Frères Co., Paris, France (Parmele Pharmacal Co., New York). U. S. patent Nos. 829,262; 829,374 (Aug. 21, 1906; expires 1923); 828,846 (Aug. 14, 1906; expires 1923). U. S. trademark No. 59,228.

STROPHANTHIN THOMS.—Strophanthin Thoms is a crystalline glucoside ($C_{86}H_{46}O_{12} + 9H_2O$), obtained from Strophanthus gratus. It is identical with the ouabain obtained from Ouabaio wood by Arnaud (the official strophanthin is methyl-ouabain ($C_{31}H_{48}O_{12}$).).

The light-brown dehaired seeds of strophanthus gratus are cold pressed to free from oil. The oil free cakes thus formed are broken up and extracted with 96 per cent. alcohol. The alcohol is distilled off on the water bath, leaving a residue, which is described as follows: It consists of several layers—an upper thin layer of oil, then an aqueous alcohol layer, followed by a yellowish brown mass of crystals, under which is a layer of a brown extract, from which an amorphous strophanthin can be isolated. The above mentioned crystals are freed from the mother liquor and recrystallized from hot water. The seeds yield about 3.62 per cent. of crystallized strophanthin.

Colorless quadratic crystals of bitter taste and easily soluble in hot water. Soluble in 100 parts of cold water and 30 parts cold absolute alcohol and 30 parts amyl alcohol. It is slightly soluble in acetic ether, ether and chloroform. Its solubilities require further study. Solutions of 1 part of crystallized strophanthin in 100 parts of 95 per cent. alcohol have been frequently observed to deposit crystals on standing.

A solution of 0.01 gm. in 1 Cc. water run onto a layer of concentrated sulphuric acid colors the latter pink to red and the aqueous layer is colored a dirty green color.

Heated to 105° C. (221° F.), it loses 20 per cent. of water. The strophanthin thus dried melts at 187° to 188° C. (368.6° to 370.4° F.). Upon ignition no weighable residue should remain.

Heating with dilute hydrochloric acid or sulphuric acid produces hydrolytic cleavage, yielding a body which is identical with rhamnose.

Action and Uses.—Its pharmacologic action is probably qualitatively identical with that of the official strophanthus or strophanthin, but the crystallized is more than twice as active as the official strophanthin when injected subcutaneously or intravenously. The action of crystallized strophanthin appears to be identical with that of the purest preparation of strophanthin from Strophanthus Kombé; this action develops more rapidly, the drug is more quickly excreted, and shows less tendency to cumulative action than is the case with digitalis.

Strophanthin Thoms is used in place of strophanthus as a substitute for digitalis.

Dosage.—It is recommended in doses of 5 minims of a 1 per cent. solution by the mouth, gradually increased by 1 minim until the desired effect is obtained, which seldom requires more than ten minims (or about one-tenth of a grain of strophanthin). (H. Schedel, Arbeit a. d. Pharm. Inst. d. Universität, Berlin, II, 1904, p. 97). Single dose by mouth, 0.003 to 0.025 Gm. (1/20 to 2/5 grain); daily dose, up to 0.03 Gm. (½ grain). The larger doses are probably not absolutely safe. Intramuscularly or intravenously: The correct dose has not been accurately determined, but it appears to be one-half milligram (1/130 grain) or less for a single dose, and only one such dose should be given in a day as a rule. For intramuscular injection it should be dissolved in about 4,000 parts of distilled water, and even in that dilution it occasions some pain. The intramuscular injection should be repeated only by the physician himself.

SUBLAMINE—Mercuric Sulphate-Ethylenediamine.—Sublamine, $HgSO_4.2C_2H_4(NH_2)_2 + 2H_2O$, is a compound of one molecule of mercuric sulphate with two molecules of ethylenediamine (which see).

It forms white needles, readily soluble in water and in 10 parts of glycerin, sparingly soluble in alcohol. It has an alkaline reaction; it contains about 44 per cent. of mercury. It does not precipitate albumin from its solutions.

It is incompatible with sodium chloride and should not be exposed to the air.

Actions and Uses.—Sublamine is a disinfectant, similar to mercuric chloride, over which it has the advantage of being non-irritating, more penetrating and readily soluble.

It is used as a substitute for mercuric chloride for hand disinfection, as well as in dermatology, gynecology, ophthalmology and otology.

Dosage.—It is used in a 1:1,000 solution for skin disinfection and in 1:5,000 solution for irrigations of the bladder, etc. It may be used in syphilis by injection into the gluteal muscles of a 3 or 4 per cent. solution.

Manufactured by Chemische Fabrik auf Actien, vorm. E. Schering, Berlin, Germany (Schering & Glatz, New York). U. S. patent No. 726,126 (April 21, 1903; expires 1920). U. S. trademark No. 3[illegible],736

SULPHANILIC ACID.—Acidum Sulphanilicum.—Acidum Sulfanilicum (Pharm. Helvetica, edit. 4).—Sulphanilic acid, $C_6H_4(NH_2)(HSO_3)$ 1:4, is para-amino-benzene-sulphonic acid.

Twenty-five Gm. colorless aniline are gradually added to 75 Gm. concentrated sulphuric acid in a 250 Cc. flask and the mixture warmed to 180° to 190° C. (356° to 374° F.), under agitation for about three hours or until a drop of the mixture dropped into a solution of potassium hydroxide no longer gives indication of the presence of aniline. At the end of the reaction the mixture is poured into 500 Cc. cold water which precipitates the sulphanilic acid as a grayish crystalline powder; it is treated with animal charcoal and recrystallized from hot water (Hager 1, p. 116).

It occurs as colorless crystals slightly soluble in water, and insoluble in alcohol and ether. It is decomposed at 280° to 300° C. (536° to 572° F.). It effloresces in air. It is soluble in 182 parts water at 0° C. (32° F), and in 166 parts water at 10° C. (50° F.). It is not altered by boiling alkali, but fusion with alkali decomposes it, yielding aniline. Chromic acid mixtures oxidize it to chinon. Permanganate oxidizes it to azo-benzene-sulphonic acid and an excess of this reagent to carbon dioxide, sulphuric acid, ammonia and oxalic acid. The cold saturated solution is not altered by hydrogen sulphide or barium chloride, but boiling with alkali should produce a visible change (Pharm. Helvetica, edit. 4). One Gm. of the powdered acid treated with 3 Cc. zinc chloride solution should not be darkened. It should leave no residue on ignition (Pharm Helvetica, edit 4).

Uses and Dosage.—Internally (of doubtful value) in chronic catarrh of the respiratory mucosæ, 0.5 to 2 Gm. (10 to 30 grains) three times a day. It may be rendered more soluble by sodium bicarbonate. Its most important use is in Ehrlich's diazo-reaction for typhoid urines.

Proprietary Preparation:

SOLOID NIZIN.—Tablets, each of which contains 0.13 Gm. (2 grains) of zinc sulphanilate, $Zn(C_6H_4(NH_2)SO_3)_2 + 4H_2O = Zn(C_6H_6O_3NS)_2 + 4H_2O$.

Actions and Uses.—Soloid Nizin is said to be an astringent and antiseptic. It is said to be useful in gonorrhea, in conjunctivitis and other eye affections.

Dosage.—One to three in 30 Cc. (one fluidounce) of water for urethral injection. One in 60 Cc. (2 fluidounces) for an eye lotion.

Prepared by Burroughs, Wellcome & Co., London, England, and New York. U. S. trademark No. 287,163.

SULPHONMETHANE.

Sulphonmethane is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

SULPHONAL.—A name applied to Sulphonmethanum, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 391,875 (expired).

SULPHONETHYLMETHANE.

Sulphonethylmethane is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physician's Manual of the Pharmacopeia and National Formulary.

TRIONAL.—A name applied to Sulphonethylmethanum, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 396,526 (expired).

SULPHURATED POTASH—Potassa Sulphurata—Kalium sulphuratum crudum—Hepar Sulfuris.—Sulphurated potash is a mixture of salts of potassium, of which the chief are potassium sulphides (Br. Pharm., p. 259).

It is prepared as follows: Mix the powdered and dried potassium carbonate thoroughly with the sublimed sulphur, and gradually heat the mixture, in a covered crucible, which should be only about half filled with it, until the mass ceases to foam and is in a state of perfect fusion. Then pour the fused mass on a cold marble slab, and, after it has cooled, break it into pieces, and keep it in a well-stoppered bottle (U. S. P., 1890, p. 313).

When freshly prepared, sulphurated potassa forms irregular pieces of a liver-brown color, which, by exposure to the air, gradually absorb moisture, oxygen and carbon dioxide, and change to a greenish-yellow and finally to a gray mass containing potassium carbonate, thiosulphate and sulphate. The compound has a faint odor of hydrogen sulphide, and a bitter, alkaline taste.

Soluble in 2 parts of water at 15° C. (59° F.), with the exception of a small residue. Alcohol dissolves only the potassium sulphide, leaving the other constituents (thiosulphate and sulphate) undissolved.

The aqueous solution (1 in 10) is of an orange-yellow color, is strongly alkaline to litmus paper, and gives off the odor of hydrogen sulphide.

On adding to it acetic acid in slight excess, an abundance of hydrogen sulphide is evolved, while sulphur is precipitated.

In this liquid, after filtration, sodium bitartrate test solution produces an abundant, white, crystalline precipitate (U. S. P., 1890, p. 213).

On triturating 1 Gm. of sulphurated potassa with 1 Gm. of crystallized copper sulphate and 10 Cc. of water, and filtering, the filtrate should remain unaffected by hydrogen sulphide test solution, corresponding to at least 12.85 per cent. of sulphur combined with potassium to form sulphide (U. S. P., 1890, p. 313).

Actions and Uses.—Externally sulphurated potash acts as an irritant and softens the horny layers of the skin, acting especially on the hairs. Internally, it is a gastrointestinal irritant and is believed to be an alterative. In some cases it has produced severe poisoning from the amount of hydrogen sulphide evolved. It is employed externally[1] as a local irritant in various skin diseases and as a parasiticide.

TANNALBIN—**Albuminis Tannas.**—Tannate of Albumin.—Tannalbin is a compound of tannic acid and albumin thoroughly exsiccated.

It is prepared by precipitating 10 parts of a 10 per cent. solution of egg albumin with 6.5 parts of a 10 per cent. solution of tannic acid, washing the precipitate with water until the washings react only faintly with ferric chloride, drying it on porous tiles, powdering, and heating the product at 126° C. (258.8° F.) for six hours.

It is a light brown, odorless and tasteless powder, containing about 50 per cent. of tannic acid. It is practically insoluble in water or alcohol, but slowly soluble in alkaline fluids, which split it up into its constituents.

The filtrate obtained after shaking tannalbin with water should give, at most, a faint reaction with ferric chloride.

It is incompatible with alkaline liquids.

Actions and Uses.—Tannalbin is astringent. Being insoluble in the gastric juice, it becomes effective when it reaches the intestines, where it slowly splits off tannic acid. It does not produce gastric disturbance.

It is said to be useful in diarrhea, especially in that of children, and in phthisis.

Dosage.—1 to 4 Gm. (15 to 60 grains) in powder (or tablets) followed by water; infant doses, 0.3 to 0.5 Gm. (5 to 8 grains) in gruel or other mucilaginous liquid.

Manufactured by Knoll & Co., Ludwigshafen a. R., Germany, and New York. U. S. patent No. 563,479 (July 7, 1896; expires 1913). U. S. trademark No. 28,348.

TANNIGEN—**Acidum Tannicum Diacetylicum.**—Diacetyl-Tannin.—Tannigen is tannyl acetate, $C_{14}H_8(C_2H_3O)_2O_9 = C_{18}H_{14}O_{11}$, the acetic acid ester of tannin.

It is prepared by heating tannin and acetic anhydride, in molecular proportions, in the presence of glacial acetic acid in a flask under a reflux condenser, pouring the product of the reaction into water, washing the precipitate produced with warm water, drying and powdering.

It is a light-gray, almost odorless and tasteless powder, which undergoes no change when heated alone, even to 180° C. (356° F.), but softens when heated in water at 50° C. (122° F.). It is practically insoluble in cold water, scarcely soluble in hot water, but soluble in alcohol, and also in solutions of borax, sodium phosphate, sodium carbonate, lime, etc., being reprecipitated from these solutions by acids. It is rapidly saponified by boiling sodium or potassium hydroxide solutions, or gradually in the cold, into acetic and gallic acids, while ammonia produces acetic and tannic acids.

Its aqueous solutions produce with ferric salts a green color, instead of the blue-violet color characteristic of tannic acid. A slightly alkaline solution in sodium phosphate exhibits all the characteristics of an astringent and precipitate albumin, but these properties are destroyed by borax or more alkali.

It is incompatible with alkalies and with salts of iron; it should not be exposed to heat or moisture.

Actions and Uses.—Tannigen passes unchanged into the intestine, where it becomes effective as an astringent in contact with the alkaline juice. It is said to be free from irritant action. (See note under Cresosote Carbonate.)

It is said to be useful in acute diarrheal affections, such as acute intestinal catarrhs, cholera morbus, cholera infantum and dysentery; it has also been used with reported success for the diarrhea of typhoid fever and intestinal tuberculosis.

Dosage.—0.2 to 0.7 Gm. (3 to 10 grains) four times per day, dry on the tongue followed by a swallow of water; or mixed with food, avoiding warm or alkaline liquids.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 533,718 (Feb. 5, 1895; expires 1912). U. S. trademark No. 17,668.

TANNISMUTH—**Bismuthi Bitannas.**—Bitannate of Bismuth. Tannismuth is the bismuth salt of tannic acid in which approximately one atom of bismuth is combined with two molecules of tannic acid having approximately the formula $Bi(OH)(C_{14}H_9O_9)_2$ and containing between 17 and 21 per cent. bismuth.

It is a light yellow powder with slightly astringent taste, insoluble in water, soluble in cold caustic alkalies, and in diluted hydrochloric acid.

Actions and Uses.—It is claimed that one molecule of the tannic acid becomes operative immediately after ingestion, while the other is slowly separated and prolongs the astringent action throughout the entire length of the alimentary canal.

It is said to be useful in chronic intestinal catarrh, involving different portions of the intestinal tract.

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains) three to five times daily.

Manufactured by Chemische Fabrik von Heyden, Radebeul near Dresden, Germany (The Heyden Chemical Works, New York). Not patented in the United States. German patent No. 172,933. U. S. trademark No. 36,916.

TANNOFORM — **Tanninformaldehydum.** — Tanninformaldehyde—Methylenditannin—Tannoform, $CH_2(C_{14}H_9O_9)_2 = C_{29}H_{20}O_{18}$, is a condensation product of formaldehyde with gallo-tannic acid.

It is prepared by mixing solutions of formaldehyde and tannic acid, precipitating with concentrated hydrochloric acid, washing the precipitate with water, and drying.

It forms a voluminous, reddish powder, odorless and tasteless. It is insoluble in water, but soluble in alkaline liquids and in alcohol. 0.01 Gm. of tannoform dissolved in 2 Cc. concentrated sulphuric acid forms a brown solution which on warming becomes green and later changes to blue. The green or blue solution, on addition of alcohol, assumes a brilliant blue color, which gradually changes to wine color, while on addition of dilute sodium hydroxide the color is pale green.

Its incompatibilities are those of tannin generally.

Actions and Uses.—Tannoform is astringent and antiseptic. It is said to be useful an account of these properties in chronic intestinal catarrh and externally in hyperidrosis, bromidrosis, weeping eczema, ozena, etc.

Dosage.—0.25 to 0.5 Gm. (4 to 8 grains); externally, pure or in 25 to 50 per cent. triturations (with talc) as dusting powder, or as 10 per cent. ointment or soap.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). German patents Nos. 88,082 and 88,841.

TANNOPIN—Hexamethylene-Tetramine-Tannin.—Tannon.—Tannopin, $(C_{14}H_{10}O_9)_3.CH_2)_6N_4 = C_{48}H_{42}O_{27}N_4$, is a condensation product of tannin with hexamethylenamine

It is prepared by mixing molecular proportions of solutions of hexamethylenamine and tannic acid, collecting, washing and drying the precipitate.

It is a fine, fawn-colored, odorless and tasteless, non-hygroscopic powder, containing 87 per cent. of tannin and 13 per cent. of hexamethylenamine. It is insoluble in water, weak acids, alcohol, chloroform or ether, but slowly soluble in dilute alkalies. On heating dry tannopin, it swells and gives off the odor of formaldehyde. The odor of formaldehyde is also developed on heating tannopin with dilute sulphuric or hydrochloric acid, while on boiling with sodium hydroxide solution it splits off ammonia. The clear aqueous filtrate from tannopin does not give a reaction with ferric chloride.

It is incompatible with alkalies.

Actions and Uses.—Tannopin has an astringent and antiseptic action in the intestine; it passes unchanged through the stomach, but, being gradually decomposed by alkalies, it becomes effective in the intestinal tract, exerting the action of its two components.

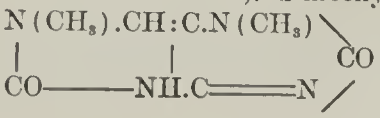
It is said to be useful in acute, subacute or chronic intestinal catarrh, in tuberculous enteritis, and other intestinal disorders.

Dosage.—0.3 to 0.5 Gm. (5 to 8 grains) for infants and children; 1 Gm. (15 grains) for adults, dry on the tongue, followed by a swallow of water, or sprinkled on food, four times a day.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. patent No. 607,172 (July 12, 1898; expires 1915). U. S. trademark No. 31,527.

THEOBROMINE AND THEOBROMINE COMPOUNDS.

THEOBROMINE—Theobromina.—3,7-Dimethyl-Xanthine.—Theobromine is 3,7-dimethyl xanthine,



$$\left.\begin{array}{l} N(CH_3).CH{:}C.N(CH_3) \\ | \qquad\qquad\quad | \\ CO\text{———}NH.C\text{═══}N \end{array}\right\rangle CO = C_7H_8O_2N_4$$

a base occurring in

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[1] In view of the uncertainty of the composition of sulphurated potash and of the fact that it sometimes exerts a poisonous action, it is deemed suitable only for external use.

Theobroma cacao, Kola acuminata, etc., and also made synthetically. Theobromine is closely related to caffeine (1,3 7 trimethyl xanthine).

It is a white, crystalline powder, odorless and bitterish. It is almost insoluble in cold water or chloroform, readily soluble in hot alcohol and in ether. It forms salts with acids.

Actions and Uses.—Its uses are similar to those of caffeine, but its action is said to be relatively greater on the heart and muscles and also as a diuretic. It does not act so powerfully on the central nervous system.

It is used as a diuretic. The great obstacle to its use has been its insolubility and the consequent uncertainty of the degree of its absorption. It is liable to produce gastric disturbances.

Dosage.—0.35 to 0.5 Gm. (5 to 8 grains).

AGURIN — Theobrominæ Sodio-Acetas. — Theobromine-Sodium-Acetate.—Agurin, $NaC_7H_7N_4O_2 + NaC_2H_3O_2$, is a double salt of sodium acetate and theobromine-sodium.

It is prepared by adding to a solution of one molecule of sodium hydroxide one molecule of theobromine. To this solution of sodium theobromine one molecule of sodium acetate is added and the solution brought to dryness.

It is a white, finely crystalline powder, containing 60 per cent. of theobromine. It is freely soluble in water, not very readily soluble in cold, more so in hot, alcohol. It is quite hygroscopic, and in watery solutions gradually splits up into its components, and more readily in the presence of carbon dioxide.

It is precipitated and decomposed by carbon dioxide and by acids; it forms a bluish white precipitate with silver nitrate, a blue precipitate with copper sulphate, white with tartar emetic, red-brown with ferric salts. It is not readily precipitated by Mayer's reagents, nor by iodine.

It is incompatible with carbonated beverages, acids, saccharine and mucilaginous liquids, and most of the alkaloid reagents.

Actions and Uses.—It acts like theobromine, over which it has the advantage of great solubility and that it is well tolerated by the stomach. While inferior in diuretic power to theophyllin (which see), it is said to have greater power in sustaining the diuresis produced.

Dosage.—0.5 to 1 Gm. (7 to 15 grains), preferably in wafers or capsules. If in solution, this should be freshly prepared (with peppermint water) and without sugar or mucilage.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark.

Tablets Agurin, 5 grains. Each tablet contains agurin 0.33 Gm. (5 grains).

THEOBROMINE SODIUM SALICYLATE — Theobrominæ Sodio-Salicylas.—Theobromine sodium salicylate, $NaC_7H_7N_4O_2 + NaC_7H_5O_3$, is a double salt of theobromine-sodium and sodium salicylate. It is official in the German Pharmacopeia as Theobrominum natrio-salicylicum.

It is prepared by adding to a solution of one molecule of sodium hydroxide one molecule of theobromine. To this solution of sodium theobromine one molecule of sodium salicylate is added and the solution brought to dryness.

It is a white powder, odorless, having a saline taste, and containing 50 per cent. of theobromine. It is freely soluble in water, and, like "theobromine sodium-acetate" (see Agurin) is readily decomposed by exposure to carbon dioxide or by the action of acids. It must therefore be preserved in well-stoppered bottles.

The aqueous solution (1 to 5) is colorless, turns litmus paper blue and after acidification with acetic acid assumes a violet coloration on addition of ferric chloride solution. From the solution, hydrochloric acid precipitates salicylic acid, and, after a time, also theobromine, the precipitate being completely soluble in sodium hydroxide solution, but not in ammonia water. If 10 Cc. of the solution, rendered clear by the addition of sodium hydroxide solution, is shaken with 10 Cc. of chloroform, the chloroform when separated and evaporated should leave a residue not exceeding 0.005 Gm. for 1 Gm. theobromine sodium salicylate.

It is incompatible with acids, bicarbonates, borates, phosphates, ferric salts, hydrated chloral, etc.

Actions and Uses.—Its effects are the same as those of theobromine (which see), over which it has the advantage of greater solubility.

Dosage.—1 Gm. (15 grains) five or six times a day. Its tendency to produce gastric irritation may be prevented by giving it in well-diluted solution, or, if preferred, in capsules or wafers, followed by water.

THEPHORIN—Theobrominæ Sodio-Formas. — Theobromine Sodium Formate. Thephorin is theobromine sodio-formate, $NaC_7H_7N_4O_2 + NaCHO_2 + H_2O$, a double salt of sodium formate and theobromine sodium.

It is prepared by dissolving 70.1 parts of theobromine sodium in 200 parts of water and adding to it a solution of 23.5 parts of anhydrous sodium formate in 50 parts of water, filtering the mixture, and evaporating to dryness on a steam bath or in vacuo

Thephorin is a white, odorless powder having a saline bitter taste and is readily soluble in water producing an alkaline solution. From its aqueous solution the theobromine is precipitated by acetic acid. In the filtrate formic acid is indicated by the reduction of silver nitrate.

If an aqueous solution of thephorin be faintly acidulated with nitric acid, the filtrate should give no precipitate with barium chloride, nor with silver nitrate, nor with ammonia water and hydrogen sulphide.

Two Gm. thephorin are placed in a porcelain dish and dissolved in 10 c.c. water with the aid of gentle heat. A few drops of phenolphthalein test solution are placed in the solution, neutralized with nitric acid, the faint alkaline reaction is again restored by means of diluted ammonia, the solution is then thoroughly stirred and, with frequent stirring, allowed to stand for three hours at ordinary temperature.

The resulting precipitate collected on a weighed filter of 8 cm. diameter, is dried at a temperature of 100 C.; it is then washed twice with cold water, using 10 Cc. each time. The filter is again dried at a temperature of 100 C. and weighed. The weight of the precipitate should amount to 1.2 Gm.

Actions and Uses.—Thephorin is said not to irritate the stomach and acts as a powerful diuretic, both on account of the theobromine which it contains and also from the action of sodium formate.

It is said to be useful in cardiac affections, nephritis, dropsy, etc.

Dosage.—0.5 Gm. (7½ grains) two or three times a day in the form of powder or as tablets.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland (The Hoffmann-LaRoche Chemical Works, New York). U. S. patent No. 799,764 (Sept. 19, 1905; expires 1922). U. S. trademark No. 59,581.

Thephorin Tablets, 7 1/2 grains: Each tablet contains thephorin 0.5 Gm. (7½ grains).

UROPHERIN-B—Theobrominæ et Lithii Benzoas. — Theobromine and Lithium Benzoate—Uropherin Benzoate.—Uropherin-B is theobromine lithio-benzoate, $LiC_7H_7N_4O_2 + LiC_7H_5O_2$, a double salt of theobromine-lithium and lithium benzoate.

It is a white powder containing 50 per cent. of theobromine. It is soluble in 5 parts of water; it decomposes on exposure to light and air.

A solution of uropherin-B will respond to the various tests for lithium, theobromine and benzoate.

Actions and Uses.—It is a diuretic, said to be particularly efficient in connection with digitalis.

It is said to be useful in dropsy, nephritis and diseases of the heart and of the genitourinary organs.

Dosage.—0.3 to 1 Gm. (5 to 15 grains) in powder or capsules, followed by water.

Manufactured by E. Merck, Darmstadt (Merck & Co., New York). U. S. trademark.

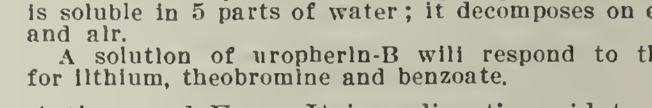
UROPHERIN-S—Theobrominæ et Lithii Salicylas.—Theobromine and Lithium Salicylate—Uropherin Salicylate.—Uropherin-S is theobromine lithio-salicylate, $LiC_7H_7N_4O_2 + LiC_7H_5O_3$, a double salt of theobromine-lithium and lithium salicylate.

Actions and Uses.—The properties, actions, uses and dosage of this compound are practically the same as those of "theobromine-lithium benzoate" (see Uropherin-B).

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. trademark.

THEOPHYLLINE AND THEOPHYLLINE COMPOUNDS.

THEOPHYLLIN—Theophyllina. — 1,3-Dimethyl-Xanthine.—Theophyllin is 1,3-dimethyl-xanthine,



$$\begin{array}{l} N(CH_3).CO.C.NH\diagdown \\ | \qquad\qquad\quad \| \qquad\qquad CH + H_2O = C_7H_8O_2N_4 + H_2O, \\ CO.N(CH_3).C.N \diagup\!\diagup \end{array}$$

an organic base isomeric with theobromine; it is found in small amounts in tea and is also made synthetically.

It is a white odorless, crystalline powder, having a bitter taste, and melting at 268° C. (514.4° F.). It is soluble in 180 parts of water at ordinary temperature and in 85 parts at 37° C. (98.6° F.), sparingly soluble in alcohol, insoluble in ether. It forms easily soluble compounds with ammonium and potassium, a less soluble salt with sodium, but a freely soluble double salt with sodium acetate.

It responds to the murexid test. Addition of tannin to a solution of theophyllin produces a precipitate soluble in an excess of the reagent. It is soluble in an excess of sodium hydroxide solution (difference from caffeine). On addition to solution of theophyllin in sodium hydroxide of a solution of sulphanilic acid 0.5, hydrochloric acid 5.0, water 100, to which a few drops of a ½ per cent. solution of sodium nitrite have been added (diazo test), a red coloration is produced (distinction from caffeine and theobromine).

Actions and Uses.—Theophyllin has a diuretic action similar to that of caffeine or theobromine but is more effective. The diuretic effect, however, is not prolonged and its administration is, therefore, advantageously followed by one of the theobromine derivatives having a weaker, but more persistent, action. It occasionally produces gastric disturbances and renal irritation has also been reported. It is claimed that these may be obviated by the use of theophyllin sodio-acetate (which see) instead.

It is used in cardiac affections, nephritis, dropsy, etc.

Dosage.—0.2 to 0.35 Gm. (3 to 5 grains) in warm tea.

Proprietary Preparations:

THEOPHYLLIN (Boehringer) is prepared by transformation of uric acid.

Manufactured by C. F. Boehringer & Soehne, Mannheim, Germany. (Merck & Co., New York.) U. S. patent Nos. 667,381 (Feb. 5, 1901; expires 1918); 757,328; 757,329 (April 12, 1904; expires 1921).

THEOCIN:—A name applied to theophyllin manufactured by Farbenfabriken, vorm, Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). It is prepared by treating the monoformyl derivative of 1-3 dimethyl-4-5-diamido-2-6-dioxypyrimidin with alkalies. The alkaline salts of theophyllin thus produced are transformed into theophyllin by the action of acids.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 716,994 (Dec. 30, 1902; expires 1919). U. S. trademark No. 39,135.

THEOPHYLLIN SODIO-ACETATE—Theophyllinæ sodio-acetas—Theophyllin sodium-acetate $C_7H_7N_4O_2Na + CH_3COONa + H_2O$, is a double salt of sodium acetate and 1, 3-dimethylxanthine-sodium (theophyllinsodium).

It is a white crystalline powder, containing about 60 per cent. of anhydrous theocin. It dissolves in about 20 parts of water at 25° C. (77° F.), but is insoluble in alcohol or ether.

Actions and Uses.—It has the diuretic properties of theophyllin reinforced by the diuretic action of sodium acetate, and being more soluble, it is claimed to be more readily absorbed and to be better tolerated than theophyllin.

It is said to be useful in cardiac affections, nephritis, dropsy, etc.

Dosage.—0.2 to 0.35 Gm. (3 to 5 grains), best given after meals.

Proprietary Preparations:

ACET-THEOCIN SODIUM.—A name applied to Theophyllin-Sodio-Acetate.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 716.994 (Dec. 30, 1902; expires 1919). U. S. trademark No. 39,135.

Acet-Theophyllin Sodium.—A name applied to Theophyllin-Sodio-Acetate.

Manufactured by C. F. Boehringer & Soehne, Mannheim, Germany (Merck & Co., New York). U. S. patent Nos. 667.381 (Feb. 5, 1901; expires 1918); 757,328; 757,329 (April 12, 1904; expires 1921).

THERMODIN — Phenacetin-Urethane. — Acetylparethoxy-Phenyl-Urethane.—Thermodin,
$C_6H_4(OC_2H_5).(N(COOC_2H_5)(CH_3CO)) = C_{13}H_{17}O_4N$, is a compound of acetphenetidin (phenacetin) and ethyl carbamate (urethane). It is chemically related to acetphenetidin (phenacetin), but differs from the latter in that it contains the group $[N(COOC_2H_5)(CH_3CO)]$ in place of $(NH.CO.CH_3)$.

It is prepared by the action of ethyl chlorocarbonate on paraphenetidin by which parethoxyphenyl-urethane is formed which is converted into the acetyl compound by heating with acetic anhydride.

It forms colorless, odorless and tasteless crystals, melting at 86° to 88° C. (186.8° to 190.4° F.). It is practically insoluble in cold water (1:2600); soluble in 450 parts of boiling water.

If 0.5 Gm. of thermodin, 5 Cc. sulphuric acid, and 5 Cc. of alcohol are mixed and warmed gently, the odor of ethyl acetate is developed. A solution of 0.5 Gm. of thermodin in 5 Cc. of sulphuric acid on the addition of 0.2 Gm. of sucrose, assumes a red color, becoming more intense on standing (distinction from neurodin). If 0.5 Gm. of thermodin is boiled with 3 Cc. of hydrochloric acid during one minute, then mixed with 5 Cc. phenol solution 1:20, and a solution of chlorinated lime added, an onion red color appears which changes to blue on supersaturation with ammonium hydroxide. 0.1 Gm. of thermodin dissolved in 1 Cc. of sulphuric acid should form an almost colorless solution. 0.1 Gm. of thermodin should, on ignition, not leave a weighable residue.

Actions and Uses.—Thermodin is an analgesic, antipyretic and antiseptic.

It is recommended as a mild and reliable antipyretic in typhoid fever, pneumonia, influenza, tuberculosis and febrile conditions in general, and is said to be free from unpleasant by-effects. There is every reason to believe, however, that for use in these infectious diseases it is open to the same objection as the other derivatives of acetphenetidin and related products. (See Acetphenetidin.)

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains) as an antipyretic; 1 to 1.3 Gm. (15 to 20 grains) as an analgesic.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. trademark.

THIGENOL.—Solution of Sodium Sulpho-Oleate, Roche.—Thigenol is a solution of the sodium salts of synthetic sulpho-oleic acids, containing 2.85 per cent. sulphur.

Precipitated sulphur is dissolved by boiling in the glyceride of oleic acid; the resulting solution is treated with sulphuric acid, during which process sulphurous acid escapes, and a sulpho-oleic acid is separated out. The separated sulpho-acid is then obtained by pouring into water, and subsequently washing thoroughly. By treatment with solution of sodium hydroxide, there results a solution of sodium sulpho-oleate, which is evaporated in vacuo until it has a specific gravity of 1.05 to 1.06.

Thigenol is a dark brown liquid, having a faint sulphurous odor. It is soluble in one or more parts of water, dilute alcohol, glycerin, chloroform, oily or fatty bases, with any one of which it mixes freely. When water is the vehicle employed, it should be distilled; hard water will cause a precipitate. Thigenol is incompatible with mineral acids or acetic acid.

Actions and Uses.—Thigenol is said to have the actions of sulphur. It is claimed to stimulate granulation, restrict secretions and to be antipruritic.

It is used in diseases of the uterus and its appendages and in skin diseases in which sulphur is commonly employed.

Dosage.—0.2 to 0.6 Gm. (3 to 10 grains) in plain or sweetened water. Thigenol is used locally either in the pure state or mixed in any desired proportion with ointment bases, fats or glycerin according to the intensity of action required.

Manufactured by F. Hoffmann-LaRoche & Co., Basel, Switzerland. (The Hoffmann-LaRoche Chemical Works, New York). U. S. trademark No. 51,393. Not patented.

THIOL.—Thiolum.—Thiol is a water soluble mixture of sulphurated and sulphonated petroleum oils.

Thiol is prepared by heating certain paraffin oils with 10 per cent. of sulphur, by which a partial addition of the sulphur takes place. The thiol oil thus formed is then treated with sulphuric acid for sulphonization. The excess of sulphuric acid is washed out by water and the sulphonated product neutralized by ammonia and the solution freed by dialysis from all inorganic salts. The dialyzed product evaporated to dryness contains about 12 per cent. of sulphur. For therapeutic purposes the evaporation is not carried to absolute dryness but the product is marketed either in the form of a syrupy liquid (Thiol Liquid, see below) or as a powder (Thiol Dry, see below).

Thiol is a brown powder with a pleasant odor resembling Russia leather, having a somewhat bitter and slightly astringent taste. It swells up in water and finally dissolves. It is also soluble in alcohol and slightly soluble in ether.

Thiol should not markedly redden litmus paper.

Actions and Uses.—Thiol is said to have a drying, astringent, antiphlogistic, and disinfecting action. Taken internally it is said to favor digestion and defecation. It is said to be useful in skin diseases, especially in dermatitis, acne, eczema, erysipelas, erythema, furunculosis, herpes, pruritus, pityriasis, etc. It is also claimed to be useful in burns, in rheumatism and in certain diseases of women.

Dosage.—It may be applied locally in the form of liquid thiol in full strength or in solution with glycerin or water or in the form of ointment or a 2 per cent. solution of liquid thiol may be used as a spray. Internally it may be given in the form of dry thiol in the dose of 0.1 to 0.2 Gm. (1½ to 3 grains) three times a day. Dry thiol may be employed as a dusting powder, either alone or with 80 per cent. of starch or in the form of ointment or of paste.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, Germany (Riedel & Co., New York). U. S. trademark 16,553.

Thiol Dry.—Thiolum Siccum.—Thiol Dry is a brown powder with properties corresponding to the description of thiol, containing from 8 to 9 per cent. of sulphur.

Actions, Usage and Dosage.—See Thiol.

Thiol Liquid.—Thiolum Liquidum.—Thiol liquid is a preparation of thiol containing about 1.8 to 2 per cent. of sulphur.

It is a dark brown neutral liquid of a not unpleasant smell resembling that of Russian leather. It is easily soluble in water and glycerin but only slightly soluble in ether.

Actions, Uses and Dosage.—See Thiol.

THIOSINAMINE AND THIOSINAMINE COMPOUNDS.

THIOSINAMINE—Thiosinamina.—Allyl Sulphocarbamide—Allyl Thiourea—Rhodaline.—Thiosinamine is allyl-thio-urea, $(NH_2).CS.NHCH_2.CH:CH_2 = C_4H_8N_2S$.

It is prepared by warming together volatile oil of mustard (chiefly allyl thiocyanate) and alcoholic solution of ammonia, collecting the crystalline product of condensation, and recrystallizing from alcohol.

It forms colorless crystals, having a slight alliaceous odor and bitter taste and melting at 74° C. (165.2° F.). It is moderately soluble in water, but is decomposed by this solvent. It is soluble in about 3 parts of alcohol and readily soluble in ether.

It is incompatible with water, which decomposes it, but this change is to a limited extent prevented by the presence of glycerin.

Actions and Uses.—Thiosinamine appears to cause or quicken the absorption of exudates, lymphatic swellings, scar tissue, etc., the action being unexplained. The opinions as to its value are contradictory.

It is used by hypodermic injection in lupus, chronic glandular tumors, cicatrices, etc. By the mouth in stricture, corneal opacity, chronic deafness.

Dosage.—0.03 to 0.1 Gm. (½ to 1½ grains) in capsules or tablet triturates; in subcutaneous injections, 0.05 to 0.2 Gm. (1 to 5 grains) in 15 per cent. alcoholic or 10 per cent. glycerinated water solution.

SOLUTION THIOSINAMINE SODIUM SALICYLATE.—Liquor Thiosinaminæ Sodio-Salicylatis.—A sterilized solution containing 15 per cent. of a double salt of thiosinamine and sodium salicylate, $(NH_2.CS.NHCH_2.CH{:}CH_2)\ C_6H_4(OH)\ (COONa)$.

It is prepared by mixing the two compounds in solution.

It is an aqueous odorless solution. It does not keep well in the air, but is marketed in sealed, brown glass vials, each containing 2.3 Cc. (37 minims) of the solution, equivalent to 0.2 Gm. (3 grains) of thiosinamine.

The tests are those of thiosinamine and sodium salicylate.

Actions and Uses.—Those of thiosinamine, with the advantage of quicker absorption and freedom from pain or irritation, on account of its solubility and aqueous vehicle.

Dosage.—The contents of one vial (2.3 Cc. = 0.2 Gm. thiosinamin) by subcutaneous, intramuscular or intravenous injection; one injection being administered daily or every second or third day.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. trademark No. 49,160.

THORIUM NITRATE—**Thorii Nitras.**—Thorium nitrate, $Th\ (NO_3)_4 + 4H_2O$, is the thorium salt of nitric acid.

Thorium nitrate occurs as white crystalline granules or lumps. Very soluble in water and alcohol. On calcination yields a voluminous, white oxide, which should amount to 48-50 per cent. of the original salt. The aqueous solution dries over sulphuric acid to a crystalline mass.

An aqueous solution gives a white precipitate with ammonium carbonate, the precipitate being completely soluble in an excess of the precipitant. The aqueous solution gives with caustic alkalies a voluminous precipitate of the hydroxide insoluble in an excess of the precipitant. The presence of tartaric acid prevents the precipitation. Potassium ferrocyanide produces an amorphous precipitate.

Action and Uses.—The soluble thorium salts bear a close resemblance to alum in their local astringent and irritant properties. They are not absorbed from the alimentary canal. Hypodermically, they cause local sloughing, and intravenously, they kill by coagulating the blood. The non-precipitant double salts are practically non-toxic, even intravenously. They are excreted by the kidneys. Thorium salts are fairly radioactive. They have been recommended for local application in malignant diseases and thorium emanation has been inhaled in phthisis. Reliable evidence as to the therapeutic value of thorium salts is lacking.

Dosage.—A solution of thorium nitrate (1 to 5) is neutralized with ammonia and allowed to stand in a bottle four-fifths full; the emanation that accumulates in the vessel is inhaled (Br. Codex).

THYMOL IODIDE.

Thymol Iodide is official in the United States Pharmacopeia. For description see the pharmacopeia or the Physicians' Manual of the Pharmacopeia and National Formulary.

ARISTOL.—A name applied to Thymolis Iodidum, U. S. P.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). U. S. trademark No. 17,393.

THYRESOL.—Thyresol consists chiefly of the methyl ether of santalol, $C_{15}H_{23}OCH_3$. It is prepared by the action of sodium methylate on "santal oil chloride."

Thyresol is a colorless liquid of aromatic odor, almost insoluble in water; easily soluble in alcohol and ether; soluble in concentrated sulphuric acid with a reddish-brown color. Boils at 149-156° C. (300.2-312.8° F.) under pressure of about 16 mm. On heating with hydriodic acid, santalyl iodide and methyl iodide are formed.

Actions and Uses.—Similar to sandal wood oil, but said to be practically free from irritant effects on the stomach and kidneys.

It is said to be useful in acute and chronic gonorrhea, anterior and posterior, and other conditions in which the sandal wood oil preparations are indicated.

Dosage.—0.5 Gm. (8 grains) 3 to 4 times daily, best given in milk or gelatin capsules.

Manufactured by Farbenfabriken vorm. Friedr. Bayer & Co., Elberfeld, Germany. (Farbenfabriken of Elberfeld Co., New York.) U. S. patent No. 909,541 (Jan. 12, 1909; expires 1926).

THYROID PREPARATIONS.

IODOTHYRINE—**Thyroiodine.**—Iodothyrine is a milk sugar trituration of the active principle of thyroid gland, 1 Gm. representing 1 Gm. of fresh gland and containing 0.0003 Gm. of iodine.

According to the patent specifications iodothyrine may be obtained by boiling the fresh thyroid glands, freed from fat, with dilute sulphuric acid, cooling the liquid and collecting the body which separates, dissolving the active portion in alcohol and evaporating to dryness. The product is further purified by washing with ether, which dissolves impurities. One part of the active ingredient is mixed with 309 parts of sugar of milk.

It is a white or yellowish white powder, having the sweet taste of milk sugar.

Actions and Uses.—It is similar in action to Glandulæ Thyroideæ Siccæ, U. S. P., but it is claimed to possess the advantage of more definite strength and absence of decomposable extraneous matter.

Dosage.—Adults, 0.6 to 2 Gm. (10 to 30 grains); children, 0.3 to 1 Gm. (5 to 15 grains) per day.

Manufactured by Farbenfabriken, vorm. Friedr. Bayer & Co., Elberfeld, Germany (Farbenfabriken of Elberfeld Co., New York). E. Merck, Darmstadt (Merck & Co., New York). U. S. patent No. 626,648 (June 6, 1899; expires 1916). U. S. trademark No. 29,406.

Iodothyrine Tablets, 5 grains. Each tablet contains iodothyrine 0.33 Gm. (5 grains).

TRIFERRIN—**Triferrinum.**—Triferrin is ferric paranucleinate; a compound of caseinparanucleinic acid with iron, containing 22 per cent. of iron, 9 per cent. of nitrogen and 2.5 per cent. of phosphorus in natural (organic) combination.

It is prepared by digesting cow's milk-casein with pepsin and precipitating the solution with a ferric salt.

It is a tasteless powder. It is soluble in weak solution of sodium hydroxide, but insoluble in weak hydrochloric acid (0.1 to 0.3 per cent.).

Actions and Uses.—In addition to its hematinic action derived from the iron, it is claimed to act like lecithin by reason of the phosphorus in organic combination which it contains. It is said to agree with very sensitive stomachs, since it passes the stomach unchanged but is freely absorbed in the intestines.

It is said to be useful in anemia, chlorosis, neurasthenia, rachitis and general debility.

Dosage.—0.3 Gm. (5 grains) in powder, taken during meals.

Manufactured by Knoll & Co., Ludwigshafen a. Rh., Germany, and New York (Knoll & Co., New York). German patent No. 114,273. U. S. trademark No. 36,747.

Triferrol—Liquor Triferrini, Knoll.—Triferrol is an elixir of triferrin, said to contain 0.06 Gm. (1 grain) triferrin in 4 Cc. (1 fluidram). It contains 15 per cent. of alcohol.

A soluble form of triferrin (soluble triferrin Knoll), is dissolved in a vehicle consisting of water, alcohol, tincture of orange, tinct. cardamon co. and vanillin.

Dosage.—16 Cc. (4 fluidrams) corresponding to 0.24 Gm. (4 grains) of the powder.

TRIOXYMETHYLENE — **Paraformaldehydum.**—Paraformaldehyde.—Trioxymethylene, $(CH_2O)x$, is a polymeric condensation of formaldehyde.

It is prepared by concentrating an aqueous solution (40 per cent.) of formaldehyde by evaporation.

It is a white, crystalline powder, melting at 171° C. (339.8° F.). It is insoluble in alcohol or ether, but slowly soluble in water at ordinary temperature, more rapidly when heated, formaldehyde being regenerated as indicated by the vapors given off.

It responds to the tests for formaldehyde.

It has the same incompatibilities as formaldehyde: Bases, oxidizing agents, gelatin, tannin, etc.

Actions and Uses.—Antiseptic and escharotic. Externally it is used chiefly to generate formaldehyde by heating, for disinfection or for inhalations.

Dosage.—Internally, 0.3 to 1 Gm. (5 to 15 grains); externally (for warts), in 10 per cent. suspension in collodion.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). It is not patented or trademarked.

TRIPHENIN.—Propionyl-Phenetidin—Triphenin, $C_6H_4(OC_2H_5)NH(CH_3CH_2CO) = C_{11}H_{16}NO_2$, is a derivative of paraphenetidin, differing from acetphenetidin (phenacetin), $C_6H_4(OC_2H_5)NH(CH_3CO)$, in that the acetic acid residue, $(CH_3.CO)$, has been replaced by the propanoic acid residue, $(CH_3.CH_2.CO)$.

It is a white, shining, crystalline powder, melting at 120° C. (248° F.), odorless and faintly bitter. It is practically insoluble in water, requiring 2,000 parts, but soluble in alcohol and in ether.

It is prepared by heating paraphenetidin with propanoic acid and crystallizing the product.

In general it responds to the pharmacopoeial tests for acetphenetidin (phenacetin). From this it may be distinguished by its melting point and by identifying the propanoic acid evolved when heated with 50 per cent. sulphuric acid.

Its incompatibilities are those of acetphenetidin (phenacetin.)

Actions and Uses.—Triphenin is antipyretic, analgesic and hypnotic, its action is slower and milder than that of phenacetin, because it is less soluble, and it is said to be free from by- or after-effects.

It has been recommended in typhoid, pneumonia, pleurisy, influenza, erysipelas and tuberculosis; also in neuralgia, sciatica, migraine, tabetic pains, etc. Like similar products, it must be used with caution, especially in the infectious fevers. (See Acetphenetidin.)

Dosage.—As an antipyretic, 0.25 to 0.6 Gm. (4 to 10) grains); as an antineuralgic, 1 to 1.3 Gm. (15 to 20 grains), preferably in wafers.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 535,846 (March 19, 1895; expires 1912). U. S. trademark.

TROPACOCAINE HYDROCHLORIDE—Tropacocainæ Hydrochloridum.—Benzoylpseudotropeine Hydrochloride—Tropeine.—Tropacocaine hydrochloride, $C_8H_{14}NO(C_7H_5O.)HCl = C_{15}H_{19}NO_2.HCl$, is the hydrochloride of synthetic tropacocaine.

Pseudotropin-Lieberman is obtained from tropinon or from tropin by electrolytic reduction and from this the benzoyl derivative is obtained and this is converted to the hydrochloride.

It forms colorless, needle-shaped crystals, melting at 271° C. (519.8° F.). It is readily soluble in water, and its solution keeps well for several months. Heated in the presence of hydrochloric acid it is split into benzoic acid and tropine.

Its incompatibilities are the same as those of the alkaloids in general.

Actions and Uses.—Tropacocaine hydrochloride is a local anesthetic, resembling cocaine very closely in its general action, but only half as poisonous. It is reported that anesthesia sets in more rapidly and lasts longer than with cocaine. It produces less dilatation of the pupil, sometimes none at all. It is employed as a local anesthetic.

Dosage.—It is applied in 3 to 10 per cent. aqueous solutions containing 0.6 per cent. sodium chloride.

Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York). U. S. patent No. 628,293 (July 4, 1899; expires 1916).

UREA.—Urea, $CO(NH_2)_2 = CH_4ON_2$, is the diamide of carbonic acid.

Urea occurs as colorless transparent prismatic crystals almost odorless having a cooling saline taste. It is somewhat hygroscopic. It is soluble in water (1-1), more readily in hot water. Soluble in alcohol (1-7) and (1-1) in boiling alcohol. It is insoluble in ether and chloroform. . It fuses at 132° C. (269.6° F.), evolving ammonia and ammonium cyanate. Kept at 150° C. (302° F.) for some time most of it is converted to biuret. If the temperature is raised to 170° C. (338° F.) the biuret evolves ammonia and is converted to cyanuric acid. Heated with water under pressure it is decomposed into ammonium carbonate. It is not alkaline, but is a weak base and though a diamide, forms salts like a monacid base; these are acid to litmus. By hydrolysis it is converted into ammonia and carbon dioxide. Nitric and oxalic acids produce precipitates when added to concentrated solutions of urea.

Action and Uses.—Urea is an active diuretic; it is rapidly eliminated and is not poisonous. It has been claimed, without convincing proof, to have the power of dissolving urinary calculi. It has been recommended in the treatment of tuberculosis, but this use of it is generally being abandoned. It may be employed where diuresis is indicated, though it appears irrational in primary renal disease.

Dosage.—0.5 to 4 Gms. (10 to 60 grains). Urea is given in solution, or it may be enclosed in cachets.

VALIDOL.—Validol is menthyl valerianate, $C_{10}H_{19}O.C_5H_9O$, the menthylester of valerianic acid, with 30 per cent. of free menthol.

It is prepared by heating a mixture of 16 parts of menthol and 12 parts of valerylchloride on a water bath until hydrogen chloride ceases to be given off, adding very dilute solution of sodium hydroxide, shaking out the mixture with ether, drying the ether-solution with potassium carbonate, distilling off the ether, and rectifying the residual oily product by vacuum distillation, finally dissolving 30 per cent. of free menthol in the pure ester so obtained.

Validol is a crystal-clear, colorless liquid, of the consistency of glycerin, having a mild and pleasant odor, distinct from either that of menthol or valerian, and a refreshing cool and very faintly bitter taste, insoluble in water, but readily soluble in alcohol, ether, chloroform, and oils. It is decomposed by alkalies. On warming with sodium hydroxide solution, the odor of menthol manifests itself; if then the alkaline solution is acidulated with diluted sulphuric acid, the odor of valerianic acid is developed. It is incompatible with alkaline media.

Actions and Uses.—Analeptic, antihysteric, carminative, stomachic; combining the activity of valerianic acid and of menthol. It is devoid of the irritating acridity of the latter and is said to be well tolerated by the most sensitive stomach.

It is said to be useful in hysteria, migraine, gastralgia, gastritis, vomiting of pregnancy, exhaustion, hypochondria, syncope and certain reflex neuroses.

Dosage.—10 to 15 drops, on sugar, or in a little sweet wine.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany (C. Bischoff & Co., New York).

VALIDOL CAMPHORATUM.—Validol camphoratum is camphorated Validol.

Camphorated Validol is a 10 per cent. solution of camphor in validol. Camphorated Validol is a clear, colorless liquid, of the consistency of glycerin, having an agreeable odor, and refreshingly cool and faintly bitter taste. It is insoluble in water, but readily soluble in alcohol, oils and other organic solvents. It is incompatible with alkaline media.

Actions and Uses.—Restorative, local analgesic, non-irritant and non-poisonous; well tolerated by the mucous membrane of the stomach. It is said to be useful in serious cases of exhaustion, where the administration of camphor is indicated; in odontalgia, either by application to the pulp or inserted on cotton into the previously rinsed cavity.

Dosage.—10 to 15 drops, on sugar or in wine.

Manufactured by Vereinigte Chininfabriken, Zimmer & Co., Frankfort a. M., Germany (C. Bischoff & Co., New York).

VALYL—Valeryldiethylamidum.—Valerianic Acid Diethylamide.—Valyl is valeryl diethylamide, $C_4H_9CO.N(C_2H_5)_2 = C_9H_{19}ON$, a compound of valeric acid and diethylamine.

It is prepared by the direct interaction of its acid and basic components.

It is a bright, colorless, neutral liquid, having a peculiar pepper-like odor, boiling at 210° C. (410° F.). It is soluble in 25 parts of water and easily soluble in alcohol or ether.

It should be neutral to moistened litmus paper and the boiling point should not vary materially above or below that indicated.

It should not be exposed to the air.

Actions and Uses.—Valyl acts as a sedative, antispasmodic and nervine, similar to valerian.

It is said to be useful in hysteria, traumatic neurosis, hemicrania, neuralgia, menstrual irregularities, insomnia due to nervousness, etc.

Dosage.—Owing to the liability of valyl to oxidize when exposed to the air, it is supplied only in the form of pearls, each containing 0.125 Gm. (2 grains), the dose being 2 or 3 capsules, administered during or immediately after meals, or otherwise with a little milk.

Manufactured by Farbwerke, vorm. Meister, Lucius & Bruening, Hoecht a. M., Germany (Victor Koechl & Co., New York). U. S. patent No. 697,730 (April 15, 1902; expires 1919).

VIOFORM. — Iodochloroxyquinolin. — Nioform. — Vioform is iodo-chlor-hydroxy-quinoline, $C_9H_4N.OH.I.Cl = C_9H_5ONClI$, a substitution compound of anachlor-orthohydroxy-quinoline, resulting from the introduction of one atom of iodine.

Hydroxy-quinoline is first chlorinated and dissolved in an alkaline solution, which is then treated with a solution of iodine in potassium iodide when a voluminous yellowish brown precipitate of vioform is produced. This is washed with a solution of sodium thiosulphate to remove free iodine and then with 1 per cent. hydrochloric acid until the dried residue melts at from 170° to 175° C. (338° to 347° F.).

It is a very voluminous, greenish yellow powder; crystallizing from glacial acetic acid in needles melting at 177° to 178° C. (350.6° to 352.4° F.), practically odorless, and insoluble in water and slightly soluble in alcohol; it permits sterilization without decomposition; it is about six times as bulky as iodoform.

Vioform contains 41.57 per cent. of iodine—It gives a green coloration with Millon's reagent or when the alcoholic solution is treated with ferric chloride solution. It dissolves with a brown color in concentrated sulphuric acid and the solution evolves iodine on warming. If this solution, after driving off the iodine, be diluted with water, chlorine can be demonstrated by the usual test with silver nitrate. If a solution of vioform in chloroform is shaken with nitric acid, the chloroform acquires a violet red color, and the nitric acid becomes somewhat yellow.

Actions and Uses.—It is antiseptic, hemostatic, cicatrisant; non-toxic and non-irritant. It is claimed to be an ideal substitute for iodoform and to prevent decomposition in wound secretions to a much higher degree. Drains and tampons may be left *in situ* for a considerable time.

Dosage.—As a dusting powder and as an ointment spray, suppository, or in form of gauze.

Manufactured by Baseler Chemische Fabrik, Basel, Switzerland (C. Bischoff & Co., New York). German patent No. 117,767.

Vioform Gauze.—Gauze impregnated with a solution of 10 Gm. (150 grains) of vioform, 50 Gm. (750 grains) of absolute alcohol, 10 Gm. (150 grains) of sugar, 25 Gm. (375 grains) of glycerin, and 500 Gm. (1 1/12 pints) of water.

XEROFORM—Bismuthi Tribromphenolas.—Tribromphenol-Bismuth.—Xeroform is basic bismuth tribrom-phenolate, $Bi(C_6H_2Br_3O)_2OH.Bi_2O_3 = C_{12}H_5O_6Br_6Bi_3$, containing nearly 50 per cent. of Bi_2O_3.

According to the patent it is obtained by dissolving tribromphenol in sodium hydroxide and adding bismuth nitrate to the sodium tribromphenolate solution. The precipitated tribromphenol bismuth is collected, and washed with alcohol.

It is a fine yellow, nearly odorless and tasteless powder, neutral in reaction, and unaffected by light. It is insoluble in water, alcohol, chloroform, liquid petrolatum and vegetable oils, but soluble in 2 per cent. hydrochloric acid in the proportion of 30:100. By alkalies it is decomposed with the formation of bromides; it is not decomposed by heat at temperatures below 120° C. (248° F.), and therefore may be sterilized.

It should yield 49.5 per cent. of bismuth oxide. If 1 Gm. is boiled with sodium hydroxide T. S. filtered, the filtrate rendered acid with sulphuric acid and the white, curdy precipitate washed and dried, it should melt at 95° C. (203° F.) (tribromphenol).

It is incompatible with alkaline media and should not be heated above 120° C. (248° F.).

Actions and Uses.—Xeroform is claimed to be non-irritant and non-toxic antiseptic. It is said to be useful as an odorless and efficient substitute for iodoform; as valuable in *ulcus cruris* and all weeping eczemas: internally, in gastrointestinal catarrh, proctitis, dysentery, bacillary and choleraic diarrhea, cholera infantum, etc. (See note under Creosote Carbonate.)

Dosage.—1 to 3 Gm. (15 to 45 grains) per day to adults; 0.12 to 0.3 Gm. (2 to 5 grains) at a dose to children. Externally, as a dusting powder, in bandages, etc., like iodoform.

Manufactured by the Heyden Chemical Works, New York. U. S. patent No. 516,358 (March 13, 1894; expires 1911).

ZINC PERMANGANATE.—Zinci Permanganas.—Zinc permanganate, $Zn\ (Mno_4)_2 + 6H_2O$ is the zinc salt of permanganic acid. It should contain not less than 90 per cent. of zinc permanganate.

Zinc permanganate occurs in dark brown, nearly black, lustrous deliquescent crystals, or crystalline masses. It is readily soluble in water (1 in 3), generally leaving a slight residue. Aqueous solutions decompose in air, but are permanent if kept in well-closed bottles, protected from light. When heated slowly it loses water of crystallization (25.46 per cent.) and oxygen, leaving a residue of zinc manganite. If heated quickly it gives off pink vapors, or more properly, a fine dust of manganese trioxid. Zinc permanganate gives up oxygen more easily than does the potassium salt, hence great care should be taken in bringing it in contact with easily oxidizable substances.

Zinc permanganate should be almost completely soluble in water. The color of the solution is discharged by alcohol, hydrogen sulphid, ferrous sulphate, oxalic acid, or hydrogen dioxid, especially if the solution is first rendered acid with sulphuric acid

Tests.—If 1 Gm. of the salt is dissolved in 50 Cc. of water and 5 Cc. of alcohol added, a colorless solution must be obtained after boiling and filtering; if a small part of the latter acidified with nitric acid is tested with silver nitrate T. S. for chlorid and with barium chlorid T. S. for sulphate, not more than traces of either should be indicated.

To estimate its purity, 0.1 to 0.2 Gm. of substance is weighed, dissolved in water, filtered through asbestos, the filtrate acidulated with 5 Cc. dilute sulphuric acid, warmed to about 60° C., treated with an excess of tenth-normal oxalic acid V. S., and the excess of oxalic acid determined by titration with N/10 potassium permanganate V. S. Each cubic centimeter of tenth-normal oxalic acid V. S. consumed indicates 0.0040842 Gm. zinc permanganate, $Zn(MnO_4)_2 + 6.H_2O = 408.42$.

Action and Uses.—Zinc permanganate resembles the potassium salt in its oxidizing properties, but is more astringent. It is antiseptic. It is used chiefly in urethritis, either as an injection or as a urethral douche.

Dosage.—Locally 1 part to 4,000 (1 grain in 8 fluidounces). 1.3 Gm. zinc permanganate is equal in permanganate content to 1 Gm. potassium permanganate.

Non-Proprietary Preparations:

Zinc Permanganate, P-W-R.—Manufactured by the Powers-Weightman-Rosengarten Co., Philadelphia, Pa.

Zinc Permanganate, Merck.—Manufactured by E. Merck, Darmstadt, Germany (Merck & Co., New York).

Tablets Zinc Permanganate, 1 grain, Mulford.—Each tablet contains zinc permanganate 0.065 Gm. (1 grain). Prepared by the H. K. Mulford Co., Philadelphia, Pa.

'Soloid' Zinc Permanganate, 1/8 grain, B.-W. & Co.—Each tablet contains zinc permanganate 0.008 Gm. (⅛ grain). Prepared by Burroughs-Wellcome & Co., London and New York.

ZINC PEROXIDE—Zinci Peroxidum.—Zinc Peroxide is the zinc salt, ZnO_2, of hydrogen peroxide, containing an admixture of not more than 55 per cent. of zinc oxide.

Zinc peroxide occurs as a yellowish white voluminous powder; tasteless, odorless, non-hydroscopic, antiseptic, neither caustic nor irritant, and not more toxic than ordinary zinc oxide. It is insoluble in water, but gives to it a slight alkaline reaction: it is soluble in cold dilute sulphuric acid with evolution of oxygen and in dilute hydrochloric acid with liberation of chlorine. It gives all the reactions of peroxides, caramelizes sugar, disengages oxygen by the action of acids and in contact with living tissue. It is stable in the autoclave to 130° C. and at a dry heat to 150° C., and thus may be readily sterilized. Heated to higher temperature, it loses oxygen and forms zinc oxide. It should not respond to tests for calcium, magnesium, barium, sulphates, chlorides or carbonates.

0.2-0.3 Gm. zinc peroxide accurately weighed and added to 50 Cc. water and acidulated with 20 Cc. dilute sulphuric acid, should require for each 0.1 Gm. material used not less than 9.25 Cc. dilute tenth-normal permanganate solution to produce a permanent pink color.

Action and Uses.—Zinc peroxide is used in the extemporaneous preparation of hydrogen peroxide for wounds, chronic ulcers, etc. It may be applied as a dressing directly on wounds, etc., where it produces hydrogen peroxide *in situ.* For eczema and other skin diseases it is sometimes prescribed with half its weight of potassium iodide and one-tenth its weight of tartaric acid, the mixture liberating iodine on contact with moist surfaces.

Dosage.—It may be used as a dusting powder either alone or mixed with tannin, or in the form of gauze, or a 10 per cent. ointment.

Proprietary Preparation:

PEROXIDE ZINC SOAP—Sapo cum zinci peroxido.—Peroxide Zinc Soap is a soap containing 10 per cent. zinc peroxide, which see.

Actions and Uses.—It is said to be useful as a vehicle for employing zinc peroxide in the treatment of skin diseases.

Prepared by J. Eavenson & Sons, Camden, N. J., for the Roessler & Hasslacher Chemical Co., New York. U. S. patent No. 787,776 (April 18, 1905; expires 1922). No trademark.

APPENDIX.

An index to the proprietary articles, arranged under the names of the manufacturers or their agents, which, so far as known to the Council, comply with the rules, but which did not possess sufficient originality to be admitted to the body of the book (see Introduction to Official Rules of the Council, page 9).

Edward G. Binz Co., Los Angeles, Cal.

Eucaloids.—Gelatine capsules, each said to contain pure oil of eucalyptus 0.3 Cc. (5 minims).

Euca-Mul.—An emulsion of oil of eucalyptus in glycerin and honey, said to contain oil of eucalyptus 3.25 Cc. in 100 Cc. (15 minims in a fluid ounce).

Burroughs, Wellcome & Co., New York.

Enule Soap Compound.—A cocoa butter suppository weighing 2.52 Gm. (39 grains) and containing in each suppository curd soap and dry sodium sulphate 0.454 Gm. (7 grains) of each.

Tabloid Hypophosphites Comp.—Each tablet is said to contain: Sodium hypophosphite, 0.0084 Gm. (⅛ grain); potassium hypophosphite, 0.0084 Gm. (⅛ grain); iron hypophosphite, 0.0084 Gm. (⅛ grain); manganese hypophosphite, 0.0042 Gm. (1/16 grain); quinine hypophosphite, 0.0021 Gm. (1/32 grain); strychnine hypophosphite, 0.0005 Gm. (1/128 grain); calcium hypophosphite, 0.0663 Gm. (1 3/128 grain).

*Tabloid Coffee Mint.**—Each tablet said to contain: Sodium bicarbonate, 0.2 Gm. (3 grains); ammonium carbonate, 0.004 Gm.

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* This article and all others thus starred do not comply with the present rules of the Council. Having been accepted before the revision of the rules the Council decided to retain them for the present in the appendix.

(1/16 grain); extract of coffee (obtained by extracting roasted coffee with water, the percolate being evaporated, dried and powdered), 0.032 Gm. (½ grain); cerium oxalate, 0.016 Gm. (¼ grain); oil of peppermint to flavor.

G. W. Carnrick Co., New York.

*Antithermoline.**—Each 1000 Gm. is said to contain purified kaolin, 563 Gm.; boric acid, 2 Gm.; oil of eucalyptus, menthol and thymol, combined, 2 Gm.; and glycerine, 320 Cc. It closely resembles Cataplasma Kaolini, U. S. P.

Cloftlin Chemical Co., New York.

*Emulsion Cloftlin.**—Each 100 Cc. is said to contain calcium hypophosphite, 1.33 Gm. (6 grains in a fluidounce); manganese hypophosphite, 0.66 Gm. (3 grains in a fluidounce); glycerin, 10 per cent.; cod liver oil, 50 per cent. (by volume).

Eusoma Pharmaceutical Co., Cincinnati, O.

Mercuran.—It is stated to be a 50 per cent. mercurial ointment in which the benzoinated lard of the official ointment (Unguentum Hydrargyri U. S. P.) has been replaced by goose fat stearin. It is supplied in capsules containing about 4 Gm. (60 grains) each.

Louisville Pharmacal Works, Louisville, Ky.

Elixir Duozyma.—Elixir Pepsin, Diastase and Hydrastis, L. P. W. A mixture said to represent in each 100 Cc.: pure scale pepsin (1:3000) 2.2 Gm. (10 grains in a fluidounce); malt diastase 0.22 Gm. (1 grain in a fluidounce); golden seal 0.22 Gm. (1 grain in a fluidounce); glycerin, C. P., 10 Cc. (48 minims in a fluidounce) and alcohol 15 per cent.

Malt-Diastase Co., New York.

Maltzyme.—A preparation essentially equivalent to Extractum Malti U. S. P. and containing 7 per cent. of alcohol. U. S. trademark No. 46,459.

Maltzyme with Cod Liver Oil.—Said to consist of maltzyme concentrated and brought back to its original volume by the addition of 25 per cent. of Lofoten cod liver oil.

Maltzyme with Cascara Sagrada.—Each 100 Cc. is said to represent cascara bark, 10 Gm. (48 grains in a fluidounce).

Maltzyme with Hypophosphites.—Each 100 Cc. is said to contain calcium, sodium, and potassium hypophosphites, of each 0.4 Gm. (2 grains in a fluidounce) and iron and manganese hypophosphites, of each, 0.05 Gm. (¼ grain in a fluidounce).

Multzyme with Phosphate of Iron, Quinine and Strychnine.—Each 100 Cc. is said to contain iron pyrophosphate, 0.85 Gm. (4 grains in a fluidounce); quinine, 0.20 Gm. (1 grain in a fluidounce); strychnine, 0.0066 Gm. (2/75 of a grain in a fluidounce).

Maltzyme Ferrated.—Each 100 Cc. is said to contain iron pyrophosphate, 1.65 Gm. (8 grains in a fluidounce).

Maltzyme with Yerba Santa.—Each 100 Cc. is said to represent yerba santa leaves, 6.6 Gm. (30 grains in a fluidounce).

The Maltine Company, Brooklyn, N. Y.

Maltine.—A preparation essentially equivalent to Extractum Malti U. S. P. and containing 3.88 per cent. alcohol.
U. S. trademark No. 44,556.

Maltine with Cascara Sagrada.—Each 100 Cc. is said to represent cascara sagrada (Rhamnus Purshiana) 12.5 Gm. (60 grains in a fluidounce) in a mixture containing maltine 96.115 per cent. and alcohol 3.885 per cent.

Maltine with Cod Liver Oil.—A liquid said to represent maltine, 56.115 per cent.; glycerin, 10 per cent.; cod liver oil, 30 per cent.; alcohol, 3.885 per cent.

Maltine with Creosote.—Each 100 Cc. is said to represent beechwood creosote, 0.83 Cc. (4 minims in a fluidounce) in a mixture containing maltine, 96.115 per cent., and alcohol, 3.885 per cent.

Maltine Ferrated.—Each 100 Cc. is said to represent iron pyrophosphate 1.65 Gm. (8 grains in a fluidounce) in a menstruum containing maltine, 96.115 per cent., and alcohol, 3.885 per cent.

Maltine with Hypophosphites.—Each 100 Cc. is said to contain calcium hypophosphite, 0.64 Gm. (3 grains in a fluidounce), sodium hypophosphite, 0.64 Gm. (3 grains in a fluidounce), and iron hypophosphite, 0.42 Gm. (2 grains in a fluidounce), dissolved in a solution of ammonium citrate and to contain maltine, 96.115 per cent., and alcohol, 3.885 per cent.

Maltine with Olive Oil and Hypophosphites.—A preparation said to consist of maltine, 65 per cent.; pure olive oil, 25 per cent.; glycerin, 10 per cent.; to which per 100 Cc. there is added calcium hypophosphite, 0.6 Gm. (3 grains per fluidounce); sodium hypophosphite, 0.6 Gm. (3 grains per fluidounce).

Maltine with Phosphate of Iron, Quinia and Strychnia.—Each 100 Cc. is said to represent iron pyrophosphate, 0.83 Gm. (4 grains in a fluidounce); quinine salphate, 0.21 Gm. (1 grain in a fluidounce); strychnine (alkaloid), 0.0066 Gm. (2/75 grain in a fluidounce) dissolved in a solution of ammonium citrate and to contain maltine, 96.115 per cent., and alcohol, 3.885 per cent.

Maltine with Wine of Pepsin.—A liquid said to consist of maltine, 27.5 per cent. wine of pepsin, 71.5 per cent.; and fluid extract of gentian, 1 per cent., the percentage of alcohol in the mixture being 18 per cent.

Malto-Yerbine.—A liquid said to contain in each 100 Cc. an extract of 6.6 Gm. (30 grains in a fluidounce) of eriodictyon (Yerba Santa), also flavoring composed of the essential oils of anise, cassia, coriander and caraway in a mixture containing maltine, 96.115 per cent. and alcohol, 3.885 per cent.

The extract of Yerba Santa employed in Malto-Yerbine is prepared as follows:

The leaves of Yerba Santa in coarse powder are boiled under pressure for six hours and inert matter separated by a filter press. The filtrate is concentrated with a certain quantity of maltine at a high temperature until the product has reached a density of 1.35. This extract is mixed in proper proportions with maltine of extra diastasic strength to make up for the diastasic strength lost through heat during the concentration of the drug with maltine.

Manhattan Eye Salve Co., Owensboro, Ky.

Argyrol Ointment (M. E. S. Co.)—An ointment said to consist of argyrol 10 per cent.; hydrous wool fat, 25 per cent.; white petrolatum, 65 per cent. Put up in collapsible tubes, for application to the eye.

Compound Yellow Oxide and Adrenalin Ointment (M. E. S. Co.)—An ointment said to contain yellow oxide of mercury 1 per cent., solution of adrenalin chloride 5 per cent., menthol 0.04 per cent., phenol 0.2 per cent., hydrous wool fat 25 per cent., white petrolatum sufficient to make 100 per cent. Put up in collapsible tubes, for application to the eye.

Cocaine and Adrenalin Ointment (M. E. S. Co.)—An ointment said to contain cocaine hydrochloride 2 per cent., solution of adrenalin chloride 17 per cent., hydrous wool fat 25 per cent., white petrolatum sufficient to make 100 per cent. Put up in collapsible tubes, for application to the eye.

Dionin Ointment (M. E. S. Co.).—An ointment said to consist of dionin 5 per cent.: white petrolatum, 95 per cent. Put up in collapsible tubes, for application to the eye.

Holocain and Adrenalin Ointment (M. E. S. Co.).—An ointment said to consist of holocain 1 per cent.; adrenalin chloride, 4 per cent.; hydrous wool fat, 10 per cent.; white petrolatum, 85 per cent. Put up in collapsible tubes for application to the eye.

Wm. S. Merrell Chemical Co., Cincinnati, O.

*Akaralgia.**—A mixture each 100 Cc. of which is said to represent sodium sulphate, 25 Gm.; sodium salicylate, 8.33 Gm.; magnesium sulphate, 42.5 Gm.; lithium benzoate, 4.16 Gm.; tincture of nux vomica, 5 Cc. Each average dose of 2 drams is said to represent sodium sulphate 30 grains, sodium salicylate (Merrell) 10 grains, magnesium sulphate 50 grains, lithium benzoate 5 grains and tincture of nux vomica 6 minims.

Erpiol—Dr. Shrader.—Capsules stated to contain in each: Apiol, green (see Oleoresin of Parsley Seed), 0.31 Cc. (5 minims); Ergotin, Bonjean's process (see Purified Extract of Ergot), 0.065 Gm. (1 grain); Gossypin, resinoid, 0.195 Gm. (3 grains).

H. K. Mulford Co., Philadelphia, Pa.

*Blandine Comp.**—A liquid said to contain in each 100 Cc.: Camphor, 0.3 Gm. (1⅓ grains in a fluidounce); menthol, 0.04 Gm. (1/5 grain in a fluidounce); thymol, 0.04 Gm. (1/5 grain in a fluidounce); eucalyptol, 0.08 Gm. (2/5 grain in a fluidounce); oil of gaultheria, 0.33 Cc. (1½ minims in a fluidounce); hydrastine alkaloid, 0.005 Gm. (1/40 grain in a fluidounce) in a neutral, odorless mineral oil (liquid petroleum). U. S. trademark No. 51,647.

*Casca-Laxative.**—A liquid extract representing in each 100 Cc.: Cascara sagrada, 116.6 Gm. (540 grains in a fluidounce); senna, 58.3 Gm. (270 grains in a fluidounce); podophyllin, 0.16 Gm. (¾ grain in a fluidounce); in a menstruum containing 17 per cent. of absolute alcohol by volume with aromatics.

Compound Capsules of Glycerophosphates. Capsula glycerophosphatum composita.—Each capsule is said to contain: Terebene, 0.2 Cc. (3 minims); oil of sandalwood, 0.2 Cc. (3 minims); guaiacol, 0.06 Cc. (1 minim) calcium glycerophosphate 0.06 Gm. (1 grain) sodium glycerophosphate, 0.03 Gm. (½ grain); strychnine 0.00065 Gm. (1/100 grain); pure olive oil sufficient to make 10 minims.

They are soft, oval shaped capsules of a clear, yellow color, with a small compressed tablet containing the glycerophosphates and strychnine suspended in the oils.

Methyl-Santal.—Each capsule is said to contain: Methylene blue, 0.06 Gm. (1 grain); oleoresin of copaiba, 0.1 Cc. (1 3/5 minims); oleoresin of cubebs, 0.025 Cc. (2/5 minim); oil of sandalwood, 0.09 Cc. (1½ minims); oil of cinnamon, 0.013 Cc. (1/5 minim); oil of nutmeg, 0.005 Cc. (1/12 minim).

Granular Effervescent Sodium Sulphate (Glauber's Salt), Mulford.—A mixture said to contain in each 100 Gm.: Dried sodium sulphate, 40 Gm., with an effervescing mixture consisting of sodium bicarbonate, citric acid, tartaric acid, and sugar. Each heaping teaspoonful weighing about 75 grains is said to contain dried sodium sulphate, 30 grains.

Granular Effervescent Bromide and Acetanilide Compound, Mulford.—A mixture said to contain in each 100 Gm.: Sodium bromide, 5 Gm., acetanilide, 1.5 Gm., and saccharin, 0.014 Gm., with an effervescent base consisting of sodium bicarbonate, and citric and tartaric acids. Each heaping teaspoonful of this salt, about 100 grains, is said to contain about 1.5 grains acetanilide, about 5 grains sodium bromide, and about 1/70 grain of saccharin.

Granular Effervescent Caffeine and Sodium Bromide Compound, Mulford.—A mixture said to contain in each 100 Gm.: Sodium bromide, 5.45 Gm.; caffeine, 0.545 Gm.; and saccharin, 0.014 Gm., with an effervescent base consisting of sodium bicarbonate, and citric and tartaric acids. Each heaping teaspoonful of this salt, about 92 grains, is said to contain about 5 grains sodium bromide, ½ grain, caffeine, and about 1/70 grain of saccharin.

Granular Effervescent Caffeine and Potassium Bromide, Mulford.—A mixture said to contain in each 100 Gm.: Potassium bromide, 2.3 Gm.; caffeine, 0.122 Gm.; and saccharin, 0.014 Gm., with an effervescent mixture consisting of sodium bicarbonate, and citric and tartaric acids. Each ounce is said to contain about 10 grains of potassium bromide, about 2 grains of caffeine, and about 1/16 grain of saccharin.

Granular Effervescent Carlsbad Salt (Artificial), Mulford.—A mixture said to contain in each 100 Gm.: Potassium sulphate, 0.35 Gm.; sodium chloride, 3.266 Gm.; sodium bicarbonate, 6.533 Gm., and sodium sulphate (dried), 8 Gm., with an effervescent base consisting of sodium bicarbonate, and citric and tartaric acids. Each heaping teaspoonful of the salt, about 90 grains, is said to contain about ⅓ grain of potassium sulphate, 3 grains of sodium chloride, 6 grains of sodium bicarbonate and 7 grains of sodium sulphate (dried).

Granular Effervescent Carlsbad Salt (Artificial) with Phenolphthalein, Mulford.—A mixture said to contain in each 100 Gm.: Potassium sulphate, 0.35 Gm.; sodium chloride, 3.266 Gm.; sodium bicarbonate, 6.533 Gm.; sodium sulphate (dried), 8 Gm., and phenolphthalein, 1.1 Gm., with an effervescent base consisting of sodium bicarbonate, and citric and tartaric acids. Each heaping teaspoonful of the salt will average about 90 grains and is said to contain about ⅓ grain of potassium sulphate, 3 grains of sodium chloride, 6 grains of sodium bicarbonate, 7 grains of sodium sulphate (dried) and about 1 grain of phenolphthalein.

Guaiacol Carbonate Comp.—Soft, elastic, soluble capsules, each of which is said to contain: Guaiacol carbonate, 0.09 Gm. (1½ grains); calcium hypophosphite, 0.03 Gm. (½ grain); ichthyol, 0.03 Gm. (½ grain), strontium arsenite, 0.00055 Gm. (1/120 grain), and olive oil sufficient to make 0.3 Cc. (5 minims). Trademark not registered.

National Pharmacy Co., Oakland, Cal.

Bismuthal.—A milky liquid, said to contain in 100 Cc. lac bismuthi citratis, 44 Cc.; pepsin, 3.30 Gm.; hydrochloric acid, 0.013 Gm.; lactic acid, 0.013 Gm.; glycerin, 40 Gm., and alcohol, 5 Cc.; cherry laurel water, 1.66 Cc.; Jamaica ginger, 0.26 Gm.; gum benzoin, 0.59 Gm. Each dose of 1 fluidram is said to contain approximately: Lac bismuthi citratis, 26 minims; pepsin, 2 grains; hydrochloric acid, 8/1000 grain; lactic acid, 8/1000 grain; glycerin, 24 grains; alcohol, 3 minims; cherry laurel water, 1 minim; Jamaica ginger, 1/6 grain; gum benzoin, ⅓ grain.

Lac bismuthi citratis contains 7.60 per cent. of anhydrous bismuth citrate. It is made by double decomposition between bismuth trinitrate and sodium citrate, decanting the supernatant liquid and washing the precipitate.

Pitman-Myers Co., Indianapolis, Ind.

Aromatic Cordial, P.-M. Co.—Aromatic cordial is a mixture said to contain in each 100 Cc.: Papain, 0.4 Gm., and lactic acid, 0.625 Cc. in a menstruum consisting of glycerin wine, aromatics, sugar, and 5 per cent. of alcohol. One fluidram is said to contain papain, ¼ grain, and lactic acid, 4/10 minim.

Elixir Buchu, Juniper and Acetate Potassium, P.-M. Co.—Each 100 Cc. is said to represent: Buchu, 16.6 Gm.; juniper berries, uva ursi, of each, 8.3 Gm.; potassium acetate, 5 Gm. Each fluidram is said to represent: Buchu, 10 grains; juniper berries, uva ursi, of each, 5 grains, and potassium acetate, 3 grains.

Oleum Ricini Dulce, P.-M. Co.—Castor oil to which has been added saccharin 0.07 Gm. in 100 Cc. (0.33 in a fluidounce) and aromatics; contains 2.5 per cent. alcohol.

Syrup Cannabis Compound.—Each 100 Cc. is said to represent: Cannabis Indica, 1.66 Gm. (7½ grains in a fluidounce); heroin hydrochloride, 0.066 Gm. (⅓ grain in a fluidounce); chloroform, 0.83 Cc. (4 minims in a fluidounce); lobelia, 1.66 Gm. (7½ grains in a fluidounce); antimony and potassium tartrate (tartar emetic), 0.026 Gm. (⅛ grain in a fluidounce), with aromatics; alcohol, 10 per cent.

Tablets Acet-Phenetidin Compound, P.-M. Co.—Tablets, each stated to contain acet-phenetidin 0.23 Gm. (3½ grains); caffein, 0.016 Gm. (¼ grain) and sodium bicarbonate, 0.08 Gm. (1¼ grains).

Reinschild Chemical Co., New York.

Extractum Chinae Nanning.—A liquid extract of red cinchona said to contain cinchona alkaloids 5 per cent., cinchona tannins 7½-10 per cent., glycerine 30 per cent., water 55-57½ per cent.

Dosage.—1 to 1.25 Gm. (15 to 20 minims) three times a day.

*Regulin.**—A mixture of agar-agar in a dry form with extract of cascara sagrada representing 15 per cent. of an aqueous fluid extract of cascara sagrada.

Actions and Uses.—See Agar-agar. Regulin is used for the the treatment of habitual constipation.

Dosage.—From a teaspoonful to a tablespoonful once daily in stewed apples, mashed potatoes or similar food.

U. S. patent No. 896,807 (Aug. 25, 1908; expires 1925).

Russell & Lawrie, Tarrytown, New York.

*Lubraseptic.**—Lubraseptic is a jelly prepared from Chondrus (Irish moss) containing 2 per cent. boric acid and 0.067 per cent. formaldehyde.

The material is packed in screw cap metal tubes and sterilized by heat.

Dosage.—It is put up in collapsible tubes and it is suggested to reject the portion first expressed to make sure of the sterile condition of that used.

Schering & Glatz, New York.

*Tonols.**—Tonol is a name applied by E. Schering to identify the glycerophosphates of his manufacture. The following are mentioned: Calcium (or lime) tonol, Iron tonol, Lithium tonol, Magnesium tonol, Manganese tonol, Potassium tonol, Quinine tonol, Strychnine tonol. U. S. trademark No. 59,094.

*Duotonol.**—A mixture of equal parts of calcium tonol and sodium tonol. U. S. trademark.

*Quartonol.**—A name applied to a mixture of tonols in tablets of 0.3 Gm. (5 grains), each tablet being said to contain: Lime tonol, 0.148 Gm. (2¼ grains), sodium tonol, 0.148 Gm. (2¼ grains); quinine tonol, 0.03 Gm. (½ grain), and strychnin tonol, 0.00032 Gm. (1/200 grain). U. S. trademark.

*Sextonol.**—A mixture of tonols in tablets of 0.3 Gm. (5 grains), each tablet being said to contain: Lime tonol, 0.13 Gm. (2 grains); sodium tonol, 0.13 Gm. (2 grains); iron tonol, 0.03 Gm. (½ grain); manganese tonol, 0.015 Gm. (¼ grain); quinine tonol, 0.015 Gm. (¼ grain), and strychnine tonol, 0.00032 Gm. (1/200 grain). U. S. trademark.

Trikresol.—A liquid said to consist of: Orthocresol, 35 per cent.; metacresol, 40 per cent., and paracresol, 25 per cent. It closely corresponds to Cresol, U. S. P. U. S. trademark No. 65,624.

Schieffelin & Co., New York.

*Colalin Laxative.**—Tabella Colalinæ cum Extracto Rhamni Purshianæ, Crowell. Each tablet is said to contain colalin, 0.015 Gm. (¼ grain), powdered extract of cascara, 0.12 Gm. (2 grains), and podophyllin, 0.01 Gm. (1/6 grain).

Dosage.—One to three tablets on retiring or one after each meal.

*Elixir Eupnein.**—A preparation each 100 Cc. of which is said to contain: Heroin, 0.0325 Gm.; terpin hydrate, 1.625 Gm.; creosote, 3.75 Gm., in a menstruum containing 30 per cent. of alcohol, with glycerin and aromatic essential oils. Each dose of 2 fluidrams is said to contain: Heroin, 1/24 grain; terpin hydrate, 2 grains, and creosote, 5 grains. U. S. trademark No. 36,419.

*Hemoquinine.**—Each 100 Cc. is said to contain: So-called peptonate of iron (made by adding ammoniocitrate of iron to freshly prepared peptone of egg albumin), 7.2 Gm., and so-called peptonate of manganese, 1.8 Gm., together with: Quinine peptonate (equivalent to 0.5 Gm. of quinine sulphate). 1.0 Gm., and sodium arsenate, 0.266 Gm., in a menstruum containing 20 per cent. of alcohol with glycerin and aromatics. Each dose of 2 fluidrams is said to contain: Peptonate of iron, 8½ grains; peptonate of manganese, 2⅛ grains, peptonate of quinine, 1 grain, and sodium arsenate, 1/36 grain. U. S. trademark No. 38,512.

*Heromal.**—Each 100 Cc. is said to contain: Heroin, 0.01625 Gm. and sodium hypophosphite, 0.375 Gm., in a menstruum of malt extract, with 6 per cent. of alcohol. Each dose of 2 fluidrams is said to contain: Heroin, 1/48 grain, and sodium hypophosphite, ½ grain. U. S. trademark No. 37,010.

Heroterpine.—Each 100 Cc. is said to contain: Terpin hydrate, 1.625 Gm., and heroin, 0.0325 Gm., in a menstruum containing 32 per cent. of alcohol, with glycerin and aromatic essential oils. Each average dose of 2 fluidrams is said to contain: Terpin hydrate, 2 grains, and heroin, 1/24 grain. U. S. trademark No. 36,181.

Laminoids Ferruginous (Nascent).—Each tablet contains iron sulphate and sodium bicarbonate in quantities equivalent to those of pilulæ ferri carbonatis (Blaud's pills), but the two salts are separated into two layers so that the formation of ferrous carbonate will occur only when the tablets are moistened. An excess of bicarbonate is present. U. S. trademark No. 38,384.

*Neuronidia.**—An elixir said to contain in each 100 Cc.: Veronal (Diethyl-Barbituric Acid), 3.25 Gm. in a menstruum containing 35 per cent. of alcohol, with aromatics. Each dose of 2 fluidrams is said to contain veronal, 4 grains. U. S. trademark No. 44,141.

*Uriform.**—Each 100 Cc. is said to represent: Hexamethylenetetramine, 6.25 Gm.; saw palmetto, 4.16 Gm.; santal, 2.08 Gm.; damiana, 2.08 Gm., and nux vomica, 0.2 Gm., in a menstruum containing 20 per cent. of alcohol, with sugar and aromatics. Each dose of 2 fluidrams is said to contain: Hexamethylenetetramine, 7½ grains; saw palmetto, 5 grains; santal, 2½ grains; damiana, 2½ grains, and nux vomica, ¼ grain. U. S. trademark No. 37,924.

Leonard A. Seltzer, Detroit, Mich.

*Eusemine.**—A sterile solution, in hermetically sealed vials, of: Cocaine hydrochloride, 0.0075 Gm. (0.116 grains), and Adrenalin hydrochloride, 0.00005 Gm. (0.008 grains), dissolved in physiologic salt solution, 1 Cc.

Sharp & Dohme, Baltimore, Md.

Compressed Tablets Anesthesin, 2 1/2 grains.—Each tablet contains anesthesin, 0.162 Gm. (2½ grains).

Solution Atoxyl 10 per cent. (Sterilized).—Each 100 Cc. contain atoxyl, 10 Gm. (each fluidounce contains atoxyl, 48 grains), dissolved in distilled water.

Ampules Solution Atoxyl, 10 per cent. (Sterilized).—Each 100 Cc. contain atoxyl, 10 Gm. (each fluidounce contains 48 grains), dissolved in distilled water.

Ampules Solution Atoxyl, 10 per cent., with Novocaine, 1 per cent. (Sterilized).—Each 100 Cc. contain: Atoxyl, 10 Gm., and novocaine, 1 Gm. (each fluidounce contains: Atoxyl, 48 grains, and novocaine, 4 8/10 grains), dissolved in distilled water.

Compressed Tablets Atoxyl and Iron.—Each is said to contain: Atoxyl, 0.02 Gm. (⅓ grain), and ferrous lactate, 0.06 Gm. (1 grain).

Compressed Tablets Atoxyl and Quinine Comp.—Each tablet contains: Atoxyl, 0.01 Gm. (1/6 grain), quinine hydrochlor, 0.022 Gm. (⅓ grain), strych. nitrate, 0.0043 Gm. (1/150 grain), ferrous carbonate mass (Blaud), 0.162 Gm. (2½ grains).

Compressed Tablets Benzosol, 2 1/2 grains.—Each tablet contains benzosol 0.162 Gm. (2½ grains).

Compressed Tablets Benzosol and Codeine.—Each tablet contains: Codeine sulph., 0.0054 Gm. (1/12 grain), and benzosol, 0.162 Gm. (2½ grains).

Compressed Tablet Blaud with Atoxyl.—Each tablet contains Ferrous carb. mass (Blaud), 0.162 Gm. (2½ grains), and atoxyl 0.022 Gm. (⅓ grain).

Compressed Tablets Pyramidon, 1 1/2 grains.—Each tablet contains pyramidon, 0.097 Gm. (1½ grains).

Compressed Lozenges Orthoform, 1 grain.—Each lozenge contains orthoform, 0.065 Gm. (1 grain).

Compound Emulsion Petroleum, S. & D.—An emulsion containing: Refined petroleum, 28⅓ per cent.; petrolatum oil, 5 per cent., with calcium hypophosphite, 2.2 Gm., and sodium hypophosphite, 2.2 Gm. in each 100 Cc. Each dose of 4 fluidrams is said to contain: Calcium hypophosphite, 5 grains, and sodium hypophosphite, 5 grains.

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* For significance of star see foot-note under Tabloid Coffee Mint, p. 70

Liquor Santaira.—Liquor Santali et Copalbae Compositus, S. & D.—Each 100 Cc. contains Santal oil 1 Cc. (5 minims in a fluidounce) and copaiba 2 Cc. (10 minims in a fluidounce) dissolved in 55 per cent. alcohol with addition of aromatic oils

Solution Atoxyl, 10 per cent., with Novocaine, 1 per cent. (Sterilized).—Each 100 Cc. contain: Atoxyl, 10 Gm., and novocaine, 1 Gm. (each fluidounce contains atoxyl, 48 grains, and novocaine, 4 8/10 grains), dissolved in distilled water.

Soluble Hypodermic Tablets Atoxyl, 1/3 grain.—Each tablet contains atoxyl, 0.02 Gm. (⅓ grain).

Soluble Hypodermic Tablets Novocaine, 1/3 grain.—Each tablet contains novocaine, 0.02 Gm. (⅓ grain).

Soluble Tablets Novocaine, 1 1/7 grains.—Each tablet contains novocaine, 0.074 Gm. (1 1/7 grains).

*Tonic Hypophosphites.**—Each 100 Cc. is said to contain: Potassium hypophosphite, 0.33 Gm. (1½ grains in a fluidounce); iron hypophosphite, 0.33 Gm. (1½ grains in a fluidounce); manganese hypophosphite, 0.22 Gm. (1 grain in a fluidounce); calcium hypophosphite, 0.22 Gm. (1 grain in a fluidounce); quinine hypophosphite, 0.10 Gm. (½ grain in a fluidounce); strychnine hypophosphite, 0.013 Gm. (1/16 grain in a fluidounce.

F. H. Strong Co., New York.

*Chologestin.**—A liquid of which 100 Cc. is said to contain the amorphous sodium salt of glycoholic acid, 0.858 Gm.; true sodium salicylate from the natural oil of wintergreen, 1.07 Gm.; pancreatin, 2.15 Gm.; sodium bicarbonate, 2.15 Gm., in a menstruum containing 15 per cent. alcohol. Each half ounce is said to contain the amorphous sodium salt of glycoholic acid, 2 grains; true sodium salicylate from the natural oil of wintergreen, 2½ grains; pancreatin, 5 grains; sodium bicarbonate, 5 grains. U. S. trademark No. 61,767.

Veroform Hygienic Co., New York.

Veroform Germicide.—A practically neutral liquid containing 20 per cent. of formaldehyde gas dissolved in a solution of soap.

Veroform Antiseptic.—A practically neutral liquid containing 6 per cent. of formaldehyde gas dissolved in a solution of soap. U. S. patent No. 740,424 (Oct. 6, 1903; expires 1920). U. S. trademark "Veroform" No. 44,144.

H. K. Wampole Co., Philadelphia.

Bismuth Hydrate Comp.—A mixture containing in each 100 Cc.: Alcohol, 2 per cent.; chloroform, 0.4 Cc. (2 minims in a fluidounce); fluidextract of red gum (eucalypti gummi), 6.6 Cc. (32 minims in a fluidounce); phenyl salicylate, 0.20 Gm. (1 grain in a fluidounce); pepsin, 0.8 Gm. (4 grains in a fluidounce); bismuth hydroxycarbonate, an amount corresponding to 1.2 Gm. (6 grains in a fluidounce); antiseptic oils and aromatics, and glycerin, 20 per cent. No patents or trademarks.

Colchi-Methyl Capsules.—Each capsule contains: Colchicine, 0.00025 Gm. (1/250 grain); phenyl salicylate (salol), 0.13 Gm.

Glycerodine.—Glyceritum acidi hydriodici. It is said to contain in each 100 Cc. hydrogen iodide (absolute hydriodic acid), 1.54 Gm. (7 grains in a fluidounce).

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OBSTETRICS AND ANIMAL EXPERIMENTATION *

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Unfortunately, the relation between animal experimentation and obstetrics appears at first sight to be less direct and striking than in many other branches of medicine. Nevertheless, I consider that it can be demonstrated beyond peradventure that the greater part of the advances made during the past thirty-five years have resulted either directly or indirectly from research of this character.

The chief advances in obstetrics, in which animal experimentation has played a part, may be summarized as follows:

1. The recognition of the bacterial origin of puerperal infection, which has enabled us to prevent and overcome its former terrible mortality.
2. The application of aseptic technic to various obstetrical operations, thereby rendering comparatively harmless many procedures which were formerly murderous.
3. The recognition of the bacterial nature of certain infectious diseases of the newly born child, such as lockjaw and umbilical infections, which enables us to save each year the lives of thousands of infants, which under former conditions would have been lost.
4. The biologic study and standardization of certain drugs, such as ergot, whereby efficient preparations are available for the prevention and control of hemorrhage.
5. The demonstration of the internal secretion of the ovary, which has led to the therapeutic employment of ovarian tissue extracts, and to greatly increased conservatism in operations on the ovaries.
6. Experimental studies concerning the nature of the toxemias of pregnancy.
7. The experimental production of fetal deformities, which has led to a clearer conception of teratology, and the abandonment of the superstitious belief in maternal impressions.

1. *THE RECOGNITION OF THE BACTERIAL ORIGIN OF PUERPERAL FEVER*

Those not familiar with the older obstetrical literature scarcely realize the extent of the ravages of puerperal infection before the introduction of rigid antiseptic precautions in the conduct of labor, as well as the almost miraculous revolution which has followed their employment.

In this connection, I shall attempt to give some idea of the mortality attending puerperal infection in the past, and of the confusion regarding its nature. Then I shall refer to the part played by animal experimentation in the development of the bacteriology of wound infection and the establishment of aseptic technic, as well as the demonstration of the bacterial nature of puerperal infection, and finally I shall refer briefly to the revolutionary results which have followed the practical application of these principles.

In preantiseptic times puerperal fever ravaged the lying-in hospitals throughout the world, and each year caused the unnecessary death of thousands of women in the best years of life. How great the mortality was can best be appreciated by referring to the results obtained in the various civilized countries of the world, prior to the recognition of the etiologic rôle of the streptococcus.

PUERPERAL FEVER IN FRANCE

LeFort, in his railing accusation against the lying-in hospitals of France, which appeared in 1866, calculated that 30,394 deaths from puerperal fever had occurred in the 888,312 women delivered in the hospitals of Paris up to the year 1864—an incidence of 3.5 per cent., or one death to every 27.2 labors. Moreover, he stated that from 1860 to 1864, inclusive, the mortality in the Maternité of Paris was 12.4 per cent., which in December, 1864, rose to the colossal height of 57 per cent.; while in the Clinique it averaged 14.7 per cent. between the years 1833 and 1864, and on several occasions rose above 20 per cent. On the other hand, the mortality outside of the hospitals was much less, as only one woman perished out of every 212, which indicated that seven-eighths of the hospital deaths were due to conditions prevailing in them.

Such results were not limited to the past century, as Tenon in 1788 reported that the mortality at the Hôtel-Dieu for the fifteen years prior to 1786 was 6.4 per cent., and described almost inconceivable conditions of overcrowding and filth. Other observers described similar conditions. Thus, Charrier recorded a mortality of 7.5 per cent. at the Maternité in 1854, and Depaul one of 5.3 per cent. at the Clinique in 1856. Tarnier in his graduation thesis pointed out that 114 deaths from puerperal fever had occurred at the Maternité during the year 1856, an incidence of 5.1 per cent., as compared with 0.31 per cent. in the portion of the city immediately adjoining it.

Malgaine likewise studied the results in 14,197 and 99,911 women delivered respectively, in the hospitals and in the city of Paris during the years 1861 and 1862, and found a mortality of 8.2 and 0.56 per cent.; while

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* This paper is one of the series prepared for and reprinted by the Bureau on Defense of Medical Research of the Council on Health and Public Instruction of the American Medical Association for circulation among the public. Twenty of these pamphlets are now ready, taking up the relations of animal experimentation to ethics, diagnosis, cancer, vaccination, the live stock industry, tuberculosis, typhoid, dysentery, plague, rabies, surgery, internal secretions, circulation of the blood, tropical diseases, syphilis, obstetrics, etc. A price-list will be sent on application. This article is abbreviated in THE JOURNAL. The pamphlet contains the complete article, including a long bibliography.

Quinquaud stated that 65 per cent. of all women delivered in the St. Antoine Hospital during the year 1869 were infected. Moreover, Delaunay in his recent history of the Maternité de Paris reports that the average mortality for the ten years ending with 1869 was 10.12 per cent., which rose as high as 18.43 per cent. in 1864.

Naturally, such results could not pass unnoticed, and the subject was frequently brought up for discussion. Thus, following a paper on puerperal fever by Guérard before the Académie de Médecine in 1858, a discussion arose which lasted for five months, which led to no definite conclusions, although participated in by the leading authorities in France. Similar discussions also occurred before the Académie in 1861 and 1862, the Société de Chirurgie in 1866, and the Société médicale des hôpitaux in 1869 and 1870. In all of them the most divergent views were expressed, some speakers holding that puerperal fever was contagious, and others that it was an unavoidable visitation of Providence. All sorts of theories were advanced in explanation of its origin, and it was attributed in turn to the peculiar characteristics of the parturient and puerperal woman, to hospital miasms and to the filthiness, faulty construction and ventilation of the hospitals; but not a word was said concerning the dirty hands of the obstetrician. Every suggestion was tested as soon as made, but still the mortality continued unchecked. Finally, in desperation it was suggested that the old lying-in hospitals be abandoned and be replaced by smaller ones, accommodating only a limited number of women, and that most women be cared for in their own homes or in small institutions conducted by specially appointed midwives. At the end of this period, the results had become so intolerable that it became the prevailing opinion that epidemics could be combated only by closing the lying-in hospitals, and such a drastic remedy was forcefully recommended at the International Congress held at Brussels in 1875.

The prevalence of puerperal fever had become a scandal, and, passing beyond purely medical circles, engaged the earnest attention of the Bureau of Public Assistance, whose able director, Husson, after thoroughly investigating the subject, was forced to admit that he saw no way of coping with it, and said:

> For the past sixty years the combined efforts of the administration and of the chiefs of service of health, have not been able to control the curse of puerperal fever, and up to this time the only palliative means of any effect in opposing the evil has been the momentary evacuation of the infected wards. The figures received from the various services of obstetrics still show a mortality high enough to call forth investigation, and to engage the friends of science and humanity to search in every possible way by what means it may be possible to arrest the progress of so terrible a malady, which up to the present time has disappointed all calculations.

It is interesting to note that the monumental work of LeFort, whose statistics are quoted above, was undertaken at the instigation of Husson; but, when the report was ready and showed so clearly the glaring conditions in France, the Bureau of Public Assistance would not allow it to be published under its auspices. The following quotation from Hervieux's immense work on puerperal infection, which appeared in 1870, will also serve to indicate the gravity of the situation:

> The puerperal epidemics are to woman what war is to man. Like war they destroy the most healthy, the bravest and the most useful portion of the population; like war they take subjects in the flower of their age and spread terror and desolation throughout the territory which they devastate. It belongs to politics to preserve us from the calamities of war, but to medicine is reserved the task of preventing and doing away with such epidemics.

PUERPERAL FEVER IN GERMANY

Conditions similar to those in France likewise obtained in Germany, but owing to the smaller size of its lying-in hospitals, the epidemics were usually not so extensive.

On behalf of the Berlin Obstetrical Society, Boehr in 1877 undertook to study the mortality from puerperal fever in Prussia, and found that in the sixty years ending with 1875 the appalling number of 363,624 women had died from it in that state alone. Moreover, he calculated that the disease was the cause of 12 per cent. of the total number of deaths occurring in both sexes between the ages 15 and 50 years which increased to 18.58 per cent. between the ages 25 and 30 years. Furthermore, assuming that each marriage would result in 4.2 children, he estimated that every thirtieth married woman in Prussia would eventually fall a victim to it.

Based on Boehr's work, and its own investigations, a committee of the society presented a *Denkschrift* to the minister of education, in which it was stated that many more persons died from puerperal fever than from cholera and small-pox combined, although sixteen epidemics of the former disease had occurred during the period covered by the statistics. For the protection of the public health, it was urged that the disease be made a "notifiable" one, so that steps could be taken to regulate the practice of midwives. Hegar made a similar study of the conditions in Baden and found that 0.732 per cent. of all labors ended fatally, one-half of the total number of deaths being due to puerperal fever.

The work of Boehr was continued by Ehlers in 1900, who found as the result of aseptic precautions that the mortality in the large cities had been reduced by one-half, but had remained practically unchanged in the country districts.

PUERPERAL FEVER IN GREAT BRITAIN

Epidemics of puerperal fever were reported in the eighteenth century by Hunter, Denman, Hulme, Leake, Kirkland, Clarke, White, Gordon and others, the most extensive being that recorded by White in the Lying-In Hospital of Manchester, where the mortality was 4.1 per cent. between the years 1755 and 1771. Owing to the comparatively small size of the lying-in hospitals of Great Britain, and particularly to the early recognition by English physicians of the contagious nature of puerperal fever and its relation to erysipelas, the epidemics were not so extensive and were less fatal than those on the continent; nevertheless, prior to the antiseptic period the results obtained were very discouraging. Until recently, the Rotunda Hospital in Dublin was the only large lying-in institution in the British Empire, and its results have been recorded by Churchill, Kennedy and Steele. The latter stated that in 198,481 labors, occurring up to the year 1870 the average mortality was 1.39 per cent., which rose to 3.27 per cent. between 1861 and 1870. He also reported that for the twenty-two years preceding and including 1876, the several London lying-in hospitals presented the following mortalities:

	Per cent.
Queen Charlotte Hospital	2.82
British Lying-In Hospital	1.57
General Lying-In Hospital	1.41
City of London Lying-In Hospital	1.35

Some idea of the seriousness with which the condition was regarded was shown by the appearance of an editorial in the *Lancet*, only a few weeks after the appearance of Lister's first article on antiseptic surgery, recommending the closing of all lying-in hospitals. Moreover, Kennedy in 1869 advocated evacuating the Rotunda Hospital in Dublin and delivering the women in tents or shacks scattered throughout its grounds; while Florence Nightingale considered that large lying-in hospitals could never be conducted safely and that their employment for the training of students was incompatible with a low death-rate.

Following a paper by Spencer Wells, the entire question of puerperal infection was thoroughly discussed before the London Obstetrical Society in 1875. All of the prominent obstetricians of the time took part in the discussion, and, while the most divergent views were expressed concerning its nature, the general consensus of opinion, well illustrated by the following quotation, was that lying-in hospitals had an inherent mortality which could probably never be overcome:

> There is only one secret of safety, and that is to have the woman confined at her own house where she can have her own nurse, who has not been anywhere in the way of infection, and her own medical man who is free from infection. Then the chances are that she will come on favorably and happy. Without that there is no security. The lying-in hospital is not now by any means so serious a matter as it used to be; still it is always like sitting on a volcano; it may explode at any moment (Barnes).

Furthermore, the general feeling of hoplessness was well expressed by Duncan, in his monograph on "The Mortality of Childbed," when he said:

> The disease may have its ravages restricted, but it is yet to be shown that it can be altogether prevented. It is in truth as little preventable as any disease in the nosology, or any crime in the statute-book. It is possibly preventable, but it has certainly never been prevented.

Even after the introduction of antiseptic methods, the views as to the undesirability of lying-in hospitals continued to persist in England; and as late as 1885 one of the sections in Playfair's text-book on midwifery was entitled "Should Lying-In Hospitals Be Abolished?" Indeed, the improvement in that country has been less marked than elsewhere; Cullingworth, after studying the statistics of the Registrar General's office for 1897, stated that the general mortality had shown no decrease, except as compared with the year 1843; Boxall reported a similar condition of affairs as late as 1905.

PUERPERAL FEVER IN THE UNITED STATES

That the United States was not spared in this regard is shown by the fact that Hodge reported a mortality of 5.6 per cent. in the Pennsylvania Hospital for the thirty years preceeding 1833. Lusk observed an epidemic in the Bellevue Hospital in 1872 with a mortality of 18 per cent., which led to the removal of the department to Blackwell's Island. But even there the infection continued until after the introduction of antiseptic methods. Similar results were observed in the New York Maternity Hospital, where Garrigues noted a mortality of 4.17 per cent. for the years 1875–1883, which in the latter year, just prior to the introduction of antiseptic methods, rose to 7.17 per cent.

VIEWS CONCERNING THE NATURE OF PUERPERAL FEVER

Sedillot stated in 1817 that puerperal fever was not a distinct disease, but rather an ordinary infection, which was modified by the puerperal state. It required, however, nearly seventy years before this doctrine became generally accepted.

The infectious nature of puerperal fever was first clearly emphasized by Gordon of Aberdeen, who based his conviction on seventy-seven cases observed during an epidemic in Aberdeen between the years 1789 and 1792. Among other things, in his forceful monograph, he wrote:

"It is a disagreeable declaration for me to mention that I myself was the means of carrying the infection to a great number of women"; and, in another place, "Fresh air and cleanliness are not sufficient for the destruction of the contagion, which can only be effected by fire and smoke."

Notwithstanding these clear-cut teachings, and the conclusive evidence which Gordon adduced in their support, the medical world was but little affected, and it was not until after the introduction of Listerian methods that such ideas became generally accepted. Similar views were forcibly and eloquently expressed in 1843 by Oliver Wendell Holmes in his monograph on "The Contagiousness of Puerperal Fever," which was reprinted with additions in 1855 under the title "Puerperal Fever as a Private Pestilence." His teachings, however, were opposed by Hodge and Meigs, the leading obstetricians of the day, and, while impressing many practitioners with the necessity of temporarily abstaining from obstetric work when several fever cases had occurred in their practice, they had no effect on the results obtained in lying-in hospitals. Kneeland expressed similar views in 1847, which met with the same fate.

The most important contribution to this aspect of the subject was made by Semmelweis in 1847, who, after carefully studying the causes underlying the horrible mortality in the lying-in hospital of Vienna, came to the conclusion that the disease was identical with wound infection, and was due to the contamination of patients by hands soiled by contact with autopsy material or wound secretions. Furthermore, he thought that its propagation could be checked by washing the hands in a solution of chlorinated lime, by which means he was able to reduce the mortality from 11.4 to 1.27 per cent.

Semmelweis' views concerning the nature and causation of puerperal fever were perfectly clear; and if, in the following quotation, one substitutes the words "pyogenic bacteria" for "decomposed animal organic material" his conception holds perfectly good at the present time. After stating that he regarded child-bed fever as a resorption fever, he continued:

> The decomposed animal organic material, which when absorbed causes child-bed fever, is in the vast majority of cases brought to the individual from without. These are the cases which represent child-bed fever epidemics, and these are the cases which can be prevented. The carrier of the decomposed animal organic material is the examining finger, the operating hand, bed-clothes, the atmospheric air, sponges, the hands of midwives and nurses which have been in contact with the excreta of seriously sick puerperal women or other ill persons and then handle parturient or recently delivered women. In a word, the carrier of the decomposed animal organic material is anything which has been contaminated by decomposed animal organic material and then comes in contact with the genitals of the individual. The area from which the decomposed animal organic material is absorbed is the internal surface of the uterus, extending upward from the internal os. As the result of pregnancy this has been robbed of its mucous membrane, and accordingly presents a surface which is unusually adapted for absorption.

In spite of these clear-cut views, his teachings were opposed by the leading authorities of Germany and France, and he died a disappointed man. He nevertheless prophesied that his views would eventually be universally accepted, and, in a postscript to his great work, wrote:

> But should it not be vouchsafed me, which I hope God may prevent, to see this happy time with my own eyes, nevertheless the conviction that such a time must inevitably come sooner or later will cheer me in my dying hour.

Almost simultaneously with Semmelweis, Simpson insisted on the contagious nature of the disease and its identity with ordinary wound infection. More or less similar views were also expressed by Tarnier in 1856 and by Trousseau in 1858; but it was necessary for many years to elapse before they were accepted by the general mass of the profession.

A similar divergence of opinion continued until after 1875, when the discoveries of Lister and the bacterial origin of puerperal fever first began to be accepted. Prior to that time, the condition was generally considered as unavoidable, and was attributed to cosmic, atmospheric or telluric influences, to the genius epidemicus, imperfect ventilation and all sorts of other conditions; but, with the exception of a few far-seeing men, no one believed that it could be communicated from one patient to another by means of a dirty finger.

The teachings of Lister were introduced into France in 1875 by Championnière and Budin, and were popularized in Germany by a personal tour. Ahlfeld has given an interesting reminiscence of Lister's visit to Leipsic at that time, and has preserved a verse sung in his honor.

> Just sind es jetzt fünf Jahre her,
> Da drang die Kunde übers Meer;
> Es lebt ein Mann in Edinburg,
> Das sei ein eigener Chirurg,
> In Karbolnebel eingehüllt,
> Der rings die Luft mit Dünsten füllt,
> Betriebe er mit aller Macht,
> Die niedere Bakterienjagd . . .

Prior to that time only a few voices were raised in support of the bacterial nature of puerperal fever, and Lee and Sir Spencer Wells were practically alone in England in advocating it. Indeed, such views did not begin to receive general acceptance until after Pasteur had cultivated the streptococcus and demonstrated it before the Académie de Médecine de Paris, in March, 1879.

It is interesting to recall the fact that this demonstration was preceded by a paper by Hervieux, in which he said:

> "I lay down the principle that the inferior organisms as yet known, vibrions, bacteria, batonnets and moving bodies, cannot possibly explain the production of puerperal septicemia," and concluded, "but I must confess that I have a terrible fear, a fear from which I am not able to rid myself, and which the academy will understand; and that is that I shall die before any one will have discovered that vibrion."

Immediately afterwards Pasteur arose and drew on the blackboard several chains of little dots, which he stated he had every reason to believe were its actual cause. This was the beginning, but many years of persistent investigation were required before the bacterial nature of puerperal infection was universally recognized.

THE DEVELOPMENT OF BACTERIOLOGY; AND RECOGNITION OF BACTERIAL ORIGIN OF PUERPERAL INFECTION

This is not the place to trace the history of the development of bacteriology in general, or even its application to wound infection. As far as I can learn, the relation of bacteria to infectious diseases, and the necessity of recourse to animal experimentation for its demonstration, was first clearly expressed by Henle in 1840. He prophesied that the "contagium" in infectious diseases must be a living organism, and laid down the following criteria, which must be fulfilled in order to prove such a relationship:

1. The constant presence of one and the same microorganism.
2. Its isolation.
3. The experimental study of the same by animal experimentation.

Following this, the development of bacteriology as applied to medicine was comparatively slow, and it was not until after the work of Pasteur on putrefaction, and the application of his ideas to surgery by Lister, that very considerable advances were made. Indeed, it may be said that extensive development along these lines was not possible until after Koch, by the discovery of solid culture media, had put into our hands a convenient method of isolating and cultivating bacteria. Almost immediately following this invention, the various bacteria concerned in ordinary wound infection were isolated and their pathogenic action demonstrated experimentally on animals. Aside from Pasteur and Koch, the greater part of this work was done by Ogston, Rosenbach, Passet, Garre and Fehleisen, and so convincing was their demonstration, that the information concerning the pyogenic cocci given in Baumgarten's "Handbuch der pathologischen Mycologie" in 1887 is almost as satisfactory as that available at the present time. Moreover, between the years 1884 and 1889, the work of Carle and Rattone, Nicolaier and Kitasato resulted in the isolation of the tetanus bacillus, and the conclusive experimental demonstration of its pathogenic action.

All of these discoveries were based on animal experimentation, and indeed it may be said that none of the important advances in bacteriology would have been possible without its aid. Occasionally, enthusiastic investigators, such as Bumm, Garre, Bockhart and Fehleisen, made experiments on their own persons, and thereby still further convinced themselves of the pathogenic properties of certain pyogenic bacteria.

Following the recognition of the bacteria concerned in the production of wound infection, it became possible to test the efficiency of the various antiseptics recommended for their destruction. It is particularly to Koch that we are indebted for the fundamental contribution to the doctrine of disinfection, and for the demonstration of the great value of bichlorid of mercury. Further investigation, however, gradually materially impaired our faith in the efficacy of antiseptics, and led to the development of aseptic surgery.

As far as I have been able to learn, Semmelweis in 1846 was the first to resort to animal experimentation in the hope of solving the problem of puerperal infection. He introduced into the freshly delivered uterus of animals, uterine discharges and peritoneal exudate from infected women, and in the majority of instances was able to produce a fatal infection. Animal experiments were also made by Tarnier, Mayrhofer, Coze and Feltz, Quinquad, Orth, Heiberg, Eberth, D'Espine, Kehrer, Karewsky, Miller, Pasteur and Doléris and many other later investigators.

Of these Mayrhofer, Coze and Feltz, Pasteur and Doléris deserve especial mention. The former in 1864 observed in the interior of the infected uterus, bacteria, which he described as vibrions, and by the injection into animals of lochia containing them was able to reproduce the disease. Coze and Feltz in 1869 apparently demonstrated the presence of streptococci in the blood of women dying from puerperal fever, and cultivated them in rudimentary fluid culture media. They also produced death in animals by their innoculation. As has already been mentioned, Pasteur was the first to describe clearly, and to cultivate the streptococcus from cases of puerperal infection, and together with his collaborator Doléris effectively demonstrated its etiologic significance.

Following Pasteur, it has gradually been demonstrated that, while the streptococcus is the organism most usually concerned in the production of fatal puerperal infections, all of the pyogenic bacteria, which play a part in ordinary wound infection, may likewise give rise to them. Scarcely any one who has busied himself with their study has failed to resort to animal experimentation, and none of the recent advances along this line would have been possible without its aid.

Listerian methods were not adopted in gynecology and obstetrics until after 1875, and for the succeeding few years the chief reliance was placed on the free use of phenol for disinfecting the hands and dressings and for use as a spray. Such precautions were soon carried to ridiculous extremes, and at the acme of the antiseptic period it was thought necessary to remove all furniture from the room in which a woman was to be confined, to scrub the walls and floors with a phenol solution and to have a nebulizer spray it on the external genitalia during the second stage of labor. At the same time, disinfection of the hands was slighted, as it was believed that their immersion in a phenol solution for a few moments was sufficient to render them absolutely sterile. As these precautions did not lead to the complete disappearance of puerperal infection, the attempt was made to destroy all bacteria in the birth canal by means of vaginal and intra-uterine douches of phenol solution, or of bichlorid of mercury, after its introduction in 1881.

With the gradual development of clearer ideas concerning the process of infection and the limitations of disinfection in general, the employment of antiseptic methods was gradually abandoned and its place taken by the aseptic technic which we now employ, in which less and less importance is attached to chemical disinfection and increasingly more weight laid on absolute subjective and objective cleanliness.

RESULTS FOLLOWING THE EMPLOYMENT OF ANTISEPTIC AND ASEPTIC TECHNIC

Following the introduction of antiseptic methods into obstetrics, there occurred a marked diminution in the death-rate from puerperal infection, which however, was nothing like so great as in the later or aseptic period. Thus, Dohrn analyzed the results obtained in 104,278 women delivered in forty-seven German lying-in institutions between the years 1874 and 1883 inclusive, and found an average mortality of 1.37 per cent. At the beginning of the period it was 1.73 per cent., and became reduced to 0.96 per cent. at its end. Moreover, it is interesting to note that the worst results were obtained in the institutions used for the instruction of students, while the best were in those not employed for teaching purposes, the mortality averaging 1.9 and 0.56 per cent., respectively.

When compared with the mortality of 3 or 4 per cent., which characterized the previous decade, the results were most encouraging; and Dohrn felt that they probably could not be improved on, as he stated that "the mortality in lying-in hospitals will never be lowered for any great length of time to the percentage prevailing in private practice; and, if we estimate the latter at 0.6 to 0.7 per cent., the institutional mortality would still be nearly double as high. The lying-in institutions have to contend with such unfavorable conditions that such results as in private practice would never be permanently possible."

Bar stated that, following the introduction of antiseptic methods in the Maternité of Paris, the mortality fell to 1 per cent. in 1873 and to 0.8 per cent. in 1882; while Tarnier has given a very graphic picture of the conditions in the same hospital. For this purpose he distinguished three periods; namely, from 1858 to 1869, from 1870 to 1880, and from 1881 to 1889, and designating the first as the period of inaction, the second as that of fight against contagion and the third as the antiseptic period, recorded a mortality of 9.31, 2.32 and 1.05 per cent., respectively. On the other hand, as many patients died as previously at the Clinique, where Depaul and Pajot, who did not believe in the bacterial nature of the disease, continued to use the old methods.

With the gradual development of aseptic technic and more rigid precautions for the prevention of infection, better and better results were obtained, so that Mermann in 1907 was able to report a septic mortality of only 0.08 per cent. in 8,700 patients delivered under his supervision in Mannheim. Pinard in 1909 recorded a net mortality of 0.15 per cent. in 45,633 deliveries in the Baudelocque Clinic during the eighteen years ending with 1908; while in the same year Markoe recorded a percentage of 0.34 in 60.000 women delivered by the Society of the New York Lying-in Hospital.

At the present time it is safe to say that in well-regulated hospitals the mortality from puerperal infection is less than 0.25 per cent. This is in great contrast with the average mortality of 3 to 4 per cent. observed throughout the world prior to the introduction of antiseptic methods, and means that only one woman now dies as compared with fifteen or twenty formerly. Moreover, the criterion of excellence in lying-in hospitals is now not so much the actual mortality as the morbidity of patients; namely, the percentage in whom the temperature rises to 38 C. or 100.4 F. during the first ten days of the puerperium.

This improvement is astounding, and at the present time it is safe to say that fewer deaths from infection occur in well-regulated lying-in institutions than in private practice, notwithstanding the fact that in the former the patients are freely used for clinical instruction. In this regard Dohrn and Florence Nightingale were poor prophets, as the former stated that such results would never be attained; while the latter held that hospitals could not be rid of puerperal infection as long as they were used for the instruction of students.

This revolution must be attributed to animal experimentation, which made possible the demonstration that definite bacteria are the cause of wound infection, and that one of its varieties—puerperal infection—is due to the introduction of pyogenic bacteria into the birth canal of parturient women, and can be prevented by appropriate means. Of course, it may be urged that farseeing men, such as Gordon, Holmes, Semmelweis and Tarnier realized the contagious nature of puerperal fever long before bacteriology became a science. They were not, however, able to impress their belief on the profession, and consequently no improvement was observed until the bacterial nature of the disease was clearly demonstrated. Formerly, the obstetrician groped in the dark in his attempt to identify the unknown contagion, if he even believed in its existence; while now we know exactly with what microorganisms we have to deal, and the means to adopt in order to overcome them.

At the present time, puerperal infection is no longer regarded as a visitation of Providence, but is attributed directly to the introduction of bacteria following a "break" in aseptic technic; and, whenever a case occurs in a well-regulated hospital, the director immediately begins to inquire how it happened, and, having found the source, is at once able to put a stop to further spread of the disease.

2. *THE APPLICATION OF ASEPTIC TECHNIC TO OBSTETRIC OPERATIONS*

The same factors which led to the disappearance of puerperal fever from lying-in hospitals and made possible the wonderful advances in general surgery, played an identical part in revolutionizing the results following the various operative procedures in obstetrics.

This is most strikingly illustrated by contrasting the results following Cesarean section and symphyseotomy or pubiotomy during the preantiseptic period and at the present time. Even as late as 1886, Dr. Robert Barnes wrote:

> The Cesarean section occupies a doubtful place between conservative and sacrificial midwifery. It is conservative in its design, in its ambition; it is too often sacrificial in fact. It is resorted to with a feeling akin to despair for the fate of the mother, which is scarcely tempered by the hope of rescuing the child. It is looked upon by the great majority of obstetricians as a last desperate resource, as the most forcible example of that kind of surgery which John Hunter regarded as the reproach of surgeons, being a confession that their art was baffled.

From 1787 until 1879, when Tarnier reported his first operation under antiseptic precautions, not a single successful Cesarean section had been performed in Paris; while Lusk, in the early eighties, was the first successful operator in New York. Indeed, as late as 1887, Harris stated that Cesarean section could be performed more safely by the horn of an infuriated bull than by the most accomplished surgeon in the best-equipped hospital in America. In support of this statement, he collected from the literature nine instances in which the abdomen of pregnant women had been ripped open by the horn of an infuriated bull, with five recoveries; whereas, only two mothers had survived the eleven Cesarean sections which had been performed in New York up to that time.

This horrible mortality was revolutionized by two factors: namely, the development of antiseptic surgery, and the description by Sänger in 1882 of a proper technic for suturing the uterine incision. The results following their adoption were so striking that Caruso was able to report that in 135 operations performed between the years 1882 and 1888, the mortality had been reduced to 25.56 per cent. Following the employment of more rigid technic and the proper selection of cases, this was gradually lowered, so that at the present time Cesarean section is undertaken by competent operators without hesitation.

When performed either in the last weeks of pregnancy or at the very beginning of labor, its mortality should not exceed that of ordinary gynecologic laparotomies, which is between 1 and 2 per cent. This striking revolution is due entirely to the development of aseptic surgical technic and to the restriction of the operation to uninfected women, who have not been subjected to the exhaustion incident to prolonged labor.

Exactly the same story can be told concerning symphyseotomy and pubiotomy. The former was first performed in 1777 by Sigault, and immediately afterward enjoyed a short-lived popularity, but soon gave such discouraging results that it was abandoned. Harris was able to collect reports of 70 cases up to 1858, with a maternal and a fetal mortality of 37 and 67 per cent., respectively.

The operation was resuscitated in Naples shortly afterward, and between 1866 and 1880, fifty operations were done, with a maternal mortality of 20 per cent. Following the introduction of antiseptic technic, it came into more general use, and Neugebauer in 1893 calculated that the mortality had fallen to 11.1 per cent.; while Mayer in 1908 stated that it had become still further reduced, but was still as high as 6 per cent. In view of the relatively high death-rate, and the more satisfactory results following Cesarean section, the operation gradually fell into desuetude, but was resuscitated again in 1897 under the form of pubiotomy.

Owing to the further development of aseptic technic, and the exact recognition of the character of cases susceptible to it, the mortality of pubiotomy has been kept within low limits, so that in May, 1910, I was able to collect from the literature reports of 518 operations performed by less than twenty operators, with a gross mortality of 1.9 per cent. In my clinic thirty odd pubiotomies have been done with no maternal deaths, while Roth has just reported eighty-five operations from Leopold's clinic with two deaths.

Similar improvement has occurred in the results following all other obstetric operations—forceps, version, induction of labor, *accouchement forcé*, etc. Unfortunately, it must be admitted that owing to the comparative immunity from danger there has developed a tendency on the part of many to resort unnecessarily to operative procedures, when Nature alone would have brought about a happy termination. Notwithstanding such tendencies, however, the general result is most creditable, and stands out in wonderful contrast to that of the past, and has each year been the means of saving the lives and diminishing the sufferings of thousands of women.

In this connection, one cannot reiterate too strongly that all of these advances must be traced back to the same cause, namely, the development of bacteriology and of aseptic surgical technic, both of which in turn are entirely dependent on the employment of animal experimentation.

3. *THE RECOGNITION OF THE BACTERIAL NATURE OF CERTAIN INFECTIOUS DISEASES IN THE NEW-BORN CHILD*

In times past, probably the most important disease of this group, occurring in lying-in hospitals, was the so-called puerperal fever of the new-born child. This condition, which was studied particularly by Schindler, Trousseau, Lorain, Hecker and Bühl, Müller and others, occurred particularly when the hospitals were ravaged by puerperal fever, and was due to the infection of the child during labor, or shortly afterward. In the first case, the amniotic fluid became infected during the course of a prolonged labor with concomitant infection of the air passages of the child with subsequent development of bronchopneumonia; while in the latter case, infection occurred through the stump of the umbilical cord. In either event, the disease was extremely fatal and only a small proportion of the infected children escaped, while autopsy showed one or more of the protean manifestations of wound infection.

Some idea of its incidence may be gained from the fact that a mortality of 7.62 per cent. was observed in the 18,329 children delivered in the Vienna Hospital prior to the work of Semmelweis. Following the employment of the precautions against puerperal fever which he recommended, the fetal death-rate was so markedly reduced that Bednar, who had charge of the Foundling Asylum, stated "that the disease of the children [blood sepsis] had almost entirely disappeared in consequence." Lorain noted a similar connection in the Maternité of Paris and reported that in 2,567 labors occurring during the year 1854, 5.7 per cent of the mothers and 7.5 per cent. of the children were lost, and the high mortality continued until antiseptic precautions were introduced by Tarnier. Hugenberger, likewise, estimated that the average fetal mortality in the St. Petersburg Hospital was 2.6 per cent., which rose as high as 14 per cent. during puerperal fever epidemics; while Hecker and Bühl observed an even higher death rate.

At the present time this condition is observed but rarely, and then only in the case of women who are admitted to the hospital already infected, when the bacteria contained in the amniotic fluid gain access to the child and give rise to infection.

As long as epidemics of so-called fetal puerperal fever occurred, comparatively little attention was paid to the actual mode of infection, but with the subsidence of the disease, the question was more carefully studied. It was then found that the portal of entry was usually through the stump of the umbilical cord, and this type of infection persisted for several years after puerperal fever had practically disappeared from lying-in hospitals.

Occasionally it caused a terrible mortality, and Paquy refers to the experience of Meynet, who lost 17 per cent. of the children cared for in a crêche in Lyons. Moreover, Runge stated that he had observed a mortality of 4 per cent. in Strassburg, as well as nineteen deaths in the Charité in Berlin during the first six months of 1880. His investigations showed that the umbilical arteries were usually involved, while infection occurred only exceptionally through the vein.

Following the introduction of antiseptic methods in caring for the stump of the umbilical cord, this variety of infection rapidly disappeared, so that at present in well-regulated hospitals it occurs only once in many hundred cases. We now hold that the condition always results from bacterial invasion, which is usually streptococcic in character; and we are forced to attribute the great diminution in its occurrence to the recognition of its true nature, which was made possible only by the development of bacteriology, which is based on animal experimentation.

Formerly, large numbers of new-born children died each year from tetanus, and Collins stated that during his mastership at the Rotunda in Dublin, one-fifth of all children, dying within the first fortnight after delivery, perished from it. He also referred to the epidemics observed during the mastership of Dr. Clarke, who said "At the conclusion of the year 1782, of 17,650 infants born alive in the hospital, 2,944 died within the first fortnight, and nineteen out of twenty of these died of nine-day fits." This indicates a total fetal mortality of 16.6 per cent., of which 95 per cent. was due to tetanus. This epidemic was held in check by the greatest attention to ventilation and cleanliness, but that the disease was not entirely eradicated is shown by the experience of Collins forty or fifty years later.

Similar epidemics have also been noted in other parts of the world, one of the most remarkable having occurred in the Island of St. Kilda, and was described by Mitchell in 1865. In this epidemic, 67.2 per cent. of all new-born children died, and the horrible death-rate continued until antiseptic methods of caring for the cord were introduced, when Turner reported that dusting the stump with iodoform had led to its complete disappearance. Until comparatively recently, the negro race in the South was often decimated by tetanus neonatorum, and the extent of its ravages may be gained from the following quotation from Grier:

> We have known more than one instance in which, of the births for one year, one-half became the victims of this disease, and that, too, in spite of the utmost watchfulness and care on the part of both planter and physician. Other places are more fortunate, but all suffer more or less, and the planter who escapes a year without having to record a case of trismus nascentium may congratulate himself as being more favored than his neighbors, and prepare himself for his own allotment, which is surely and speedily to arrive.

Similar conditions likewise obtained in Jamaica, and as early as 1835 Maxwell reported:

> From observations I have made for a series of years, I found that the depopulating influence of trismus neonatorum was not less than 25 per cent. It scarcely has a parallel on the bills of mortality.

Prior to the isolation of the tetanus bacillus, the condition was attributed to filth and impure air, but with the recognition of its specific cause and the employment of aseptic methods in the treatment of the umbilical cord, it has practically disappeared, and in more than 10,000 newly born children under my supervision I have never encountered a case. This advance, just as all the others to which I have referred, must be attributed solely to the employment of animal experimentation, for without its aid the tetanus bacillus could not have been isolated, nor its characteristic pathogenic properties demonstrated.

4. THE BIOLOGIC TESTING OF ERGOT

This drug, which is now so freely employed throughout the civilized world for the control of postpartum hemorrhage by the stimulation of uterine contractions, was first described medically by Dr. John Stearns of Waterford, N. Y., in 1808; while we owe the first dissertation on its physiologic action to Prescott of Boston in 1822. Following this, its complicated constitution has given rise to almost countless investigations, and pharmacologists are not yet in agreement concerning its active principles.

Some of the most important contributions to the action of the drug we owe to Kobert, Jacoby, Grünfeld, Barger and Dale. Ever since its employment for medicinal purposes very conflicting statements have been made concerning its active principles and physiologic action, and it was not until after the careful studies of Grünfeld that the cause for the discrepancy was recognized. He found that the powdered drug rapidly lost its medicinal properties; and while a certain preparation might be very potent when first prepared, it so rapidly deteriorated as to be practically without physiologic effect after being kept for four or five months. The recognition of this fact led to the necessity of devising some method for testing the physiologic activity of the various preparations of ergot before putting them on the market.

Unfortunately, no method of chemical analysis or assay has as yet been devised to enable manufacturing chemists or physiologists to determine the value of a given preparation, so resort was necessarily had to biologic or physiologic tests for the purpose. From the earliest times it had been noted that an efficient preparation would lead to marked bluing, and eventually to gangrene of the comb and wattles of the rooster; although later investigations tended to show that such a result was not necessarily an index of its action on the uterus, as it had been demonstrated that the gangrene-producing properties were quite independent of those causing uterine contraction. Consequently, other modes of investigation became necessary. Kurdinowski determined its physiologic activity by testing its effect on the isolated uterus, Kehrer, instead, used thin slices from the uterus of freshly killed pregnant animals, while Cronin and Henderson studied in animals its effect on the blood-pressure.

According to Crawford, most manufacturing chemists at the present time test its efficiency on the cock's comb and wattles; although he states that it would be preferable to employ the living uterus, as recommended by Kurdinowski and Kehrer. In any event the manufacturing chemist must resort to some such form of animal experimentation in testing every specimen of ergot which he uses for the manufacture of the preparations sold to the public; and that means that no woman can take ergot for the control of hemorrhage without being the recipient of at least one of the advantages which has been gained from animal experimentation.

5. *THE DEMONSTRATION OF THE INTERNAL SECRETION OF THE OVARIES*

Although the atrophic changes occurring in the internal genitalia following the menopause, or the operative removal of the ovaries, were long ago recognized, the possibility that they were a manifestation of the disappearance of an internal secretion, formerly elaborated in those organs, was not suspected until after the appearance of Brown-Séquard's suggestive article on the subject.

As long as such a supposition was not supported by facts capable of demonstration, it was not possible to be sure of its correctness, or to deny that the changes in question were neurotic in origin. The experimental work of Knauer, Gregoriff, Mandl and Bürger, Marshall and others, however, conclusively demonstrated that the ovaries elaborate a definite secretion, which serves to regulate the nutrition of the internal genitalia, as well as to exert a definite effect on the entire organism. Moreover, it was clearly shown that the organs could be removed from their usual site and transplanted to other distant portions of the body, and still prevent the degenerative changes which usually follow their removal. As all nervous connections had been severed at the time of operation, it was evident that the only manner in which such an influence could be exerted was by means of an internal secretion, which gained access to the blood-current.

Other experiments showed that the transplanted ovaries functioned perfectly, and if implanted in a suitable location, produced ova which could be fertilized. Such findings were not merely of scientific interest, but possessed a distinctly practical bearing in that they suggested the possibility of transplanting the ovaries in human beings, as well as the employment of ovarian tissue extract in the treatment of various conditions resulting from imperfect ovarian secretion, more particularly the distressing symptoms which frequently accompany the menopause or follow the removal of the ovaries. Not a few operators, when obliged to remove both tubes and ovaries on account of disease, have implanted healthy portions of the latter on the uterus or broad ligaments, in order to prevent the occurrence of an artificial menopause in young women. Less frequently, the ovaries of one woman have been implanted into another, in the hope of reestablishing the menstrual function, or even making possible the occurrence of pregnancy. The former result has been attained in numerous instances, while the latter has resulted successfully in at least two cases. Those who are interested in the subject are referred for details to Martin's article which contains full references to the literature up to 1908.

Fraenkel, in 1903 and 1910, published two important contributions on the function of the ovaries, which were based entirely on animal experimentation. He apparently showed that the corpus luteum should be regarded as a temporary gland which produces an internal secretion, whose function, at least in part, is to bring about the changes in the internal genitalia necessary to permit the implantation of the fertilized ovum. Furthermore, his experiments rendered it probable that the continuance of the secretion was essential for the preservation of pregnancy during its early periods, but was not necessary later; and thus afforded an explanation for the clinical observation that removal of the ovaries early in pregnancy is usually followed by abortion, whereas their removal later has no effect.

6. *EXPERIMENTAL STUDIES CONCERNING THE NATURE OF THE TOXEMIAS OF PREGNANCY*

Up to twenty years ago our ideas concerning the nature and etiology of eclampsia were but little clearer than in 1843, when Lever first described the presence of albumin in the urine of eclamptic women, and held on that account that it was merely a variety of nephritis.

Following the experiments of Rivière in 1888, and those of Tarnier and Chamberlent a few years later, in which it was apparently shown that the toxicity of the urine of eclamptic women was greatly decreased for experimental animals, while that of the blood-serum was markedly augmented, the belief gained ground that the condition was toxemic in character, and was due to the retention within the organism of certain substances which were ordinarily excreted through the kidneys. Following these observations, the experimental study of eclampsia has occupied the attention of large numbers of investigators, and although the subject has not yet been thoroughly elucidated, the conviction is growing stronger and stronger each year that the disease is a toxemia, which is in some way dependent on the pregnancy, and in all probability connected with abnormal processes either within the body of the fetus or placenta.

It would carry us too far afield to attempt even to enumerate those who have taken part in such investigations, but the contributions of Volhard, Veit, Hofbauer, Lichtenstein, Freund, and Thies deserve especial mention. Moreover, we might refer, in this connection, to the fact that it is only by means of animal experimentation that we have learned the part which the secretion of the thyroid gland plays in regulating the metabolism of pregnancy.

Although none of these experimental investigations have entirely cleared up the etiology of the affection, they have nevertheless served to impress on us its toxemic nature, and have taught us that the treatment *par excellence* consists in the prompt evacuation of the uterus. Moreover, I consider that if the matter is ever to be settled, it can only be accomplished by the aid of animal and biochemical experimentation.

7. THE EXPERIMENTAL PRODUCTION OF FETAL DEFORMITIES

If it is permissible to designate as animal experimentation the various procedures to which the fertilized eggs and the developing embryos of various animals are subjected for the purpose of producing anomalies of development, we can point to a field which has not only markedly advanced our knowledge concerning the normal mechanism of growth and the mode of production of monstrosities, but one which is destined to add greatly to the comfort of the human race.

In times past, the birth of monsters or of children afflicted with congenital deformities was attributed to the anger of the gods, to witchcraft or to some malign influence to which the pregnant woman had been subjected. With the advance of knowledge and the passing of superstition, such views gradually disappeared; but, on the other hand there is scarcely a woman in America at the present time, who does not firmly believe in the doctrine of maternal impressions, and who, in case of the birth of a monstrous or deformed child, will not attempt to trace its origin to some unpleasant sight or experience to which she had been exposed during pregnancy.

Persistence in the belief in maternal impressions is each year a source of great unhappiness to thousands of women, who, after some trivial occurrence, such as seeing a mouse or a rabbit, are convinced that their child will be "mouse-marked" or hare-lipped in consequence, and who do not dismiss their fears until a perfectly normal and well-formed child has been born. Indeed, I feel that I am safe in stating that no one who has not considerable experience with pregnant women can appreciate the extent of the suffering and dread resulting from this superstition.

The new science of experimental embryology and teratology has shown clearly that such an occurrence is impossible, as in the vast majority of cases, the changes which were attributed to it developed in the earliest periods of pregnancy, whereas the "maternal impression" to which a given deformity was attributed did not occur until a much later date.

Geoffroy Saint-Hilaire, Allen Thompson and Féré were the first investigators to attempt the production of deformities by subjecting the developing egg to various influences, but it is only within the last twenty-five years that the matter has seriously engaged the attention of scientific men. During this period, however, the work of Pflüger, Dareste, Roux and Born has put the subject on a scientific basis, as they have shown beyond question that pricking certain portions of the segmenting ovum with a needle, encircling it with a ligature, or subjecting it to certain chemical influences, will inevitably be followed by definite deformities, and they were enabled in this way to produce at will, not only single, but double monsters of the most varied type.

Further research along these lines has been particularly prolific in this country, and the investigations of Loeb, Morgan, Wilson, Bardeen, Harrison, Stockard and many others, has led to most astounding results, which have revolutionized our ideas of teratology. These investigators have shown beyond peradventure that practically all of the deformities with which we meet at the time of labor can be produced at will by subjecting the early ovum or embryo to various procedures. Thus, it is possible to produce spina bifida, cyclops, headless or double monsters, as well as those lacking extremities or having accessory ones, merely by changing the experimental conditions.

As the result of these investigations, it has been definitely proved that, with the exception of certain well-marked hereditary deformities, the great majority of monsters are the result of some interference with the normal growth of the ovum in the days immediately following conception, and not to later influences.

Indeed, at the present time the evidence available seems to indicate that the entire doctrine of maternal impressions is a superstition which will sooner or later entirely disappear, and this result will be hastened as the work of the experimental teratologist becomes generally known.

CONCLUSION

In conclusion, it may be said that while the benefits which obstetrics have derived from animal experimentation are not immediately apparent, they are nevertheless very real, and have led to revolutions in obstetric practice and to results which are but little realized by the general public. I think that I am safe in asserting that had animal experimentation led to nothing more than the discovery of the bacterial nature of puerperal fever, whereby a means was provided for doing away with its former hideous mortality, it would abundantly justify the sacrifice of all the animals which have thus far been used for experimental purposes. Think of the millions of lives which have been saved, if we accept Boehr's calculation, that formerly every thirtieth married woman was inevitably doomed to perish from puerperal infection. Fortunately, this is not the only benefit even in obstetrics, which can be ascribed to animal experimentation, as the increased security following operations and the marked decrease in the mortality of new-born children are equally attributable to it. Indeed, it may be truthfully said that every time a physician cleanses his hands preparatory to attending a woman in labor, he is rendering a tribute to animal experimentation; although unfortunately, the world at large, which benefits from it, does not recognize its significance. I feel that there is every reason to expect that animal experimentation will play as large a part in developing our ideas in the future as in the past, and I confidently believe that the problem of eclampsia and the other toxemias of pregnancy, as well as the cause of labor and all that that implies, will eventually be solved by its means.

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Prognosis in Neurasthenia with Gastralgia.—The prognosis is largely one of neurasthenia itself. Remove the cause and the associated gastric pain and disturbance will gradually disappear. No patient with neurasthenia is rapidly cured. Even the all-potent mental effect on the patient of the inspiring personality of doctor or nurse, or the firework impressions of electrical treatment, such as high-frequency, however much they may conduce to the patient regaining hopefulness of cure, cannot result in a rapid recovery. The disease is a slow undermining and weakening of neurons and the cure is a gradual reconstruction and strengthening, which are greatly aided, it is true, if the sufferer can be persuaded that he is on the way toward health once again.—R. A. Fleming, in the *Practitioner*.

TREATMENT OF STUTTERING

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As "stutterers" we designate individuals showing certain peculiarities of speech. One stutterer, for example, will make spasmodic contraction of the lips, tongue, etc., whereby a word like "berry" will be pronounced "b-b-b-berry." Another will open his mouth wide and produce an "a-a-a-a-" before he can say a word. Another will find himself suddenly unable to speak at all at the beginning or in the middle of something he wants to say. Still others are quite unable to speak certain words; one young man could never speak the name of his town and was obliged always to buy his railway ticket to the next town beyond; one lady would find herself at a ticket office suddenly speechless and unable to tell what ticket she wanted, while an impatient crowd of commuters gathered behind her.

"Stuttering" is sometimes called "stammering"; the words in English mean exactly the same thing. The word "stammer" is superfluous; it should be avoided because it leads to confusion with the German word *Stammeln,* which means lisping, and not stuttering.

Laryngeal cramps are a never-failing symptom of stuttering. The muscles in and around the larynx become tense and fixed. The tone from the larynx is always monotonous and hard, and it is often husky. It is not unusual to find a patient who never has any other symptom in the presence of the physician except the monotonous laryngeal tone. This most fundamental of all the symptoms of stuttering seems to have escaped all writers on the subject.

Cramps and spasms of the muscles of enunciation (lips and tongue) are the ones most apparent to the observer. The lips may be pressed tightly together for a short or a long time when the patient tries to say "p" or "b." In other cases they will open and shut, producing a series of "p"s or "b"s instead of one. The tongue may be pressed so tightly against the palate that the "t" or the "d" is two, three or ten times too long. All the sounds may be similarly affected.

Less frequent, but more striking, are the contractions of muscles not usually used in speech. One patient will twist his head whenever he stutters badly; another will screw up one eye; another will contort his whole body, etc.

An almost constant symptom is excessive rapidity of speech. In some cases this is to be attributed to the desire of the stutterer to get his words out before he is caught, or before any one can interrupt him. In most cases it is the expression of nervous anxiety.

A never-failing symptom is the patient's lack of confidence in his ability to speak correctly. In some cases the mere thought "Shall I be able to say that word?" is sufficient to make it absolutely impossible for the person to say it. The stutterer always lives with the fear that his speech may "go back on him." Many a one is always thinking a few words ahead of what he is saying, being on the lookout for some word he thinks he cannot say. When such a word is coming, he avoids it by selecting another that will serve just as well. One patient passed his life, practically, in always avoiding words; this mental work added to that of a normal man kept him in a condition of nervous prostration.

The simplest form of stuttering is that of "pure habit." Such a case occurs rather frequently in instances in which a younger child unintentionally copies the stuttering of an older one. If the stuttering does not go beyond the stage of pure habit, the younger child drops his stuttering involuntarily when the older one is removed or cured.

The stutterer nearly always goes beyond the habit stage. People laugh at him, mock him, scold him, threaten him with punishments, or whip him. Usually he is obliged to repeat words he stumbles on. He is made to go through reading and speaking exercises. Extra hard words are given him to practice on. Speaking becomes a torture for him. A new element, the "fear of displeasing and of appearing ridiculous," produces the "fright stage." The stuttering is now a distinct psychoneurosis that may have the most far-reaching consequences.

The curative treatment of stuttering is based on the following principles:

The "principle of a new method of speaking" is founded on two facts; first, that the stutterer always speaks in an abnormal voice, which we may call the "stutter voice"; and, second, that he does not stutter when he expresses his ideas in any other voice, such as the singing voice.

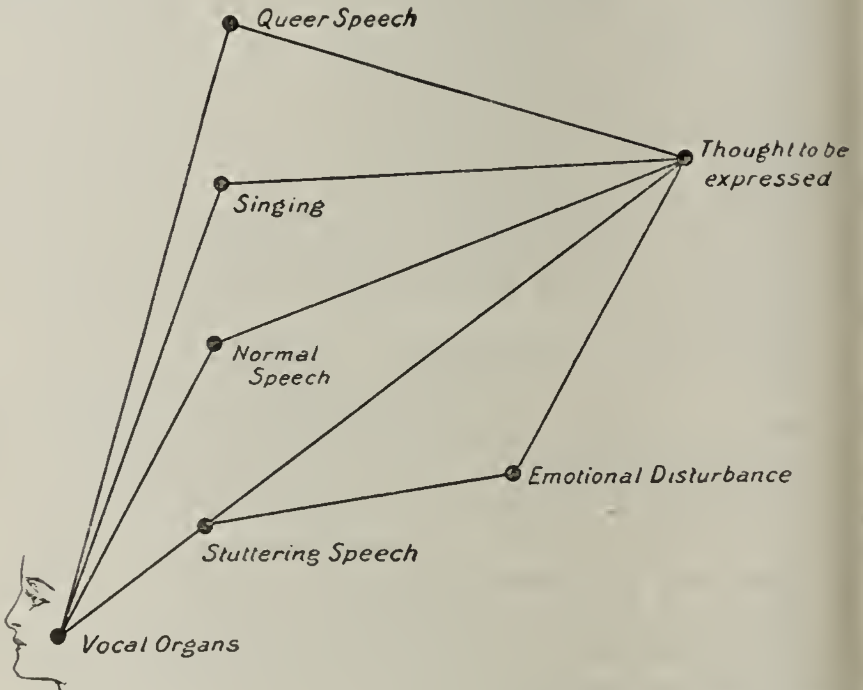

Diagram showing how emotional disturbances interfere with attempts at normal speech, and how singing or the employment of an unnatural voice—queer speech—overcomes the difficulty and the person does not stutter, because the attention is distracted by the attempt to sing or employ queer speech.

The scheme shown in the illustration expresses these two facts. When the stutterer tries to express a thought in his usual way, the action of his speech is interfered with by the emotional condition—embarrassment or fear—that is aroused at the same time. He, therefore, speaks in his stutter voice. If he tries to express the thought in any other way than the usual one, the emotional disturbance does not arise. This explains the familiar fact that a stutterer never has any trouble when he sings what he wants to say.

Since the patient does not stutter if he speaks in his usual way, he can be taught to speak in some kind of an odd voice. The stutterer can at any time speak without stuttering, if he will use an abnormally low voice, or an abnormally high one, or if he will drawl the vowels or slur the consonants, or again if he will speak in a choppy staccato voice, and so on. These are the methods of the "stammer-schools" and "stutter-curers." They are objectionable because they leave the patient with a queer voice; people often tell him that the cure is worse than the disease. The patient usually gives up the queer voice after a while and becomes a stutterer again because the queer voice itself produces embarrassment and he naturally feels like discarding it.

The essential point is that the stutterer should feel his acquired speaking voice to be different from his stuttering voice. One patient could never dictate to his stenographer. I found that he could not distinguish one note from another in music; so I told him to sing what he wanted to dictate. He did so without the slightest hesitation or difficulty, in what he supposed to be a singing voice; it did not differ, however, from his usual voice, except in being slightly easier and more natural. As long as he thought he was singing he did not stutter, although he did not really sing. The cure was a failure because he refused "to make a fool of himself by singing to his stenographer." To inform him of the fact that he did not sing would have destroyed the belief that he was singing and would have made him a stutterer again. There was no way out of the dilemma.

There is another way of speaking which is unusual to the stutterer, namely, the way in which normal persons speak. When he speaks in this way, he does not and cannot stutter. The therapeutic procedure on this principle will, therefore, be to teach him to speak normally. The various abnormalities will disappear when the patient has thoroughly learned the exercises below.

The "principle of habit-formation" implies that the new way of speaking is to be drilled into the patient till it becomes a habit.

The "principle of spontaneity" is requisite because, when the patient has learned to repeat perfectly, he will still be unable to do so when he speaks of his own accord. A gradually increasing amount of spontaneous speech is introduced into the treatment.

The "principle of increasing embarrassment" arises from the fact that, even when the patient has learned to speak perfectly in the presence of the physician or the instructor, he is unable to do so under other circumstances. The patient is taught to speak properly before a few persons or before a class. Still more difficulty is introduced by making introductions, speaking over the telephone, buying in stores, reciting in school, etc. For the introduction exercise the stutterer practices at first privately and then with a gradually increasing number of strangers.

The "principle of correct thinking" indicates that the abnormal habits of thought, which a stutterer always acquires to a greater or less degree, are to be corrected by appropriate exercises. A frequent abnormality is that of getting into a daze at each effort to think. The patient finds that he cannot decide promptly. It was typical of one patient that on being asked "Which kind of dog do you like best?" he hesitated and grunted, and finally said, "I really cannot say which I like best." He was cured by being obliged to give some kind of decision quickly, regardless of whether it was correct or not. The trouble was due to the mental flurry or daze that had become a habit. Another patient, when leaving a house, found himself unable to say "Good-bye" because some friends were waiting for him. The trouble arose from a conflict between the motive to hurry after the friends and the motive of not offending the host; this produced a mental daze that left the patient speechless.

The following exercises present an outline of treatment that may be abbreviated as desired. Each step of each exercise is to be repeated a number of times. The exercises are to be repeated as often as may be needed.

EXERCISE I. BREATHING IN PREPARATION FOR SPEECH

A. The patient raises the arms fore upward inhaling and lowers them side downward exhaling. He repeats this and each of the following at least four times.

B. He raises the arms side upward inhaling, and lowers them side downward singing "ah."

C. Likewise with the other vowels.

D. The patient raises the arms upward inhaling; lowers them side downward singing "ah" on middle C and upper C (over the octave).

E. Likewise singing words of one syllable.

The object of this exercise is to develop consciousness of breathing and to form a habit. It also teaches the "octave twist."

EXERCISE II. FLEXIBILITY

A. The patient sings the vowel "ah" on each note of the octave.

B. He strikes the lowest note of the octave and then the highest; sings the vowel "ah" half on the lowest note, half on the highest.

C. He sings the vowel continuously (*portamento*) up the octave. He should note the "fog-horn" effect, the "octave twist."

D. He practices singing the different vowels up the octave in this way.

E. He sings a series of words with long vowels, running the vowels up in the same way.

F. The instructor speaks a word with the octave twist. The patient repeats it.

G. Same with a sentence, putting the octave twist on the first important vowel.

H. Same with a poem, putting the octave twist on the first important vowel in each line.

I. Same with prose, putting the octave twist on the first important vowel in each phrase.

J. The instructor speaks sentences and questions with the octave twist. The patient repeats the sentences and answers the questions.

The object of this exercise is to break up the hard monotonous laryngeal tone. It alone makes the voice normal when it is skilfully done, because it is impossible to stutter and to use the octave twist at the same time.

EXERCISE III. READJUSTING THE VOWELS

A. The patient speaks each of the vowels in a long drawn out tone, going over the octave, e. g. "a-h, o-h, etc."

B. He speaks a short sentence, omitting all the consonants but lengthening the vowels; for example, the sentence "A snow storm is here" will be spoken "A- o- or- i- ere-."

C. He repeats the same sentence, lengthening the vowels and putting in the consonants only faintly.

D. He learns to read and converse in this way.

The object is to teach the patient to weaken the consonants and to speak slowly.

EXERCISE IV. SMOOTHNESS

A. Repeat sentences making every important vowel at least three times as long as usual. These vowels should be spoken with the octave twist. The words are to be linked together, that is, there are to be no pauses or interruptions. The method may be indicated in this way: "Thesu---nisshi---ningbri---ghtly."

B. Questions and answers and short sentences are to be spoken and read likewise.

The object of this exercise is to teach the patient to shorten the consonants, as these are the sounds that cause him difficulty. At the same time it teaches him to speak smoothly and easily. These are factors in forming a voice that is both normal and new.

EXERCISE V. SLOWNESS

With a metronome beating fifty-four times a minute, the instructor and patient read, repeat sentences, ask and answer questions, etc., putting one syllable on each beat. A breath is to be taken before each sentence; all the vowels are to be lengthened and the consonants to be weakened, as described in the preceding exercise. The first important vowel in each phrase is to have the octave twist as described in Exercise II. The whole sentence must be spoken smoothly and softly without the slightest jerkiness. The object is to force the patient to speak slowly.

EXERCISE VI. REGULATION OF BREATH IN SPEAKING

The instructor and the patient are to hold sticks. Each time before speaking, the stick is to be raised sharply while breath is taken vigorously. After waiting one second with bated breath, the person speaks.

A. The instructor speaks a short sentence; the patient repeats it.

B. The instructor asks a question; the patient answers it.

C. The instructor assigns a topic on which the patient is to say something. The patient must raise the baton and draw breath before each statement.

D. The patient is required to give a description of some object in the room in a similar way.

This exercise is needed only when the patient has difficulty in breathing before each sentence.

EXERCISE VII. STARTING A SENTENCE

A. The patient sings short sentences, striking a note on the piano as the first syllable is sung. Instead of using the piano, he may strike a bell or a table or hit his knee or make a gesture as in beating time.

B. He repeats the same sentences, with the same accompaniment in the same way, but singing only the first word.

C. He speaks them with the same accompaniment on the first syllable.

D. Question and answer are sung with the accompaniment on the first syllable.

E. As before, but only the first syllable is sung, the rest being spoken.

F. As before, but all spoken.

G. The patient tells a story, singing the first word of each sentence with the accompaniment.

H. He tells a story without singing but accompanying each first syllable.

This exercise is needed only when the patient has special difficulty in starting. The accompaniment is to be gradually eliminated.

EXERCISE VIII. DEVELOPING EXPRESSION

A. The instructor repeats some poem with expression; the patient repeats it line by line, exactly imitating the expression.

B. The instructor states a certain fact in a very melodious and expressive way; the patient repeats it exactly.

C. The instructor gives a question as in B; the patient repeats it exactly.

D. The instructor gives a question in a very melodious and expressive voice; the patient answers it by taking a few words from the question.

E. The instructor gives a question as before; the patient answers freely, but with the same melody and expression as in the question.

F. Poems and prose pieces are recited with proper expression.

G. Dialogues are read with the proper change of expression for each character.

H. Jokes are read and spoken with an effort to give the most effective expression.

During these exercises no correction of faults is to be made. The entire attention is to be concentrated on the correct expression

EXERCISE IX. CONFIDENCE IN READING

A. The instructor and the patient are to read poems together. Then they are to read alternate lines together and alone.

B. Same with sentences.

C. They are to read a prose speech together, but the instructor is to remain silent occasionally.

D. The patient is to read a prose piece, but the instructor is to join in at the first intimation of difficulty.

E. The patient and the instructor are to read sentences and questions from a traveler's manual, sometimes together, sometimes alone.

F. The instructor and the patient are to read parts in a drama, the instructor joining in whenever the patient has difficulty.

G. The patient is to read a paragraph and then tell its contents in his own language.

EXERCISE X. CONFIDENCE IN SPEAKING

A. The patient calls out railroad stations with a megaphone; the voice must be clear and decided.

B. Same without the megaphone.

C. The patient makes geographical statements with and without the megaphone; for example, "The Atlantic Ocean is east of the United States."

D. He makes historical statements likewise (that is, with and without the megaphone); for example, "George Washington was the first president of the United States."

E. Question and answer likewise.

F. The patient relates a story or an incident likewise.

G. He makes a speech likewise.

H. He takes part in a debate likewise.

I. He takes part in a continuous story which is arranged as follows: One person tells a story which he makes up as he goes along; he suddenly stops and the next person is immediately to continue the story according to his own ideas; he, in turn, suddenly stops and the following person continues. This is kept up until the story reaches the first person.

J. A topic is assigned; the patient prepares a short speech to make on it and delivers it in the presence of the instructor.

K. Same in the presence of several people.

L. A speech is made impromptu on a given topic in the presence of the instructor.

M. Same in the presence of other people.

The number of the people is to be gradually increased until the patient feels ready to get up at any moment and make a short speech on any topic.

EXERCISE XI. CONFIDENCE IN BUYING

A. The patient with a number of objects before him is supposed to be a store-keeper; other people (or patients) go to the store, inquire about articles, discuss the prices and buy. This must all be done with proper attention to slowness and melody of speech.

B. The patient takes the part of the buyer.

C. The store is turned into a railroad ticket office with the patient alternately as ticket agent and as traveler. Variou questions concerning trains, accommodations, etc., are to b asked.

D. The ticket office becomes the box office at the theatre; the questions are to include location and seats, exchange o tickets, etc.

E. When the patient can do this perfectly, the instructo accompanies him on actual purchasing expeditions to th stores.

EXERCISE XII. SCENES FROM LIFE

A. A group of people is supposed to be in some familia situation: for example, eating at a restaurant, riding in a automobile, forming a box party at the theatre, etc. Th instructor works out the situation by description, while al persons present, including the patient, make the appropriat remarks. For example, if the scene is at the restaurant, th instructor takes the part of the waiter while the other person order what they wish to eat, discuss the bill of fare, etc. I the scene is at the theater, the instructor tells a story of th play while the persons discuss the incident, the house, their neighbors, etc. In the automobile party, the instructor takes the part of the chauffeur while the party travels to various places and discusses what has been seen.

B. Similar scenes are worked out, the patient taking the leading parts.

C. The group of persons is supposed to represent a club, the instructor occupying the chair. Various members are to make motions and discuss them, officers are to be elected, etc.

D. The patient is made chairman of the club.

EXERCISE XIII. SPONTANEOUS SPEECH

A. The patient says some word referring to an object placed before him pointed out; the word must have some application to or connection with the object. For example, concerning a book, he may say "large" referring to its size, or "black" referring to its color, or "read" referring to its use, or "table" referring to its position, or "yesterday" referring to something it reminded him of, etc.

B. He makes a statement slowly and melodiously concerning some object placed before him or pointed out to him.

C. He names the objects he sees on one side of the room, proceeding systematically from left to right and speaking slowly and melodiously.

D. He describes an object placed in front of him, using single words and proceeding systematically; for example, if a telephone is placed before him he will first use words referring to its appearance, then to its use, then to its faults, then to its history, etc. He should always adopt some such system in selecting words.

E. Same as D, but complete sentences are to be used instead of single words.

F. Short sentences are to be spoken concerning objects not seen but more or less familiar; for example, breakfast, a distant city, George Washington, Atlantic Ocean, etc.

G. A more extended account is required concerning similar objects as in F.

H. Some or all of the preceding exercises are to be carried out in the presence of additional people.

I. When this can be done perfectly, the patient is to be called on to make short speeches on any topics that may be given him.

J. He is to make speeches on topics of his own choosing.

The object of this exercise is to remove the daze—mental cramp—which many stutterers have when they begin to speak.

EXERCISE XIV. THINKING

A. The name of an object is called out. The patient calls out the name of some other object that suggests itself to his mind. If he is in doubt what to say, he chooses some object that is often seen together with the one mentioned. For example, on hearing the word "horse" he replies "cart." This process is called "association of ideas." For the present the patient is to associate deliberately, taking as much time as he wishes. He practices for several times with words like the following:

hand, foot, hair
shoe, glove, eye
coat, sock, motor

B. On hearing each of the words just used, the patient makes a sentence about it. It does not matter what the sentence states.

C. On hearing each of the words he makes a sentence defining it.

D. On hearing each of the words, he states some fact about the object implying something regarding its location or its use, or something that preceded it, or caused it, or followed it, or resulted from it, or had some relation to it.

E. Starting with any given word he lets the mind bring up a long series of thoughts. These thoughts should not revolve around the original word, but should pass away to other subjects. If necessary the rule may be adopted of obliging the mind to leave the original word within three associations.

The object is the same as in the preceding exercise.

EXERCISE XV. TELEPHONING

A. The patient calls some one on a private telephone, using the system of his town as nearly as possible. He first calls Central and then speaks with the person desired. He is to speak slowly and melodiously.

B. He takes the part of Central and then of the person called up.

C. He repeats A and B in the presence of other people.

D. He does some of the most difficult exercises over the private telephone with the instructor or some other person at the other end.

E. Using the public telephone, the patient puts his finger on the switch so that when he takes the receiver off the hook, the telephone is not connected with Central. Some one sitting beside him takes the parts of Central and the person to whom the patient wishes to speak. He carries out exercises as on the private line.

F. With the instructor close beside him, the patient calls up Central and then some friends; if he has the slightest hesitation the instructor will speak for him.

G. When he succeeds perfectly in the preceding, he tries the telephone independently. The instructor is to criticize his successes.

The fear of the telephone is very marked in most stutterers.

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THE DIAGNOSTIC VALUE OF THE BUTYRIC ACID TEST (NOGUCHI) IN THE CEREBROSPINAL FLUID *

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Of the large number of reports on the cerebrospinal fluid which have appeared in recent times, the great majority have been devoted to a study of changes which occur in the parasyphilitic diseases, and perhaps not sufficient attention has been paid to the value of routine diagnostic examinations in general hospital practice. Realizing the importance of establishing certain fundamental facts in relation to the newer tests, at the Michael Reese Hospital we attempted to study in a routine manner all the spinal fluids which came to our laboratory for diagnosis, and in this study especial attention has been paid to determining the status of the butyric acid globulin test devised by Noguchi.[1] Noguchi originally advocated his test for use in the diagnosis of cerebrospinal syphilis, general paresis, and of tabes dorsalis, but suggested that inasmuch as it is present in all inflammations of the meninges, it might prove of value in the diagnosis of tuberculous meningitis. The material on which this report is based has come from varied sources, and includes diseases of varied character. Over 150 cases have been studied; but, since many of our cases were from sources which prevented us from following them, this report is based on the ninety cases in which a diagnosis is fairly certain. I regret, however, that the inability to obtain autopsies is a source of error in the interpretation of disagreements between the clinical diagnosis and the findings of the laboratory examination. Furthermore, the series is rather small for very definite conclusions, but the general agreement in our

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* From the laboratories of the Michael Reese Hospital, Chicago.

[1] Noguchi and Moore: The Butyric Acid Test for Syphilis in the Diagnosis of Metasyphilitic and Other Nervous Disorders, Jour. Exper. Med., 1909, xi, 604.

results is sufficiently striking and suggestive to warrant their publication with the hope that more workers in this field will be able to study larger numbers of cases and thus contribute more definite knowledge.

Although the technical methods employed in all our cases have been constant, the different character of the fluids made it advisable for practical purposes to adopt certain standards of procedure varying with the source of the fluid. For instance, better results are obtained when the spinal fluid from a patient suspected to have tuberculous meningitis is handled in a manner to facilitate the finding of tubercle bacilli, whereas, in those cases in which the examination may aid in the differential diagnosis between functional and organic nervous disorders, special stress is laid on chemical and cytologic aspects. In all cases, the first step employed is a bacteriologic culture on media containing hemoglobin. In cases of suspected tuberculous meningitis one tube of fluid is put untouched in the ice-box, and allowed to remain for at least twelve hours in order to permit the formation of the film which enmeshes the bacilli. As has been emphasized recently by Bybee and Lorenz,[2] practically all workers find the study of the cells most difficult, and no completely satisfactory method, either for the total or the differential count, has yet been devised. My experience with the total cell-count has been that the use of the ordinary red cell counting pipette with methylene-blue, gentian-violet or acetic acid gives results, which, while only partially satisfactory, are at least much better than those from the French method. The differential count is made from the sediment after centrifugalization for a half hour at about 1,800 revolutions, and stained with Wright's stain. In many instances, however, this procedure is eminently unreliable, as it is often impossible to differentiate the various cell types by this method. Far more valuable, in my experience, and much less difficult of interpretation, has been the use of some one of the methods for determining increased globulin content. In a recent careful review of the literature,[3] I found a fairly general agreement in the opinions expressed as to the relative diagnostic value of increased cell-count and increased globulin fraction. In normal fluids the number of cells present is from 0 to 5, 6, or even 8 per cu. mm., whereas the amount of protein is so small as to be unrecognizable by ordinary clinical methods. In all inflammations of the meninges, and in general paresis and tabes, there is an increase of the cells and of the protein. As a rule the increases in these two elements run parallel courses, and likewise the diagnostic significance of the tests is of about equal value. In my series the agreement was almost constant, but the two reactions were not always of equal value.

Numerous methods have been employed for the determination of increased protein, all based on the fact that the increase is due to serum globulin. In all tests the fluid must be free from blood. Nonne's[4] well-known Phase I has not been found to have the delicacy of some of the modifications, owing to frequent difficulties in differentiating a positive from a negative reaction. Ross and Jones[5] have modified the technic of procedure by making a ring test similar to Heller's nitric acid test in the urine. On two parts of a heat-saturated solution of ammonium sulphate in a test-tube they float one part of the fluid and look at the line of junction for the reaction. In positive cases an easily perceptible white line of precipitated globulin appears. Wherever it has been used, this reaction has met favor, and seems to possess about the same delicacy as the Noguchi test, with the possible exception that the line of junction is somewhat more difficult to read than is the Noguchi. This latter test, which is probably the most satisfactory at present, is employed as follows:

> One part (0.1 or 0.2 c.c.) of cerebrospinal fluid is placed in a test-tube, and to this is added five parts of a 10 per cent. solution of pure butyric acid in physiologic salt solution; the mixture is heated to boiling, and immediately one part of normal sodium hydrate added and the mixture again boiled. In the presence of increased globulin a definite flocculent precipitate occurs, either immediately, or within two hours. This definite precipitate must be differentiated from a faint cloudiness which normal fluids may give, but it requires only slight experience to recognize the difference between positive and negative reactions.

Properly to appreciate the diagnostic value of the study of spinal fluids it is necessary to remember that the spinal fluid is, in a diagnostic sense, analogous to the blood, and, as in the blood only a few tests of absolute value are known, so in the interpretation of the examination of spinal fluid most of the knowledge obtained is relative. An increased leukocyte count or an eosinophilia is a pointer of importance only when considered in relation to the clinical findings, and practically the only absolute diagnostic signs are those obtained by finding the specific etiologic agent or one of the few specific bacterial or chemical reactions like the Widal or the Wassermann. In the spinal fluid not too much can be expected, and it is well before discussing our cases to emphasize that only in exactly similar instances can absolute determinations be reached. The finding of the tubercle bacillus or the pneumococcus, or a positive Wassermann are the occasional high lights in routine study of cerebrospinal fluids; a positive Noguchi reaction does not mean any one disease any more than does a leukocytosis mean pneumonia. If, however, it can be shown that the Noguchi reaction is not present in any of the functional neuroses or psychoses, while it is present in certain organic diseases whose symptomatology resembles that of the neuroses, then its value as a diagnostic sign must be recognized; or if it occurs in tuberculous meningitis and not in the numerous clinical entities which may simulate this disease in children, it must be admitted into the group of signs which help to make the diagnosis of tuberculous meningitis. It is from the standpoint of relative usefulness that we wish to present the subject, and in doing so it seems better to consider our cases under groups showing similar clinical manifestations.

The first group to be presented is that of cerebrospinal syphilis, general paresis, and tabes dorsalis. It would be a waste of time and space to review here the extensive literature on the changes in the spinal fluid in these diseases. Suffice it to say that the salient features are an increase in the globulin and in total cell-count in about 90 to 95 per cent. and peculiarities in the differential count involving mainly the mononuclears, about the classification of which there is considerable discussion. The figures for positive Wassermann reactions vary from 50 to 95 per cent. The Noguchi and the Ross-Jones tests have proved of greater value than the original Nonne (Amsden,[6] McCampbell and Rowland[7]).

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[2] Bybee and Lorenz: A Report of Fifty Examinations of Cerebrospinal Fluids with Special Reference to the Cell-Count, Arch. Int. Med., 1911, vii, 38.

[3] Strouse: The Cerebrospinal Fluid in Syphilis and in Parasyphilitic Diseases, Interstate Med. Jour., 1911, xviii, 138.

[4] Nonne and Apelt: Ueber fractionirte Eiweiss-Ausfallung in der Spinalflüssigkeit von Gesunden, Luetikern, Funktionell- und Organischnervenkranken und über ihre Verwerthung zur Differentialdiagnose der Dementia Paralytica, Tabes Dorsalis, tertiaren und abgelaufenen Syphilis, Arch. f. Psychiat., 1907-08, xliii, 433.

[5] Ross and Jones: The Use of Certain New Chemical Tests in the Diagnosis of General Paresis and Tabes, Brit. Med. Jour., 1909, i, 1111.

TABLE 1.—CELL FINDINGS AND REACTIONS IN CASES OF CEREBROSPINAL SYPHILIS, GENERAL PARESIS AND TABES DORSALIS

Case No.	Diagnosis	Noguchi	Cells	Wassermann C. S. F.	Wassermann Blood	Ross-Jones
1- 3	Cerebral syphilis	+	..	..	..	..
4-10	General paralysis	+	..	..	..	..
11	Cerebral syphilis	+	+	—	+	+
12	Cerebral syphilis	+	+	..	..	..
13	Tabes dorsalis	+	+	+	+	..
14	Tabes dorsalis	+	+	—	+	..
15 16 17	Same patient, tabes dorsalis	—	..	..	+	..
18-20	Tabes dorsalis	—	—	—	—	—
88	General paralysis (?). Cerebral arteriosclerosis (?)	—	—	—	—	—
21-23	Brain tumor	—	—	—	—	..
24-25	Dementia præcox	—	—	—	—	..
26-27	Cerebral arteriosclerosis	—	—	—	—	..
28	Pernicious anemia with spinal cord involvement	—	—	—	—	..

Table 1 shows our results in this group of cases. It will be seen that in five cases of cerebrospinal lues, and in seven of general paresis, the Noguchi was positive in all. Systematic study of the other reactions was not possible in this series. In two cases of tabes the Noguchi and the cell-count were positive in both, the Wassermann on the blood in both, and on the spinal fluid in one. In one other advanced case (15, 16, 17) of tabes, the Noguchi was negative on three successive occasions, whereas the Ross-Jones test was positive the only time it was tried, and the Wassermann on the blood was twice positive. Cases 18 to 20 were cases of undoubted tabes dorsalis, with typical histories, and at least some of the pathognomonic signs. One was an advanced case and the other two were incipient. In all three cases it is interesting to note the absence of changes in the spinal fluid as well as the negative Wassermann. In Case 88 the history was obscure and the physical findings not definite; the further course of the disease must settle the diagnosis.

In contrast to this series must be placed those cases in which exists the possibility of confusion with the conditions just discussed. In three cases of brain tumor, two of dementia præcox, two of cerebral arteriosclerosis the Noguchi was negative in all, the cell count normal in the four cases in which it was made, and the Wassermann negative on the blood in five. Of especial interest was the patient who presented cord symptoms of pernicious anemia which simulated very strongly those of tabes dorsalis, but whose spinal fluid and Wassermann were entirely negative. Our results in this series are distinctly in accord with those of other workers on the incidence of the butyric acid test in general paresis, cerebral lues, brain tumor and psychoses, but at marked variance in tabes dorsalis. Many more cases are necessary, however, before these few instances can be cited as evidence against Noguchi and Moore's original claim of 100 per cent. positive results.

As far as we are aware, no large series of cases has yet been reported in which advantage is taken of the ease and rapidity of the Noguchi reaction as an aid in the differential diagnosis between acute meningitis and other conditions whose clinical manifestations resemble those due to actual inflammation of the meninges. Apelt[8] has used the Nonne globulin test in differentiating meningitis from meningismus. In children, especially, the state of meningismus is often so pronounced as to puzzle the most able clinician, and not infrequently in the infectious diseases lumbar puncture is the only diagnostic means at our disposal for the solution of the problem. Later we wish to discuss in some detail the special value of the reaction in tuberculous meningitis.

TABLE 2.—ACUTE MENINGITIS AND MENINGISMUS

Case No.	Diagnosis	Noguchi	Cells	Bacteria
	ACUTE MENINGITIS			
29–31	Pneumococcus	+	P. M. N.	Pneumococcus
32–44	Meningococcus	+	"	Meningococcus
45	Streptococcus	+	"	Streptococcus
46	Influenza	+	"	Influenza
	MENINGISMUS			
47	Typhoid	—	—	—
48–52	Pneumonia	—	—	—
90	Pneumonia	—	—	—

In Table 2 can be seen the findings in three cases of pneumococcus meningitis, one of streptococcus and one of influenza meningitis, and in thirteen cases of cerebrospinal fever due to the meningococcus. In all of these, as might be expected from the great exudate of polymorphonuclear leukocytes, the Noguchi test is positive. In the six cases of meningismus occurring in pneumonia, and one in typhoid, the test is negative in all. Of course the clear fluid and the negative bacteriologic findings lead one to expect an absence of globulin, but as the same sort of fluid may be found in tuberculous meningitis, which in all our cases showed a positive Noguchi, it seems to us to have considerable value in these conditions.

Until quite recently, when more refined methods for finding the tubercle bacillus were introduced into the examination of spinal fluids, a definite diagnosis of tuberculous meningitis was always beset with more or less difficulty, especially in the early stages. No extended observations have been made on the globulin fraction in these cases. Our results have been constantly positive. Hemenway[9] has tried the test in a few cases with positive results.

TABLE 3.—TUBERCULOUS MENINGITIS

No.	Noguchi	T. B.	Cells
53	+	0	Lymphocytosis
54	+	0	Few lymphocytes
55	+	0	Few lymphocytes
56	+	0	Many lymphocytes
57	+	0	Many lymphocytes
58	+	0	Many lymphocytes
59	+	0	Many lymphocytes
60	+	+	Many lymphocytes
61	+	+	Many lymphocytes
62	+	+	— —
63	+	+	Lymphocytosis
64	+	+	— —
65	+	+	— —
66	+	+	Lymphocytosis
67	+	+	Lymphocytosis
68	+	+	Lymphocytosis
69	+	+	— —
81	+	+	Lymphocytosis

Table 3 shows positive Noguchi reactions in eighteen cases, in the first seven of which the diagnosis was verified by the further clinical course, or by autopsy, and in the last eleven by finding tubercle bacilli in the fluid. It is important to note that our first seven negative bacterial findings occurred when we were using the centrifuge method, while the last eleven positive cases were due to the change to the so-called film method. The technic of this method is so simple and the results so much more satisfactory than any other procedure, that it is advisable to review it in some detail. A tube of the clear or slightly turbid fluid, handled as little as possible, is immediately placed in the ice-chest and allowed to remain there for twelve hours. Most workers put the tube in the incubator, but we have found no difference in results by using the ice-chest, and by its use we are safeguarded from bacterial growth due to accidental contamination—a point which must be considered when fluids come from various sources and are often subject to slightly careless manipulation. At the end of this time a pedicle or a film of varying density generally forms throughout the fluid, and this is floated on to a slide in the same manner as is a piece of tissue. It is important not to mesh up the film; the thinner it spreads and the less tangled it is, the better will be the results. Aftr drying in the air the film is fixed by heat and stained with the usual carbol-fuchsin stain.

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[6] Amsden: Report of Certain Lumbar Punctures at Bloomingdale Hospital, New York, Med. Jour., 1910, xci, 438.

[7] McCampbell and Rowland: Studies on the Clinical Diagnosis of General Paralysis of the Insane, Jour. Med. Research, 1910, xxii, 169.

[8] Apelt: Beiträge zur Frage der Berechtigung der spinalen und cerebralen Punktion, Berl. klin. Wchnschr., 1910, xlvii, 1540.

[9] Hemenway: The Constant Presence of Tubercle Bacilli in the Cerebrospinal Fluid of Tuberculous Meningitis, Am. Jour. Dis. Child., 1911, i, 37.

These eighteen positive globulin tests, added to the few already reported in the literature (Stillman,[10] Apelt,[8] Ross and Jones[5]), render it fairly certain that the reaction is present as a general rule in tuberculous meningitis. In our series it has been more constant than the lymphocytosis, and it certainly is much easier to perform than is a total cell-count and a differential count.

Many fluids have come to us from patients in whom a tentative diagnosis of tuberculous meningitis has been made, but in whom the later course of the disease proved the diagnosis to be incorrect.

TABLE 4.—CASES IN WHICH A TENTATIVE DIAGNOSIS OF TUBERCULOUS MENINGITIS HAD BEEN MADE

No.	Diagnosis	Noguchi	Cells	Remarks
70	Encephalitis	—	..	....
71	Acute purulent adenitis	—	—	....
72	Tetanus	—	—	....
73	Gastro-enteritis	—	—	[illegible]
74	Uremic coma	—	—	....
75	Poliomyelitis	—	—	.. . ..
76	?	—	—	Complete recovery
77	?	—	—	Complete recovery
78	?	—	—	Complete recovery

Nine cases of this nature are shown in Table 4; they include various diseases whose manifestations at the stage in which lumbar puncture was performed resembled those of tuberculous meningitis. In all it will be seen that both the cell-count and the globulin test were negative—a sufficiently strong contrast to the findings in tuberculous meningitis to warrant the statement that a negative butyric acid test is presumptive evidence against the presence of tuberculous meningitis. This cannot at present be stated as dogma, as many more examinations will have to be made before the exact truth can be learned. Again it must be emphasized that the reaction cannot, from its very nature, be specific for tuberculous meningitis, any more than it is for general paresis, and to be of any value at all it must be considered only after the most careful correlation with the history and physical findings.

TABLE 5.—MISCELLANEOUS

No.	Diagnosis	Noguchi	Cells	Wassermann
79	Hydrocephalus	—	—	—
80	Hydrocephalus	—	—	....
82	Anterior poliomyelitis	—	..	....
83	Encephalitis	+	—	....
84	Uremia	—	—	....
70	Encephalitis	—	—	....
85	Uremia	—	—	—
86	Myelitis	+	+	—
87	Myelitis	—	—	—
89	Amaurotic family idiocy	+	+	+

As a further elucidation of this point Table 5, presenting the findings in a series of miscellaneous diseases, is of considerable value. In both cases of hydrocephalus the reaction was negative, although increased globulin has been reported present in this condition by Nonne.[11] In both cases of anterior poliomyelitis it was negative; in one case of encephalitis positive, in one negative; in one case of transverse myelitis positive, and in one negative. In three cases of uremic coma it was negative. In the case of amaurotic family idiocy the positive Noguchi and the positive Wassermann are hard to reconcile with the completely negative examination for syphilis at the autopsy. In considering the nature of the diseases in which the reaction seems to vary so much, it may be explained that all the conditions are such as may produce meningeal involvement and consequently a positive butyric acid reaction. On the whole, the main value of this small series lies in emphasizing that even in clinical conditions which may resemble tuberculous meningitis, a positive reaction does not by any means indicate the presence of a tuberculous inflammation, but a negative one presupposes the absence of such a condition.

CONCLUSIONS

This series warrants the following conclusions:

1. Tests for increased globulin in the spinal fluid are easier to perform than is the total cell-count, and have practically the same diagnostic importance.
2. The butyric acid test of Noguchi is convenient and accurate.
3. The use of this reaction gives information of considerable value in diagnosis.
4. The reaction is positive in general paralysis and cerebrospinal syphilis; negative in brain tumor, cerebral arteriosclerosis and psychoses. A positive reaction in a doubtful nervous case is presumptive evidence in favor of the diagnosis being a syphilitic or parasyphilitic disease of the nervous system.
5. In tabes dorsalis, our results are not in agreement with previous reports, the reaction being present in only 33⅓ per cent.
6. The reaction is positive in all cases of acute meningitis and absent in meningeal irritation without actual inflammation.
7. It is always present in tuberculous meningitis, and its presence is an aid in the diagnosis. The absence of the reaction in cases of suspected tuberculous meningitis is of great value in excluding meningitis.

TREATMENT OF INOPERABLE CANCER OF THE CERVIX

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Believing as we do that permanent relief from cancer of the cervix comes through the timely application of the knife, we find little enthusiasm in the management of inoperable cases in which the patients at best can be given but temporary relief. When the disease has gone beyond the reach of the knife we say that it is incurable, but our responsibilities do not end here. Months, and perchance years, of comparative comfort may be added to the life of the unfortunate victim.

One cannot review the literature on the treatment of inoperable cancer of the cervix without being strengthened in one's conviction that much can be done in these pitiable cases. We cannot cure these patients, but we can relieve their suffering, inspire them with hope and give them added days of comfort and usefulness.

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[10] Stillman: A Report on the Value of Noguchi's Reaction on Spinal Fluids, Proc. New York Path. Soc., 1909, new series, ix, 1.

[11] Nonne: Clinical Diagnosis of the Syphilogenous Diseases of the Central Nervous System, The Journal A. M. A., 1909, liii, 289.

Blau reported 408 cases of inoperable cancer of the uterus in the Chrobak clinic. These patients were treated by scraping and the application of the Paquelin cautery; the procedure was repeated at intervals of three to four months. Subsequent reports were obtained from 342 of the 408 patients. One lived eleven years after the above treatment. One was alive and apparently in good health after nine years and another after six years. There was an average of 252 days of life after the initial curettement and cauterization.

In the cases of Conrad, there was an average of 525 days of life from repeated applications of chlorid of zinc and pyoktanin.

Baker reported fifteen patients living from two to twelve years; Byrne ninety patients living from two to seventeen years; Pawlik twenty-nine patients living from two to twenty-one years after repeated local applications. Tomer reports 213 patients treated with the Paquelin cautery free from recurrence after two years, and of this number 149 were apparently healed after five years.

Mose Madden amputated the cervix with the galvanocautery in twenty-two patients; ten were free of recurrence two and one-half years at the time of publication.

The above statistics could be added to indefinitely, but enough have been quoted to convince the most skeptical that cauterization is worth-while. While it is true that these statistics antedate the extended operations, and that in many the diagnosis was not verified by microscopic examination, yet the proof of the value of local applications and of cauterization in particular is not wanting.

No signal advance has been made of late years in the treatment of inoperable cases, and the explanation lies, in part, in the difficulties experienced in their management. Few hospitals will harbor these sufferers for the time necessary to pursue extended observations. The patients are usually admitted for a single application of one remedy or another and in a few days are dismissed. The rich will not remain in the hospital, the poor cannot afford to remain, and the hospital management has no desire to retain either. Tomer and Chrobak pass caustic criticism on the attitude of the hospital management toward these patients and recommend isolated wards for their care. In this connection I am pleased to bear witness to the splendid facilities provided in the Skin and Cancer Hospital of St. Louis and to the recent valued contributions to the subject in hand by a member of the surgical staff.

The great number of inoperable patients who present themselves reflect discredit on the diagnostic acumen of the profession, and call for an organized effort looking toward the enlightenment of the laity to the end that women will seek medical advice when the danger-signals become manifest.

The large percentage of recurrences are not chargeable to faulty technic, for it would seem that in the radical abdominal operation for cancer of the cervix we have all but reached our limitations. The explanation lies rather in the failure to recognize the cases while there is yet time to eradicate the disease completely with the knife. Far too frequently are these patients operated on when eradication of the entire cancerous growth is manifestly impossible. "Operated and operable cases may be, and in reality often are, quite different things" says Koblanck. In this connection, I would express the conviction that were we to follow the suggestion of Rosthorn and Franz in the making of an exploratory abdominal incision in recurrent cases, we would find more encouragement in pursuing such cases with repeated attempts to eradicate the disease. When doubt exists as to the extent of recurrence, an exploratory abdominal incision should be made, and in so doing a certain, though not large, percentage of these patients will be found amenable to surgical intervention who might otherwise be treated along palliative lines.

It requires but a hasty survey of the literature to convince one of the futility of all efforts to stay the progress of the disease when once it has passed the confines of the uterus. Were I to recite the long list of remedies proposed in the last two decades, there would be nothing gained and the space allotted me would be consumed. I shall pass them by without consideration, for they have been weighed in the balance and found wanting. The Roentgen ray had proved of positive value in many of the superficial cancerous growths of the body, and the profession was slow to reject its claims as a curative measure for cancer of the cervix, but it has gone the way of its predecessors and to-day we find ourselves almost as helpless as we were generations ago.

The curette and cautery are still in active service, and I for one am not disposed to discard them, for they have proved of positive value in my hands in providing temporary relief from hemorrhage and foul discharges. Though the disease steadily advances to a fatal issue, we are bound to give credit to these measures for added days of comparative comfort. The results of Blau and others clearly demonstrate the value of repeated applications of the curette and cautery at intervals of from three to four months. Unfortunately, we are seldom privileged to follow up our patients so persistently. A single application will afford relief from bloody and fetid discharges for but a brief time, but the recurrence of these discharges will be longer delayed with each application.

Dr. James Spencer Brown of Mont Clair, N. J., is an enthusiastic advocate of the vigorous application of the cautery. He protects the vaginal walls with thin asbestos, holding the sheets in place by retractors. With the soldering iron he deeply cauterizes not only the cervix but the cavity of the uterus as well.

For the past six years I have followed the practice of Dr. Clarence Webster in packing the excochleated and cauterized area with gauze wrung out in a 1 to 4,000 aqueous solution of 40 per cent. liquor formaldehydi. Following such a procedure bloody and odorous discharges may disappear for from two to four months.

The latest remedy proposed for the relief from hemorrhages and fetid discharges is acetone. We are indebted to Dr. George Gellhorn[1] of St. Louis for its introduction and for extended observations in its application. Results obtained by him speak for the efficacy of the remedy, and it is to be hoped that the profession will join with Dr. Gellhorn[1] in giving it an extended trial. I here quote his description of the technic of its application:

> The treatment should, if feasible, be preceded by a thorough excochleation of the ulcerating area. The curetted cavity or crater is then carefully dried with cotton sponges and from ½ to 1 ounce of acetone is poured into the wound through a Ferguson or other tubular speculum. For this purpose, the pelvis of the patient must be raised as in Trendelenburg's position. The narcosis may now be interrupted and the patient be left in this position for from fifteen to thirty minutes. Next, the acetone is permitted to run out through the speculum by lowering the pelvis of the patient and the cavity is packed with a

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[1] THE JOURNAL A. M. A., April 27, 1907, p. 1400.

narrow gauze strip soaked in acetone. The healthy mucosa of the vulva and the vagina are cleansed with sterile water and dried.

After this preliminary curetting and cauterization, the regular treatment, which requires no further hospital care, is administered two or three times a week, beginning the fourth or fifth day after the operation. This is done without narcosis and may be given with the patient in bed or on the ordinary examining chair or table in the office. The pelvis of the patient is raised and the tubular speculum is inserted into the cancerous cavity. With the progressive diminution of the crater, smaller specula are gradually employed. The speculum is filled with acetone and held in place by the patient's hand for half an hour, and is then emptied in the manner described above. Care should be taken to prevent the acetone from running over the vulva or perineum.

In a subsequent article[2] Gellhorn states that he prevents the acetone from running over the vulva and perineum by applying a thick layer of ordinary petrolatum to the vulva and lower third of the vagina; then, after the acetone has run out of the speculum, he swabs the cavity dry and introduces a large cotton tampon coated with petrolatum into the vagina before the speculum is withdrawn. This tampon may be removed by the patient after a few hours.

Gellhorn says that slight oozing of blood is checked almost instantly; that offensive discharges become at first watery, then gradually disappear; that the hemorrhages fail to recur if the treatment is faithfully pursued and that in the course of two or three weeks the walls of the crater become smooth and firm, making a second curettement unnecessary. A diminution in the size of the crater was noted in some cases. With the disappearance of the weakening hemorrhages and discharges, the general strength and nutrition improved. There was no control over the pain due to the cancerous invasion of the nerve trunks.

From the experience of Gellhorn and the few others who have contributed to his observations, I am persuaded that we have in acetone a valuable remedy in the treatment of inoperable cancer of the cervix. It has advantages over the curette, cautery and formaldehyd packs when the patient can be kept under the control of the physician. When the case will not permit of constant supervision, I would give preference to the cautery and formaldehyd solution on the ground that a single application of the latter will have a more lasting effect.

At the recent meeting of the American Gynecological Society in Washington, I took occasion to interview many of the fellows of the society on the subject. There was no manifest enthusiasm in their management of these cases. The great majority were in favor of the curette and cautery and advised the vigorous application of the Paquelin cautery after scraping away all necrotic tissue. Kelly holds the cautery at white heat in the excochleated area for several minutes. In this manner the tissues are deeply affected. Far from criticizing the use of the cautery in these cases, the majority spoke for its more vigorous application.

A variety of remedies were recommended after the application of the curette and cautery, e.g., zinc chlorid (Peterson), equal parts of formaldehyd solution and epinephrin together with the chlorid of zinc (Clark), tincture of iodin locally and Lugol's solution internally (Montgomery).

Only three of the men interviewed had tried the acetone treatment and one of these had abandoned it because of technical difficulties involved in its application (Chipman).

It was my impression that the majority of the men interviewed were of the opinion that the curette and cautery would accomplish all that could be done for these patients. Few had given the acetone treatment the consideration it deserves.

Recently Richter[3] gave an account of the work done in Leopold's clinic with the method of fulguration as proposed by Keating-Hart in 1908. The report is not favorable to the method. I note with interest, however, that the acetone treatment of Gellhorn is endorsed most enthusiastically. One patient has received eighty applications of acetone in the past twenty-one months. The vagina was contracted by bands of scar tissue and would admit the index-finger but 2.5 cm. There was a fistula at the vault of the vagina which discharged a slight bloody purulent secretion. The pelvic connective tissue was widely infiltrated. The patient complained of pelvic pain but her general appearance was good. Richter speaks of the acetone treatment as the most satisfactory method ever employed in Leopold's clinic.

As yet, no remedy has approached the desired object —that of destroying the invading cancer cells. We look to the chemist and biologist for the solution of the problem, believing that a vaccine will be forthcoming that will do more than palliate this dread disease—a vaccine that will prevent the development of cancer, that will forestall recurrence and that will stay the progress in inoperable cases.

Note.—Since writing the above I have had the privilege of visiting the new Skin and Cancer Hospital of St. Louis. In this visit I examined several of Dr. Gellhorn's cases of inoperable cancer of the cervix, and saw him treat two of his patients. His results are unquestionably superior to any that have been obtained by methods previously in vogue. In none of his cases did I observe either odor or hemorrhage.

One case was particularly noteworthy. A growth, which filled the vault of the vagina, was curetted about one year ago. Since then the patient has had twenty applications of acetone. When I saw her there was no odorous discharge, no hemorrhage; the vault of the vagina appeared as a puckered scar with a small fistulous opening leading to the uterus. The patient had gained 20 pounds in weight and suffered little or no pain. Unquestionably, her life has been prolonged and made comfortable to a degree that speaks for the inestimable advantage of the acetone treatment.

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TREATMENT OF EXOPHTHALMIC GOITER WITH THYROIDECTIN

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Working on the hypothesis that the symptoms of exophthalmic goiter are due to excessive secretion of the thyroid gland, attempts have been made by some to limit the amount of this secretion by extirpating a portion of the gland, by ligating its arteries, and by interstitial injections intended to cause partial atrophy. Approaching the problem from another standpoint, others have endeavored to neutralize the products of glandular hyperactivity by administering milk, blood, or serum of animals whose thyroid glands have been removed, and in which the hypothetical antibodies which normally neutralize the thyroid secretion may be supposed to have accumulated. Still others have employed serums made by injecting into animals normal human thyroid or that of patients suffering from exophthalmic goiter.

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[2] Am. Jour. Obst., May, 1909.

[3] Münch. med. Wchnschr., April 26, 1910.

Although the wave of enthusiasm which accompanies the introduction of any new remedy seems to have passed, judgment of the value of most of these serums appears to be based on individual reports of one or more cases in which there was improvement during their administration, alone or combined with other treatment, and often with the most important addition of rest in bed. Unfavorable results are always less likely to be recorded than successful cases.

Many writers group the results obtained with various preparations and, giving few data concerning individual cases, draw their conclusions as to "serum-therapy" collectively. Thus, F. S. Bulkeley[1] in a review of the literature of serum treatment of exophthalmic goiter, omitting that relating to the serums of Rogers and Beebe, has collected reports of eighty-six cases. Excluding from these the cases of three patients treated with the blood of a myxedema patient, he records eighty-three cases, with improvement in all but six, and sixteen possible cures judging from data given. This writer groups collectively cases in which Moebius' antithyroidin, serum of rabbits fed with thyroid extract, thyroidectin, serum of a thyroidectomized dog, milk of thyroidectomized goats and a proprietary substance said to be prepared from the milk of thyroidectomized goats were administered; and from these he generalizes as to the effect of "serum-therapy."

Confining our attention to thyroidectin, which is prepared from the blood of thyroidectomized animals, and of which few reports have been published, we find in this list of cases collected by Bulkeley thirty, all of which were pronounced improved, none cured. Since that time A. G. Gullan[2] has recorded five cases, all greatly improved; and H. H. Miller[3] one case in which for eight weeks thyroidectin and iodalbin were administered synchronously, with disappearance of symptoms. The same medication was continued irregularly for three months, and about one year later the symptoms had not returned. These reports include thirty-six cases with improvement in 100 per cent. In contrast, we note the general verdict of A. Kocher,[4] who states that thyroidectin is of inconstant and not of lasting benefit; of E. M. Fisher,[5] who says, "Thyroidectin has proved useless in my hands"; of D'Orsay Hecht,[6] who writes, "Thyroidectin cannot be said to have ever stood approved." Aside from these general condemnations, F. Billings[7] reports the use of from 15 to 40 grains of thyroidectin a day in divided doses in twelve cases with varying results. In none did he secure the favorable results recorded by others. In two cases the symptoms were aggravated by the remedy. This report of Billings is excluded by Bulkeley in his collation of cases up to 1907, which includes thirty cases all improved by the use of thyroidectin, on the ground of scantiness of data and lack of distinct statement of failure or improvement. M. T. Sudler,[8] giving very few data, reports a single case of unilateral goiter with nervousness and rapid pulse treated "medically with the addition of thyroidectin," which seemed to improve very slightly and has since remained about the same. S. Gillies[9] has seen improvement in patients taking thyroidectin, but is not sure that suggestion has not much to do with the results.

In the following five cases thyroidectin has been used:

CASE 1.—*History.*—A. T. B., a woman aged 26, single, bookbinder, native of United States, entered New York Hospital (Medical No. 12,120) Feb. 25, 1905. The family history was negative. The patient had had measles, pertussis, scarlatina in childhood; frequent bronchitis; menstruation regular. About 1896 the patient noticed a swelling in central part of neck anteriorly. This slowly increased until 1904; since then there has been no further enlargement. In 1897 the patient noticed that the eyes were becoming prominent, and they continued to do so until 1904. The patient became very nervous; had hysterical manifestations at intervals; has had palpitation of the heart, which was made worse by exertion, as long as she can remember.

Physical Examination.—The patient was fairly well nourished, muscular, with neurotic facies and marked exophthalmos. Von Graefe's sign was present; the patient was unable to approximate the lids completely; there was marked pigmentation of upper lids. There was bilateral enlargement of thyroid; fine systolic thrill over it; loud systolic bruit, loudest over right lobe of thyroid. Cardiac apex-beat in fourth intercostal space, 7.5 cm. to left of median line; sounds clear; systolic murmur at aortic and pulmonic areas, and very faint at apex. The pulse was regular, force fair, tension low. There was slight tremor of hands, especially the right; slight edema of ankles. The lymph-nodes in the groin were enlarged. Temperature, 99 F.; respiration, 20; pulse, 108; red blood-cells, 4,928,000; hemoglobin, 94 per cent. The specific gravity of the urine was 1.014-1.019; acid; no albumin; no sugar; occasional leukocyte. Temperature, February 25 to March 22, 97.6-99.2 F. Pulse, February 25 to March 3, 88-108; March 3 to 17, 88-120; March 17 to 22, 76-118. February 28, weight, 120 pounds.

Treatment and Result.—February 25 to March 1 the patient was given neutral quinin bromid gr. v, three times a day, with no apparent results. March 3 to 17, thyroidectin gr. v, t. i. d. The patient was not confined to bed during her stay in the hospital. March 3 the circumference of neck was 33 cm.; pulse, 80; marked exophthalmos; slight tremor; no marked nervousness. March 4 her weight was 121.5 pounds. March 15 the circumference of the neck was the same; patient felt less nervous; had less palpitation when recumbent; had had headache after 9:30 a. m. every day since beginning thyroidectin; the objective signs were unchanged. March 17 thyroidectin was discontinued; the patient had only one headache subsequently. The only improvement was a gain in weight to 127 pounds. March 28 the patient was transferred to the First Surgical Division and the right lobe and isthmus were removed.

CASE 2.—*History.*—M. B., a married woman aged 38, housewife, native of United States, entered New York Hospital, O. P. D., June 20, 1905. One child died of tuberculosis. The patient was accustomed to take one to two cups of tea, one of coffee, daily. For three years the patient had had a cough, with mucopurulent sputum in the morning, and during that time had lost 60 pounds. For two years the patient had had dyspnea on exertion. Patient was seen in 1904 on account of swelling of front of neck which she had just discovered, though her family had noticed it two or three years previously. At that time she had enlargement of the thyroid, exophthalmos, tremor, and, at left apex, prolonged expiration and subcrepitant râles; temperature, 99.2-99.6 F.; pulse 88-156. For two or three months the patient had had general pruritus, excepting of face; for five or six months pain in the lumbar region; had diarrhea with tenesmus for the previous three weeks; complained also of loss of weight and strength, palpitation and nervousness.

Physical Examination.—The patient was fairly well nourished; had decided exophthalmos. The conjunctivæ were congested and the tongue was slightly coated. There was marked tremor of tongue and fingers. Cardiac apex-beat in fifth intercostal space, 11.5 cm. to left of median line; dulness to third rib, and nearly to median line; faint systolic murmur at second left space; pulse regular, small, moderate tension. There was moderate general enlargement of thyroid, especially right lobe; the circumference of neck over thyroid was 34 cm.;

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1. Bulkeley, F. S.: Boston Med. and Surg. Jour., 1907, clvii, 626.
2. Gullan, A. G.: Lancet, London, 1908, ii, 708.
3. Miller, H. H.: Kansas City Med. Ind.-Lancet, 1908, xxxi, 444.
4. Kocher, A.: München. med. Wchnschr., 1910, lvii, 677.
5. Fisher, E. M.: Jour. Med. Soc. New Jersey, 1909-10, vi, 173.
6. Hecht, D'Orsay: Illinois Med. Jour., 1909, xvi, 248.
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there were systolic and diastolic murmurs over the thyroid. The temperature was 98.4 F.; pulse, 196. The specific gravity of the urine was 1.015; acid; no albumin; no sugar; one granular cast. The patient's weight was 142¼ pounds.

Treatment and Result.—June 20 tne patient was given castor oil and salol, and commenced thyroidectin, gr. v, after food. Six days later, the bowels were normal, palpitation much less; temperature 99.2 F.; pulse 132. Palpitation was less until July 2, when it suddenly recurred. Nervousness was less until same date; exophthalmos diminished; tremor about the same; weight had increased about 2.5 pounds; pulse 168. An ice-bag over the precordia relieved the palpitation. Nervousness diminished until the supply of thyroidectin gave out on July 21; it then increased, as did tremor and exophthalmos, perhaps on account of excitement due to the death of the patient's mother. The pruritus was worse for the previous month; lumbar pains for two or three weeks. July 26, thyroidectin was resumed. August 9, the exophthalmos was less but the nervousness and tremor increased; palpitation occurred frequently; there were thirst, profuse sweating on exertion and headache. The thyroid had enlarged; circumference of neck, 36 cm.; distinct systolic thrill and pulsation and loud double murmur over thyroid. August 21, palpitation was constant and severe; there had been pain in the epigastrium for the previous week, with diarrhea. The pruritus was less; headaches continued; thyroid the same; tremor increased; temperature 98.8 F.; pulse 176. The thyroidectin, which had caused no permanent improvement, was discontinued.

Case 3.—*History.*—L. W., female, aged 47, widow, laundress, native of United States, entered New York Hospital (Medical No. 12,406), April 27, 1905. One sister had enlarged neck but not prominent eyes. The patient had had measles twice; menstruated regularly. She had seven children, and had had no abortions. She was accustomed to drink about six cups of tea and three of coffee daily. About May, 1902, the patient's physician noticed that her neck was swollen; she complained of occasional cardiac palpitation. In May, 1903, she felt very nervous and had some puffiness of the ankles; was in New York Hospital, May 20 to June 27, 1903, with exophthalmic goiter and cardiac dilatation. While in bed both conditions improved markedly, and showed tendency to aggravation when she was allowed up. For one year after this the patient felt well, except for some palpitation and occasional diarrhea; had been growing weaker constantly for previous year; had been unable to work for previous three weeks. She had increasing dyspnea on exertion; she had had a cough during the winter; at time of examination it was less and with no expectoration. She had some frontal and vertical headache; no visual symptoms or edema; no increase of exophthalmos or size of neck; chief complaint, weakness.

Physical Examination.—The patient was fairly nourished, with flabby muscles. There was slight prominence of the eyes; Stellwag's sign was slight; von Graefe's sign absent. The tongue was very slightly tremulous. The thyroid was somewhat enlarged asymmetrically; there was no palpable pulsation, but fine systolic thrill and loud bruit over gland, much more marked on left side. The cardiac apex-beat was in fifth intercostal space, 10 cm. to left of median line; forcible; there was a systolic murmur at aortic area and at apex transmitted toward axilla; pulse full; considerable tension. The lungs were normal, except cog-wheel inspiration at apices posteriorly and slightly exaggerated breathing at left apex. There was marked tremor of the hands. The temperature was 99.6 F.; respiration, 28; pulse, 120; subsequently 80-100. The specific gravity of the urine was 1.016-1.023; acid; faint trace of albumin; no sugar; no casts. April 28, the patient's weight was 118 pounds; she was not confined to bed.

Treatment and Result.—Thyroidectin was given, gr. v, three times a day; emulsion of cod liver oil half an ounce after food. May 19, thyroidectin was discontinued. The pulse was 96-112; rate quite as high as before treatment. The patient's weight had increased to 123 pounds. Improvement was less than with rest in bed during previous stay in hospital.

Case 4.—*History.*—E. P., a married woman aged 45, housewife, native of United States; entered New York Hospital, O. P. D., March 30, 1907. The patient's father had rheumatism. The patient had had no diseases of childhood; she had had frequent "bilious attacks," and for five years, papular eczema every winter; and cough in the morning for years. She was accustomed to drink one cup of tea and one cup of coffee daily. About Dec. 22, 1906, after an unusually hard day's work, the patient became tired and thirsty and could not sleep; she then noticed inability to speak quickly and was easily fatigued. Early in January, 1907, the patient began to have dyspnea on exertion, palpitation after meals, bad taste, swelling of ankles. Toward the end of that month the patient noticed slight swelling of front of neck, varying slightly in size. Her weight was 135 pounds six months prior to admission; she became thin in January; was always puffy under the eyes, worse for the previous month. She vomited three times three days prior to admission.

Physical Examination.—The patient was rather poorly nourished. The eyes were slightly prominent, with puffiness of lower lids. There was slight general enlargement of thyroid, especially right lobe and isthmus; circumference of neck, 31.5 cm. The cardiac apex-beat was in sixth intercostal space, 12.5 cm. to left of median line; forcible; there was dulness to the second rib and to the left border of the sternum; systolic murmurs at second right and left intercostal spaces; the pulse was of fair size, moderate tension. Above the right clavicle and in first intercostal space were dulness, bronchial breathing, whispered pectoriloquy; above spine of right scapula, same. There was liver dulness from the fourth intercostal space to 4 cm. below costal margin in right parasternal line. There was very slight tremor of the fingers. The temperature was 99.2 F.; pulse 104. The patient's weight was 109.5 pounds.

Treatment and Result.—Rhubarb and soda with nux vomica were given before meals; thyroidectin gr. v, after food. April 6, there were no gastric symptoms; no dyspnea on exertion. The specific gravity of the urine was 1.026; acid; no albumin; microscopically negative. April 11, there was slight increase of exophthalmos and tremor, both of which had diminished one week later, while the weight had reached 115. By May 7, the patient had been taking thyroidectin irregularly for the previous week. She then had a choking feeling when hurrying; venous hum over jugular veins; aortic second sound accentuated; systolic murmur over precordia, maximum intensity in second right intercostal space; pulse occasionally irregular in frequency; hemoglobin, 64 per cent. (von Fleischl). She was now given iron, arsenic and strychnin in addition to thyroidectin. May 15, there had been palpitation for two days, which at times seemed slightly diminished by thyroidectin. The weight was 110.5 pounds. Along the left border of the sternum there was a scraping systolic murmur, maximum intensity in the third and fourth intercostal spaces, close to the ear, sometimes increased by bending forward; at other times when straight, after bending forward; there was a systolic murmur at the second right intercostal space. Thyroidectin was given, gr. x, after food for three days, then gr. v, after food. May 27, palpitation was worse while taking thyroidectin gr. x, after food; it was relieved by sodium bromid gr. x, taken as needed; recurred after taking thyroidectin gr. v, after food, again. June 4, there was increased tremor; the heart was overacting; the pericardial friction sound was still audible. The patient was given tincture of belladonna, Blaud's pills. June 17, the patient's weight was 108.5 pounds; hemoglobin 80 per cent.; circumference of neck same as on admission; little palpitation or dyspnea. July 17, the patient's weight was 105; temperature 98.7 F.; pulse, 84; there was increased exophthalmos; perhaps increased tremor; little palpitation. The patient was given thyroid extract gr. v, twice a day after July 24. Severe palpitation began on July 28, with edema of face and feet; the patient felt weak on rising. July 31, the patient's weight was 112.5; temperature 98.8 F.; pulse, 108, and very irregular in frequency; there was increased tremor. The patient was given thyroidectin gr. v, after food. After four doses she was much worse; palpitation, weakness and nervousness were present, and edema of legs more marked. The patient's weight was 116.5; temperature, 99.4 F.; pulse, 108, of slightly increased tension. There was increased exophthalmos. Thyroidectin was discontinued. The patient was treated subsequently with sodium bromid, belladonna, strophanthus, tonics and ice-cap over the heart. The patient's weight rose to 123 pounds. Symptoms of exophthalmic goiter varied as before. The heart showed signs of dilatation and hypertrophy, with marked irregularity in force and frequency of pulse; the urine was of low specific gravity; edema of whole of lower extremities was present, also gastric disturbance. July 1, 1909, the thyroid was smaller; there were no symptoms of exophthalmic goiter except slight exophthalmos; the symptoms were chiefly edema and diminished urine, of specific gravity not above 1.016; no albumin.

Case 5.—*History.*—The patient, M. W., a widow aged 36, domestic, native of Ireland, was seen May 15, 1908. Her father died of tuberculosis. The patient had had measles, variola, scarlatina and pertussis. She married in 1900; one year later had still-birth at term; then three abortions at two to three months; finally labor at eight months, three and a half years before the time of examination; the child was living. Menstruation had been irregular before the patient's marriage; after labor no menstruation for two years. Hemorrhage preceded all abortions and labor, and dyspnea and edema of legs were present in all pregnancies. The patient had had cough since marriage; sputum white; at times blood-streaked; for the previous four years cough only in winter. She was accustomed to take five cups of tea daily. At 12 years of age the patient had several frights; began to have choking feeling, then marked tremor; palpitation when excited; did not notice goiter until she was 15, though friends had observed thickness of neck for one or two years. At that time the patient had dyspnea, increasing weakness, and prominence of eyes. The symptoms were worst at the age of 17; six months later she was obliged to stop work, and was in hospital twice for three months. The patient was treated ten or twelve years with belladonna, digitalis, ergotin, quinin, iron, arsenic and bromids; improved at 24; was able to work later, but nervousness and tremor continued; she had been losing weight for years. From 12 to 26 years the patient had frequent stools soon after meals; no other symptoms. Beginning work in new place May 12, the patient became very nervous and had had repeated attacks of tachycardia, so severe as temporarily to prevent working.

Physical Examination.—The patient was poorly nourished and very nervous, with flushed face and slight bilateral exophthalmos. She had a marked tremor, especially of hands, so severe that she could not handle fluids without spilling them. There was general, soft, uniform enlargement of the thyroid, with overlying veins distended; the circumference of neck was 38 cm. The cardiac apex-beat was heaving, in the fifth intercostal space 9 cm. to the left of the median line; there was dulness to the third rib and to the median line; systolic murmur at apex transmitted slightly to left; from the second rib upward to and over the thyroid, there was blowing systolic murmur; loud venous hum over vessels of neck, especially during systole.

Treatment and Result.—Thyroidectin, gr. v, was given after food. May 17, the patient was less nervous; pulse, 96 to 100, regular; hemoglobin, 68 per cent. The patient was given ovoferrin after food. May 22, she had had epistaxis for one week at intervals; there was less tremor and nervousness; pulse, 96; circumference of neck, 37 cm. Thyroidectin was given, gr. x, after food, for four days, and patient thought improvement continued, but she was more nervous; pulse was 96 to 108; weight 91¾ pounds. Thyroidectin was discontinued; sodium bromid was given, gr. x, before food, and soon afterward, iron. July 12, the patient's weight was 99¾; hemoglobin 103 per cent.; there were no severe nervous attacks with tachycardia; otherwise the patient's condition was the same. After resting for two months patient returned to work, weighing 107 pounds, and attacks recurred. The left lobe of the thyroid, partially intrathoracic, was removed; four months later, the patient's weight was 115. The exophthalmos, nervousness and tremor gradually subsided. Jan. 17, 1910, there was still some nervousness, tremor and slight tachycardia when the patient was excited, but much less than before operation.

On account of the uniformly unfavorable results, thyroidectin was used in no further cases.

Before the introduction of thyroidectin, I had employed desiccated milk of the thyroidectomized cow and goat, each in one case. The histories are as follows:

Case 6.—*History.*—A. A., a married woman aged 38, housewife, native of United States; entered Vanderbilt clinic Feb. 4, 1905. The family and previous history were negative in their bearing on present illness. Menstruation was normal. The patient was accustomed to take two cups of coffee and four of tea daily. In February, 1903, the patient noticed a swelling in the right side of the neck anteriorly; two or three months later she began to have constant palpitation, loss of weight, nervousness and enlargement of the remainder of thyroid; swelling increased gradually but steadily. The patient did not menstruate in July, August and September, 1903, but was regular following that time. The patient improved at intervals under treatment, but was not kept in bed at any time. After any excitement the patient had diurnal headaches, chiefly frontal and vertical. The patient had not noticed prominence of the eye-balls until told of it by her physician in May, 1903. Protrusion diminished slightly after that time. Dyspnea had occurred on exertion for the past year. There were slight dry cough and hoarseness since December, 1904. Chief complaints: nervousness, palpitation, headaches.

Physical Examination.—The patient's face was flushed. There was slight exophthalmos; von Graefe's sign was present; quivering eyelids. The whole thyroid, especially the right lobe, was enlarged; the circumference of the neck was 38 cm. There was a double murmur over the thyroid, especially at the sides; a constant bruit and thrill over jugular veins; loud systolic murmur over carotid and subclavian arteries. The cardiac apex-beat was in the fifth intercostal space 10 cm. to left of median line, heaving; there was an area of dulness to the third rib and to the left border of the sternum; and a systolic murmur over whole precordia; first sound reduplicated at the apex. There was marked tremor of the hands; varicose veins and slight edema of legs. The temperature was 98.4 F.; respiration, 28; pulse, 132. The patient's weight was 142.5 pounds. The specific gravity of the urine was 1.011; acid; no albumin.

Treatment and Result.—February 4 the patient was given tincture of digitalis and a mixture containing bromids with nux vomica. During the ensuing week the patient felt much better in every way; pulse fell to 108; weight increased two pounds. Four days later the patient reported severe palpitation and no decrease of nervousness; temperature 98.8 F.; pulse 108. She was given desiccated milk of thyroidectomized cow, gr. v, three times a day. March 2, temperature 99.2 F.; pulse 132. March 6, the patient reported constant palpitation and weakness; she said that the goiter seemed swollen every night; temperature 98 F.; pulse, 184. There was no change in nervousness, tremor or exophthalmos; circumference of the neck was 39 cm. A letter from her husband, dated March 23, forcibly reported apparent results of treatment. "My wife since she commence to take those capsules her heart was about to jump out of her body and I put a stop to her taking them. She will not call again upon you."

Case 7.—*History.*—H. E., a married woman aged 42, housewife, Hungarian, entered Vanderbilt Clinic, March 11, 1905. The family and previous history were negative. The patient had one healthy child born twelve years previous to admission. A few weeks later the patient noticed a slight swelling in front of neck, which increased rapidly for one year; not subsequently. The patient was married a second time three years previous to admission; and after that had much domestic trouble and became very nervous. One and a half years prior to admission the patient began to have swelling of the right lobe of the thyroid, which increased gradually and was occasionally painful, especially at night. For the previous six or eight weeks, there had been rapid and exaggerated heart action; no exophthalmos or tremor. The patient would eat only at supper time on account of excitement, and drank six to eight cups of coffee daily.

Physical Examination.—There was no exophthalmos; cyst about 1¼ inches in diameter in isthmus of thyroid; right lobe similarly enlarged; no bruit over gland; circumference of the neck over the large cyst 38.5 cm. The cardiac apex-beat was in the fifth intercostal space, 11 cm. to left of median line; there was dulness to the third rib and to 0.5 cm. to left of left border of sternum; a faint systolic murmur at second right intercostal space. The pulse was regular. There was slight tremor of the hands. The temperature was 100 F.; respiration, 28; pulse, 96. Urine: specific gravity 1.018; acid; no albumin; microscopically negative.

Treatment and Results.—The patient was given extract of belladonna gr. ¼, every four hours, and a mixture containing bromids and nux vomica. The temperature was 98.8-99.6 F.; pulse, 92-120. April 1, there was no pain in the neck; otherwise the symptoms were the same; the circumference of the neck was 36.5 cm. April 4 there was increased palpitation and nervousness; the patient was given desiccated milk of thyroidectomized goats, gr. v, three times a day until May 18. Temperature was still 99-99.6 F.; pulse 96-112. April 20, there were less nervousness and palpitation. May 2, the patient felt much better; the cyst was less tense, but the circumference of the neck was unchanged. One week later the patient was still having palpitation but no nervousness, and had complained of pain in left side of the thyroid for two weeks. May 18, pulse 84. Desiccated milk was discontinued. May 23, there was no nervousness; less palpitation.

Summarizing the apparent results of treatment with thyroidectin without absolute rest in bed—apparent, because of the well-known variability of symptoms in exophthalmic goiter and the powerful effect on the nervous symptoms of suggestion of the potency of a new remedy—we find:

In Case 1, with treatment for two weeks with thyroidectin gr. v, three times a day, the nervousness diminished and tachycardia was less when the patient was recumbent; but there was no actual improvement save gain in weight. Headaches were present daily while the patient was taking thyroidectin; they ceased immediately when it was discontinued, except one day.

In Case 2, with the same dosage for nine weeks, with the exception of five days, the patient showed diminution of palpitation and nervousness at first. Subsequently all symptoms increased.

In Case 3, with the same dose for three weeks, there was slight general improvement, less than with rest in bed during the previous stay in the hospital; and no greater than change of habits and partial rest would account for.

In Case 4, the patient, treated fifty-seven days with gr. v, after food, and three days with gr. x, after food, showed very slight initial improvement, apparently a coincidence, or due to suggestion. The symptoms later became more marked under treatment; at times apparently exaggerated by thyroidectin, especially by dose of gr. x, after food.

In Case 5, treated seven days with gr. v, after food, and four days with gr. x, after food, the patient showed less nervousness and tremor during treatment. The symptoms were always greatly aggravated by any excitement. The patient was under great nervous strain when first seen. There was no real permanent improvement.

The patients had had symptoms for nine years, three years, three years, three months, and twenty-four years respectively, before thyroidectin was given. All the cases were of moderate or marked severity, except Case 3. Two showed severe cardiac lesions. Thyroidectin was given for from eleven to sixty-one days; dosage, gr. v to x, after food. Temporary improvement of symptoms was chiefly in tachycardia and tremor.

While none of these patients showed any real improvement excepting what would be amply accounted for by rest and regularity of habits, Patients 3, 4, and 5, if seen only during the early part of the treatment, might have been reported as improved. Their subsequent course suggests great caution in interpreting the reported 100 per cent. of improved cases.

The two patients treated with desiccated milk of thyroidectomized animals showed, in one instance, very marked aggravation of symptoms, especially tachycardia and weakness; in the other, nervousness disappeared, palpitation diminished, and the pulse-rate, previously 92-120, fell to 84-90. This case might have been considered improved, but regulation of excessive coffee drinking might largely account for this change.

My impression is that whatever improvement was noticed in any of these cases was due to rest, regulation of habits, and suggestion, or was a coincidence. The aggravation of symptoms may also have been a coincidence, but when it occurred it followed very closely the periods of administration of the drug.

SUMMARY

The few recorded results with thyroidectin in exophthalmic goiter are, on the one hand, improvement in 100 per cent. of thirty-six cases reported by three writers; on the other, one unfavorable report on twelve cases, one of negative results in a single case, and general condemnation, without details, by three observers. To these I add five cases, none of which gave results which were greater than the ordinary variation in symptoms in exophthalmic goiter under the influence of rest, suggestion, and regulation of habits, while in one case the remedy appeared to aggravate the symptoms. My two patients treated with desiccated milk of thyroidectomized animals showed extreme aggravation of symptoms in one case, apparently a direct result of the treatment, and in the other improvement, probably due to restriction of coffee. The results of treatment with thyroidectin seem far inferior to those secured by rest, symptomatic medical treatment, or partial thyroidectomy.

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SUCCESSFUL REMOVAL OF BRAIN TUMORS

A CEREBELLAR TUMOR AND AN ENDOTHELIOMA OF THE PREFRONTAL DURA MATER

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The fortunate outcome in these cases of cerebellar tumor and endothelioma of the dura is offset by an unhappy termination of our endeavors in a considerable number of instances of intracranial growths. There have been records enough of others' failures, however, to console us, and enough of successes to encourage us to persevere. The following account may render at least the latter service to those who need it.

Case 1 (By L. Newmark and H. B. A. Kugeler).—*Abstract.* Headache and vomiting began in November, 1908. In March, 1909, impairment of vision. In September, 1909, exploratory punctures and aspiration of (normal) substance from both cerebellar hemispheres. Escape of cerebrospinal fluid from puncture on the *right*. Subsidence of papillitis, and apparent good health for ten months. Then return of suffering: anesthesia in *right* trigeminal area. In November, 1910, removal of tumor from *left* cerebellar hemisphere.

Symptoms.—The patient was a girl 20 years old at the time of this report. In June, 1906, she is said to have vomited on three occasions, each time after supper, but without apparent cause. For six months thereafter the menses were suppressed. Otherwise she was quite well until November, 1908, when she began to have headaches and occasional vomiting on rising in the morning. At first the vomiting would occur about once a month, without relation to menstruation; after three or four months the intervals became shorter, until in the spring of 1909 they were reduced to two or three days. In March, 1909, her sight began to fail; she would be unable to read what she had produced on the typewriter. She held her head stiffly and inclined to the right, raising the right shoulder at the same time. We saw her together first on August 3, 1909, a few days after she had vomited so violently as to cause a severe gastric hemorrhage. The patient was cheerful and chatted volubly, and ordinarily did not give the impression of suffering. She said, however, that she always had more or less headache, "all over," but chiefly in the back of the head. We found papillitis in both eyes. Vision was considerably reduced in the right eye, but was quite good in the left. The eyeballs were both rather prominent. There was no nystagmus; nor was there any strabismus, although the patient mentioned frequently that she saw double, and once the diplopia continued all day. Dr. Adolph Rosenthal of the German Hospital, who examined her with us at the hospital, considered the diplopia to be due to incoordination of the ocular muscles. Inquiry elicited the statement that there was sometimes a numbness of the right half of the upper lip, but at this period we could not convince ourselves of any alteration of sensibility there (or anywhere else). The function of all the other cranial nerves was intact. When walking the patient now and then lurched very slightly to the left. During August, she would raise the right shoulder and incline the head slightly toward it on one day, and on another she might approximate the head and left shoulder. There was no incoordination of any kind in the upper or lower extremities. The tendon reflexes were all feeble at best; often the heel reflexes could not be elicited at all by any method; the knee-jerks were variable and required reinforcement, which would sometimes evoke both, and at other times only the left. The plantar reflexes were normal, the abdominal reflexes were absent on both sides. The pulse and the temperature were normal. The skull was not especially tender to pressure at any point, but the bone was perceived to be very thin and soft in the temporal regions, much more in the right than the left. *X*-ray plates seemed to confirm this impression; moreover, the sella turcica showed very faintly on them.

Deductions.—The papillitis, headache and vomiting were sufficient to prove the increase of intracranial pressure. The cause of this might be a tumor with or without hydrocephalus, or chronic hydrocephalus without a tumor. Lues was eliminated as far as possible. If a tumor was present the cerebellum seemed not unlikely to harbor it, for the manner of holding the head and the lurching, slight though it was, suggested that location, if they did not prove it. The fact that the headache was chiefly occipital seemed in some measure corroborative of this view. The absence of a disturbance of hearing excluded the cerebello-pontile angle from consideration; and the absence of nystagmus lessened the strength of our conviction that the tumor might be in the occipital fossa. On the one hand, there was a similarity to the symptoms of cerebellar disease; on the other, the absence of such frequent concomitants of cerebellar tumors as nystagmus and strabismus seemed to constitute a difference. This similarity with a difference induced us to regard a chronic hydrocephalus without tumor as not altogether improbable. The numbness of the right half of the upper lip, which the patient had mentioned only in response to an inquiry, could not weigh much in our balancing of the symptoms, because it was not present at this time.

Diagnosis.—As it was thought inadvisable to disregard the region where the atrophy of the bone was so conspicuous, a small incision was made, August 19, 1909, in front of the right ear. The bone was found to be as thin as paper. A slight slit was inadvertently made in the dura. Some of the subjacent brain substance was aspirated and examined under the microscope, and proved to be normal. A few days later 25 c.c. of cerebrospinal fluid were obtained from the right lateral ventricle through the same opening. It was reported to contain 0.2 per cent. of albumin and an excess of mononuclear leukocytes. We could not establish on this occasion that the ventricle was greatly dilated. On September 1 an incision was made on either side, midway between the external occipital protuberance and the apex of the mastoid process, and the bone opened with a small trephine. On the left side the same thinning of the occipital bone was found as in the right temporal region. On the right side the bone appeared normal. Substance was aspirated through each opening and submitted to Professor Ophüls, of Stanford University, who reported that "sections from both sides show cerebellum, no tumor." On the right side a hemorrhage occurred, so that the wound had to be packed with gauze. When two days later the gauze was loosened, there occurred a profuse flow of cerebrospinal fluid. The fluid continued to escape for ten days. The headaches, the vomiting and the pain in the eyeballs ceased and the patient was allowed to return to her home. When examined there a few weeks later the papillitis had disappeared, leaving the disks pale; the vision was 6/8 in the left eye and 6/10 in the right eye, as determined by Dr. Rosenthal. The patient took part in the work of the household and, although reported to be a trifle unsteady, with a little tendency to stagger now and then to the right, she was considered well until the end of July, 1910.

This subsidence of the symptoms after the discharge of cerebrospinal fluid had made us incline rather to the diagnosis of a chronic hydrocephalus without tumor. But the vomiting reappearing, occasionally at first with headaches, the patient was forced in August, 1910, to take to her bed again. She had to lie perfectly flat, as a pillow under her head would cause pain in the neck, occiput and eyes. At times there was tense bulging at the site of exploration in the right temporal and left occipital regions and well-marked fluctuation between the two on percussing the occipital area. September 23, 50 c.c. of cerebrospinal fluid were withdrawn from the right lateral ventricle through the temporal opening; vomiting and pain in the eyes immediately ensued and for three days there was a rise in temperature, the highest being 101 F. Occasionally some alleviation punctuated the patient's sufferings from vomiting and pain, so that she could be up and perform household duties. October 6 she was unconscious for fifteen minutes. November 23 we resumed our cooperation, one of us not having been able to see the patient for several months. The appearance of the disks, and the vision, had not changed during the year. Knee-jerks, ankle-jerks, and plantar reflexes were now all found to be perfectly normal. There was still neither nystagmus nor strabismus. The various tests for eliciting signs of disturbance of cerebellar coordination gave negative results. There was now a distinct diminution of tactile sensibility in the right half of the upper lip. This was said to vary: the patient said it was so marked at times that when she touched the right side of the upper lip with her finger and could not feel the lip she seemed to have lost her finger. This hypesthesia in the lip was most pronounced when the pain in the back of the head was most severe. The motor trigeminus was not affected. Deglutition was becoming difficult; the patient sometimes choked over her food. The pulse-rate was 120. There was no bulging through the opening in the skull at this examination. From November 25 to November 27 the patient could not swallow at all; a few drops of water were allowed to fall into her mouth from time to time. She was removed to the hospital, November 27 in the evening. The rate of the pulse was now between 130 and 140 and its beat was barely perceptible.

Further delay was evidently dangerous. It was therefore determined to examine the sites of the cerebellar punctures, one of which, by permitting the discharge of cerebrospinal fluid, had been so beneficial. It was hoped that this benefit might again be obtained by a repetition of the procedure and that the pressure on the medulla oblongata might be thereby relieved, thus permitting the patient to recover sufficiently to give an opportunity for a more extensive exploration of the cerebellum under less desperate conditions. The anesthesia in the distribution of the right trigeminus, as well as the consequence of the former intervention on that side, invited to operation on that side first.

Operation.—Accordingly, a few hours after the patient entered the hospital an incision was made through the scar. The dura was very tense. Puncture of the cerebellum produced, after two fruitless attempts, rather more than an ounce of a clear, amber-colored fluid, the first portion of which, spurting under considerable pressure, was lost. The intradural pressure was plainly lessened by the evacuation of this fluid. Further punctures yielding no more, an incision was made following the scar over the left cerebellar hemisphere, and there was disclosed a purplish mass protruding through a small opening in the dura. It was very soft and vascular, but after some effort a firm hold was secured and it was extracted entire through the enlarged opening in the dura and the bone. After its removal normal cerebellum was in sight; it soon pulsated freely. The patient was pulseless when returned to bed, but before long she recovered and in a few hours was able to swallow with ease. Nothing occurred to interfere with her restoration to health. The anesthesia in the right trigeminal area has disappeared. The patient is now (February, 1911) attending to her domestic duties, besides being active in her father's business.

The tumor measured approximately 5.5 by 2.5 by 2 cm. Professor Ophüls reported that it was a glioma of the cerebellum. The fluid which was obtained from the right cerebellar hemisphere contained but little sediment, which consisted or red blood-corpuscles, some granular and a little crystalline blood-pigment.

The salient points in this case are as follows:

1. The therapeutic effect of puncture of the cerebellar hemisphere opposite to that which contained the tumor.
2. The failure of puncture and aspiration at the site of the tumor to reveal its presence.
3. The non-recurrence of papillitis when the other symptoms returned.
4. The atrophy of the skull, probably the effect of pressure.
5. The anesthesia in the face, which might well delude one as to the side of the tumor. Ziehen mentioned in a discussion[1] as very remarkable "a crossed trigeminus paralysis" in a case in which he had diagnosed a cerebellopontile tumor, which, however, was not found at the operation, and Oppenheim stated in the same discussion that he also had once seen a contralateral trigeminal paralysis.

Case 2 (By L. Newmark; operation by Harry M. Sherman). —*Abstract.*—Intermittent headaches since 1906. Choked disks observed in November, 1907. Bilateral anosmia, pain in occiput and back of neck in March, 1908. In April, 1908, osteosarcoma on inner surface of trephine button removed from left prefrontal region. Permanent disappearance of headache and choked disks. December, 1910, removal of endothelioma of dura mater from same region.

It would seem in a sense to be an extreme mischance in localizing an intracranial tumor to discover it at last in the prefrontal region when it had been sought in the cerebellum. Yet such an error is not very uncommon, and in the course of the following notes it will appear how insistently at least subjective symptoms may direct one's attention to the back of the skull when the growth is situated in front. The tumor in our case was an endothelioma of the dura mater. Such a tumor is often a favorable object for surgery when it can be localized; but the diagnosis may be very difficult. Four cases observed by Nonne,[2] of Hamburg, illustrate this relation; in none of them was the tumor diagnosed, and in all it might have been removed with ease.

Symptoms.—The patient, a ruddy, robust Danish woman, aged 38, came under my observation at St. Mary's Hospital at the invitation of Dr. C. C. Mohun, March 23, 1908. Since "four weeks after the fire," that is, about May, 1906, she had been subject to paroxysms of headache, in the intervals between which she appeared to be well. The pain was formerly chiefly on the top, but of late commonly in the back of the head. Until the last attack of headache (which brought her to the hospital) the head would be drawn backward in the paroxysms and sometimes held retracted until the skin at the throat became sore from the stretching. The patient had had as many as three distinct attacks of headache in a single night, in which she would get on her knees and hold on to the upper part of the folding-bed, with her head drawn back. The head had remained thus retracted for a whole day at a time. In the attack, during which she entered St. Mary's, however, the head was inclined forward, so that the chin approached the chest, and in that position I found her, evidently in great pain, which, she said, she felt in the back of the head and neck, the back of the head being particularly painful on the left. The headaches often began with a "beating" in or behind the left ear. The patient had lost consciousness four or five times, not always, according to her husband, in a headache. There had been no convulsions. Ordinarily she did not vomit in the headaches, but during the last one she did, and, according to a witness, after the vomiting, a clear fluid "like water" came out of the nose drop by drop. Pain was felt often in the left eye, but not in the right. At times she would become blind for a moment. A few months before admission she could not see well after dark, so that after nightfall her husband had to lead her, but of late there had been an improvement in this respect. In November, 1907, Dr. James Franklin Smith had first observed choked disks.

Examination.—This disclosed bilateral anosmia. It was then elicited that the patient had observed the loss of the sense of smell several months before. Dr. Smith found no sign of a discharge of cerebrospinal fluid through the nose, such as the statement in the history suggested. The disks were both choked, the left a little more than the right. All the other cranial nerves were intact; all the reflexes and motor and sensory functions in the trunk and the extremities were normal. A tremor in the upper and lower extremities was noticeable. There was no exophthalmos, no strabismus, no real nystagmus, no cerebellar incoordination or staggering, no form of aphasia, nothing abnormal in the pulse or the temperature. Briefly, of the cranial nerves, only the first and second pairs supplied a clew; the functionally differentiated parts of the brain supplied none. The last assertion should perhaps be qualified; for the patient's husband declared that her character was changing. There was a sort of affected hilarity about her. I was furthermore struck by her indifference when I explained to her that an operation might be required to preserve her sight. The alleged change in her disposition and her inability to appreciate the gravity of her condition were taken into consideration later on weighing the arguments in favor of localizing the disease in the frontal lobe. Meanwhile, however, it was to the occiput that the patient's complaints drew our attention. By degrees, the severity of the paroxysm abating, the patient recovered from the prostrating headache with which she had entered the hospital, but still was cautious in moving her head until March 26. Then, although suffering no great discomfort in the daytime, she continued to have pain at night in the back of the head and neck, chiefly in the left half of the occiput. The pain was felt sometimes as far down as the upper dorsal region. The patient said that she could not lie on the left side on account of the tenderness in the back of the head on that side. The "beating" deep in the ear or behind it added to her distress; it was "like a clock." Tenderness to pressure was constant in the occiput on both sides, although it varied in degree on different days, and it was always greater on the left side than the right. Nowhere else in the skull was this tenderness found. The left frontal region was examined in this respect frequently and with special care. April 5, 1908, with the assistance of Dr. John Van Denburgh, the whole skull was percussed and auscultated, but no additional information was obtained. On the day before, the patient mentioned that she had had "little jerking movements of the head backward," and that she had felt them in the back of the head on the left side. April 5 I witnessed these movements, which were evidently due to short sharp clonic contractions of the muscles that retract the head. April 11 she vomited frequently, and it was on April 13 that she felt the pain as far down as the upper dorsal region. She requested an operation, and April 15, when a hemorrhage appeared in the left disk, a sufficiently urgent reason was supplied to grant the request.

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[1] Neurol. Centralbl., 1907, p. 537.

[2] Deutsch. Ztschr. f. Nervenheilk., xxxiii.

Diagnosis.—But where was the skull to be opened? The fundamental problem was the interpretation of the anosmia. This does not appear from the history to have been an early symptom, and it might have been caused by hydrocephalus, which in its turn might have been caused by a growth in the occipital fossa. Thus the combination of anosmia with tenderness and pain in the back of head and neck, and with spasms of the muscles that retract the head, would have been explained. The alternative was a direct pressure on the olfactory bulbs or nerves by a prefrontal tumor; but a single prefrontal tumor, unless it crossed the median line, would be expected to cause unilateral rather than total anosmia. There are abundant cases on record to show how fallacious tenderness of the occiput may be as a guide to diagnosis; yet the pain there, and the "beating" in the ear and the backward jerking of the head, were hard to disregard as indicative of the occipital position of the tumor. At length, however, the reflection that there was no impairment of the function of any organ lying within the occipital fossa determined the question in favor of the prefrontal region, in which judgment I was further confirmed by the reputed change in the woman's character. The subjective symptoms were allowed an influence on the decision as to which side of the skull concealed the tumor. The patient had finally called the left "the sick side;" the left disk was slightly more swollen than the right; so the left prefrontal region was chosen for the first exploration, despite the absence of aphasia in this right-handed person.

First Operation.—Accordingly, on April 16, 1908, Dr. T. E. Bailey trephined at a point about 4 cm. above the middle of the left supra-orbital ridge. The purpose was to probe the brain through the dura, and, if necessary, to aspirate particles of brain tissue for microscopic examination. From this point, furthermore, it would be feasible to tap the anterior horn of the lateral ventricle and to determine whether or not it was dilated. A puncture toward the base and median line was unproductive; a second, directed toward the occiput, encountered resistance at a distance of about 1⅛ inches; the instrument had entered something which seemed to be of the consistency of wood and a little force was required to disengage it. A week later a trephine was applied over the resistant substance, and when the disk was removed it was found that what the exploring instrument had encountered was a prominence on the inner surface of the bone, apparently an osteophyte, which had forced the subjacent dura rather deeply inward. The dura thus exposed was thickened. The opening in the skull was enlarged until normal dura was seen in all directions. The dura itself was not opened, as the removal of the projecting bone seemed sufficient to relieve the pressure on the brain. Dr. E. A. Victors was kind enough to prepare microscopic sections of the skull disk, and Professor Ophüls favored me later with the following report on the specimen:

Pathologic Report.—"Trephine button 22 mm. in diameter. Outer surface smooth, normal. On inner surface rough bony prominence forming a flat cone of 19 mm. base, projecting in the middle about 6 mm. On the rough surface there are small remnants of adhesions to the dura. The tumor evidently arises from the internal table and extends into the diploe for 3 to 4 mm. in an irregular fashion. The dividing line between tumor and diploe is rather indefinite. Section shows thick masses of lamellated, dense bone tissue with normal bone-cells. In the bony tissue there are large open spaces which, above toward the diploe, are filled with cellular bone-marrow, below in the tumor proper with a cellular tissue made up of large spindle-shaped cells with large vesicular nuclei and little intercellular tissue between them. Osteosarcoma of the skull."

Postoperative History.—A few days after the operation, having doubts as to the sufficiency of what had been done, I intimated to the patient that a second operation might be necessary, to which she replied that she felt very well and would assent to no such proposal. Indeed, she has never again suffered from the headaches and has no complaint about her eyesight. When she left the hospital just one month after the operation the swelling of the disks had become less by 3 diopters, and the beating in the left ear and the tenderness of the occiput had disappeared. Only the anosmia remained. In a few weeks more the swelling of the disks had completely disappeared; they were pale, but the patient was conscious of no defect in her vision. Through the opening in the skull, covered by the skin, a mass now protruded. The woman was very distrustful of her medical attendants, asserting that they wanted to experiment on her, and would not permit an examination of the protuberance on her forehead. No one could prevail on her to present herself again for inspection. The insensibility to the benefit she had received, and her perverseness toward those who offered to continue their efforts in her behalf, were declared by her husband to be foreign to her character. From the summer of 1908 until one day in June, 1910, when I journeyed to her home in the country to see her, she was lost to sight. On the day mentioned she was found to be in the enjoyment of good general health, but she complained that of late the swelling on the forehead had become tender. It seemed to be larger than it was two years before, occupied virtually the whole forehead, jutting over the eyebrow, and it pulsated like normal brain. At the edges of the opening in the skull the bone was tender when touched. The disks were still pale and clear. The sense of smell had not been regained. The patient's memory was stated by her husband, as well as herself, to have become very untrustworthy. The disfigurement by the swelling on the forehead was keenly felt; she was ashamed to go about and children ran from her in fright.

Cosmetic considerations, therefore, had their influence on the patient, and at length she entered the University of California Hospital, where, on Dec. 5, 1910, Dr. Harry M. Sherman removed a tumor which weighed 140 grams. This again was kindly examined by Dr. Ophüls, who reported as follows:

Pathologic Report.—Large nodular tumor about 8 cm. in diameter. The nodules on the surface are closely set, rather regular, from 3 to 5 mm. in diameter, large veins ramifying in the spaces between them. Sections show a thin superficial layer of ordinary fibrous tissue (probably the dura). The tumor consists of a thin framework of vascular fibrous tissue in which there are badly defined rounded spaces tightly packed with partly flat, partly fusiform cells, arranged more or less concentrically. No intercellular substance. These cells resemble those which were found in the medullary spaces of the piece of bone [i. e., the trephine button removed in 1908]. Alveolar sarcoma (endothelioma) of the dura mater.

As Nonne, in the article referred to above, calls the endothelioma of the dura mater benign, I questioned Professor Ophüls on the subject, and he replied: "These tumors are a sort of border-line affair of a very low degree of malignancy, if any. There are other types of sarcoma of the same class, such as the giant-celled sarcomata of the bones and others."

The defect in the patient's skull beginning 1 inch above the eyebrow, extends 3¼ inches backward from the eyebrow; laterally it extends from within half an inch of the median line to the level of the external canthus of the eye. The olfactory sense is not abolished; she can detect strong odors like that of lysol, but more delicate scents escape her. Her visual fields are about normal, according to Dr. Scott Franklin's tests, and her vision is a trifle less than 20/20 in each eye. Her memory is still considered by herself to be defective. Her conduct is certainly more amiable; but this may be due to the consciousness of an improvement in her appearance. Such was her condition on Feb. 7, 1911.

Dr. Sherman describes the surgical aspects of the foregoing case as follows:

Mrs. L. presented herself with a large tumor in the left frontal region. At its lower limit it lifted the eyebrow from the bone, at its upper it extended beneath the hair, and transversely it reached from the midline of the forehead outward as far as the external angular process of the frontal bone. Its general level was 2.5 to 3 cm. above the normal, and the skin covering it showed a broad stellate scar. The tumor pulsated, and it was not known whether it consisted of tumor tissue or was a cerebral hernia of the decompressive order. To determine this question, if it could be determined before operation, a lumbar puncture was done. Only 6 c.c. of fluid were taken, under about normal pressure, but its loss gave the patient a severe headache and nausea and vomiting. The tumor seemed to be softer, but it was difficult to be certain about the change. All unpleasant symptoms lasted only a day or so. The operation planned was to be primarily exploratory, and secondarily curative, if possible, and an effort was to be made to get an improved cosmetic condition. In the hospital, where I kept the patient for a few days for observation, the nurses reported her as being cross, peevish and sometimes sullen.

Second Operation.—I circumscribed the tumor by a curved incision above it and turned down the skin flap, and this was not easy, for the deeper layers of the skin and the tumor were adherent closely, and the skin turned back was so thin, being only skin, that I feared for its vitality in the healing. This exposed the tumor, seen and recognized to be tumor tissue, and found to be growing from the margins of the opening in the skull made by Dr. Bailey at the first operation. Therefore, I circumscribed the tumor by a cut through the bone, really a slot started in a burr opening, and cut by a de Vilbiss forceps. This did not, however, cross below the tumor above the orbital margin, for there was no space, so here the tumor was separated from the bone and the latter trimmed down to sound tissue by rongeurs, making a skull opening 4 by 6 cm. The fingers then slipped in along the line of separation between the tumor and the dura mater, extradurally, to a depth surprising because it was unexpected. The tumor was easily drawn out; practically no hemorrhage followed; the cavity left would have readily contained a small fist. This cavity was lined below by the dura mater, which was pressed down into a huge hollow in the frontal lobe. Because of the size of the cavity I abandoned my plan of putting in a silver plate to represent the bone removed, and, because I could not believe it right to leave a vacant space in the cranium, nor yet to fill it with salt solution, I put in some gauze sponges, leading the strands of them out on the surface, and tacked the flap back in place with a few silkworm-gut sutures. The patient did well and the skin flap did not die. At a later time (eight or ten days) I reanesthetized the patient and removed the gauze tamponade and formally sutured the flap in place, draining the space underneath it by a single cigarette wick. Again I did not put in the silver plate, for I was not at all sure that it would not be necessary to remove more bone, and that is my feeling yet.

Following the last intervention there was normal healing and the patient left the hospital well, but with a depressed area, which pulsated, in the place of the tumor.

It was noted by the nurses in the ward that the preoperative surliness became a postoperative sunniness, and scowls and complaints changed to smiles and compliments—a complete dispositional reversal.

THE TREATMENT OF ACUTE GENERAL PERITONITIS

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In a discussion on the great advances in the science of medicine, a friend, a professor of pathology, said: "Yes, great advances are being made in pathology and bacteriology and by laboratory research, but the clinicians are making little headway; they are in much the same position they were a generation ago. What have the clinicians done, which will compare with the discovery of antitoxin and the prevention and cure of diphtheria by its use?" I challenged the statement at once.

I said: "I congratulate the research workers on the splendid work they have done and are doing, but when you assume that the laboratory research men are the only ones who are adding to the science of medicine, you simply show that your knowledge of medical progress is limited to your own field and that you do not realize the splendid scientific work being done by your clinical colleagues. What have the clinicians done which will compare in value with the discovery of the antitoxin for diphtheria? I will tell you. They have learned how to recognize general peritonitis, and they have learned how to treat it, so that the mortality, which a generation ago approached 90 per cent. or more, is reversed and we are now able, under favorable conditions in patients operated on early, to save almost 90 per cent., a showing which is quite comparable to the splendid achievements of the antitoxin of diphtheria."

I have been an interested spectator, and, to a limited extent, participant in this wonderful change. I can recall almost from memory most of the important milestones in the progress of events.

Mikulicz in 1880, in operating for the first time on a perforating stomach ulcer, in a way led to the modern surgical treatment of general perforative peritonitis. The value of this work was not at once recognized; in the next decade little was done in the way of operative treatment in cases of general peritonitis. As late as 1894 von Bergmann's assistant, Schlange, in Berlin, in discussing the subject said: "I want especially to emphasize the statement that laparotomy as a treatment of general suppurative peritonitis should be rejected." Beginning with about 1894 a good deal of active work was done in the operative treatment of peritonitis. Stühler of Strasburg (Strasburg Klinik) in 1890 collected reports of seventy-eight cases of drainage of the peritoneum in cases of peritonitis with fifty recoveries and twenty-eight deaths. Körte[1] in 1892 reported nineteen patients operated on for suppurative peritonitis with six recoveries and thirteen deaths. Between 1892 and 1897 a considerable advance was made, so that in 1897 Körte in a second article, which really lays down the foundation of our modern operative treatment, was able to present reports of 133 cases with fifty-one recoveries and eighty-two deaths, collected from Lennander, Rotter, Jalaguier, McBurney, Abbe and Richardson.

I was fortunate enough to be present at the Congress of American Physicians and Surgeons in Washington in 1897 when Senn, Abbe, McCosh, Fowler and Welch in a symposium on peritonitis brought the subject down to that date. In 1900 A. Tietze[2] reported the work from the Mikulicz clinic. He presented some interesting facts. Mikulicz collected from the literature from 1885 to 1893 reports of thirty-five cases of general peritonitis with thirty-four deaths and one recovery, a mortality of 97 per cent.; from 1894 to 1896, sixty-eight cases with thirty-two recoveries and thirty-six deaths, a mortality of 52.94 per cent. He collected altogether reports of 231 cases with eighty-six recoveries and 145 deaths, a 37 per cent. mortality.

In 1903 Joseph A. Blake[3] reported the treatment of diffuse peritonitis by early incision, with removal of the focus of suppuration and stopping any further leak, lavage of the peritoneum and closure of the peritoneal cavity without drainage.

In 1904 George and Russell Fowler[4] reported 100 operations for general peritonitis in the previous three years with sixty-seven recoveries and thirty-three deaths. They emphasized the importance of the now well-known and widely adopted Fowler position in the after-treatment of these patients.

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[1] Körte: Arch. f. klin. Chir. (Langenbeck's), 1892, xliv, 612.
[2] Tietze, A.: Mitt. a. d. Grenzgeb. d. Med. u. Chir., 1900, v, 15.
[3] Blake, Joseph A.: Ann. Surg., 1903, xxxviii, 265.
[4] Fowler, G., and Fowler, R. W.: Medical News, May 28, 1904.

In 1905 Noetzel,[5] an assistant in Professor Rehn's clinic at Strasburg, published an article which brings the subject very close to its present stage of development. He advocates:

1. Careful and rapid operating.
2. Removal of the existing pus with irrigation.
3. The removal of the cause of the suppuration or closure of any existing leak.
4. Drainage.
5. Washing out of the stomach.
6. Rectal injections of normal salt solution.
7. Withholding of morphin when possible.

The treatment outlined by Noetzel, plus the Fowler position, gives us the modern treatment of peritonitis most generally adopted. About this same time Murphy formulated the method of treatment which is widely known by his name. To quote from LeConte,[6] the essentials of Murphy's technic may perhaps best be stated under six headings, viz:

1. The rapid elimination of the cause of the peritonitis.
2. Drainage by rubber tube of the lowest part of the pelvis.
3. Elimination of all time-consuming procedures at time of operation.
4. The Fowler position.
5. The absorption of large quantities of water by the rectum.
6. The prevention of peristaltic movements of the intestines by withholding of all food and liquids by mouth.

LeConte says: "While the procedures of Murphy do not present anything particularly new, he has assembled in his technic all of the good things to do, and has eliminated the unnecessary or harmful ones." There can be no doubt but that the enthusiastic advocacy of the scheme of treatment which Murphy has formulated, has accomplished a great deal of good.

To-day the discussion of the treatment of peritonitis might well be considered under four heads:

1. The saline cathartic treatment advocated by Tait, and especially by the gynecologists, which is really a treatment of value, not for peritonitis, but for one of the common results of peritonitis, i. e., paralytic ileus.
2. The rest and starvation treatment emphasized by Ochsner, which is of value, not in general peritonitis, but in local peritonitis to prevent its becoming general.
3. The operative treatment of Blake: rapid elimination of the cause of the suppuration, washing out of the peritoneal cavity with normal salt solution and closure without drainage, unless in the presence of gross lesions demanding it.
4. The operative treatment emphasized by Murphy: rapid removal of cause, drainage without washing out of the peritoneal cavity, and continuous irrigation by rectum with normal salt solution.

I hope to show that all of these methods have their value and that there is a fifth method, or combination of methods, the result of a better and simpler assembling of the various means at our command.

I. THE SALINE CATHARTIC TREATMENT FOR PERITONITIS

In what class of cases and under what circumstances is the saline cathartic treatment indicated? Patients die from peritonitis from three causes: 1. General sepsis with bacteremia. 2. From a sepsis due to absorption of toxins from the products of infection in the peritoneal cavity. 3. From absorption of toxins by the mucosa of the intestines from the decomposition which goes on in a paralyzed alimentary tract—intestinal toxemia.

In gynecologic work, in operations on the tubes and ovaries, Tait and other gynecologists found many cases in which, after the operation, the patient would become tympanitic, because of paralytic ileus, usually from a local pelvic peritonitis, often of not severe degree, and if let alone many of these patients died of paralytic ileus from absorption of the toxins developed within the paralyzed bowel. These men soon learned that if they could get the bowels to move, they would usually save their patients. This condition of paralytic ileus is a very common one, varying greatly in degree as to the severity of the symptoms from simple so-called gas pains to complete obstruction, and may complicate many lesions and operations involving the peritoneum. In the cases of paralytic ileus due to a local peritonitis, or a peritonitis of mild degree, like that associated often with a gonorrheal infection of the uterine appendages, the paralytic ileus with its accompanying danger of absorption of toxins from the bowel can often be controlled by saline cathartics, enemas and the use of agents such as strychnin to stimulate peristalsis. In these cases the saline cathartic treatment is often the most valuable treatment that can be employed. Not infrequently, too, in the postoperative care of general perforative peritonitis, as I shall attempt later to show, this cathartic treatment, to overcome paralytic ileus, may be indispensable. Of course, no one who understands the principles on which the treatment of peritonitis is based would for a moment consider the employment of the saline cathartic treatment in a case of perforative peritonitis before operation.

II. THE SO-CALLED REST AND STARVATION TREATMENT

This is the Ochsner method. This method has a rational scientific basis and is of great value in certain cases. It is, however, not properly understood, and is often improperly employed. What is the scientific basis for this method?

As Stokes and Sahli years ago pointed out, the inhibiting of peristalsis by the use of opium, the withholding of food and cathartics and the washing out of the stomach favor the localization and walling off of a suppurative focus in the abdomen, and there can be no doubt that a local peritonitis can often be kept a local process, and a general infection prevented, by this rest and starvation treatment.

The rest and starvation treatment is indicated: (1) in cases of acute abdominal lesions of uncertain diagnosis in which it is thought best to watch for a time their development; (2) in cases of local peritonitis in which for some reason operative interference is not indicated; (3) as I shall show, in the after-management of a case of peritonitis, in which operation has been done. It is, on the other hand, never indicated as the treatment of a patient with general perforative peritonitis.

III. THE OPERATIVE TREATMENT OF BLAKE

Blake has shown that in a large proportion of cases, if the perforation causing the peritonitis is properly closed, or the focus of infection causing the peritonitis is completely removed, and the noxious pus and toxins washed out of the peritoneal cavity with normal salt solution and the peritoneal cavity closed without drainage, the patient goes on to a recovery. This treatment shows the great power possessed by the peritoneum of protecting itself against pus infections.

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[5] Noetzel: Beitr. z. klin. Chir. (Bruns'), 1905, xlvii, 241.
[6] LeConte: Ann. Surg., 1906, xliii, 231.

Dr. Blake has kindly given me the following outline of his management of cases of general peritonitis:

> It is well to divide these cases into two classes for treatment: first, those in which the peritonitis is due to a dissemination of the infection from an infected organ, such as an appendicitis; and in the second group, those cases in which the peritonitis is due to a perforation or rupture of the alimentary canal.
>
> The first class can be further subdivided into two classes: one in which there has been no localization of the infection and the process is evenly disseminated throughout the abdomen. In this class, when the cause of the peritonitis, as the appendix, for instance, has been removed, there is little or no difference in the appearance of the various portions of the peritoneum. In these cases I consider it unwise to attempt to drain the entire abdominal cavity, and simply put a drain through the wound in order to avoid mural abscess formation. Also, unless the exudate is very thick, I do not wash.
>
> In the second group there has usually been pocketing and the formation of local abscesses lined more or less with necrotic fibrin. In these cases I wash out and drain the pockets. Inasmuch as the process has usually pocketed in the pelvis, the drains usually go to the bottom of the pelvis.
>
> In the second class, namely, cases of peritonitis due to perforations, I uniformly wash the abdomen out in order to remove the material extravasated from the alimentary canal. In these cases I employ the same rule for drainage as in the cases proceeding from infected organs, that is, drain when there is necrotic material remaining in the abdomen; otherwise, no drains.
>
> To resume: My treatment is practically the same as that I advocated in Chicago in 1908, with the exception that I do not wash quite as much. For instance, patients with only a seropurulent exudate are not washed at all; neither are they drained:
>
> My rules for employment of drains are as follows:
>
> 1. Never use drains unless there is dead material which will remain as a nucleus for continued infection.
> 2. When it is necessary to drain, use a large and competent drain. For this purpose I use a double rubber drainage tube, one limb of which is fenestrated, and through this limb a wick of gauze is passed for capillary drainage.
> 3. Drains, when used, should be left in until all necrotic material has escaped, when they can be rapidly removed.
>
> I have given up the use of cigarette drains, considering them inefficient and therefore useless. A short rule I sometimes use is, drain when you have to drain; otherwise don't drain at all.

IV. MURPHY METHOD

The Murphy scheme of management is the one most widely employed in this country at present. Murphy emphasizes the importance of tubular drainage; strongly condemns irrigation of the peritoneal cavity; insists on continuous irrigation with normal salt solution by rectum, and employs the extreme Fowler position, having the patient sit up in bed. The remarkable results which Murphy has obtained by his method certainly furnish a very strong argument and constitute certainly one of the reasons for its extensive adoption. I do not think that it is well to be guided entirely by statistics in a matter of this kind, however, and the results of his early work—twenty-nine cases of general peritonitis with but one death—is probably the accidental grouping of a large number of favorable cases which will probably not soon be repeated.

My own conclusion after studying this matter with a good deal of care is that these four methods—the saline cathartic method of Tait, the rest and starvation method of Ochsner, the Blake scheme and the Murphy scheme—all have definite elements of value and fields of usefulness. On the other hand, the value and importance of these methods have often been much exaggerated by their partisan advocates, and the real value of other schemes belittled to the disadvantage of their patients.

In the light of the evidence now before us, what should be our scheme of management of cases of general peritonitis?

DIAGNOSIS

Diagnosis must be made early, within the first few hours, certainly within the first twelve, if we are to hope for much from surgical interference. This diagnosis must be made early from a few data: pain, tenderness, muscular rigidity. We cannot afford to wait for a high leukocyte count, for a marked increase in temperature, for a tympanitic abdomen and the thready pulse and dusky face of dying peritonitis. This is true especially of perforative peritonitis from the alimentary canal. Take a case of typhoid fever with perforation. If the patient is to be saved, operation must be performed because he has pain, tenderness and a rigid belly. One must not wait for the tympany and thready pulse, which are really not signs of disease, but signs of death. This sort of procrastination reminds me of the medical men who bring me cases of carcinoma of the breast, which they have watched for months patiently to see the case develop glands in the axilla, a retracted nipple and evidence of cachexia, before making up their minds as to the diagnosis of malignancy.

SURGICAL MANAGEMENT

In discussing the modern surgical treatment of peritonitis and attempting to estimate its value, we must assume that we have made a moderately early diagnosis and that the surgical interference is undertaken within a reasonable period after the onset of the peritonitis. I have frequently been called to operate in neglected cases, in which the patient was blown up like a barrel, with pinched face, cold extremities and without a radial pulse. I believe in giving a patient with peritonitis the benefits of an operation, if there is the least possible chance; on the other hand, it is a mistake to operate on patients who are evidently *in extremis*. The most important function for us to perform, in the propaganda for better medical management of peritonitis, is to teach the importance of early diagnosis.

What shall be the scheme of surgical management? I should like to discuss this under several heads, viz: (1) anesthesia; (2) incision; (3) proper surgical disposal of the perforation or focus of infection; (4) testing the peritoneal cavity to determine whether the peritonitis is local or general; (5) when there is free pus or noxious material in the general cavity, its removal by irrigation with normal salt solution; (6) drainage; (7) surgical dressing; (8) after-treatment—the modified Fowler position; (9) intermittent salt solution per rectum; (10) washing out the stomach; (11) question of medication, morphin and strychnin; (12) water and food by stomach; (13) paralytic ileus and the saline cathartic treatment.

1. *Anesthesia.*—The normal anesthetic in these cases is drop-ether, properly given. In cases in which the patient is in very bad condition, nitrous oxid gas should be employed, unless there is a heart lesion, and then ether is safer.

2. *Incision.*—The first incision should be made over the suspected focus. As a muscle-splitting incision for an appendix case, or a median line incision above the umbilicus for a stomach or duodenal case.

3. *Perforation.*—The perforation or leak must be so handled as absolutely to prevent any further leakage. I would be very insistent on this point. I have too often seen cases in which the peritoneal cavity was simply opened and drained without closing the leak permanently, and in which the patient was almost certainly lost because the leak continued. The teaching that if it is difficult and time-consuming, the leak should not be sought for and closed, is bad teaching. I should say that it is so important for the safety of our patient to close every leak or perforation of the alimentary canal causing peritonitis—that a most thorough closure should be obtained even at the cost of some risk and time. It is only in extremely difficult cases, with patients in such bad condition that they will evidently stand nothing in the way of operative interference, except an incision and the introduction of a drain, that we should make an exception to the rule. In cases of peritonitis from suppurative foci, other than the alimentary canal, as the uterine appendages, it is desirable to remove the focus entire, if the condition of the patient permits; if the patient's condition is bad, we can trust to drainage alone with somewhat better chances than in the cases with alimentary canal perforations.

4. *Testing the Peritoneal Cavity to Determine Whether the Peritonitis is Local or General.*—This, to my mind, is one of the most important and interesting developments in the modern technic. As an illustration let me cite two cases of appendicitis.

Case 1.—A young man of 20 was brought into the hospital with the diagnosis of appendicitis. He had been ill several days; from the history, a perforation had occurred a few hours before. I operated at once and found a perforated appendix with free pus about it. This was removed and the stump invaginated into the cecum. I then took a female glass catheter and tested the abdominal cavity. I placed my thumb over the open end, introduced the point into the cul-de-sac, removed my thumb for an instant and then replaced it and withdrew the catheter, employing it in much the same way that one does a glass pipette in picking up urine from a bottle. As I withdrew the catheter I found the lower 5 or 6 inches full of creamy pus. I then knew that I had a free general peritonitis to deal with and handled it accordingly.

Case 2.—A boy of 10 gave much the same history. I operated on him in the same way, and when I tested his cul-de-sac found nothing in the catheter except a small amount of clear peritoneal fluid, and I therefore handled this case as one which was still limited to the region about the cecum although the pus was free in that part of the peritoneal cavity.

5. *Pus in the General Peritoneal Cavity.*—When there is free pus or other noxious material widely disseminated in the peritoneal cavity, I believe that it should be removed by irrigation. No one would doubt the advisability of washing beer and sauer-kraut and wiener-wurst out of the peritoneal cavity, in a case of perforating ulcer of the stomach; why should we not do the same for fecal pus or any pus?

When I have tested the peritoneal cavity with a glass catheter in the way I have described and found free pus, I then make a small buttonhole counter-opening in the median line just above the symphysis; through this a large glass tube is carried to the bottom of the cul-de-sac; then through the main incision, whether for appendix or stomach, another similar tube is carried to the seat of the perforation or focus, and this is attached by a rubber tube to an irrigator filled with normal salt solution at 112 F. and the peritoneal cavity is flushed out with several quarts of this irrigating fluid, until the fluid comes out perfectly clear. Practically no time is lost in this part of the operation as we are closing the main incision while the water is running.

6. *Drainage.*—Rubber tubes should never be used in these cases for drainage, at least unprotected rubber tubes. Cigarette drains are much to be preferred. A long cigarette drain made of a small rubber tube about as large as a No. 10 or 12 catheter, about which gauze and gutta-percha tissue is wrapped, until it is the diameter of a lead pencil or little finger, is carried through the small buttonhole in the median line to the bottom of the cul-de-sac. Similar drains are carried to the point of closure of the perforation or removal of the inflammatory focus and the rest of the main wound is closed.

6. *Dressing.*—The surgical dressing should be a copious, moist, not wet, dressing of hot boric solution. A moist dressing picks up the discharge better than a dry dressing. These dressings should be changed every six to twelve hours, as demanded by the amount of discharge—usually twelve hours is often enough—sometimes twenty-four.

8. *Position.*—The Fowler position is of much value for these patients, but unfortunately an exaggerated position has often been insisted on to the great discomfort and disadvantage of the patient. I am sure that we have obtained all the possible benefits of the position by allowing the patient to lie flat in bed and elevating the head of the bed from 18 to 20 inches on two chairs. In order to prevent the patient from sliding down in bed a bolster is placed below the buttocks and held fixed to the head of the bed by strips of roller bandage. I should like to emphasize the importance of this method of using the Fowler position. I have seen patients positively tortured by being compelled to sit up in bed because the attending surgeon has been led to believe that this position was indispensable to the modern method of treating peritonitis.

9. *Saline.*—I think that we are all agreed that furnishing these patients with a large amount of fluid by the bowel is one of the important factors in securing for us our improved results. This matter has, however, been greatly overdone. Continuous irrigation by complicated apparatus is often insisted on, much to the unnecessary discomfort of the patient. The presence of a tube constantly in the rectum is annoying. What we desire to accomplish is to furnish the patient a large amount of water so that the kidneys can act well and excrete the toxins, and so that the system will have enough fluids for the comfort of the patient. This can be done by interrupted rectal irrigation with much greater comfort to the patient and with all the benefits that can be obtained from the continuous irrigation. The continuous irrigation, if pushed, may be a positive danger, sometimes producing edema of the lungs and of the extremities. The rule is to give from 6 to 16 ounces of normal salt solution every two to four hours, to be retained, and a cleansing enema once or twice a day.

10. *Stomach Washing.*—If the patient vomits repeatedly, the stomach should be washed out. I do not believe, however, in making gastric lavage the rule. If the vomiting persists, the lavage should be repeated. Great care should be taken to prevent, if possible, the development of acute dilatation of the stomach, a condition very similar to paralytic ileus. If the patient does not vomit, or if the vomiting is slight and soon ceases, the patient should be given water by the mouth, at first in small amounts, and as the conditions improve this can be increased with a corresponding decrease in

the amount given per rectum. If at the end of twenty-four hours after the operation the general condition is good, milk and vichy in small amounts—an ounce each—every hour, can be begun.

11. *The Question of Medication.*—Morphin should as a rule be withheld; and still, in a large minority of cases, when the pain and restlessness are great, it is often of great benefit, giving the patient sleep, better respiratory action and increasing his chances of recovery.

12. *Ileus.*—Paralytic ileus is sometimes a serious or even fatal complication. It is here that proper early use of saline cathartics has been of value. Most patients have more or less gas pains. These should be handled by stimulating injections given low in the rectum; I usually use magnesium sulphate and glycerin and water in equal parts. Where the distention is considerable and persistent, saline cathartics in small repeated doses, with stimulating enemas and strychnin in moderate doses, should be employed. In a few cases secondary operations for localized abscesses will be necessary, and in a few cases in which the ileus persists enterotomy will be required.

I have found that one of the most valuable means of combating paralytic ileus is castor oil in small and repeated doses. I usually give a teaspoonful every hour until peristalsis, with expulsion of gas and feces, is secured.

I believe that following out this general scheme, we can, in cases early diagnosed and early operated on, succeed in saving a very large percentage of our cases of general peritonitis. And when our laboratory colleagues ask us what clinical surgery has done, we can tell them that for one thing it has solved the problem of peritonitis; that under favorable conditions it can save 90 per cent. of these patients who but a few years ago were almost certainly doomed to die.

150 Michigan Avenue.

RECONSTRUCTIVE ENDO-ANEURYSMORRHAPHY: A CASE REPORT

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History.—O. K., a prisoner in the Zone penitentiary at Culebra, Canal Zone, a Jamaican negro, aged 27, presented a history of syphilis from 1903, the only evidences of which to be noted at the time of examination were a moderate general lymphadenitis and slight arteriosclerosis. This man received a gunshot wound of the right leg on the night of Dec. 31, 1909, while attempting burglary. The missile, a 38-caliber revolver ball, entering 2½ inches above, and on a plane ½ inch posterior to, the upper extremity of the fibula, in the erect position, direction inward, and slightly forward and downward, becoming imbedded in the internal condyle of the femur. The patient was admitted Jan. 1, 1910, to Culebra Hospital. The wound healed without suppuration and the patient was discharged from hospital Jan. 25, 1910. He worked in the chain-gang building roads until Aug. 13, 1910, when he was readmitted to the hospital. He stated that during April he noticed a slight swelling in the popliteal space, which very gradually increased in size, and that later he began to have some pain back of his knee, which came on at intervals; that these attacks of pain later increased in frequency and severity until on admission the pain was constant. There was also, at this time, considerable swelling of the leg, due to pressure of the tumor on the popliteal veins. Examination showed an expansile tumor, a bruit and all the classical signs of aneurysm. The patient was put to bed with the knee slightly flexed and elevated, and was kept there until September 15. The rest and posture relieved the pain and swelling of the leg somewhat, but the aneurysm increased perceptibly in size during the month he was at rest.

Operation.—Sept. 15, 1910: A tourniquet on the thigh made the operation practically bloodless. When the aneurysm was opened much lamellated fibrin was found; this was removed and the sac washed out and found to be about 4 by 2¾ by 2 inches in size. The arterial openings, i. e., the point of entrance of the popliteal artery into the sac and its point of exit from the sac, were about an inch and a quarter apart. As regards classification, the aneurysm should probably be considered as of the spherical type, from its evident mode of origin and from its shape. At the same time it partook of the character of a fusiform aneurysm, in that the arterial openings were an inch and a quarter apart, and that there was no groove or furrow between these openings to mark definitely the anterior wall of the artery. The character of the sac walls differed very much in different areas. The anterior wall of the sac, between the arterial openings and for some distance on all sides of this point, seemed firm, elastic and resistant, while from this area it gradually thinned out until the posterior wall of the sac was as thin as tissue-paper. A point of particular interest in this case was the presence of a second sac or diverticulum opening off the main sac cavity on its anterior surface at a point ¼ inch below the proximal arterial opening and on a line between the two arterial openings. Or, it might be said that this second sac opened off the anterior wall of the artery, except for the fact that the artery was so flattened out and obliterated that it seems simpler to call it the anterior wall of the sac. This diverticulum was an aneurysm of true spherical type, about ¾ inch in diameter, its opening into the large sac being about ⅓ inch across. It contained no clot or fibrin and its walls seemed firm and elastic, and lined with arterial intima over its whole extent. It was wiped out firmly with a pledget of gauze with the idea of encouraging the deposition of fibrin within the sac, and in the subsequent proceedings its presence was disregarded. The two arterial openings were on the same level, were easily accessible at the bottom of the field of operation, and, in the belief that there was enough firm sac wall available, the artery was reconstructed. For this purpose interrupted sutures of fine chromic gut were used, placed about $^3/_{16}$ inch apart, using very fine, full-curved round intestinal needles. After reconstruction of the artery the sac was obliterated by layer on layer of continuous plain catgut sutures, following Matas' second method of closure, leaving the sac buried in the wound without inversion of the skin-flaps, and without drainage. After the second row of continuous sutures was in place the tourniquet was removed. Slight oozing of bright red blood showed immediately in the suture line, but it soon stopped and the operation was completed and the leg dressed on a straight posterior splint. There was immediate restoration of circulation to the leg, pulsation being felt in the posterior tibial and dorsalis pedis arteries.

Postoperative History.—From the time of the operation on there was never any difference in temperature or sensation between the foot and leg of the operated side and that of the sound side. The skin sutures of silkworm gut were removed on the twelfth day. The patient was kept in bed with leg on a posterior splint for three weeks, when he was allowed up, with a posterior molded felt splint in place for another week to prevent his flexing the leg. He was discharged from hospital October 16 and returned to work in the road-building gang at once. The man was seen repeatedly after he left the hospital by me, the last time on Feb. 19, 1911, and he stated that the leg had given him no trouble, and he had worked every day since he left the hospital.

October 14, two days before the man went out of hospital, and twenty-nine days after the operation, his leg was examined carefully in regard to its circulation, and it was found that the pulsation could be felt as readily in both the posterior tibial and the dorsalis pedis in the right (operated) leg, as in the left; at least, if there was any difference in the strength of impulse in the two sides it could not be made out by palpation. (We did not test the blood-pressure otherwise.) No impulse could be felt in the reconstructed portion of the popliteal, owing to scar tissue.

Professor Matas[1] brings up the question as to the continued competence of the reconstructed portion of the artery, and in order to decide the point, if possible, the man was reexamined again Feb. 19, 1911. He was very muscular and quite fleshy. Impulse in the popliteal at the seat of operation could not be made out. The posterior tibial and dorsalis pedis could be made out only with considerable difficulty on the right side, while they were distinctly palpable on the left, the impulse even being visible in the left dorsalis pedis.

Now to determine whether the stream causing the faint impulse really came through the reconstructed artery, an assistant made digital pressure over it while the branches were palpated and it was found that as long as the pressure over the popliteal continued there was no impulse in the branches, but that pulsation immediately returned when the pressure was discontinued, proving that the lumen of the reconstructed artery, while it has become considerably narrowed, still carries part of the blood-supply to the foot and leg.

This observation would seem to bear out the contention that in these cases of reconstruction in which there is permanent recovery, the reconstructed portion of the artery becomes obliterated ultimately, remaining patulous long enough, however, to carry on the circulation until the collaterals develop.

Regarding the second aneurysmal sac, which was left as a spherical aneurysm on the anterior wall of the reconstructed portion of the popliteal, I had serious misgivings at the time as to the wisdom of the treatment of it, and that was the reason for keeping the parts at rest for so long after the operation. However, its walls seemed to be about as firm as the material from which the artery was reconstructed and it impinged on the solid structures at the back of the knee, giving it support, and there were hopes that it might be obliterated, which, in the light of the last examination, seems to have been its fate.

The above is offered for what it is worth as an argument in favor of the reconstructive operation. The conditions presenting in this case certainly cannot be considered to have been ideal for this operation, yet the results have been all one could wish.

A SIMPLIFIED METHOD OF STAINING BACTERIA, CAPSULATED BACTERIA IN BODY FLUIDS, AND PREPARATIONS FOR OPSONIC COUNTS

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For over four years I have used with great satisfaction the following method for the staining of bacteria and body fluids in place of Löffler's methylen-blue, in the staining of preparations for the opsonic count instead of Leishman's or Wright's blood-stain, and in the staining of capsulated bacteria. I describe it here in the belief that it may be of help to clinicians as well as to laboratory workers.

PREPARATION OF STAINING SOLUTIONS

The preparation of this stain requires no saturated alcoholic solutions, nor the troublesome "1 to 10,000" aqueous solution of caustic potash necessary in the preparation of Löffler's methylen-blue solution. It is easily prepared in a few minutes by any physician or druggist and keeps indefinitely. The addition of a few crystals of sodium carbonate may be necessary from time to time to counteract the acidity of the corrosive sublimate which is used as a fixative.

1. Saturated aqueous solution of corrosive sublimate (to be used as a fixative).

2. Aqueous methylen-blue solution prepared as follows:

℞.	gm. or c.c.
Methylen-blue ("medicinally pure")	1
Sodium carbonate, U. S. P., cryst.	1
Water	100

The dye and the sodium carbonate are thoroughly dissolved in the 100 c.c. of water by shaking. If not thoroughly dissolved there may be a precipitate on staining.

These solutions are best kept in bottles wide-mouthed enough to allow the passage of slides or cover-glasses and stoppered with corks or glass stoppers.

METHOD OF STAINING

Staining of Single Preparations.—The smear is made on a slide or cover-glass and allowed to dry in the air:

1. Fix (by immersing the preparation in the saturated corrosive sublimate solution for from ten to twenty seconds).
2. Wash in running water.
3. Stain with the methylen-blue solution described above, by immersing the smear in the staining solution for from five to thirty seconds.
4. Wash thoroughly in running water and dry between layers of filter-paper; mount and examine in the ordinary way.

Staining of Several Preparations at One Time.—In the laboratory where it is necessary to stain many preparations the following method is recommended:

The smears are made on slides, are labeled with a blue glass pencil (A. W. Faber) and dropped in a glass slide box.

1. Fix by pouring the saturated corrosive sublimate over the slides, filling the glass slide box with it, and allowing it to act for from ten to twenty seconds.
2. Pour off the corrosive sublimate (back into the bottle).
3. Wash thoroughly in running water, holding the slides in the box by placing the fingers over the top of the box.
4. Stain with the methylen-blue solution[1] (described above) for from five to thirty seconds, by pouring the solution over the slides, filling the slide box with it.
5. Pour off the methylen-blue solution (back into the bottle).
6. Wash thoroughly in running water.
7. Dry between layers of filter-paper, and examine in the ordinary way.

Staining of Preparation for the Opsonic Count of Bacteria Other Than Tubercle Bacilli.—The method just described for staining several preparations at one time I have used since August, 1906, in staining preparations for the opsonic count of bacteria, other than tubercle bacilli, in place of Leishman's or Wright's blood-stain. It has given great satisfaction from the standpoint of results, economy, and saving of time. The great number of slides I had to stain daily for the opsonic count formerly meant the spending of hours in staining alone, while with this method it is now a question of minutes. A large amount of staining fluid is consumed when the "blood-stain" is used, because when once applied it cannot be used over again, while this methylen-blue solution can be used over and over again indefinitely; the economy is obvious. As to results, the staining of leukocytic granules (basophilic) with any of the standard blood-stains interferes with the rapid counting of the bacteria, while with this stain the protoplasm is pale blue, granules are not stained at all, and the bacteria and nuclei are stained deep blue. Hence the counting is rapid and without errors. This method, then, gives brilliant results, is economical, and saves a great deal of time.

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[1] Private communication in reference to the case reported.

[1] In the staining of capsulated bacteria constant good results are obtained when the preparations are overstained, that is, allowed to remain in the stain for from five to ten minutes instead of from five to thirty seconds, and are not so thoroughly washed in water.

Method of Staining Capsulated Bacteria.—Thin preparations are made from body fluids (saliva, pus, exudates, etc.), are fixed, and stained by either of the two methods described, for single preparations or for staining several preparations.[1] The capsules show up invariably very distinctly. They are stained pale blue, while the bacteria are stained deep blue. Good results have been obtained, not only in smears from body fluids, but also in smears made from cultures (especially from the water of condensation) of the *Bacillus mucosus capsulatus*, the *Streptococcus mucosus capsulatus* and the pneumococcus. The advantages of this method of staining capsulated bacteria as compared with any other method I know of are obvious and need no further comment.

GENERAL APPLICATION AND RESULTS

This stain can be used in every case in which Löffler's methylen-blue would be used. It has all the advantages of the latter minus the disadvantage due to heat fixation. Thus, in smears of pus or body fluids, the protoplasm of the individual pus cell is stained light blue and its outline is definitely made out. Intracellular organisms (gonococci, meningococci, etc.) are seen within the protoplasm and not in a blank space around the nuclei of the pus cell, as is the case with Löffler's stain.

Its use in the staining of blood-smears for the opsonic or phagocytic count has given me more satisfactory results, is more economical, and takes considerably less time than any other stain(or blood-stain) recommended for this purpose.

Its use as a stain for capsulated bacteria, the ease with which it can be applied generally, and the more constant results obtained with it, will make this stain, it is hoped, a useful addendum to the present standard laboratory stains.

Finally, because of the ease with which this staining solution is prepared, the cleanliness with which it can be handled, and its advantage of requiring no Bunsen burner or flame of any sort, it is hoped that this method of staining will be of help to the clinical man in keeping up bacteriologic examinations in his office in the routine of his daily practice, without having to resort to a fully equipped laboratory for that purpose.

483 Beacon Street.

REPORT OF A CASE OF STERILITY IN THE AGED CURED BY THE USE OF THE WYLIE DRAIN*

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History.—Mrs. J. S., aged 50, white, negative family history, had the usual diseases of childhood. With the exception of typhoid fever, eighteen years ago, she has never had a serious illness. The onset of menstruation occurred at 13. For the first six or nine months the flow was somewhat irregular and scant. After the first year it has been regular, about every twenty-eight days, although variations of three or even five days are not unusual. Bleeding usually lasted for four days, the last twenty-four hours being rather scant; the amount is about normal, the patient requiring seven or eight napkins daily for the first three days. Menstruation is of the same character now as it was ten years ago; there are no symptoms of the menopause. The patient usually has a slight feeling of weight and discomfort in the lower abdomen for the first day of the period; she has never had severe dysmenorrhea. Leukorrhea has never been profuse or pathologic. The patient usually has a slight, whitish discharge for a few days following the cessation of menstruation. The patient was first married when she was 22. When she was 31, her husband died of pneumonia; until a few months prior to his death, he was a strong healthy man. Five years later, or when the patient was 36, she married a second time. She has never been pregnant although she has always desired children, and has never adopted any means to prevent conception. Her chief complaint is of sterility. The patient has no subjective symptoms, and, in fact, first visited me to inquire concerning her sister on whom an operation for laceration of the cervix and perineum had been performed; at this time she lamented the fact that she was sterile. On inquiry it was learned that during the life of her first husband, a dilatation and curettage had been performed with the hope that this might result in widening the cervical canal so that pregnancy could take place. Dilatation without curettage was performed four years after her second marriage.

Examination.—The patient is a rather large, plethoric woman weighing 150 pounds. She is distinctly well preserved and gives the impression of being at least five years younger than she is. The bowels are regular; the heart and lungs are normal; the urine is negative. She occasionally has slight occipital headaches, not infrequently just before the menstrual periods; these, however, are never severe. Abdominal examination was negative. Pelvic examination showed that the outlet was nulliparous; the vagina was rather deep, and the anterior and posterior walls were in apposition. The cervix was normal in its transverse diameter, but was longer than usual and extended for at least one and one-half inches into the vagina. The external os was small although far from being of the pin-point variety so frequently seen in young women. No evidence of infection was present in any part of the genital tract. The cervix pointed at right angles to the axis of the vagina. The uterus was normal in size, shape and consistency; it was in anteposition and movable. The ovary on the left side could be felt as an almond-shaped body, if anything rather larger than normal. It was movable and slipped easily between the fingers. The ovary on the right side was not palpated. No induration or other evidence of intraperitoneal inflammation was present.

Prognosis.—Taking into consideration, the fact that the patient had already had two dilatations performed for sterility, both at a period of life when conception was more likely to result than at her present age, a very guarded prognosis was given regarding the probability of pregnancy ever taking place. There was no history pointing toward sterility in the husband. After the couple had consulted for a few days they decided to have an operation performed.

Operation.—This was performed ten days before an expected menstrual period under ether anesthesia. The examination at this time confirmed the previous negative pathologic findings of the former examination. The right ovary could now be easily felt and was normal. After the ordinary antiseptic precaution, the cervix was widely dilated and kept on stretch for ten minutes. The uterine cavity was then explored; no curettage was performed. A rather thick Wylie drain[1] was inserted and the vagina lightly packed with gauze to keep the drain in position.

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*Read before the Philadelphia Obstetrical Society, Feb. 2, 1911.

Postoperative History.—The vaginal gauze was removed in twelve hours. The menstrual period which was due ten days after the operation was delayed for five days; the patient was kept in bed until this had passed. The Wylie drain was allowed to remain in place for four weeks, during which time the patient was kept under observation. The next menstrual period, which was expected a little less than a week after the removal of the Wylie drain, never appeared, and a month or six weeks later, a positive diagnosis of pregnancy was possible. Pregnancy and labor were normal, the child's position being L. O. A. Labor lasted about sixteen hours, pains being severe during the last five hours. The perineum was torn in the median line for a depth of about 0.5 to 0.75 inch; this was repaired. The child weighed eight pounds. The puerperium was normal. Mother and child have done well.

The interesting points of this case seem to be the advanced age of the patient. It should, however, be borne in mind that she was a strong, healthy, well-preserved woman and that no symptoms of the menopause had appeared. Regular menstruation is not unusual until forty-eight or fifty as I have shown in a previous paper[2] in an analysis of 200 normal cases. In this study it was found that the average age at which the menopause appeared in this country was between 48 and 49, and that 21 per cent. of women menstruate until 50. Since the joint report of Dr. Barnard and myself[3] before the Philadelphia Obstetrical Society early in 1910, of a series of fourteen previously sterile women, in which five, or 35.71 per cent., became pregnant within one year following operation, I have had two additional cases, both occurring in women who had been married for two years and both of whom were desirous of children. In one, the patient became pregnant two months after the insertion of the Wylie drain. The second case was unsuccessful. A number of additional successful cases have occurred in the gynecologic department of the University Hospital. I would like again to emphasize the fact that the Wylie drain should never be inserted except under strict aseptic precautions, the same antiseptic and aseptic preparations being adopted for its use as for a vaginal hysterectomy or other major operations. Neither should the drain be used unless inflammatory lesions of the genital tract can be absolutely excluded. Patients in whom this form of treatment is adopted should remain in bed for ten days following the operation, and should be kept under close observation during the entire period that the drain is in place. No bad results have ever followed the use of the Wylie drain in my hands. In cases of sterility it is best to operate about ten days or two weeks before an expected menstrual period. In at least two cases which have come under my observation, conception has taken place while the drain has been *in situ*.

Just why pregnancy, after the age of 44 or 45 should be so rare as it is, is a little difficult to explain on purely anatomic grounds. Conception in the normal individual is always possible so long as ovulation persists. We have no means at our command of ascertaining exactly when ovulation ceases in any given case; however, we know that in the majority of cases ovulation and menstruation are synchronous.[4] And on this basis it would seem fair to assume that pregnancy would not be unusual so long as the latter function was in evidence. Despite this, it is a clinical fact that pregnancy, after 45 is rare and after 50 is exceedingly uncommon. Numerous cases, however, have been reported; indeed, instances have been recorded in which pregnancy has occurred some time after the entire cessation of menstruation. Buckle[5] reports a case occurring in a multipara of 50 years of age after cessation of menstruation for eleven years. Before subjecting a woman to any form of operative treatment for sterility, the husband should invariably be examined for aspermatism.

1503 Locust Street.

SYPHILITIC HYPERTROPHY OF THE INFERIOR TURBINATES WITH REPORT OF A CASE *

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"It is difficult to mistake secondary syphilis of the nose for any other disease when a careful history is taken and a thorough examination is made." That is a "bromid" from one of our recent American text-books. It is unscientific, unpractical and, withal, untrue, for the anamnesis of the syphilitic is notoriously a history of guile, and the thorough clinical (which is evidently to be understood in the above passage) examination is often the ideal rather than the reality, for reasons with which the practical man is quite conversant.

Moreover, if it were difficult to mistake secondary syphilis of the nose for any other disease, it obviously follows that it would likewise be difficult to mistake any other disease of the nose for secondary syphilis, and the fallacy of such an attitude must at once be apparent. Even a negative bacteriologic examination would not be conclusively diagnostic, as everyone is aware, and while a positive finding of the spirochete would be more or less binding, yet, even here, the diagnosis is not infallible.

As a matter of fact, syphilitic lesions of the nasal mucosa are comparatively rare, which may or may not account for the scant attention the subject receives in most of the text-books. Yet, it is a matter of very great importance to the victim. In a practice of thirteen years I do not think I have seen (perhaps I should say recognized) more than half a dozen cases of undoubted secondary luetic rhinitis.

I believe we may safely say that there is no really typical appearance of intranasal secondary syphilis. Hence, a diagnosis, *ab inspectione,* we might aptly characterize as a diagnosis *sine circumspectione*. Even syphilitic ulceration of the septum, with perforation, does not carry with it any certainty of clinical diagnosis, for ulceration and perforation of the septum depending on some utterly different etiology may yet present an appearance which, on mere inspection, is wholly impossible of differentiation. In other words, while the secondary ulcer on the mucous membrane of the pharynx and fauces is usually quite characteristic (the familiar mucous patch), my limited experience teaches me that the ulcer occurring most often on the nasal mucosa is far less typical, being of the superficial variety. The fact may be, and probably is, due to the physically and physiologically more resistant tissues in the nares, together with possibly a thinner mucosa proper.

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[1] The Wylie drain is a form of stem pessary, made from hard rubber, and is about 5.5 cm. in length. Along the edge of the stem is a groove. The base of the pessary is about 1.5 cm. in diameter. The diameters of the stems vary from 4 to 8 mm.

[2] The Menopause, Am. Jour. Obst., 1910, lvi, No. 2.

[3] Dysmenorrhea in Nulliparous Women Without Gross Local Lesion, Am. Jour. Obst., 1910, lxi, No. 5.

[4] Leopold and Mironoff: Arch. f. Gynäk., 1894, xiv, 506.

[5] Childbirth After Apparent Menopause, The Journal A. M. A., Aug. 13, 1910, p. 568.

* Read in the Southern Section of the American Laryngological, Rhinological and Otological Society at Lynchburg, Va., Jan. 22, 1911.

It is my belief, then—and at least I shall confess it to be true so far as my own present powers of diagnosis are concerned—that, excepting the primary chancre, the only cases of nasal syphilis that are usually promptly recognized on clinical examination are those that are first seen in the tertiary stages, when gummatous and necrotic processes are in extensive evidence.

Hypertrophy of the turbinates is a secondary manifestation of lues. The condition locally presents neither more nor less of the symptomatology of hypertrophy due to other causes, such as acute coryza, hypertrophic rhinitis, vasomotor rhinitis, hay fever, etc. It is said that the middle turbinates are most often involved in syphilitic hypertrophy. In the few cases I have seen this has not been my experience. My limited observation shows the more frequent involvement of the inferior turbinates. I have no doubt that ulceration, however, seems to be oftenest of the superficial variety and not to be easily differentiated from superficial ulceration of a non-specific type.

Ulceration, we must all agree, is commonly seen along with intranasal hypertrophic changes, and may readily occur as the result of pressure, or of nutritional errors, or from the atmospheric erosion due to narrowing of the passages. Indeed, while I freely admit I may be mistaken, I am not at all sure that the so-called superficial ulcer of intranasal secondary syphilis ever occurs in the absence of marked hypertrophy; hence, it would seem to be a question whether there really exists such a specific lesion, or whether the ulcer is not really due in all cases to mechanical or nutritional disturbances.

These, then, constitute my reasons for believing that the diagnosis of secondary intranasal syphilis is far from being a simple matter of inspection and subjective history. After all is said and done, the good old-fashioned therapeutic test may fairly be considered our safest guide in these cases. These lesions will not respond to any kind of topical treatment whatever, and they surely will respond to the administration of mercury. The prognosis appears to be uniformly good under appropriate treatment.

REPORT OF CASE

G. B., a man, aged 34, employed in an office, presented himself with symptoms indicating a severe chronic coryza, or vasomotor rhinitis. He had no pain, in fact, no other symptoms but the intolerable stuffiness of the completely blocked nasal passages and the annoyance of the copious mucous discharges. Inspection revealed only enormously hypertrophied inferior turbinates, yielding but slightly to cocain and epinephrin, and substantial adhesions between inferior turbinate and septum on the left side, while on the right side appeared four or five shallow ulcerated spots the size of a buckshot and covered with glairy mucus on the anterior aspect of the turbinate and on the septum. This condition had been present, he stated, for about three months. Previous to consulting me he had been treated by another rhinologist, who, besides using the usual astringents, had applied the galvanocautery to the ulcers, and had prescribed some systemic tonic mixture. No benefit had resulted after several weeks of this treatment. (This fact should have put me especially on my guard against syphilis.)

In a more or less casual way I considered the possibility of syphilis, looked the patient over for other evidences in the cursory manner of routine, and asked directly concerning a history of syphilis. The results were negative. The patient appeared above suspicion, and I proceeded on other theories. After a few days of unavailing treatment with local measures, I performed an inferior turbinectomy on the left side. The other structures, then becoming visible, appeared normal. Within a week or so a well-marked proliferating process commenced about the middle of the turbinate stump. On its continued growth I snared this off a few days later.

The patient then complained of his mouth and teeth feeling uncomfortable, though not painful. Examining the roof of the mouth, I found the arch of the hard palate about one-fourth filled with a smooth, hard, rounded oval mass, not at all sensitive, and presenting three or four superficial ulcers of apparently precisely the same character as those which appeared in the nose, and which had never shown the slightest improvement under local treatment up to this time. Still, I remained "asleep at the switch," and for a few days tried to reason out the pros and cons of a probable neoplasm, and was about to make a section for microscopic examination, when I awoke with a sudden and sickening thud. The rest of the story is briefly told. Mercury protoiodid and potassium iodid solved the problem that had baffled me for several weeks. The ulcers healed as if by magic; the thickened tissues resumed their normal condition; the distress of mind and body which had afflicted the patient disappeared, and he grew stout, well and happy. I had been dealing all the time with late secondary manifestations of syphilis, but I feel that I had at least some slight shadow of excuse for my tardy diagnosis.

Alas, that we cannot all comply with the gentle and epigrammatic admonition of the eminent Dr. Osler:

"Know syphilis in all its manifestations, and what remains to be learned will not stretch the pia mater of a megalocephalic senior student."

INOCULATIONS OF NASAL SECRETION FROM PATIENTS WITH ACUTE POLIOMYELITIS *

I. STRAUSS, A.M., M.D.
NEW YORK

The assumption that acute poliomyelitis is a contagious disease is founded partly on experimental research. Flexner and Lewis were the first to call attention to the presence of the virus in the nasopharyngeal mucosa of monkeys ill with the disease, and that monkeys could be infected when the virus was applied to the scarified nasal mucosa. Leiner and von Wiesner found that successful inoculation resulted when the virus was smeared on the intact nasal mucous membrane. Recently Osgood and Lucas have reported the important fact that the virus can be present in the nasal mucosa of monkeys as late as five and one-half months after the acute stage of the illness. Landsteiner and Levaditi, in their last report, criticized the hypothesis of nasal contagion advanced by Flexner and Lewis, in that they had overlooked the determination of the presence of the virus in the nasopharyngeal mucus. They inoculated a macacus with the nasal secretion obtained from a monkey ill with poliomyelitis, but with negative result. They were also unsuccessful in inoculating a monkey with secretion which they had obtained from two men, one of whom had been ill some weeks, the other some months previously.

It occurred to me also that the virus ought to be present in the nasal mucus and, therefore, in August of last

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* From the Department of Pathology, Cornell Medical College.

year I made inoculations which, though unsuccessful, have a certain value in solving this question of contagion. The material consisted of ten cases; seven occurred during the epidemic at Springfield, Mass.,[1] one in the small epidemic at Lake Placid in the Adirondacks, one in Manhattan, and the tenth in Brooklyn. The mucus was obtained by passing dry cotton swabs into the nasopharynx through the mouth. When removed they always had considerable mucus attached to them and in two instances they were a little blood-streaked, thus showing that they had come into intimate contact with the mucosa. After inoculation the swabs were placed into 10 c.c. of either normal saline solution or bouillon and kept either at room temperature in the dark or on ice. The solution was expressed from the swabs in order to remove as much of the virus as possible, and filtered through either Berkefeld or Chamberland filters. The virus is known to pass either of these filters. The filtrate was then centrifuged and either 2 or 4 c.c. were injected intracerebrally into rhesus monkeys. The virus did not have to be present in large quantities, since Leiner and van Wiesner had shown that a cord emulsion of 1 to 1,000 or 1 to 500 strength is more potent than stronger emulsions.

TABLE OF INTRACEREBRAL INOCULATIONS OF RHESUS MONKEYS WITH NASOPHARYNGEAL SECRETIONS FROM PATIENTS WITH POLIOMYELITIS

Case.	Age, Years.	Onset of Disease.	Swab Taken.	Temp. When Swab Taken.	Clinical History.	Intracerebral Inoculation in Monkeys.
1	25......	8/6	8/13	....	Onset with T. 101 F. Severe headache, rigidity of neck. Aug. 7, facial palsy (nuclear) and palsy of right ext. rectus.	Swab 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
2	1½....	8/7	8/11	During febrile stage.	Began with fever, vomiting and diarrhea. Aug. 10, T. 102 F.; unable to move arms or legs; stuporous; Aug. 11 had fever, but was brighter. Paralysis continued.	Swab kept 19 hours in bouillon. Berkefeld filter; 2 c.c. inoculated.
3	1¾....	8/8	8/13	3 days after fever.	T. 100.8 F. at onset. Aug. 9, T. 102 F. Aug. 10, facial paralysis. Aug. 11, normal temperature.	Swab kept 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
4	5......	8/8	8/13	2 days after fever.	Began with T. 102 F., rigidity of neck, paralysis of both arms. Aug. 10, T. 101.6 F. Aug. 13, T. normal; left leg paralyzed.	Swab 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
5	18......	8/8	8/13	102 F.	At first headache, retraction of head, rigidity of neck, painful joints, delirium. T. 102 F. Left leg paretic. Angina.	Swab 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
6	5......	8/11	8/13	No fever on day of paralysis.	Malaise for one week; fever Aug. 11. Paralysis of right leg Aug. 13.	Swab kept 3 days in bouillon. Chamberland filter; 2 c.c. inoculated.
7	62......	8/31	9/4	After death.	Began Aug. 31. T. 101 F. Paralysis of both arms and legs developed Sept. 1. Died Sept. 4, of respiratory paralysis.	Swab kept in bouillon in ice-box for 5 days. Berkefeld filter; 5 c.c. inoculated.
8	1......	8/16	8/17	24 hours after fever.	Paralysis of deltoid.	Swab kept in bouillon 5 hours. Berkefeld filter; 2 c.c. inoculated.
9	15......	9/12	9/19	102.6 F.	Began with headache, pains in legs, fever. Sept. 13, legs paralyzed. Sept. 14, arms paralyzed; rigidity of neck; high fever. Sept. 19, T. 102.6 F.	Swab kept in bouillon 2 hours. Berkefeld filter; 4 c.c. inoculated.
10	2......	9/18	9/28	24 hours after fever.	Onset with fever, vomiting; arm and leg paralyzed three days later. Then swallowing was difficult. Sept. 27, T. 102.4 F.	Swab kept in salt solution 4 hours. Berkefeld filter; 4 c.c. inoculated.

The accompanying table gives the data of the inoculations. No monkey became ill as a result of these inoculations. The experiments, therefore, seem to indicate the absence of the virus in the nasal mucus. This, of course, does not mean that it may not sometime be found in the human nasal mucosa as an excretion, just as is the case in the monkey, but if we are to regard the nasopharynx as the source of the contagion we ought to be able to demonstrate the presence of the virus in the nasal mucus.

One experiment was made to isolate the virus from the feces of a patient with an acute case. The feces of Patient 9 were mixed with salt solution on the same day that the nasal swab was taken. The mixture was filtered through a Berkefeld filter and the filtrate centrifuged. Four c.c. of the sedimented portion were injected intracerebrally into a monkey. The animal died of marasmus after four weeks. The autopsy revealed no cause of death. An emulsion of his brain and cord was inoculated into a second monkey with negative result. This experiment, so far as we are aware, is the only one in which an attempt has been made to demonstrate the virus in the human feces.

THE ETIOLOGY OF VERRUCA

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SAN FRANCISCO

It may be assumed as true that a simple traumatism can give rise to a wart, but in order to do so the injured tissues must themselves be in a favorable condition to react in this pecular way to the traumatism. The injury, therefore, would be the provocative cause of the verruca, and the condition of the tissues the predisposing cause. Verruca or papilloma is primarily an epithelial growth, and only secondarily is the subjacent connective tissue affected. Moist heat, inducing maceration of the epithelial cells, is one of the most important of predisposing causes of the neoplasm, and acts probably by exciting epithelial cells to grow more luxuriantly, and particularly so when a traumatism draws an increased supply of blood to the part. The frequency of papilloma of the sole in the flat-footed is an example of this.

My attention was first drawn to this by Dr. W. A. Hardaway of St. Louis. These patients almost always suffer from hyperidrosis of the feet, and the consequent maceration of the epithelium of the sole constitutes the predisposing tendency to the formation of papilloma in this region. Nature seldom afflicts us with one thing at a time; she diversifies our torments. The arch of the foot breaks down, we get hyperidrosis, and then that most painful affliction, papilloma of the sole, appears. In this way we finally become intimately acquainted with grief.

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[1] I wish to express my thanks to State Inspector Boyd and Drs. Emerson, Tracy, Hirsch and Rearden of Springfield for their kind assistance.

But maceration of the epithelial cells, predisposing them to this peculiar form of neoplasm may, I am convinced, be caused by hot water alone, of which the following is an instance:

About July 4, 1905, a man came to me with a painful swelling under the ball of the right foot, which was quickly seen to be a verruca. There was the usual circumscribed callus with the bunch of dots in the center representing the upgrowing connective tissue filaments. A strong salicylic acid ointment was ordered to be applied to the sole each morning, so that in walking he would tramp it well in during the day. When the wart was laid bare of its surrounding mass of epithelial cells, it was burnt with silver nitrate, but others came, and in great numbers.

In casting about for the reason of this persistence of the affection, I told the patient of Dr. Hardaway's observation in regard to the association of flat-foot and papilloma of the sole, and explained that probably flat-foot was only an incident in the etiology, and that the essential feature in all likelihood was the hyperidrosis. He shortly afterward related to me a most interesting story. In the hotel where he boarded there was an abundance of hot water, and every night he used to soak his feet in this for no other reason than that the heat gave him pleasure. One evening on returning to his rooms he found he had mislaid his key, and the servant with the pass-key was not in sight. The patient, being athletic, entered through the transom and jumped to the floor. He lit on the ball of his right foot, and remembered that it stung quite severely. Shortly afterward his trouble appeared and on the site of this very traumatism.

A few days after this explanation, the great fire occurred, and threw the patient and his physician both out on the street. He had some fire insurance in one of the companies that tried to evade or shave all its policies; the city had no street-car service or other means of public conveyance, and all the work of getting proof of loss properly presented had to be done on foot. In addition to this he had to hunt for me. In this interesting interval the papilloma of the sole did not neglect to torment him. After he had found me I had my troubles, for I wished to curette the wart, and as all the surgical instrument stocks had been destroyed in the catastrophe, it was difficult to find a suitable tool. Finally by thorough curetting under cocain and cauterization with nitrate of silver, the papillomas were eradicated with no subsequent return.

The hot-water bathing, I have no doubt, had much to do with the occurrence of warts in this case.

An active proliferation of the epithelial cells favors the occurrence of verrucæ, and this is probably why they so frequently occur in youth, when all the cells of the body are in very active growth. In seborrhea also the epithelial cells, both of the skin and of the mucous membranes, proliferate with unusual activity, and both verrucæ and paillomas are apt to appear. Verrucæ of the scalp, for example, are frequently associated with seborrhea of the scalp.

In seborrhea, moreover, there is not alone a more active proliferation of cells from the very fact of the existence of seborrhea, but those having seborrhea sweat more easily and profusely, so that they have a double predisposition toward papilloma or verruca.

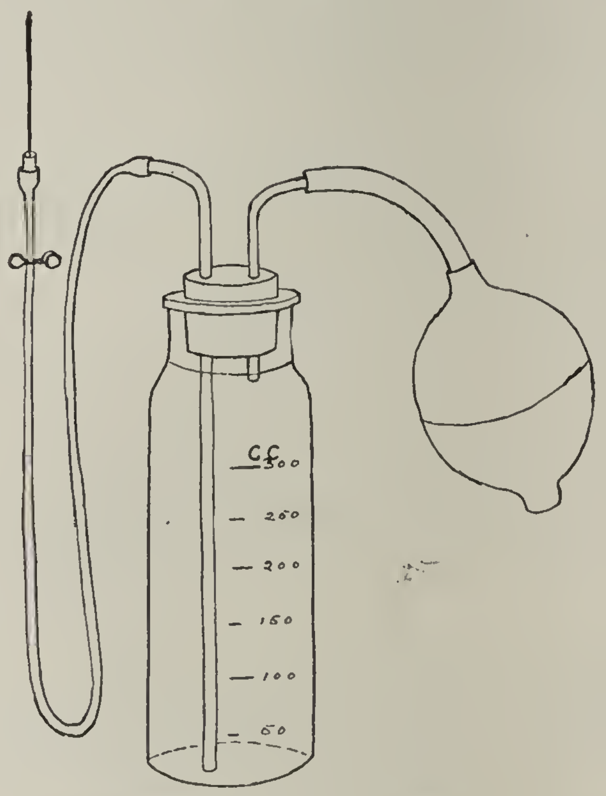
A traumatism alone, however, I am convinced may give rise to these troublesome growths, and it is not strange that it should be so, for if injury causes a continuously increased supply of nourishment to a part it may cause increased cell proliferation through overnourishment, and hence may predispose to papilloma.

323 Geary Street.

A SIMPLE APPARATUS FOR THE INTRAVENOUS INJECTION OF SALVARSAN OR OTHER DRUGS

WILLIAM F. BERNART, M.D.
CHICAGO

The nearly universal recommendation of the intravenous use of salvarsan has brought up the question of which is the most convenient and best contrivance for the administration of this drug. A large glass syringe is probably the simplest appliance for giving the injection; however, it is not always possible to get a syringe which will hold 300 c.c. If it is administered by gravity, it is essential for the operator to have an assistant. The apparatus which I am going to describe can be constructed at a small cost, answers the purpose in every respect and can easily be operated by the physician alone. The materials required are:



Apparatus for intravenous injections by means of a pressure-bottle.

- Wide-mouth bottle, capacity 360 c.c. (12 oz.).
- Rubber-stopper to fit the bottle, two perforations in stopper.
- Two glass tubes to fit perforations, one sufficiently long to reach to the bottom of the bottle, the other to reach through the stopper.
- A double-valved atomizer bulb.
- Twelve to eighteen inches of India rubber tubing to fit glass tubing.
- Hypodermic needle, platinum.
- Clamp for tubing.
- Glass funnel and filter-paper.
- Glass-stoppered bottle (360 c.c.) and 50 to 100 glass beads.

The salvarsan is dissolved and mixed in the glass-stoppered bottle according to directions accompanying each package of the drug. After the solution is properly prepared it is filtered into the reservoir of the apparatus. While waiting for the solution to filter, the reservoir is placed in a bowl of hot water so that by the time the filtration is completed the solution is of a proper temperature for immediate use. If desired, the salvarsan can be prepared in the reservoir of the apparatus and if a fine piece of muslin is tied over the lower end of the long tube, the solution can be filtered simultaneously with the injection. After the reservoir is filled, the rubber stopper, with the glass tubes inserted, is tied tightly into place. The needle and hose are elevated, the bulb is pressed and all air is expelled. As soon as the liquid spurts through the needle in a solid stream the hose is clamped and the needle is inserted into the vein of the patient. When it is certain that the needle is in the proper position the clamp is loosened and by pressure on the bulb the fluid is readily forced into the circulation.

According to the air-pressure used, the 300 c.c. of solution can be injected in from four minutes to as long a time as may be deemed advisable. When the solution is all utilized the air slowly follows the fluid up the long glass tube, giving the operator plenty of time to close the clamp before any air can enter the veins. The needle is then withdrawn and the puncture wound sterilized and closed with the tincture of iodin.

The compactness of this apparatus permits of but little loss of heat by radiation and the giving of an injection is under the full control of one individual.

42 Madison Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION. THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT AND IN PART ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE PUBLICATION IN THE BOOK "NEW AND NONOFFICIAL REMEDIES."

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT, SO FAR AS KNOWN, IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

PRE-DIGESTED LIQUID FOOD. Mulford.—Pre-digested Liquid Food, Mulford, contains 10 per cent. of protein and 10.5 per cent. of carbohydrates (dextrose, lactose and sucrose) in a vehicle containing glycerin about 1½ per cent., saccharin about .01 per cent. (1/20 grain in a fluidounce) and about 30 per cent. of native wines, fortified with alcohol sufficient to bring the alcohol content up to 16 per cent. absolute alcohol per volume.

Pre-Digested Liquid Food, Mulford, is prepared by digesting fresh lean beef with hydrochloric acid and pepsin and digesting milk casein first with hydrochloric acid and pepsin and after neutralization with pancreatin. The solutions after digestion are concentrated in vacuo and mixed with the other ingredients.

It is a light yellowish-red liquid, having an aromatic odor and not unpleasant taste. Its specific gravity is about 1.07. When evaporated to constant weight it leaves about 25 per cent. of residue.

Actions and Uses.—See Medicinal Foods.

The nutritive value of 500 Gm. corresponds to 416.3 calories, of which 201 are due to protein and 215.3 to carbohydrates. The same quantity of milk represents 360 calories, of which 84 are due to protein, 98.4 to carbohydrates and the rest to fats.

Manufactured by H. K. Mulford Co., Philadelphia. (Not patented or trademarked.)

ANTIRABIC VACCINE

The American Biologic Company, Kansas City, Mo.

Pasteur Antirabic Vaccine.—The virus is prepared according to the method of the Hygienic Laboratory, Washington, D. C. An amount of the dried cord, sufficient for one dose, is suspended in a mixture of 66⅔ per cent. glycerin and 33⅓ per cent. of physiologic salt solution, and sent daily by mail, accompanied by a syringe containing sterile physiologic salt solution for further dilution at the time of administration. The treatment requires 18 to 21 days.

ARTICLES ACCEPTED FOR N. N. R. APPENDIX

Borcherdt Malt Extract Co., Chicago.

Borcherdt's Malt Extract Plain.—A preparation essentially equivalent to Extractum Malti U. S. P. and containing 10 per cent. of glycerin. U. S. Trademark Nos. 64,467, 64,481.

Borcherdt's Malt Olive with Hypophosphites.—Each 100 c.c. is said to contain Borcherdt's Malt Extract 70 c.c., California olive oil 20 c.c., C. P. glycerin 10 c.c., calcium hypophosphite 0.64 gm. (3 grains in a fluidounce), sodium hypophosphite 0.64 gm. (3 grains in a fluidounce). U. S. Trademark Nos. 60,422, 64,467.

Borcherdt's Malt Soup Extract.—Borcherdt's Malt Soup Extract is a mixture obtained by adding potassium carbonate 1.1 gm. to each 100 gm. of Borcherdt's Malt Extract, diluted with one-half its volume of distilled water, and evaporating in vacuo to a specific gravity of 141. U. S. Trademark No. 64,467.

Therapeutics

PREVENTION OF PULMONARY TUBERCULOSIS

POINTS WHICH MUST NOT BE FORGOTTEN

The announcement by Dr. Robert Koch, in 1882, of his discovery of the tubercle bacillus and its relation to tuberculosis opened a new era in the study and management of that disease. He proved conclusively that the tubercle bacillus is the cause of tuberculosis, and opened the way to the modern treatment of the disease. Tuberculosis does not occur in the absence of the tubercle bacillus, and the recognition of this fact has greatly simplified the problem with which the medical profession had been struggling almost hopelessly for centuries.

It is now generally recognized that the most common method of transmission of this terrible disease from one individual to another is by the transference of the tubercle bacillus from the sick person to his neighbor by means of the secretions or exudations from the lungs, and from the upper respiratory organs where the tubercle bacillus may be lodged on the mucous membranes and in the mucus and other secretions of those membranes. This makes manifest the great importance of a suitable disposal of the matter expelled from the nose and mouth. It has been found that not only do the masses of sputum of considerable size which are expelled from the lungs contain tubercle bacilli, but also that the smaller particles of moisture and mucus which are expelled in such small quantities as to be almost unrecognizable, in many instances also contain the dreaded bacillus. These small particles, or droplets as they are commonly called, are expelled usually with the so-called "dry cough" which is not accompanied by the expulsion of the larger masses of sputum. The problem, then, is to receive and take care of the matter expelled from the mouth and nose of the tuberculous patient, whether this comes from the lungs, throat, nose or mouth.

Various devices have been provided for collecting and destroying the larger masses of sputum. In the room where the sick person spends most of his time, a metallic cuspidor with an easily opened cover is very useful. This cuspidor should contain water, preferably rendered antiseptic by the additon of a 5 per cent. solution of phenol (carbolic acid). This cuspidor should be large enough for the patient to deposit the sputum in it easily. Other forms of receptacle include a tin cup in which is placed a pasteboard box into which the patient expectorates. For patients who are walking about, a small cup with a removable cover is convenient. This should be made so that even when it is tipped over the sputum will not escape. When it is impracticable to use any of these special receptacles, the sputum may be received on pieces of cloth or on paper napkins. It is necessary that the patient should be provided with a receptacle for these things which is impervious to moisture and which will not allow the sputum to penetrate to the exterior of it, and which may be thoroughly cleansed and disinfected when the pieces of cloth or paper are removed from it. The use of gauze is recommended by many writers, but is less desirable than paper or pieces of cloth, because of the danger that the sputum will penetrate the meshes and extend the infection. Whatever the substance used, it may be deposited in a convenient stiff paper bag, and the bag, later, with its contents, burned. The water and sputum in the cuspidors, after disinfection, should be thrown into the water closet.

All papers and cloths on which sputum has been deposited should be burned. In many homes, under the modern conditions of heating and cooking with gas stoves, difficulty may sometimes be found in accomplishing this, but the importance of destroying paper or cloth contaminated with tubercle bacilli is so great that the difficulty should not be regarded as an adequate excuse for failure to effect perfect destruction by incineration.

Even outside of the house or on the street, the same care should be exercised in collecting and destroying the sputum. Boards of health and municipalities have exercised themselves to prevent the spread of the disease in this way to the extent of passing ordinances forbidding spitting on the sidewalk. Such ordinances are not enforced so thoroughly as they should be, but for the tuberculous patient spitting in the gutter is objectionable, and should not be encouraged. In fact, if all spitting, except into some suitable receptacle or some substance which could be destroyed, were forbidden, the condition of the world, and especially of the larger cities, would be greatly improved. Certainly, everyone should be taught, even from childhood, that spitting is inelegant, and that no one should cough, either in public or private, without holding before his mouth some paper or cloth so as to receive on it any matter which may be expelled, even involuntarily, from the mouth or nose.

In the same way, the discharges from the nose of the tuberculous patient should be received on paper or cloth which can be destroyed. If occasionally the ordinary handkerchief is used to receive the discharges from the mouth or nose, this should be placed in water before the discharge is allowed to dry, and should be boiled before being placed with the other soiled clothing for the usual family laundry.

It is impossible to emphasize too strongly the necessity of the most minute care to prevent the dissemination of the discharges from the lungs, nose, throat and mouth of the tuberculous patient. When, either from accident or carelessness, these discharges are not properly cared for, but are allowed to fall on the floor or street, as they become dry, the tubercle bacilli are, so to speak, set free in the dust, and are liable to become a source of danger to healthy people. This suggests the importance of using every possible measure to prevent the dissemination of dust in apartments or on streets where many people are accustomed to go. The feather duster, so dear to the average housewife for removing dust from furniture and bricabrac, should never be allowed inside the residence of a civilized citizen. Ordinary sweeping with a broom should not be allowed unless special precaution has been taken to prevent the raising of dust. It has been recommended for this purpose that a newspaper be dampened, torn into pieces, and thrown upon the carpet before the broom is used. Where there is no carpet on the floor, moist sawdust is useful to prevent the raising of dust. Far better than the broom for the removal of dust and dirt from rooms is the vacuum cleaner. It is greatly to be hoped that it will not be long before the broom will be a forgotten implement of cleansing and superseded entirely by the vacuum cleaner.

In the streets of cities the dust which is raised by the wind or by vehicles is frequently germ laden, not only with the bacilli of tuberculosis, but with other disease germs, especially those of influenza and pneumonia. Hence the importance of street cleaning and of street watering, the former diminishing the amount of dust liable to be raised by the wind or vehicles, and the latter preventing whatever there may be from being blown about.

These are the most important considerations to be borne in mind in preventing the transmission of the disease from the patient to those who come into the neighborhood or the region where he is or has been. There is another point of view to be taken into consideration, and that is increasing the resistance of feeble people against the attack of the tubercle bacillus. It would be impossible, perhaps, to prove that no child has ever been born infected with tuberculosis from its parents before birth. In fact, it is generally conceded by authorities on the subject that such antenatal infection is possible, but practically it certainly is very rare. That tuberculosis is hereditary in the sense in which that statement would have been understood previous to thirty years ago is recognized now as being impossible. On the other hand, that many children born of parents, one or the other of whom has suffered from or has died of tuberculosis, are more likely than the children of healthy parents to suffer from tuberculosis is recognized by everyone. But the interpretation of this observation which now prevails is that the child does not inherit the disease, tuberculosis, but that he inherits a predisposition to that disease, that he inherits a weakness of physique which renders him more liable to be attacked by the disease than others who do not inherit such weakness. One of the most important problems to-day in regard to the prevention of pulmonary tuberculosis is to raise the vitality and resisting power of these individuals so that they will not easily become affected by the tubercle bacillus. For at present it is recognized that this bacillus is so generally disseminated throughout the places occupied by the human family, that many people become the hosts of the bacillus without knowing it, and if their resistance is sufficiently strong, do not suffer any ill effects from it, but cast it off.

It is now well understood that the diet of patients with a tuberculous tendency must be nutritious, but it is frequently necessary to express a caution against the use of alcoholic drinks. Many people believe that these beverages are a valuable tonic, increasing the appetite and improving the digestion and general nutrition, and therefore believe that they are useful for people who seem to have a predisposition to tuberculosis. As a general rule, it may be stated that this belief is a mistaken one, and that in the absence of any special indication for their use most individuals, even if they are not robust, are better off without the habitual use of alcoholic stimulants.

In order to raise the resisting power of children with tuberculous parents, so that they may not readily contract the disease, many things must be taken into account. Perhaps the most important of all is the question of pure, fresh air. This at once brings up the question of residence. Families, any member of which is recognized as being weak or having under-average resisting power, should consider carefully the selection of a place of residence. They should not select a tenement house in a crowded city, but should, if possible, secure a residence in the country suitable for a single family and surrounded by air on all sides, and in which every room has a direct supply of fresh air and sunshine. The house should be built preferably on elevated ground, and on gravel or sandy soil. Low ground or clay ground should be avoided. Of course the residence should be selected not only with reference to fresh, pure air, but with reference to the facility of reaching the work in which the members of the family are occupied. This entails transportation facilities, which are of great importance. But not all people can live in the country where they can occupy separate houses. If a family embracing feeble members is obliged to live in the city, a residence should be found in the less thickly populated part of the town. These people should avoid tenements which have dark rooms, rooms in which there are no windows toward the outside of the house through which fresh air and sunshine may be admitted. In recognition of this fact, when cities are laid out the streets should be made broad, and the height of the houses should be limited in order that through narrowness of the streets and height of the adjacent buildings the air and sunshine may not be practically prohibited from the dwellers.

The manner of living within the house is also important. Rooms which have not windows opening directly out-of-doors should not be used for bedrooms. It is preferable that no bedroom should be occupied by more than two persons, and it is very desirable that each individual should have a separate bed. The windows should be kept open at night so that the occupants may constantly have fresh air to breathe. Infants require fresh air quite as much as adults, but they are less able to stand inclement weather or cold air than older children, and they should be gradually accustomed to the breathing of, and exposure to, cold air. It is of course necessary, in the matter of fresh air and cold air, to use common sense, as in all other matters pertaining to the health of individuals. The window through which fresh air is admitted should not necessarily be opened equally widely at all times; or if it is, varying degrees of protection against the incoming air may need to be employed at different times. For instance, if a strong, cold wind is blowing in the window at the hour of retiring, the window should either be partly closed, or a screen or curtain or blind should be placed in front of it to break the draught; otherwise, the sleeper will be very apt to awaken in the morning with a coryza.

Delicate children should not be sent to school too young, or confined in the schoolroom for many consecutive hours. They should be encouraged to remain out-of-doors, and to engage in active, but not too violent play. They should have longer hours of sleep than strong, robust children. For children from five to ten years of age, ten hours of sleep are none too many.

Breathing exercises should early be taught to all children, and especially to weak children, so as to increase the breathing power and promote the development and expansion of the chest.

Another consideration of great importance is the matter of food. Weak children should be fed regularly. Their food should be varied, nutritious, and easily digestible. Milk should be an important article of diet for every feeble child. Eggs are also useful, but should not be offered so frequently that the child will acquire a distaste for them. While sugar is a necessary ingredient of the diet of every growing person, yet it should not be provided for children in excess, especially in the form of pie, cake and candy. Children should be taught to eat fruit and vegetables, and a limited amount of meat. It is exceedingly important that they should be brought up and taught to eat fatty substances, such as butter, cream, and the fat of meat. This will do much to promote their nutrition and to increase their resisting power against disease.

With reference to providing abundance of fresh air for growing children as an aid in the prophylaxis of pulmonary tuberculosis, it is always necessary to examine the upper respiratory passages of the child in order to determine whether there is ready access of air to the lungs. Often it will be found that a deviated nasal septum, hypertrophied turbinates, nasal polypi, or adenoids in the vault of the pharynx interfere seriously with nasal respiration. Also, hypertrophied tonsils interfere with the taking in of an adequate supply of air. These conditions should all be looked for, and, when found, should be remedied by appropriate medicinal or operative treatment.

With reference further to the obtaining of an adequate supply of fresh air, the dress of the patient, especially if a girl or woman, should be carefully considered. High collars, or very tight collars about the neck interfere decidedly with respiration, and should be forbidden. The wearing of corsets too tightly laced about the waist interferes with abdominal respiration, and frequently produces displacement of the abdominal viscera and deformity of the bones of the thorax.

While the clothing should be sufficiently warm to protect the skin from changes in temperature and from draughts, it should at the same time be loose enough to form no obstacle to free respiration.

INTESTINAL WORMS—A CORRECTION

In THE JOURNAL, March 18, 1911, page 813, under the discussion of *Ascaris lumbricoides*, the statement was made that this worm lives in the intestines of cattle and pigs, and may reach man by their excrement contaminating water and vegetables. The statement was incorrect. The ascaris of the pig is different from that infecting man, and cattle do not seem to have this disease; hence the contamination of water and vegetables with the eggs of the *Ascaris lumbricoides* that infects man comes from infected human excrement used as a fertilizer, or by the direct contamination of water.

Massage of the Prostate.—Before one undertakes to massage the prostate, he must bear in mind the object sought, *viz.*, to improve the circulation and thereby aid absorption of the infiltrate, and secondly, to express any macroscopic pus (abscess). It is more important to bear the first indication in mind and execute the massage gently, than to do it too vigorously. The procedure should cause little or no pain to the patient, should be kept up for about five minutes, and should not be repeated oftener than twice a week, but the main reliance should not be put on massage alone. The periprostatic tissues should be gently massaged as well. The prostate can be made more accessible by making counterpressure over the symphysis pubis with the disengaged hand. The prostatic circulation can be more powerfully influenced by the prostatic vibrator, which is even less painful than the finger massage. When there exists a great deal of interstitial prostatitis, as evidenced by a nodular prostate, the massages do not influence the prostate, as we cannot hope for any absorption of organized connective tissue.—G. Greenberg, in *American Journal of Urology.*

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STANDARDIZATION OF DIGITALIS

One of the greatest handicaps to exact drug therapeutics is the fact that "impressions" either of the physician or of the patient play such an important part. Many other branches of medicine have been put on a truly scientific basis as a result of careful quantitative work, in either the laboratory or the clinic, or in both, but in drug therapeutics, such expressions as "the drug seemed to do good," are constantly used without the slightest attempt to measure any tangible effect, or to compare the case under treatment with one running a natural course. It is this habit of reliance on impressions which led physicians, fully as wise as any now living, to use for centuries drugs now entirely discarded; and it is this habit which keeps the modern pharmacopeias overburdened with equally useless drugs. It is rather surprising, however, to see what an important part "impressions" play even in the choice of a drug and the method of its preparation, for these would seem to be amenable to exact laboratory control. That such is the case however, is strikingly illustrated in a recent publication of Hale[1] on digitalis.

Hale has endeavored to trace the origin of a number of commonly accepted views concerning this invaluable drug and to test them experimentally in the laboratory. Some of his conclusions may be summarized as follows: The view that the leaves of the second year's growth are more potent than those of the first year—a view adopted by most pharmacopeias and by the Brussels conference—seems to be founded on tradition only. The only experimental work done had shown that the first-year leaves were fully as active as those of the second year; Hale, experimenting with four lots of first-year leaves, found them to be from 28 to 40 per cent. more active than the best second-year leaves obtainable. The view, or rather impression, that the leaves of wild-growing plants are more potent than those of cultivated plants—a view which finds expression in the French, German and some other pharmacopeias—is also shown not to rest on a scientific basis. Hale admits that some wild-growing leaves are more potent than some garden-grown leaves, but believes that cultivation *per se* has nothing to do with it, and points out that Allen's English leaves, which give high assay values, are garden-grown. He also discusses the influence of moisture and of heat on the keeping quality of leaves; he found that an amount of moisture sufficient to permit molding might cause a loss of potency of 90 per cent. in a few months, but found no justification for the statements sometimes made in the interests of special preparations that leaves dried in a vacuum, or preparations made by macerating leaves with cold water, have special advantages. Although these experiments should extend over a number of years before a final decision is reached, as far as they go they indicate plainly that physicians and pharmacists for decades have been groping in the dark after the causes of the well-known variation in the potency of digitalis leaves, and have often attributed it to irrelevant circumstances. The real cause is unknown, but seems to be connected with the nature of the soil, the character of the season, etc.; it is only by the use of physiologic standardization that uniformly active leaves can be obtained at present.

Of the galenical preparations of digitalis, Hale never found the fluidextracts to assay, relatively, as strong as the tinctures; this indicated incomplete extraction. The practice (one much encouraged by certain drug houses) of preparing pseudotinctures by diluting the fluidextracts is condemned; such "tinctures" have as a rule but from one-half to two-thirds the strength of genuine tinctures. It was found that whereas weak alcohol (35 per cent.) was as efficient as stronger alcohol in extracting the leaves, preparations made with the stronger alcohol had the advantages of containing less inert matter and of retaining their potency much better. A number of official extracts showed little deterioration (from 4 to 8 per cent.) in twenty-two months, whereas a number of proprietary preparations containing a smaller percentage of alcohol had deteriorated to a much greater degree (even to 33.3 per cent.) in the same period. Hale suggests that the makers of special preparations should submit them to much more rigorous tests than is done at present, and that physicians should use them as seldom as possible unless assured, by a system of dating, of their very recent preparation. The importance of this precaution was shown by the fact that one sample of a widely used proprietary preparation, secured from a reliable pharmacy, had lost practically all digitalis action and had become a cardiac depressant. Hale believes that the manufacture of special digitalis preparations should not be encouraged.

The second part of the bulletin deals with special digitalis preparations, such as tablet triturates, hypodermic tablets, fluid glycerates, etc. Tablet triturates obtained from different manufacturers were found to vary in strength by as much as 360 per cent., about the degree of variation found in official tinctures and fluidextracts. Hypodermic tablets of digitalin were also found to vary by as much as 230 per cent. The fluid glycerate was found to have but about 40 per cent. of the strength of the official fluidextract.

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[1] Bull. 74, Hyg. Lab., P. H. and M.-H. S., Washington, D. C.

The bulletin closes with a discussion of two widely advertised proprietary preparations, digalen and digipuratum, embodying conclusions previously published.[2]

A perusal of this bulletin will place the practitioner in a much better position to form a judgment of the character of the digitalis preparation he uses. The work which it embodies should be of value in improving the pharmacopeial requirements of this important drug.

TWO SURGICAL PATRIARCHS

Detailed sketches of the lives of two men who were prominent in the surgery of the latter half of the nineteenth century in America have recently appeared; and teachers of medicine, as well as those who are interested in medical history, will find them storehouses of valuable material.

The recently published memoirs of Dr. Thomas Addis Emmet[3] are full of striking features illustrative of the medical professional life of the latter half of the nineteenth century in America, and reflecting the varied interests in life of a man who, though nearly 84 years of age, still retains the full vigor of his intellectual faculties. Dr. Emmet's is one of the comparatively few American names—and one of the earliest—that was well known in European medical circles practically half a century ago. Some of his work was that of a pioneer in the best sense of the word; it influenced the American medical profession widely, and yet was so thoroughly practical that it is still influencing us. It may be readily understood, therefore, how much such a volume from his pen means. Dr. Emmet's recollections are linked with many of the most important incidents in our medical history. For instance, he went through two awful epidemics of typhus fever with the Irish immigrants on Ward's Island in the early fifties. During the cholera epidemic of 1854, on two occasions, on making his visit to the immigrant hospital he found that all the patients and nurses in his ward had died of the disease since his previous visit. The relations of Emmet and Sims are also interesting; likewise the story of the origin of the Woman's Hospital and of the Cancer Hospital, now called the Memorial Hospital in New York.

One of Dr. Emmet's hobbies was the collection of documents relating to American history. He was one of the first in the field to gather autograph material, and he succeeded in making a collection unequaled of its kind. This is now in the Lenox Library, New York, bearing the name of the Kennedy-Emmet collection. Among autograph collectors, Dr. Emmet's name is known all over the world, while among American historians his work is considered most important for the saving of valuable material which would certainly have been lost but for his interest in it. It is probable that Dr. Emmet spent nearly a quarter of a million dollars in the making of this collection, which is now invaluable.

A sketch of the life of Sir William Hingston, a prominent surgeon and notable citizen of Montreal, who died four years ago, in his seventy-eighth year, appeared in the January number of the *American Catholic Quarterly*. Like Dr. Emmet, Sir William Hingston was a self-made man. He was the son of a widow in straitened circumstances, and carried on his medical studies while acting as assistant in a drugstore. Yet he succeeded in doing fine work in his subsequent career and attracted the attention of the conservative English-speaking profession, so that more than twenty-five years before his death he was asked to deliver the annual address on surgery before the British Medical Association. At its meeting in Canada, he was one of the honorary presidents and one of those selected for a knighthood on the occasion of Queen Victoria's jubilee. He served two successful terms as mayor of Montreal, became a life senator of Canada, and when he died a session of the Canadian senate was taken up with tributes to this member, who had begun life under such discouraging circumstances.

In Sir William's career there is abundant encouragement for the man who has to contend against difficulties in obtaining a professional training. The story of his two years in Europe just after graduation, when on less than $500 he succeeded in spending prolonged periods in Edinburgh, London, Paris and some of the German cities, getting in touch with the best surgeons in Europe and coming home thoroughly prepared to do good work, is of itself a typical example of his power to overcome what would seem to a less indomitable character impossible obstacles. But his efforts at self-education did not stop there. He became one of the busiest of Montreal's practitioners, occupied mainly with the poor; yet he succeeded in piecing out the fragments of a classical education that he had obtained in a single year at college into a fine classical scholarship. He knew French and German well, and had a thorough command of English, being both an effective orator and a ready writer.

Above all, he showed clearly that it is possible to combine the career of a successful, busy surgeon with that of a citizen who sees and performs his duty to the community. The lives of such men as Emmet and Hingston must prove a stimulus to high professional work and a deep sense of patriotic duty.

ANAPHYLAXIS

In a recent article, Friedberger[1] has reviewed our present knowledge of the subject of anaphylaxis. As a result of the great amount of work devoted to this phase of immunization, both in this country and abroad, it is now better understood, and is even being invoked to explain other more obscure phenomena of disease. According to our present conception, the process of anaphylaxis is in brief as follows: On the introduction of the first dose of a foreign proteid into an animal, there occurs a gradual increase of the antibodies for this substance—antibodies already present in small amounts normally. If, now, after a suitable interval, say from eight to ten days, a second dose be given, these antibodies, now present in increased quantities, produce a rapid disintegration of the proteid, with liberation of toxic products. If the animal survives this sudden liberation of poisonous material, farther cleavage of these products rapidly renders them innocuous.

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[2] Hale, Worth: A Comparative Study of Digalen, THE JOURNAL A. M. A., Jan. 1, 1910, p. 35; The Comparative Strength of Digipuratum, Jan. 8, 1910, p. 129.

[3] Emmet, Thomas Addis: Incidents of My Life, Professional, Literary, Social, with Services in the Cause of Ireland, G. P. Putnam's Sons, New York, 1910.

[1] Friedberger: Deutsch. med. Wchnschr., 1911, xxxvii, 481.

Such a hypersensitization to foreign proteids is peculiar in that for the most part it is necessary to introduce them by some route other than the alimentary canal. When, however, we consider the great breaking up undergone in the process of digestion, it will be readily seen that any characteristic peculiar to a given proteid would ordinarily be so modified before absorption as completely to alter any toxic effect that it might possess. Indeed, the anaphylactic reaction is believed to be due to a splitting up of proteid into exactly the products it would yield in intestinal digestion; the poisonous intermediate products, however, which in the latter case would undergo still farther cleavage before entering the system, are in the former liberated directly into the blood-stream, and so are free to exert their toxic action. In support of this view is the fact that in those cases in which there is excessive antibody formation, the acute anaphylactic reaction is diminished or absent; the probable explanation being that the breaking up of the proteid into its ultimate constituents is so rapid as to prevent the accumulation of toxic intermediate products in quantities sufficient to do harm. Idiosyncrasy to articles of food is to be explained, on this basis, by the absorption of sufficient unmodified proteid to react with antibodies already present, either congenitally or formed under similar previous conditions.

In addition to the "active" anaphylaxis, produced by the direct administration of sensitizing doses of proteid to the animal organism, it is possible to produce "passive anaphylaxis" by transferring hypersensibility to other animals with the serum of treated animals. This so-called passive anaphylaxis belongs in the same class as passive immunization. Further analogy is shown by the necessity of free complement to produce the reaction. If an animal be given its second dose of proteid, in non-lethal amount, at an interval greater than the ten days at which hypersensitization reaches its height, the excess of antibodies present becomes bound, and the animal becomes relatively free from farther reaction. This is the so-called anti-anaphylaxis.

According to the views of Ehrlich, all antibodies are merely the result of the increase of substances already present in the normal animal; and in accordance with this view is the fact that the introduction of a sufficient quantity of foreign proteid into a perfectly normal animal will produce toxic effects. If, however, care be taken to give it in a quantity insufficient to cause death, the antibodies normally present will cause a relatively slow production of the toxic intermediate products, and at the same time formation of both the cleavage products and the antibodies evoked by the injection will take place. If now this serum be transferred to a second normal animal, acute poisoning will intervene — the so-called antiserum-anaphylaxis. The explanation probably lies in the fact that in the second animal there is already present a certain amount of antibody, which, in conjunction with the amount present in the injected serum, is sufficient to produce acute anaphylaxis.

By far the most interesting of the recent developments of this subject are the relations that are being established between anaphylaxis and many infections, both acute and chronic. It is becoming generally accepted that many of the processes which formerly we were wont to ascribe purely to specific toxins are more properly to be considered as due to the interaction of bacterial proteid and antibodies already present, or formed during the infection, in the host. This phase of the subject, however, has been recently taken up in these columns,[2] and need not be discussed further at this time.

Current Comment

SOME PROBLEMS OF SCHOOL INSPECTION

While school inspection has been the subject of much commendatory mention in the public press, some objections have been raised to proposed legislation making it compulsory. The question has been raised as to the propriety of complete examinations requiring exposures of the chest, etc., especially in the older girls, it being urged that parents should be allowed to select the physician to make the examination. As perhaps might have been expected, the sectarian schools of medicine have been more or less to the fore in the objections. This trouble has been encountered in Newark, N. J., where, for instance, examination of the heart and lungs has been insisted on as a feature of school inspection. It is natural that the inspecting authorities should want to forestall criticisms as to the thoroughness of their work, which would be very liable to be made by those not in full sympathy with the movement. It would seem, however, that since the school has no interest in heart disease further than as it affects the functional capacity of the heart, such tests as are necessary might be made without requiring any exposure which would be offensive to the pupils and resented by their parents. It would doubtless be well for those engaged in the work to remember that medical school inspection is at present on trial so far as the general public is concerned, and that lack of tact may prejudice the cause as much as lack of skill, if not more. It is not desirable that medical school inspectors shall be time-servers; but for a school physician to strain his brief authority by too arbitrary insistence on methods of inspection which parents have not learned to regard as a matter of course in private practice, would seem to be premature, to say the least. Doubtless, with greater experience, by the exercise of tact, by educating the public and winning its confidence, inspectors will be able in most instances to secure all needed information and at the same time to avoid any occasion for conflict between the authority of the home and that of the school. This is always disastrous, and would be especially regrettable just now in the case of medical school inspection.

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[2] Infection and Anaphylaxis, The Journal A. M. A., March 11, 1911, p. 746.

MONEY FOR MEDICAL EDUCATION

After a long season of neglect it seems that medical education is coming into its own in regard to financial support. Such benefactions as the recent gift of $200,000 from Dr. and Mrs. Robert W. Long of Indianapolis, toward the establishment of a teaching hospital for the Indiana University School of Medicine, indicate an increase of interest in the cause; and not only are private donors making generous contributions, but legislatures also are making more liberal appropriations for the support of their state university medical schools. Word has just been received that in Alabama $100,000 has been appropriated for the support of the medical school of the state university for the next four years; and from Nebraska comes the news that a like sum has been appropriated to establish all four years of the University of Nebraska College of Medicine on the new campus in Omaha. A smaller but no less important appropriation was that of $30,000 by the Oregon legislature which has made possible a closer relationship between the University of Oregon and its medical department—a relationship which heretofore has been largely nominal. Thus from all sections of the country come tidings of substantial gifts or appropriations for medical teaching institutions that represent the higher standards of medical education. These appropriations give much encouragement to those who have been working for the development of higher standards and lead one to believe that even more liberal appropriations will be made in the future. Surely no state could make a better investment than that which will secure better-trained physicians who are to be responsible for the preservation of the health and, therefore, of the happiness, of that commonwealth.

PROF. THEOBALD SMITH AS EXCHANGE PROFESSOR

Prof. Theobald Smith, Fabyan professor of comparative pathology at Harvard, has been appointed exchange professor for 1911-12 at Berlin University, following a plan inaugurated several years ago for the exchange of educators between the universities of Germany and the United States. This is not the first instance in which Harvard has been drawn on for the exchange professorships, but previously they have been from the faculty of arts and sciences. The drafting of Professor Smith is not only a recognition of the medical department of Harvard, but a high and well-deserved compliment to Professor Smith, who has attained eminence not only as an instructor and for his research work, but also on account of his public scientific services. He was at one time director of the pathologic laboratory of the national Department of Agriculture, and was for ten years professor of bacteriology at Columbian University, Washington, D. C. He was also director of the pathologic laboratory of the Massachusetts State Board of Health, and three years ago was awarded the gold medal of the Liverpool Society for the Study of Tropical Diseases for his studies of Texas fever. He is also known for his studies on metabolism. Professor Smith holds the degree of Ph.B., Cornell, 1881; M.D., Albany Medical College, 1883; honorary degree of A.M., Harvard, 1901; and the degree of S.D. from Harvard in 1910. In 1907 Chicago University gave him the degree of LL.D. The growing recognition abroad of the authority of the New World in medicine will be further advanced by the selection of Professor Smith, who is a worthy representative of the profession of scientific medicine.

A NEW OWEN BILL

Senator Owen has introduced a new department of health bill[1] which appears on the calendar of the sixty-second congress as Senate Bill 1. This bill is an elaboration of S. 6049 introduced by Senator Owen in the sixty-first congress, and has been modified to meet the objections raised against that measure. The principal criticisms, in fact the only ones brought out in the hearings on public health before the house and senate committees, were that there was a possibility of the functions of the state boards of health being infringed on; that the individual liberties of the people might possibly be impaired and that in organizing and administering the federal department of health there might be discrimination against some schools or sects of medicine. All of these objections were based on conjecture rather than fact, were of remote possibility and abundantly guarded against by existing laws and decisions. But in order to remove any possible grounds of objection to the bill, Senator Owen has specifically provided in the present bill that "this act shall not be construed as attempting to authorize the department of health to exercise or to attempt to exercise, without express invitation from the chief executive or other proper authority of the state, any function belonging exclusively to such state, or to enter any premises in any state without the consent of the owner or occupant thereof . . . and provided further that the department of health shall recognize no so-called school or system of medicine." These provisos should amply reassure the sincere opponents of Senator Owen's first bill who may have feared honestly, even though mistakenly, that an intelligent effort on the part of the federal government to investigate the causes of disease and to conserve the lives and health of the people might infringe on his personal rights. Such objectors have, of course, entirely failed to discriminate between the investigation of disease in the abstract and the treatment by individual physicians of individual patients. The former is a perfectly proper function of the federal government which can be exercised without affecting the rights of the individual in the slightest; the latter is and must always remain a personal prerogative, except under a form of government so socialistic in character as to be practically out of the question under existing conditions. Although the new bill explicitly removes all the honest objections which were raised to the old bill, it is not to be expected that these changes will allay the opposition to the measure, on the part of mercenary interests arrayed against further health legislation. Those familiar with the situation know that the sincere, but mistaken, objectors to the first Owen bill were only puppets in the hands of the mercenary interests which feared, and still fear, federal investigation of their business or interference with their ill-gotten profits. It is to be expected that these chronic objectors (for revenue only) will find new and equally far-fetched reasons for objecting to Senator Owen's latest bill. The public, however, will not be slow to detect the reasons for further opposition to a measure distinctively altruistic in character and for the benefit of the public. The bill provides for a department of health with a director at the head; for a subordinate commissioner of health and for the transfer of the Public Health and Marine-Hospital Service from the Treasury Department, the Bureau of Chemistry from the Department of Agriculture and the Division of Vital Statistics from the Department of Commerce and Labor. It also provides for bureaus of sanitary research, child hygiene, vital statistics and publication, food and drugs, quarantine, sanitary engineering, government hospitals and personnel and accounts. Cooperation with the health authorities of any state, as well as conferences of state health officers are also provided for. No provision is made for increased pay for the Marine-Hospital surgeons, as it is generally understood that a separate personnel bill will be introduced. Senator Owen's new bill marks a distinct advance in the development of a law to establish an effective federal department of health.

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[1] Miscellany Department, this issue, page 1208.

"APPLIED ETHICS IN JOURNALISM"

Under the above title, Theodore Roosevelt in the *Outlook* for April 15, makes some interesting comments regarding the "patent medicine" evil in its relation to the newspapers. After touching briefly on the fraud and cruelty connected with fake financial advertising, Mr. Roosevelt says:

> The patent medicine advertising represents as great an evil . . . We hear much of the influence exercised by great corporations on the press, and unquestionably this influence has been and is, very serious. Yet it cannot be greater than the evil influence exercised by the backers of objectionable medical and financial advertisements when they spend between thirty and forty millions a year in the daily newspaper press.

After thus speaking of the matter in the abstract, Mr. Roosevelt, as is his wont, comes down to the concrete by calling attention to some of the reasons why this form of fraud on the part of the newspapers is not more often fought. The New York *Herald* until 1907 carried without let or hindrance, in what was called the "Personal Columns," but which should have been designated "Abortionist Columns," advertisements that were both criminal and obscene. In that year, however, the Medical Society of the County of New York found a United States district attorney with sufficient courage to attack this cesspool of filth with the result that a verdict was secured against the proprietor of the *Herald* and he was forced to pay a fine of $25,000. Of the attitude taken by other newspapers regarding this case, Mr. Roosevelt says:

> In this case, by the way, many of the newspapers which are ordinarily of reasonable virtue so hid the facts as to prevent any effective understanding by the public of the real reason for the animosity very naturally shown by Mr. Bennett [proprietor of the *Herald*] through his papers ever since toward all the public officials who were in any way connected with bringing him to justice for his crime.

It is also worth while to call attention, at this time, to the fact that the *Herald*, ever since the "Personal Column" episode, has done its best to vilify and blackguard the medical profession, this, presumably, because its proprietor resents not only the loss of actual cash for payment of the fine, but also the still greater loss of revenue from the abortion advertisers whose "copy" became unacceptable in the eyes of the United States post-office authorities. The *Herald* was one of the first, if indeed it was not the first, of the New York papers to espouse the cause of the "patent medicine" interests' latest organization for fighting the American Medical Association—the National League for Medical Freedom.

Our ex-president also calls attention to the appalling number of "patent medicine" and quack advertisements that appear in the New York *World* and in the "World Almanac" for 1911 and then says:

> A peculiarly objectionable feature of these medical advertisements, exactly as with the financial advertisements, is that it is the poorest class, the most helpless class, of people that are most hurt by them. I believe that legislation could be framed to forbid such advertisements. In default of such legislation there is at least need that we should discriminate in the sharpest way between newspapers which war against this evil and newspapers which encourage it.

On the other hand, Mr. Roosevelt has expressed the greatest admiration for publications, such as *Collier's Weekly*, which have rendered the public a great service by exposing the viciousness and fraudulence of quackery and the "patent medicine" business. His excellent editorial closes as follows:

> We owe hearty respect to the public servant who, like ex-District Attorney Stimson, fearlessly does his duty in bringing to justice a great newspaper that goes wrong, although he knows that his action will be of harm to himself personally; and we are bound to pay a tribute of deserved respect to a paper like *Collier's* when, in a matter so vital to the public well-being, it wages so fearless, aggressive and efficient a fight for honesty and decency.

FOUNDED ON FALSEHOOD

There is at present before the United States Supreme Court a case, the decision in which will either wonderfully strengthen or irrevocably weaken the federal Food and Drugs Act. O. A. Johnson, a mail-order cancer-cure quack of Kansas City, Mo., shipped some of his nostrums in interstate commerce. The labels on these preparations bore the statement that they would cure cancer. As every physician knows, and as a large proportion of intelligent laymen know, this statement is an untruth. The government brought suit, under the Food and Drugs Act, declaring Johnson's nostrums misbranded in that the statements on the labels were false. Johnson fought the case, and it has finally reached the Supreme Court of the United States. He insists that the Food and Drugs Act was intended by Congress only to deal with the composition of medicines and not with their therapeutic value. When the case was being argued two or three days ago before the justices of the Supreme Court, Solicitor-General Lehmann maintained that, in drawing up the Food and Drugs Act, Congress recognized that it was just as important to deal with the curative effects of medicines as with their ingredients. Justice Lurton interrupted the Solicitor-General by asking whether such an interpretation of the law as the government desires "would not break up the patent-medicine business." Mr. Lehmann replied: "It probably would, and I know of nothing within the scope of Congress that would be more beneficial." The question by the justice and the answer by the solicitor-general are worth pondering over. Men who have reached the positions held by Solicitor-General Lehmann and Justice Lurton cannot, truthfully, be accused of being fanatics or prone to making radical statements. On the contrary they are likely to be, if anything, ultraconservative. Nevertheless, one of these men plainly intimates and the other frankly says that the "patent medicine" business is based on fraud and deceit. No other interpretation of the question and answer seems possible. Justice Lurton asks whether, if the "patent medicine" makers have to tell the truth about their products, it would not destroy their business; Solicitor-General Lehmann says that it would!

Medical News

CALIFORNIA

Personal.—Dr. Emil O. Jellinek, San Francisco, has gone abroad.——Dr. Norman D. Morrison, San Mateo, has been elected trustee of the San Mateo Union High School District.

Society Meeting.—Long Beach Medical Society, at its annual meeting, April 7, elected Dr. William H. Newman, president; Dr. Francis L. Rogers, secretary-treasurer; Dr. Albert C. Sellery, councilor. A committee composed of Drs. Albert C. Sellery, William H. Jones and Theophilus C. Donnell was appointed to arrange for the entertainment of the delegates of the American Medical Association.

Arequipa Sanatorium.—A sanatorium for the treatment of incipient cases of tuberculosis is assured to San Francisco by the gift of a tract of 40 acres of land near Fairfax, Marin County, by Henry Bothin. Plans for the structure have been made, and $5,000 has thus far been subscribed for the erection of the building. The entire cost of the institution will be about $20,000. Dr. Philip King Brown, San Francisco, is to be director of the sanatorium and the medical board will include Drs. Louis P. Howe, Richard G. Broderick and Lewis S. Mace, all of San Francisco. The institution is to be known as Arequipa, an Indian term meaning a place of rest.

CONNECTICUT

County Physicians Hold Meeting.—The one hundred and nineteenth annual meeting of the Hartford County Medical Association was held in Hartford, April 4. The following officers were elected: president, Dr. Harmon G. Howe, Hartford; vice-president, Dr. Henry A. Deane, South Windsor; secretary-treasurer, Dr. Paul P. Swett, Hartford; councilor, Dr. Oliver C. Smith, Hartford; censor, Dr. Frederick B. Willard, Hartford; delegates to the state society, Drs. Charles M. Wooster, Tariffville; Myron P. Robinson, Windsor Locks; Thomas G. Sloan, South Manchester; Paul P. Swett, Hartford; William R. Miller, Southington; John F. Dowling, Hartford, and Frank L. Waite, Hartford.

ILLINOIS

State Takes Over County Institutions.—By the terms of an agreement ratified April 12 by the house committee on appropriations, it is agreed to place on the omnibus appropriation bill an item of $450,000 to care for the ordinary and extraordinary expenses of Cook County Institutions, Dunning, until July 1, 1913.

Personal.—Dr. Emery W. Goembel, Rockford, who was operated on for appendicitis, April 10, is reported to be well on the road to recovery.——Dr. James A. Rutledge, Elgin, has been appointed medical director of the Modern Woodmen sanatorium, Colorado Springs.——Dr. Willis G. Hatch, Rockford, fractured his arm above the wrist while cranking his automobile, April 2.——Dr. Jacob S. Kauffman, Blue Island, has been appointed a member of the consulting staff of Oak Forest Infirmary.

State Alienists Organize.—The members of the medical staffs of the various state hospitals held a meeting in Elgin, April 12 and 13, and organized the Illinois State Hospitals Medical Society, and elected the following officers: Dr. H. Douglas Singer, Kankakee State Hospital, president; Dr. Charles F. Read, Watertown State Hospital, vice-president; and Dr. Ralph T. Hinton, Jacksonville State Hospital, secretary-treasurer. The object of the society is to study diseases of the insane, epileptics and other classes of unfortunates who are inmates of state institutions.

Recent State Board Cases.—In the case of the people versus Madame Florencia A. T. Powella, M.C.S., a "bloodless medical surgeon chiropodist," the defendant was tried before a jury in the municipal court for practicing medicine without a license, was fined $100 and costs. After a motion for a new trial had been overruled she appealed her case.——The State Board also prosecuted "Prof." J. C. Fisher, who was found guilty and fined $100 and costs for practicing medicine without a license. This individual is said to have had an altar in his front room before which patients were brought. The "Professor" murmured in front of the altar and finally turned and stated the nature of the ailment. He then rubbed the neck and temple of the patient, gave him medicine and charged him $2.

Antituberculosis Research.—The latest donation of James A. Patton, Evanston, is an additional fifty thousand dollars to be devoted to the cause of medical research regarding tuberculosis. This donation is to be used to establish research fellowships in connection with Northwestern University Medical school. Mr. Patton's original gift of $200,000 will be devoted to the establishment of a new chair in the medical school to be known as the chair of experimental or research medicine. The entire time of the professor in charge of this department will be given to investigation along lines indicated, and the work of the department will be in reciprocity with the other laboratories of the school. Four recent graduates will be paid a living salary, and will be induced to remain a year or longer in the laboratory before engaging in practice. In this way a school of investigation will be established, and the abler men will be induced to remain to engage in research work. Dr. Arthur R. Edwards, dean of the school, has been selected as head of this movement.

Chicago

Small-Pox.—During the week ended April 15, fourteen cases of small-pox were sent to the Isolation Hospital. Of these three were imported, thirteen had never been vaccinated, and the other one had an imperfect doubtful scar made in childhood. Five cases were taken to the hospital from one family. The physician in this case pronounced the disease chicken-pox and failed to report the case to the department of health.

Personal.—Dr. John B. Murphy, who has been ill with typhoid fever, is convalescent.——Dr. E. Fletcher Ingals is ill with typhoid fever but is reported to be doing well.——Dr. Eugene S. Talbot has been ill for several days with pneumonia, but is reported to be in good condition.——Dr. Clara Ferguson has been appointed a member of the medical staff of Cook County Hospital.——Drs. Hugh N. MacKechnie, John A. Graham, George N. Pratt, Frank J. Fara and Douglas A. Payne have been appointed members of the consulting medical staff of Oak Forest Infirmary.——Dr. Willis O. Nance was elected alderman at the recent election.

Dr. Evans' Valedictory.—On retiring from the office of health commissioner of Chicago, Dr. William A. Evans makes the following statement to the public in the *Weekly Bulletin:*

> When, in 1907, I assumed responsibility for the health department, I wrote that the work had been evolving: my predecessors had brought it up to a certain point and that I would try to build still further. I think that the reputation of the department throughout the world, the growth of the older activities of the department and development of new activities, the greater security of the people and a better food and air supply, and a greater public interest in health, are further steps in that evolution. Perhaps most significant of all, the department is incorporated as, and in truth is, a school of sanitary instruction. Here, too, there is evolution, since the nucleus of it was this bulletin, begun by Drs. Reynolds and Reilly. I am steadfast in the hope and I assure the public of my belief that my successor will continue this evolution, fighting off the few in the interest of the great, needful mass.

And now I wish to say in sincerity that the results accomplished have been due to the brains, energy and faith of the men in charge of bureaus, and the men and women under them; to the vision and the courage of the mayor; to the cooperation of other departments of the city government; to the city council, which has passed every important ordinance asked of it, save one—that requiring that milk should be kept cold.

KANSAS

Opposes Contract Practice.—Shawnee County Medical Society, at its April meeting, adopted an amendment providing for the expulsion of any member of the society proved to have engaged in lodge or club practice.

LOUISIANA

Lumber Company will Operate Hospital.—Beginning with April 1, the Bogalusa Hospital is being operated directly by the Great Southern Lumber Company. Dr. Herbert C. Cole has been made chief surgeon of the institution.

Parish Election.—Calcasieu Parish Medical Society, at its annual meeting, at Lake Charles, April 4, elected Dr. Allen J. Perkins, Lake Charles, president; Dr. Hugh L. Sanders, West Lake, vice-president; Dr. Samuel George Kreeger, Lake Charles, secretary-treasurer (reelected), Dr. Edward R. Gandy, West Lake, delegate to the state society, and Dr. Norman S. Craig, Jennings, alternate.

New Home of Parish Society.—The new home of the Orleans Parish Medical Society, New Orleans, was dedicated with fitting ceremonies, March 13. The principal address of the evening was delivered by Dr. Stanford E. Chaillé on "The Organization of the Louisiana State and Orleans Parish Medical Societies." On March 27, the newly elected officers were installed, including Dr. Benjamin A. Ledbetter, president; Drs. Eugene H. Walet and Charles N. Chavigny, vice-president; Dr. Lawrence R. DeBuys, secretary; Dr. William H. Block, treasurer; Dr. Homer Dupuy, librarian, and Drs. Joseph T. De Grange, Arthur Nolte and William H. Seemann, directors.

MARYLAND

The State Sanatorium.—Plans for the new hospital buildings in connection with the Maryland State Tuberculosis Sanatorium, Sabillasville, have been finished. A new administration building is to be erected and also additional wings will be built, which will increase the capacity of the institution to 200.

Annual Meeting of Ladies' Auxiliary.—The Ladies' Auxiliary of the Widows' and Orphans' Fund, Medical and Chirurgical Faculty of Maryland, held its annual meeting in Baltimore, April 11. The following officers were elected: president, Mrs. William G. Gombel; vice-presidents, Mrs. Albert H. A. Mayer and Mrs. John G. Jeffers; recording secretary, Mrs. L. K. Michael; corresponding secretary, Mrs. Charles H. Bubert; treasurer, Mrs. Marshall L. Price, and executive committee, the officers and Mrs. James F. H. Gorsuch, Mrs. T. Casper Gilchrist, Mrs. William E. Wiegand and Mrs. George L. Duane.

Personal.—Dr. Warren P. Morrill, M. C. N. G., Md., Baltimore, has been detailed to take part in the maneuvers at San Antonio, Tex.——Dr. Thomas J. Coonan, Westminster, has been elected chairman of the Democratic State Central Committee for Carroll County.——Dr. R. A. Shankwiler, formerly resident physician at Eudowood Hospital for Tuberculosis, has been made superintendent of the Detroit Tuberculosis Sanatorium.——The emperor of Germany has conferred the order of the crown, second class, on Dr. William H. Welch, Baltimore, in appreciation of his services in propagating German medical science in the United States and in spreading the use of the German language in the medical schools of America.

MASSACHUSETTS

Boston Reappointments.—Dr. Samuel H. Durgin has been reappointed chairman of the board of health; Dr. Nathaniel W. Emerson, a trustee of the infirmary department, and Dr. Miles Martin, overseer of the poor.

The State Society Meeting.—The annual meeting of the Massachusetts Medical Society will be held in Boston, June 13 and 14. Two meetings of each section will be held the first day, and the section on tuberculosis will be held on the afternoon of that day. One of the sessions of the medical section will be devoted to a symposium on syphilis. The councilors' meeting will be held at noon on Tuesday and the Cotting lunch will be served as usual. The section meetings and the meeting of the council will be held at the Harvard Medical School. School buildings and laboratories will be open to the society and special scientific exhibits or exhibits illustrating papers of interest to members will be given in the laboratories. The Shattuck lecture and reception will be held as usual on Tuesday evening in the medical library. The annual meeting and discourse will be held on Wednesday at the medical school, after which the annual dinner will be served at Symphony Hall. Immediately after the dinner the society will adjourn to the Country Club to witness the annual inter-district baseball game.

MISSOURI

Additional Accommodation in Tuberculosis Pavilion.—Through the efforts of the local antituberculosis society, six beds have been added to the pavilion for tuberculosis patients at the Kansas City General Hospital, making the total capacity twenty-two beds.

Colored Physicians to Work Among Their Race.—At the request of Dr. Walter S. Wheeler, health commissioner of Kansas City, the hospital and health board have approved the assignment of two colored physicians, Drs. Charles F. Clark and Lloyd E. Bailer, who will be assigned to look after colored charges in the city.

St. Louis

Intern Examination Held.—As the result of the competitive examinations for interns for the City Hospital, St. Louis University medical students obtained twenty-seven places and Washington University seventeen.

Personal.—Dr. Henry S. Atkins, superintendent of the Municipal Tuberculosis Sanatorium, has resigned.——Dr. Arthur H. Sewing, first resident physician at the City Hospital, has been appointed resident physician, vice Dr. Walter R. Hewitt, resigned.——Dr. H. Wheeler Bond, health commissioner, has sent to the comptroller a check for $1,799.18, representing the difference between the amount received as fees for registering vital statistics under the state law and the expense of conducting the office.

NEW HAMPSHIRE

Medical School Commencement.—The one hundred and thirteenth graduation exercises of Dartmouth Medical School, Hanover, were held, March 28, in College Hall. Dr. John M. Gile delivered the address to the graduating class, and President Ernest F. Nichols conferred degrees on a class of nine.

County Medical Society Election.—At the sixth annual meeting of the Hillsboro County Medical Society, held in Nashua, April 4, the following officers were elected: president, Dr. Herbert L. Smith, Nashua; vice-president, Dr. James B. Pettingill, Amherst; secretary-treasurer, Dr. Ella B. Atherton, Nashua (reelected); auditor, Dr. Bradford Allen, Nashua, and delegate to the state society, Dr. Walter H. Abbott, Hillsboro.

National Guard Appointments.—At the recent meeting of the governor's council, the following nominations were made to fill vacancies in the medical department of the New Hampshire National Guard: Captain Russell Wilkins, Concord, promoted to major; Lieutenant Bertell L. Talbot, Peterboro, made captain, vice Dr. Wilkins, promoted; Dr. Robert J. Graves, Concord, commissioned first lieutenant, vice Dr. Talbot promoted, and Dr. Charles S. Walker, Keene, first lieutenant, vice Dr. Jesse B. Hyland, Keene, resigned.

NEW YORK

Sanitarium for Dunkirk.—Plans have been completed for a sanitarium to be built at Cobb Mineral Springs, Dunkirk, to cost $15,000, to accommodate thirty patients and be completed July 1.

Matteawan Investigation.—Dr. Austin Flint, Dr. Carlos F. MacDonald and Goodwin Brown, who were named by Governor Dix to investigate conditions at the Matteawan State Hospital, have begun their work. They will question each one of the 897 patients as to food, treatment and other conditions. It is expected that the investigation will require several weeks.

Rabies in Yonkers.—Information has come from the New York City Health Department that during the last two months thirteen persons have received treatment for mad dog bites. A representative of the health department has advised instant cooperation with the state authorities. All dogs have been barred from the streets for sixty days unless muzzled or on a leash.

County Society Meeting.—At the quarterly meeting of the Oneida County Medical Society, held in Utica, April 10, communications were read from three physicians who were expelled from the society a year ago for violating the principles of ethics by advertising certain cures, giving notice that they intended to appeal to the state medical society from the decision of the county society. A general discussion was held on contract practice and a committee was appointed to confer and report on the matter.

New York City

Addition to Sloane Maternity Hospital.—Plans have been filed for the building of four additional stories on the Sloane Maternity Hospital for private patients. The cost of this addition will be about $60,000.

Cancer Home Asks Aid.—St. Rosa's Home devoted to the care of victims of incurable cancer is making an earnest effort to complete a fund of $50,000 to be used in the erection of a new building. The building fund at present amounts to $8,142.

New Step in the Antituberculosis Movement.—Babies may be seen in Central Park wearing the admonition "Please do not kiss me, I do not like it. It is harmful." It is hoped that this will assist in limiting other diseases besides tuberculosis.

Vacancy in Clinic.—Washington Heights Hospital announces vacancies in the medical and surgical clinic of the institution, Tuesday, Thursday and Saturday from 2 to 4 p. m. Application should be made to Dr. Louis Neuwelt, 2424 Seventh Avenue, New York City.

Medical Staff Resigns.—The entire medical staff of St. John's Hospital, Long Island City, is said to have resigned. The reason is said to be the objection of the members of the staff to the rules governing the institution. The 750 patients in the institution are being cared for by the visiting staff.

Against Bronx Hospital.—The State Board of Charities has disapproved of the incorporation of the Bronx Hospital which Manhattan physicians have been anxious to establish in the Bronx, but which was opposed by physicians in that locality. The Bronx physicians stated that they had a plan of their own on foot to start a hospital and they regarded the efforts of the Manhattan physicians as an encroachment on their territory.

Ships Bring Disease.—The death of two passengers on the Greek steamship *Themistocles* and of two on the Fabre liner *Germania,* from cerebrospinal meningitis, have caused the detention of the passengers in quarantine as precautionary measures.——Two cases of spinal meningitis were discovered among passengers on the Fabre liner *Venezia*, on its arrival in New York, March 29.——The steamer *Verona,* which arrived from Italy, March 31, was detained in quarantine on account of a case of small-pox among cabin passengers.

The Milk-Supply of New York City.—Commissioner Lederle, in an address before the International Pure Milk League, outlined the work of the department in its effort to secure pure milk. He stated that arrangements had been completed for the opening of fifteen milk stations. The health department will furnish physicians, nurses, milk inspectors and ice-boxes but will not handle the milk. They asked dealers to bid for the privilege of furnishing the milk. They have decided that for the present they will not pasteurize the milk but will instruct the mothers in the modification in their homes. The greatest problem that confronts the health department is the 14,000 little stores where milk is sold in small quantities.

Health Department Bulletins.—Recent bulletins of the department of health of New York City refer to the public control of venereal diseases in the city, recommending the early adoption of the plan of the sanitary control of such diseases; announces the passage of a resolution requesting the board of aldermen to approve of the issue of special revenue bonds to the amount of $10,000 for the purchase of food supplies for patients at the two day-camps maintained by the department on the ferry boats *Middletown* and *Susquehanna,* as these camps are among the most effective agencies in the extension of relief to the tuberculous poor, and in the campaign for the prevention of tuberculosis. The bulletin of April 7 gives a report of the work of the division of food inspection, showing the arrest of four candy dealers for violation of the sanitary code, and of one fruit dealer who sold decayed fruit, and the condemnation of 4,617 pounds of foodstuff on April 5. The succeeding bulletin announces that twenty-five arrests had been made on the upper East Side for the exposure of foodstuff and for offering decayed food for sale in violation of the provisions of the sanitary code. Twenty-two of the accused were found guilty and fined. The resolution of the board of health on the sanitary control of venereal disease for the protection of public health has been endorsed and approved by the New York Urological Society. The bulletin of April 10 is devoted to diarrheal diseases of infants under one year of age. During the first three months of 1911, there were 508 deaths of children from this cause in Greater New York as compared with 348 during the corresponding period of 1910. This increase has taken place almost entirely in institutions and hospitals where children are cared for. This is accounted for by the fact that the bulk of these deaths occurred in the New York Foundling Hospital where abandoned children, who are generally of low vitality, are received and cared for. The bulletin of April 11 deals with the spitting nuisance, and shows that during the first quarter of 1911, 434 arrests were made, 279 fines were imposed amounting to $414; forty-four defendants were discharged, and sentence was suspended in 111 cases. An interesting feature of the report is the low percentage of the accused who were fined from the Boroughs of Brooklyn, Queens and Richmond, as compared with those of Manhattan and Bronx.

NORTH CAROLINA

Personal.—Dr. William W. Faison, Goldsboro, has been elected for a second six-year term as superintendent of the State Hospital for Colored Insane. The institution now contains 730 patients.——Drs. Daniel G. Caldwell, Concord, and Gurley D. Moose, Mount Pleasant, have been elected members of Cabarrus County Board of Health.——The new Edgecombe County Board of Health has elected Drs. James C. Braswell, Whitakers, and Henry H. Whitaker, Hilliardston, as additional members of the board.——Drs. Andrew L. Pendleton and William J. Lumsden, Elizabeth City, have been appointed members of the board of health of Pasquotank County.

Hookworm Activity.—Dr. John A. Ferrell, assistant secretary of the State Board of Health, in his report of the hookworm investigation for the three months ended March 3, shows that 1,153 of the 1,500 practitioners in the state have made reports on hookworm disease, and 519 of these report that they have treated cases. All together 17,933 cases of hookworm were reported as having been treated by physicians of the state. Dr. Ferrell estimates that 25,000 cases have probably been under treatment. There were 16,994 specimens sent to the laboratory for examination and hookworm infection was found in 5,178 of these. The laboratory of hygiene has been made use of by 483 physicians up to date. In the inspection of schools, it is reported that 266 white and 69 colored schools have been inspected and that nearly 6,000 people have been informed about hookworm disease by public lectures. The number of school children reached by talks and visits of district directors of sanitation is estimated at 20,000. The state legislature made an appropriation of $5,000 for the work against hookworm.

OHIO

Laboratory Ready.—The bacteriologic laboratory of the Toledo health office, for which $1,000 was appropriated by the council, is now ready for operation.

Personal.—Dr. and Mrs. William B. Van Note have returned to their home in Lima after spending the winter in Miami, Fla.——Dr. John P. Beneke, Cincinnati, was painfully injured in a runaway accident, March 29.——Dr. Andrew J. Timberman, Columbus, who has been ill with septicemia in Lakeside Hospital, Cleveland, is reported to be improving.

TENNESSEE

Annual Clinic at Meharry.—The annual surgical clinic at Meharry Medical College, Nashville, was held March 13-18, with Dr. Daniel H. Williams, Chicago, as chief of clinic.

Does Not Want Prescriptions Refilled.—Washington County Medical Association, at a recent meeting in Johnson City, adopted a resolution demanding that prescriptions shall not be refilled by druggists.

Folder on Tuberculosis—The board of health of Nashville has prepared an instructive folder on "Tuberculosis, Its Care and Prevention," which is being distributed very generally by the Antituberculosis League of Nashville.

State Association Meeting.—The seventy-eighth annual meeting of the Tennessee State Medical Association was held in Nashville, April 11-13, under the presidency of Dr. John A. Witherspoon, Nashville. Chattanooga was selected as the place of meeting for 1912. The following officers were elected: president, Dr. Charles J. Broyles, Johnson City; vice-presidents, East Tennessee, Dr. James H. Atlee, Chattanooga; West Tennessee, Dr. John D. Brewer, Newbern, and Middle Tennessee, Dr. Wesley J. Breeding, Ravenscroft; secretary-editor, Dr. Perry Bromberg, Nashville; delegate to the American Medical Association, Dr. Jere L. Crook, Jackson; alternates, Drs. Octavius Dulaney, Dyersburg, and A. Bennett Cooke, Nashville, to fill the unexpired term of Dr. Sidney S. Crockett, Nashville.

TEXAS

Gift to College.—Dr. and Mrs. James H. Wayland, Plainview, announce a gift of $100,000, on April 13, to the Wayland Baptist College, which bears their name.

Approves of Lay Press.—The question of whether the reports of meetings of Harris County Medical Society should be excluded from lay newspapers in the future was put to a vote at the meeting of March 31 and overwhelmingly voted down.

Man Arrested Was Not Member.—At the meeting of the Bexar County Medical Society in San Antonio, March 9, a resolution is said to have been adopted stating that "Dr. Herman T. Wolff, recently arrested by order of the justice of the peace, is not a member of this society and is in no way related to, and should not be confused with Dr. William M. Wolf, who is a worthy member in good standing of said county society."

Personal.—Dr. Joseph H. Reuss, Dallas, has purchased Salome Hospital, Cuero, from the Ladies' Hospital Association and will take charge of the institution about June 1.——Dr. John S. Turner, Dallas, has been reelected medical adviser of the Southland Life Insurance Company.——Dr. J. W. Sandlin has been appointed health officer of Humble.——Dr. Francis G. Floeckinger, Taylor, has let the contract for a private sanitarium to cost $15,000.

Medical Department Organized.—By orders from the adjutant general's office, March 27, the Medical Department of the Texas National Guard is defined. It consists of a medical corps with one chief medical officer with the rank of major, four majors, ten captains and seven first lieutenants. Dr. Alois B. Kennedy, Bonham, remains as chief medical officer. The hospital corps will remain as at present with headquarters in Dallas, and with Captain Fred B. Johnston, Dallas, in active charge.

UTAH

Ask for Military Sanitarium Near Salt Lake.—A memorial to congress asking that a naval and military sanitarium be established at the hot springs north of Salt Lake, and tendering a site free of cost to the government, has been adopted by both branches of the legislature.

District Society Election.—At the annual meeting of the First District Medical Society, held in Logan, the following officers were elected: president, Dr. David C. Budge, Logan; vice-president, Dr. Charles A. Canfield, Preston, Ida.; and secretary-treasurer, Dr. Eugene H. Smith, Ogden. The society passed a resolution that the State Board of Health be given power to require listing of social disease by number, the name of the individual affected not being given.

Elections.—At the annual meeting of the State Board of Health, Dr. Francis S. Bascom, Salt Lake City, was unanimously reelected president, and Dr. Theodore B. Beatty, Salt Lake City, secretary.——The Utah State Board of Medical Examiners met for reorganization, April 5, and elected Dr. David C. Budge, Logan, president; Dr. Frederick W. Taylor, Provo, vice-president; Dr. George F. Harding, Salt Lake City, secretary, and Dr. Frederick E. Straup, Bingham Canyon, treasurer.

Personal.—Dr. Albert N. Hanson, Salt Lake City, has been elected physician of Salt Lake County, vice Dr. Thomas G. Odell, Salt Lake City.——Drs. Philemon M. Kelly, American Fork, Horace C. Holbrook, Lehi, and Frank E. Winter, Payson, have been appointed deputy physicians of Utah County.——Drs. E. L. Emrich, Alexander G. Robertson, Sandy, Frederick E. Straup, Bingham, and Milford B. Bransford have been appointed health officers of the several districts of Salt Lake County.——Dr. T. William Stevenson has been appointed assistant physician of Salt Lake County.

GENERAL NEWS

Interurban Clinicians Meet.—The thirteenth meeting of the Interurban Clinical Association was held at Johns Hopkins Hospital, Baltimore, April 7 and 8. The meeting was opened by the president, Dr. Alfred Stengel, Philadelphia, and the address of welcome was made by Dr. Thomas McCrae of the medical staff of Johns Hopkins University.

Pathologists Elect New Officers.—The American Association of Pathologists and Bacteriologists held its annual meeting in Chicago, April 14, and elected the following officers: president, Dr. Richard M. Pearce, Philadelphia; vice-president, Dr. John J. McKenzie, Toronto, Ont.; secretary, Dr. Harold C. Ernst, Boston; and treasurer, Dr. Frank B. Mallory, Boston.

Congress on Hygiene.—The Fifteenth International Congress on Hygiene and Demography will be held at Washington, D. C., Sept. 23-28, 1912, authorized by Congress. Acceptances have already been received from twenty-two foreign governments. English, French and German are to be the official languages for papers and discussions. Dr. Henry P. Walcott, Boston, will be active president. Invitations have been sent to the governors of each state to appoint a committee of not more than five members to cooperate with the committee on organization in planning and preparing the exhibition of the congress. The secretary-general of the organization is Dr. John S. Fulton, Washington, D. C. Dr. William H. Welch, Baltimore, is chairman of the executive committee. The work of the congress will be divided in nine sections: that of hygienic microbiology and parasitology will be presided over by Dr. Theobald Smith, Boston; that on dietetic hygiene and hygienic physiology, by Prof. Russell H. Chittenden, New Haven, Conn.; that on hygiene of infancy and childhood and school hygiene, by Dr. Abraham Jacobi, New York City; that of industrial and occupational hygiene, by Dr. George M. Kober, Washington, D. C.; that of control of infectious diseases, by Dr. Hermann M. Biggs, New York City; that of state and municipal hygiene, by Dr. Frank F. Wesbrook, Minneapolis; that of the hygiene of traffic and transportation, by Dr. Walter Wyman, surgeon general, U. S. P. H. and M.-H. Service, Washington, D. C.; that of tropical, military and naval hygiene, by Dr. Henry G. Beyer, medical director, U. S. Navy, Washington, D. C.; and that of demography by Prof. Walter F. Willcox, Cornell University, Ithaca, N. Y. The exhibition is intended to illustrate the present status and recent progress of public hygiene and vital statistics, especially in the United States, and will be kept open for a week or more after the close of the congress. The director is Dr. Joseph W. Schereschewsky, U. S. P. H. and M.-H. Service.

LONDON LETTER

(From Our Regular Correspondent)

London, April 8, 1911.

The Bleaching of Flour

As shown by the agitation in favor of "standard bread," described in a previous letter to The Journal, much attention is now being directed to the composition of bread, and the whiteness of bread, previously regarded as a sign of quality, is now denounced as obtained by sacrificing some of the most important constituents (protein and salts). The whiteness is sometimes obtained by chemical bleaching of flour and this is pointed out as another disadvantage, and Dr. E. W. Hamill, government food inspector, has issued an important report on this subject. The practice of flour bleaching originated in Great Britain about ten years ago. Various substances have been used as bleaching agents, but nitrogen peroxid is the only one which has given satisfactory results, and all commercial bleaching of flour at present depends on the use of this substance. Dr. Hamill thinks that when bleaching is properly carried out it produces no appreciable effect on the qualities of flour. It may be of assistance in maintaining uniformity in the appearance of flour milled from different wheats, but at the same time it enables the miller to use cheaper wheats and to transform what would otherwise be a cheap dark-colored flour into a whiter higher-priced article. Owing to bleaching, color is no longer a criterion of the quality of flour. Among "improvers" added to flour is acid calcium phosphate. As this sometimes contains arsenic as an impurity this practice is serious. A sample improver recently examined was found to contain 0.07 grain of arsenic per pound. Dr. Hamill concludes that these sophistications are attended with risk to the consumer.

Prof. Karl Pearson's Work

In a previous letter to The Journal, the munificent endowment of a chair of eugenics at the University of London by the late Sir Francis Galton, and his wish that its first occupant should be Prof. Karl Pearson, were reported. The position of Professor Pearson in biologic science is rendered unique by his mathematical methods. As professor of applied mathematics in the University of London, he has brought to bear on biologic problems an unprecedented knowledge of mathematics. It was the work of Sir Francis Galton, who largely used mathematical methods, which induced Pearson to enter this field, in which he may now be regarded in some sense as Sir Francis Galton's successor. His first labors were directed to the discovery of methods, for the description of the various types of variation in living creatures. These methods, which he elaborated more than fifteen years ago, have stood a prolonged trial. They have been used for the elucidation of an enormous mass of phenomena, ranging from the stature of school children to the powers of the leukocytes to ingest microbes. Sir Francis Galton first realized the importance of what is called correlation and showed how to measure it. Thus two characters are often found associated with a frequency which is greater than can be attributed to chance but not sufficient for the relation to be regarded as cause and effect.

there is a general impression that tall parents tend to have tall children; but it is also known that a tall father will not inevitably have a tall son. The relation between the stature of the parent and the stature of the son is neither one of obvious cause and effect on the one hand, nor one of pure chance on the other. To determine the exact value of the relation between these two extremes is the study of correlation. In this field, Prof. Pearson has worked indefatigably. He has devised methods for determining the correlation in a great variety of cases, and also for judging as to the weight to be attached to determinations based on a limited number of trials. In a long series of papers, many of which have appeared in the the journal *Biometrika* edited by him, Professor Pearson and his pupils have applied these methods to problems taken from all departments of biology, medicine and sociology. The intensity of inheritance of physical and mental characteristics in man, variation in different types of plants and animals, the value of vaccination and antityphoid inoculation, the relation between social status and fertility, and the respective importance of hereditary tendencies on the one hand and of increased opportunities for infection on the other in the spread of consumption, are examples of the subjects discussed. The work has been done at the University of London Eugenics Laboratory established by Sir Francis Galton. Probably half of the rising generation of mathematical statisticians are pupils of Professor Pearson or have been profoundly influenced by his teaching.

Infectious Diseases in London

The epidemic of measles described in a previous letter to The Journal is on the decline. The deaths from the disease which in the preceding three weeks have been 175, 197 and 182 have fallen to 153 in the last week, but this figure is ninety-two above the average. The outbreak of small-pox is not yet quite over. Three patients have been admitted into hospital in the past week against ten, one and one in the previous three weeks. There are now twenty-eight small-pox patients in the hospitals.

PARIS LETTER

(From Our Regular Correspondent)

Paris, April 7, 1911.

Mild and Curable Forms of Myocarditis

On April 4, Dr. Charles Fiessinger of Paris read a paper before the Académie de médecine, the purpose of which was to show that toward the end of attacks of certain infectious diseases (acute articular rheumatism, influenza) asystolic conditions are observed which are really akin to mild forms of myocarditis. In spite of their gravity, these conditions of cardiac insufficiency may be completely cured under treatment by digitaline in small doses, continued over a long period, such as 0.0001 decimilligram of digitaline crystalisée for ten consecutive days. At the end of this period of time the medication is suspended for five days, then resumed during ten days, and so on for several months.

Salvarsan and Venous Thrombosis

On March 31, Dr. Darier, physician of the hospitals of Paris, read, before the Société médicale des hôpitaux, a paper by himself and M. Cottenot, on a series of observations which showed that thrombosis, which is sometimes observed after venous injection of salvarsan, is due to the hyperalkalinity of the solution, and that alkaline solutions of this drug are injurious to the red blood-corpuscles. One should, therefore, inject into the veins only a faintly alkaline solution prepared at the moment of using and containing an excess of sodium hydroxid only sufficient to prevent the solution from becoming turbid during its injection.

Dr. de Massary reported that he had made three intravenous injections of salvarsan in a woman. Two were made with a faintly alkaline solution; there was no alteration in the veins. The third was made wit ha hyperalkaline solution, and immediately during the injection the veins became indurated and remained so for fifteen days.

According to Dr. Milian, the formation of venous thrombosis is due, not only to the alkalinity of the solution, but also to the degree of dilution. Since he has used very diluted solutions followed by lavage of the wall of the vein with injected physiologic serum, he has not observed a single case of thrombosis.

The Name of Malta Fever

The discussion previously mentioned in The Journal (The Journal, March 11, 1911, p. 755), and the objections raised to a geographic name have caused the commission of the Académie de médecine to decide that it would be desirable to adopt a name founded on the pathogenesis of the disease. It has consequently adopted the term *mélitococcie*, which implies the idea of infection by a specific microbe common to man and to the lower animals, and which is, at all events, not offensive to any nationality.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, March 31, 1911.

Personal

On the ninetieth birthday of the prince regent of Bavaria, Prof. v. Müller of Munich received the title of privy court counselor.

Privat-docent Dr. Scheibe of Munich has been called to the chair of otology at Erlangen as the successor of Professor Denker.

Professor Winterstein has been appointed successor to Professor Nagel as director of the physiologic institute at Rostock.

Substitution of Roman Characters for German Script

The committee on petitions of the Reichstag has referred to the imperial chancellor a communication asking for official permission to substitute the Roman characters for the German script and gothic letters. The petition sets forth that it would be desirable for Germany to take this step which other nations took long ago. The angular so-called German script is not to be entirely suppressed, but the gothic characters are to be limited to ornamental printing, and it shall be taught in the third or fourth school year, so that pupils may be able to read it, but not be taught to write it. Against this proposition a great storm is rising, in which patriotism expresses itself in the preference for the German script. The argument is raised that for national reasons, the script used in Germany for hundreds of years should not be rejected. If, however, it is asserted that the angular letters are especially adapted to the words of the German language and that for this reason the public should not be deprived of them, it is sufficient to reply that in medical literature for decades the Roman characters have been employed almost exclusively for printing without a single physician making any objection to them.

The Third International Congress of Laryngology and Rhinology

While many congresses will meet this year in Dresden on account of the international exposition of hygiene, the third international congress of laryngology and rhinology will hold its meeting in the latter part of August in Berlin. At its head is the senior of the laryngologists, Prof. B. Fraenkel. I suppose that Professor Fraenkel retains his position only for the reason that he wishes to preside over the congress as an active professor; otherwise he would already have determined on account of his health to resign his office. Already 600 specialists from all civilized countries have announced their intention to be present at the congress. Representatives of the imperial and state authorities belong to the honorary committee. The municipal authorities of Berlin have appropriated $2,000 (8,000 marks) for the social features of the meeting.

A Motherhood Fund

In the small manufacturing city of Sebnitz in the so-called Switzerland of Saxony there has lately been created a local association to assist mothers. The occasion of this was the fact that in spite of the introduction of nursing premiums, only 55 per cent. of the women nursed their children and the infant mortality amounted to 20 per cent. All women living in the city may apply to the association if their own income or that of their family does not exceed $475 (1,900 marks) yearly. Membership once obtained does not expire until the income amounts to more than $600 (2,500 marks). The members pay a monthly fee of 12 cents (50 pfennigs) and receive in return the following assistance after childbirth: If the membership has continued for a year the fund pays back the monthly fees, $1.50 (6 marks), and adds $3.50 (14 marks) as lying-in money; two years' membership entitles one to $3.00 return fees and $4.50 lying-in money; three years' membership affords $4.50 and $5.50; that is, a lying-in woman who has belonged to the club three years receives from it $10 (40 marks). On the birth of twins an addition of $2.50 (10 marks) is paid. If the child dies during the first week or is born dead, only the fees are returned. If the mother dies, the child or the father of a legitimate child may claim the complete amount. Needy nursing mothers who belong to the club are entitled, in addition to the lying-in money, to a liter of milk daily for the improvement of their own nutrition.

Miscellany

A Bill to Establish a Department of Health, and for Other Purposes

Senator Owen, on April 6, introduced Senate Bill 1, to take the place of S. B. 6049, introduced by him at the last session of Congress. The bill follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

Sec. 1. That there be at the seat of government an executive department known as the Department of Health, and a Director of Health, who shall be the head thereof; and the provisions of title four of the Revised Statutes, including all amendments thereto, are hereby made applicable to said department. The Director of Health shall be appointed by the President, by and with the advice and consent of the Senate, at a salary of $——— *per annum* and with tenure of office like that of the heads of the other executive departments. And said director shall cause a seal to be made for the Department of Health, of such device as the President approves, and judicial notice shall be taken of said seal.

Sec. 2. That there be in the Department of Health an assistant to the Director of Health, designated and known as the Commissioner of Health, who shall be a skilled sanitarian, appointed by the President, by and with the advice and consent of the Senate, who shall serve at the pleasure of the President, and who shall receive a salary of $——— *per annum*. The Commissioner of Health shall perform such duties as are required by law and such as are prescribed by the Director of Health. There shall be also a chief clerk, a disbursing clerk, and such other employees as Congress may from time to time authorize. The auditor for the state and other departments shall receive and examine all accounts of moneys paid in and of moneys expended on account of the Department of Health, and shall certify the balance arising thereon to the Division of Bookkeeping and Warrants of the Treasury Department, and forthwith send a copy of each such certificate to the Director of Health.

Sec. 3. That it be the province and duty of the Department of Health to foster and promote all matters pertaining to the conservation and improvement of the public health and to collect and disseminate information relating thereto: *Provided*, That this act shall not be construed as attempting to authorize the Department of Health to exercise or attempt to exercise, without express invitation from the chief executive or other proper authority of the state, any function belonging exclusively to such state, or to enter any premises in any state without the consent of the owner or occupant thereof; but the Director of Health, on request of the chief executive or other proper authority of any state, territory, the District of Columbia or any insular possession, may detail for limited periods an officer or officers, employee or employees, from the Department of Health to assist the health authorities of such state, territory, district or insular possession in protecting and promoting the health of the people of such jurisdiction: *And provided further*, That the Department of Health shall recognize no so-called school or system of medicine.

Sec. 4. That to the Department of Health are hereby transferred the following bureaus, divisions and other branches of the government, and all that pertains to them, and they and each of them shall remain under the supervision and direction of the Director of Health until otherwise directed by law, namely:

(a) From the Department of the Treasury is transferred the Public Health and Marine-Hospital Service.

(b) From the Department of Agriculture is transferred that part of the Bureau of Chemistry charged with the investigation of the adulteration of foods, drugs and liquors, and with the execution and enforcement of the act of Congress entitled "An act for preventing the manufacture, sale or transportation of adulterated or misbranded or poisonous or deleterious foods, drugs, medicines and liquors, and for regulating traffic therein, and for other purposes," approved June 30, 1906.

(c) From the Department of Commerce and Labor is transferred the Division of Vital Statistics, Bureau of the Census.

And the President is hereby authorized to transfer to the Department of Health at any time, either the whole or any part, as to him may seem best, of any bureau, division, or other branch of the government engaged in work pertaining to the public health, except the Medical Department of the Army and the Bureau of Medicine and Surgery of the Navy.

And each and every function, authority, power, duty and jurisdiction, of whatsoever character it may be, vested at the time of any transfer aforesaid in the head of the executive department from which such bureau, division or other branch of the government is transferred, shall, to the extent to which such function, authority, power, duty or jurisdiction pertains to such bureau, division or other branch of the government, immediately on such transfer become vested and thereafter remain vested in the Director of Health.

All land, buildings, furniture, apparatus, equipment and property of whatsoever description, and all official records and papers, in the custody of any executive department from which any bureau, division or other branch of the government is transferred as aforesaid and pertaining to the business of such transferred bureau, division or other branch of the government, shall at the time of such transfer, or as soon thereafter as practicable, and in so far as such action can be taken without hindering the work of the executive department from which such transfer is made, be given over into the custody of the Department of Health. And all unexpended balances of appropriations available at the time of such transfer for the use of any such transferred bureau, division or other branch of the government, or which may become available thereafter, shall be and remain available, in similar manner and to the same extent as if no transfer had been made.

Sec. 5. That within the Department of Health there shall be the following bureaus: (a) Bureau of Sanitary Research; (b) Bureau of Child Hygiene; (c) Bureau of Vital Statistics and Publications; (d) Bureau of Foods and Drugs; (e) Bureau of Quarantine; (f) Bureau of Sanitary Engineering; (g) Bureau of Government Hospitals; (h) Bureau of Personnel and Accounts. And the Director of Health is hereby authorized to arrange and rearrange from time to time, with the approval of the President, the functions, duties, personnel, papers, records and property, and the work, resources, and equipment generally, coming into the jurisdiction and control of the Department of Health by the operation of this act, so as most efficiently and economically to organize and maintain the several bureaus herein named and such divisions and offices thereof as to said director seems proper; but in arranging and rearranging the personnel, the rank, pay and allowances of the officers of the Public Health and Marine-Hospital Service commissioned at the time of the transfer of that service to the Department of Health shall not, by reason of anything in this act contained, be diminished. And the Director of Health may call on the heads of other executive departments for information in their possession whenever such information is needed for the efficient and economical working of the Department of Health.

Sec. 6. That the President is hereby authorized to detail officers and employees from any of the several executive departments of the government for duty under the Director of Health when so requested by said director, and to detail officers and employees in the service of the Department of Health to any of the other executive departments on request of the head of such department, provided such detail can be made without prejudice to the public service, to carry into effect the purpose and intent of this act; but officers and employees so detailed shall receive no additional compensation, but shall be paid such actual and necessary expenses as they incur in the discharge of their duties.

Sec. 7. That the Director of Health may, in his discretion and with the approval of the President, appoint an advisory board of not more than seven members, to confer with him on his request, from time to time as he deems necessary, concerning the work of the Department of Health and the health of the people. The members of said board shall be selected because of their special knowledge of matters relating to the public health, and each shall hold office for a term of seven years or until his successor is appointed, except that the appointments first made, and appointments thereafter made to fill unexpired terms and terms of members who have held over beyond the periods of their original appointments, shall be made so that not more than one member shall retire during any one fiscal year. No member of any such advisory board shall receive any compensation for his services, but each shall be paid all actual expenses necessarily incurred in the discharge of his duties. And from and after the passage of this act the advisory board for the Hygienic Laboratory created by section five of an act entitled "An act to increase the efficiency and change the name of the United States Marine-Hospital Service," approved July 1, 1902, be, and the same hereby is, abolished.

Sec. 8. That the Director of Health may, whenever in his judgment public interests would be promoted by so doing, invite the duly constituted health authorities of all or of any of the states, territories, the District of Columbia and insular possessions as to him may seem advisable, each to send one delegate to confer with him or his duly appointed representative or representatives and with each other, at such time and place as he may designate, concerning any particular matter or matters relating to the public health; and it shall be the duty of the Director of Health, on the written application of the duly constituted health authorities of not less than five states, territories, the District of Columbia or insular possessions, stating the particular matter or matters which it is desired to consider, to appoint a time and place, and to call a conference of the health authorities of the states, territories, the District of Columbia and insular possessions that united in the request therefor, and personally or through his duly appointed representative or representatives to be present at such conference; but every state, territory, the District of Columbia and insular possession shall be notified of every conference, and if practicable be afforded an opportunity of being present and participating in its proceedings. And from and after the passage of this act annual and other conferences of state and territorial boards of health, quarantine authorities and state health officers, provided for by section seven of an act entitled "An act to increase the efficiency and change the name of the United States Public Health and Marine-Hospital Service," approved July 1, 1902, be, and the same are hereby, abolished.

Sec. 9. That, except as expressly provided in this act, nothing herein contained shall be construed as limiting or abrogating any function, right or duty imposed by law on any existing bureau, division or other branch of the government; but such bureaus, divisions and other branches of the government as are by this act or by authority thereof transferred to the Department of Health shall continue, under direction of the Director of Health, to have such functions, duties and rights as they have at the time of such transfer; and in the case of such bureaus, divisions and other agencies of the government as are transferred in part only, the part not transferred shall continue to have and to exercise all such functions, duties and rights, except such as specifically relate to the part transferred to the Department of Health, in the same manner and to the same extent as if no such transfer had been made.

Sec. 10. That the Director of Health shall annually submit to Congress a report in writing showing the operations of the Department of Health during the last preceding fiscal year, which report shall give an account of all moneys received and all moneys disbursed on account of such operations. He shall make such other reports from time to time as may be required by the President, or by either House of Congress, and such as are in his judgment necessary or expedient.

Sec. 11. That $——— be, and the same are hereby, appropriated to carry into effect the provisions of this act, out of any money in the Treasury not otherwise appropriated.

Sec. 12. That all acts and parts of acts contrary to the provisions of this act or inconsistent therewith be, and the same are hereby, repealed.

Sec. 13. That this act shall take effect on and after July 1, 1912.

Cystic Disease of the Breast with Carcinoma.—It is difficult to estimate the exact etiologic relation that the presence of a cyst bears to the formation of a carcinoma, but the association of the one with the other is sufficiently common to justify the routine removal of such cysts.—H. M. Rigby, in the *Practitioner*.

Deaths

Leartus Connor, M.D., one of the distinguished ophthalmologists of the middle west, a leader in medical education, and in the uplift of the medical profession, died at his home in Detroit, April 16, from cerebral hemorrhage, aged 68.

Dr. Connor was a native of Coldenham, N.Y., took his academic course at Williams College, and his medical course at the College of Physicians and Surgeons, New York City, from which he graduated in 1870. In 1871, he located in Detroit and at once began his work as a medical teacher as lecturer on chemistry in Detroit Medical College. From 1872 to 1879, he was professor of physiology and clinical medicine; from 1878 to 1881, professor of didactic and clinical ophthalmology and otology, and from 1875 to 1881, secretary of the college. In 1871, Dr. Connor became editor of the *Detroit Review of Medicine and Pharmacy* and continued as its editor through its various changes of name to the *Detroit Medical Journal*, *Detroit Lancet*, and *American Lancet*, his editorial work continuing until 1895.

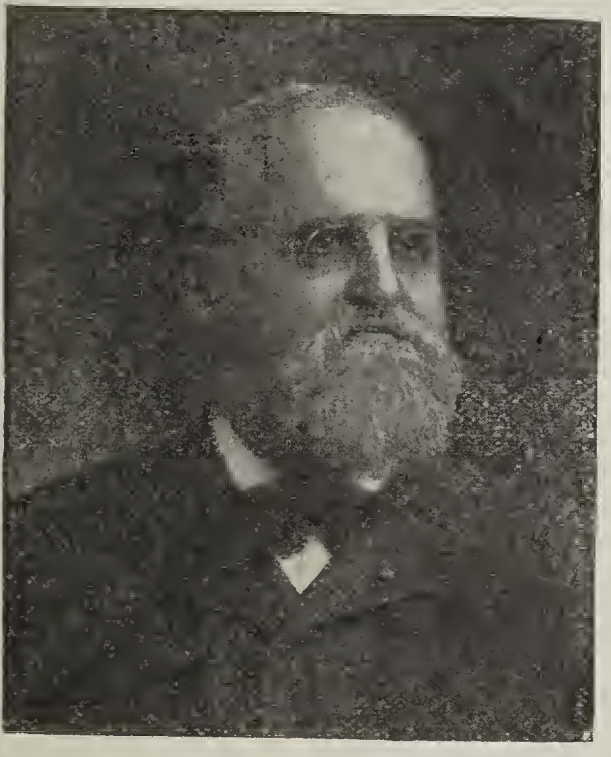
He was an active and prominent member of the American Medical Association for many years, was second vice-president in 1882, a member of the original board of trustees appointed in the same year, a trustee in 1887-8, and again in 1892-3, and chairman of the Section on Ophthalmology in 1891. He was president of the Michigan State Medical Society in 1901-2, and chairman of its council from 1902 to 1905; president of the Detroit Academy of Medicine, 1877-8 and 1888-9, and its secretary 1871-2; secretary of the American Medical College Association; and president of the American Academy of Medicine and of the American Medical Editors' Association, 1883-4.

He was attending physician for several years to St. Mary's Hospital, ophthalmic and aural surgeon to Harper Hospital since 1881, and to the Detroit Children's Free Hospital since 1887, and was consulting ophthalmologist to the Woman's Hospital, from 1881 to 1890.

A testimonial dinner was given to Dr. Connor by his colleagues in Detroit, February 25, in honor of the completion of his fortieth year in practice.

Wayne County Medical Society at its regular meeting April 17, adopted resolutions of eulogy and sympathy, and adjourned without taking up the program for the evening. Funeral services were held April 18.

In addition to his editorial work, Dr. Connor made many valuable contributions to the literature of ophthalmology. He was largely responsible for the activity displayed by various associations in the regulation of the teaching of ophthalmology in the colleges so that every practitioner would have the ability to refract correctly and render the service to his patients which the optometrist is trying to render. Dr. Connor was a loyal friend, and an enemy who always fought fairly; no one ever questioned his good faith. His precept and example were an inspiration to his younger confrères, and his death will be lamented, not only by them, but by his many friends throughout the United States.



LEARTUS CONNOR, 1843-1911

Charles Augustus Oliver, an ophthalmologist of international repute, died at his home in Philadelphia, April 8, from uremia, aged 57. He was a native of Cincinnati, but went to Philadelphia when a child, pursued his medical studies at the University of Pennsylvania and was graduated from the medical department of that institution in 1876. He was a member of the American Medical Association, American Association for the Advancement of Science, American Philosophical Society, and American Ophthalmological Society, and was an active, honorary or corresponding member of many other medical and scientific societies in this country and abroad. He was attending surgeon to the Wills Eye Hospital, ophthalmologist to the Presbyterian Hospital, and consulting ophthalmologist to the Friends' Hospital for the Insane and the State Hospital for the Chronic Insane. He was a prolific writer on his specialty, co-author with Dr. Norris of the "Textbook of Ophthalmology," and author of several books and monographs on ophthalmology. He was a fellow of the Philadelphia College of Physicians and founder of the Wills Eye Hospital Ophthalmic Society. He was made associate clinical professor of ophthalmology in the Woman's Medical College of Pennsylvania, Philadelphia, in 1897, and later on was made clinical professor in that institution. Dr. Oliver had suffered from nephritis about three years.

Albert Rufus Baker, M.D. Western Reserve University, Cleveland, 1879; a member of the American Medical Association, and chairman of the Section on Ophthalmology in 1893-4; professor of ophthalmology, otology and laryngology since 1888 in the Cleveland College of Physicians and Surgeons, and chairman of the faculty from 1898 to 1902; oculist and aurist to St. Alexis and Cleveland General Hospitals; expert on the local board of U. S. Pension Examining Surgeons; president of the Association of American Medical Colleges in 1900-01 and of the Cuyahoga County Medical Society; a fellow of the American Academy of Medicine; editor of the *Cleveland Medical Gazette* from 1885 to 1896; died at his home in Cleveland, April 5, aged 53.

John H. Janeway, M.D. University of Pennsylvania, Philadelphia, 1852; Colonel Medical Corps, U. S. Army, retired, died in the Kenilworth, (Ill.) Sanitarium, April 14, from paralysis, aged 82. Dr. Janeway entered the Medical Corps of the Army in 1861, and served throughout the Civil War, being brevetted major and lieutenant colonel for gallantry. He was retired with the rank of lieutenant colonel on account of age, August 12, 1893, and afterward made his home with his son in Chicago and Kenilworth. He had been disabled for several years on account of cerebral hemorrhage.

Thomas B. Hart, M.D. College of Physicians and Surgeons, Chicago, 1894; a member of the American Medical Association; formerly a practitioner of Mount Etna, Ind.; medical superintendent of the New Mexico Miners' Hospital; president of the New Mexico Medical Association; vice-president of the New Mexico Board of Health; health officer of Colfax County; city physician of Raton, assistant local surgeon of the Santa Fe System; and president of the local board of pension examiners; died at his home in Raton, April 5, aged 46.

Chester West Stranahan, M.D. University of Buffalo, N. Y., 1863; Jefferson Medical College, 1867; formerly a member of the American Medical Association; a member of the Medical Society of the State of Pennsylvania; surgeon in charge of St. Vincent's Hospital, Warren, from 1892 to 1902; local surgeon of the Lake Shore and Michigan Southern Railway Company; died at his home in Erie, April 6, from paralysis, following a cerebral hemorrhage four years before; aged 65.

Byron Frank Porter, M.D. Medical School of Maine, Brunswick, 1850; a member of the Maine Medical Association; in 1885 and 1886, a member of the Maine legislature; for fifteen years supervisor of schools, and for many years United States pension examiner; said to have been the oldest practitioner in the state; died at his home in Newport, April 6, from senile debility, aged 82.

Noah M. Glatfelter, M.D. University of Pennsylvania, Philadelphia, 1864; for three years a surgeon of volunteers during the Civil War; well known as a horticulturist and botanist and a recognized authority on willow culture and the culture of mushrooms; died at his home in St. Louis, April 2, from the results of injuries received in a fall two days before, aged 73.

Charles Hadley Spinning (license, Washington, 1881); a graduate of the Eclectic Medical Institute, Cincinnati, in the late forties; twice a member of the Washington state legislature, and once state senator; for nine years physician to the Puyallup Indian Agency; for many years a practitioner of Tacoma; died at his old home in Prosser, April 1, aged 90.

Theodore A. Wagner, M.D. Indiana Medical College, Indianapolis, 1876; a member of the Indiana State Medical Association; a member of the consulting staff of the Indianapolis City

Hospital; once coroner of Marion County, and chairman of the mayor's advisory committee; died in St. Vincent's Hospital, Indianapolis, April 9, from cerebral hemorrhage, aged 62.

Alexander Arthur McLarty, M.D. Detroit College of Medicine, 1893; of Manistee; a member of the Michigan State Medical Society; supreme examiner of the Modern Romans; acting assistant surgeon U. S. P. H. and M.-H. Service; died at St. Mary's Hospital, Rochester, Minn., March 27, after an operation for carcinoma of the stomach, aged 43.

Frank D. Putnam, M.D. Bellevue Hospital Medical College, 1875; a member of the American Medical Association; formerly president of the Cayuga County Medical Society; city physician of Auburn, N. Y.; died in the Auburn City Hospital, April 5, two days after an operation for the removal of gallstones, aged 59.

Richard W. Ivers, M.D. Baltimore (Md.) Medical College, 1895; a member of the Connecticut State Medical Society; for several years a member of the staff of the Emergency Hospital, Bridgeport, Conn.; for three years chief surgeon of the Barnum and Bailey circus; died at his home in Middletown, Conn., April 2, aged 40.

John Ligon, M.D. University of Virginia, Charlottesville, 1868; surgeon of the Nineteenth Virginia Cavalry, C. S. A., during the Civil War; for many years a member and president of the Pocahontas County (W. Va.) Court; died at his home in Clover Lick, April 3, from cerebral hemorrhage, aged 77.

Ethan P. Allen, M.D. Rush Medical College, 1866; a veteran of the Civil War; for more than twenty years a practitioner of Stillman Valley, Ill., but later of Rockford; physician of Winnebago County; died at the Ransom Sanitarium in that city, April 6, from cerebral hemorrhage, aged 70.

George A. Doss, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1901; president of the state eclectic association in 1908; professor of specific medication and diagnosis in the Hospital Medical College (Eclectic) Atlanta; died in a sanitarium in that city, April 2, aged 34.

Henry Clay Perry, M.D. Rush Medical College, 1857; acting assistant surgeon in the Army during the Civil War; and thereafter a resident of Ord, Neb.; several times mayor, and for many years supervisor of the city; died in San Diego, Cal., February 2, from heart disease, aged 77.

Caroline M. Stengel, M.D. Woman's Medical College of the New York Infirmary for Women and Children, New York City, 1893; of Santa Clara, N. Y.; a member of the Woman's Medical Association of New York City; died in Hoboken, N. J., Oct. 23, 1910, from tuberculosis.

Henry E. Cassel, M.D. University of Minnesota, Minneapolis, 1884; a member of the American Medical Association; director and chief surgeon of the Litchfield (Minn.) Hospital; died in Luther Hospital, St. Paul, April 4, from septicemia, due to an operation wound, aged 51.

Alexander Werth, M.D. University of Berlin, Germany, 1860; a veteran of the Civil War; and afterward United States pension examiner in St. Louis; died at his home in that city, April 7, from septicemia, following an amputation of the leg above the knee, aged 70.

Albertus Adair Moore, M.D. New York University, New York City, 1859; a member of the South Carolina Medical Association; and formerly a member of the State Board of Health; died at his home in Camden, Nov. 26, 1910, from arteriosclerosis, aged 76.

William C. Mason, M.D. Howard University, Washington, D. C., 1884; formerly of Indianapolis; for thirty years a medical examiner of the Pension Office, Washington, D. C.; a veteran of the Civil War; died at his home in Washington, March 28, aged 65.

William Henry DeCourcy, M.D. New York, 183—; of Cheston-on-the-Wye, Queen Anne's County, Md.; who gave up practice after a short time to look after his estate in Maryland; died at Johns Hopkins Hospital, Baltimore, April 5, from senile debility, aged 87.

John David Carnahan, M.D. University of Virginia, Charlottesville, 1872; a member of the Medical Society of Virginia; a pioneer practitioner of Ogden, Utah; and a Confederate veteran; died at his home in Ogden, April 2, from septicemia, aged 63.

Robert A. Walker, M.D. College of Physicians and Surgeons, Baltimore, 1882; a member of the Medical Society of the State of Pennsylvania; of Rockville; died at the home of his sister in Wilkinsburg, March 29, from cancer of the intestines, aged 54.

Charles Foster Gardner, M.D. Syracuse (N. Y.) University, 1898; of Westhampton Beach; a member of the Medical Society of the State of New York; died in Roosevelt Hospital, Manhattan, March 31, after an operation, from septicemia, aged 38.

John F. Hutchins, M.D. Texas Medical College, Galveston, 1868; Tulane University, New Orleans, 1868; a member of the American Medical Association, and a Confederate veteran; died at his home in Oakland, Tex., Dec. 5, 1910, aged 69.

Richard Kuehne, Jr., M.D. Long Island College Hospital, Brooklyn, N. Y., 1904; of West Hoboken; a member of the Medical Society of New Jersey; died in Nassau, Bahama Islands, June 16, 1910, from chronic nephritis, aged 27.

George S. Luck, M.D. Washington University, Baltimore, 1873; a Confederate veteran, and a member of the Roanoke (Va.) Academy of Medicine; died at his home in that city, March 19, from cerebral hemorrhage, aged 64.

Herman T. Wolff, M.D. University of Halle, Germany, 1878; of San Antonio, Tex.; died in Baylor Hospital in that city, April 1, from the effect of morphin, self-administered, it is believed with suicidal intent, aged 59.

Russell J. Dimon, M.D. Albany (N. Y.) Medical College, 1883; formerly a member of the Medical Society of the State of New York; of Hastings; died at the Hospital of the Good Shepard, Syracuse, March 28, aged 58.

Isaac Franklin Noel, M.D. American Medical College, Eclectic, St. Louis, 1881; a member of the Missouri State Medical Association; died suddenly in his office in Unionville, April 4, from cerebral hemorrhage, aged 53.

Mahlon Kohler Mathus, M.D. Missouri Medical College, St. Louis, 1855; a resident of Sangamon County Ill., for sixty-five years; died at his home in Williamsville, March 22, from cerebral hemorrhage, aged 86.

Agnes Christy Patterson, M.D. Boston University School of Medicine, 1900; of Malden, Mass.; died in the Massachusetts Homeopathic Hospital, Boston, March 20, after an operation for gastric ulcer, aged 48.

Ranny Phelps Malay, M.D. University of Alabama, Mobile, 1884; a member of the South Dakota State Medical Association; died at his home in Aberdeen, April 4, from pneumonia, aged 51.

Emile Laurent Marie Tilley, M.D. University of Tennessee, Nashville, 1886; of Kaplan, La.; died in St. Mary's Hospital, Patterson, La., Dec. 21, 1910, from carcinoma of the stomach, aged 49.

Jacob Rohrer Johns, M.D. Jefferson Medical College, 1889; for many years a practitioner of Chadd's Ford, Pa.; died at his home in Philadelphia, April 6, from locomotor ataxia, aged 49.

Jared E. Brooke, M.D. Indiana Central Medical College, Greencastle, 1851; a surgeon of volunteers during the Civil War; died at his home in Plymouth, Ind., March 31, aged 91.

James M. Brittain, M.D. Missouri Medical College, St. Louis, 1873; a Confederate veteran; and a pioneer citizen of Jacksonville, Tex.; died at his home in that place, April 2, aged 80.

Louis A. McCord, M.D. St. Louis College of Physicians and Surgeons, 1892; of Cristoval, Tex.; was shot and killed in San Angelo, Tex., in a feud fight, March 31, aged 45.

Simon M. Brainin, M.D. University of Dorpat, Russia, 1881; a member of the Medical Society of the State of New York; died at his home in New York City, March 31, from chronic nephritis, aged 56.

John Washington Steel, M.D. Eclectic Medical Institute, Cincinnati, 1857; died at his home in Shelbyville, Tenn., February 7, from cirrhosis of the liver, aged 80.

Albert Badger, M.D. New Orleans, 184—; for nearly seventy years a practitioner of Missouri; died at his home in Schell City, March 14, from senile debility, aged 89.

Lafayette Washington Herrington, M.D. Kentucky School of Medicine, Louisville, 1893; died at his home in Rawson, O., Dec. 29, 1910, from pneumonia, aged 75.

Warren W. Bowles (license, Kansas, 1901); for thirty-five years a practitioner of Bunker Hill; was killed in a runaway accident near Luray, April 5, aged 71.

James Cress, M.D. Eclectic Medical College of Pennsylvania, Philadelphia, 1862; died at his home in North Georgetown, O., April 2, from pneumonia, aged 80.

Joseph Smillie, M.D. University of Toronto, Ont., 1901; died at his home in Binbrooke, Ont., July 30, 1910, from cystic tumor of the cerebellum, aged 37.

Aubry Linton Mahon, M.D. College of Physicians and Surgeons, Memphis, Tenn., 1909; died at his home in Gould, Ark., March 30, from nephritis, aged 26.

Charles Oliver Sumner, M.D. Kansas City (Mo.) Medical College, 1885; died at his home in Alma, Colo., January 19, from pleuropneumonia, aged 53.

Hiram W. Harding, M.D. University of Maryland, Baltimore, 1860; a Confederate veteran; died at his home at Wicomico Church, Va., March 24, aged 73.

Claude Fowler Hickman, M.D. Chattanooga (Tenn.) Medical College, 1908; died at his home in Bristol, Va., April 7, from tuberculosis, aged 26.

Marriages

Ben Parmenter, M.D., to Miss Ethel Brumfield, both of Bellmont, Ill., April 1.

William K. Chattle, M.D., to Miss Eva Mae Hans, both of St. Louis, March 4.

Carl William Wahrer, M.D., to Miss Julia McConn, both of Fort Madison, Ia., April 8.

Frank R. Spencer, M.D., Boulder, Colo., to Miss Edith Clayton of Kankakee, Ill., April 5.

Stanley E. Kerrick, M.D., to Miss Winifred Thompson, both of Minneapolis, April 18.

Scott Dudley Breckinridge, M.D., to Miss Gertrude Ashby Bayne of Washington, D. C., April 19.

Philip F. Herod, M.D., Alva, Okla., to Miss Ruby Kelley of Kansas City, Mo., at El Reno, Okla., March 31.

William G. Pruyn, M.D., Mexico City, Mex., to Miss Bessie Rea of San Francisco, at Mexico City, March 30.

Conservative Surgery of Trees.—Trees, like human beings, may have their lives and usefulness extended by intelligent medical treatment or by conservative surgery; indeed, the analogy, when one comes to think about it, is striking. In addition to conditions which must be treated surgically, they are subject to various diseases, due mostly to insect parasites. When these parasites attack leaves or bark, the trees may be said to be treated medically, as in the use of sprays for the eradication of scale or other insects. Trees are also affected by under-nourishment and are subject to traumatisms and decay. In their capacity of furnishing wholesome foods, in their chemical activity in utilizing carbonic acid gas and giving off oxygen, in affording protection from the heat of the sun, as well as by appealing to our esthetic sense, trees have a distinct influence on the health and happiness of the people. They are therefore worthy of care. In treating pathologic conditions in trees many principles apply that are applicable to treatment of human beings. In the case of infesting parasites, parasiticides and disinfectants are used. In the conditions requiring surgery, which constitute perhaps the larger proportion of tree ills, almost the same surgical principles apply. A broken limb may be put in splints, a limb torn or broken off may be bandaged with protective material to exclude decay. Transplantation of twigs or branches may be done, as in grafting or budding, and more formidable injuries or large areas of decay may be healed by still more radical surgery. The tree surgeon must understand thoroughly tree anatomy and tree nature, and must take into consideration the mechanical effect of winds, etc. When large areas of decay are present in limb or trunk, this decay must be thoroughly eradicated, just as the dentist or the surgeon cleans out carious teeth or bone; a species of asepsis or antisepsis must be observed to kill off the factors causing decay, and then the cavities must be filled with some material impervious to moisture and which will support a possibly greatly weakened trunk or limb. As a filling material, cement, along with its other numerous uses, has been found to be one of the best. A tree thus carefully treated, either medically or surgically, responds marvelously, and its life may be saved and its existence greatly extended. Considerable cavities thus filled with cement often heal and are even covered over with bark, leaving only a scar, just as surface wounds in animal life are covered with protecting epithelium.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

EIGHTEENTH CENTURY MATERIA MEDICA

The changes that have taken place in medical thought and practice within the last two hundred years are nowhere more evident than in that branch of medicine dealing with therapeutic agents—materia medica. It is both interesting and instructive to compare the present status of certain drugs which we now recognize as some of the most useful in the physician's armamentarium, with the standing of the same medicaments two hundred years ago.

Herman Boerhaave, a Dutch physician, born in 1668, stood, in his day, in the vanguard of the medical profession. In 1709, he became professor of medicine and botany at the University of Leyden, having previously held the position of lecturer on the theory of medicine in the same institution. It is said that Boerhaave's reputation was so high that, at one time, he received a letter from a Chinese mandarin addressed: "To Boerhaave, Physician in Europe."

It may be fairly admitted that Boerhaave's statements on the drugs in use in his day are representative of his time. For this reason the following quotations take on an added interest. In 1775 a small book was published by one Richard Goade, a London druggist, entitled "Boerhaave's Materia Medica, or the Druggist's Guide, and the Physician and Apothecary's Table-Book." Goade says, in his preface, that his book is but "a Translation of a Latin Manuscript which was given to me by Dr. James Carroll, taken from the Mouth of the great Professor Boerhaave, in a Course of Lectures."

The few quotations which are here given have been selected chiefly because of the comparative importance of the drugs and partly because of the change that has taken place in the medical profession's estimate of their medicinal value. Except that the modern form of the letter "s" has been substituted for that which appears in Goade's work, the composition and spelling have been closely followed:

ARGENTUM. *Silver.* A Metal well known in common Use, but little in Medicine. It is found pure and native in the Earth in some Places; in others mixed with the Ores of Lead, and other mineral Substances; beaten into Leaves, it is used to cover Boluses. The Preparations from it are the Chrystals made by setting a strong Solution of it to chrystalize; and the Lunar Caustic made from an evaporated Solution of the same Metal, or from the melted Chrystals. Both are Caustics but they are little used.

A Solution of Silver in Aqua Fortis, stains Agate: The Figures made by Art in those Stones are done by covering the Surface with Wax, cutting the intended Figure through the Wax, and pouring on the Solution, which penetrates into the Stone.

ARGENTUM VIVUM. *Quicksilver.* A fluid Semi-Metal, found sometimes native and pure, oftener in Form of Cinnabar or other Ores. Factitious Cinnabar is an artificial Mixture of Sulphur and Quicksilver; Native Cinnabar is a natural Mixture of the same Ingredients. We have it from Spain, Hungary, and the East, and also the Quicksilver Native or obtained from it.

Taken in its crude or native State is excellent against Obstructions, an Ounce or two for a Dose: Large Quantities are sometimes given in obstinate Obstructions of the Bowels, but it is a desperate Practice. Externally mixed into Ointments it cures the Itch, and other cutaneous Foulnesses: and will raise Salivation.

The Preparations of it kept in the Shops, are numerous and of great Virtue. Factitious Cinnabar, made by subliming Quicksilver and Sulphur. Æthiops Mineral, by grinding Quicksilver and Sulphur together. Corrosive Sublimate, made by subliming Quicksilver Nitre, Vitriol, and Sea-salt. Mercurius Dulcis or Calomel, made by subliming several Times Crude Mercury and Corrosive Sublimate. Calcined Mercury, made by keeping

Quicksilver over a small Fire till it becomes a reddish Powder. White Precipitate, made by dissolving Corrosive Sublimate and Sal Ammoniac in Water, and precipitating with Oil of Tartar. What is called Red Precipitate, made by evaporating a Solution of Quicksilver in Aqua Fortis: And Turpeth Minerale, made by evaporating a Solution of Quicksilver in Oil of Vitriol, and pouring on Water. All these are powerful Medicines, but they must be given with Caution.

Crude Quicksilver for internal Use should be reduced from Cinnabar; and Sophistications are so common, every one ought to do it for himself.

ARSENICUM. *Arsenick.* A Chemical Preparation made in Germany, and kept by our Druggists. It is properly the Flowers of Cobalt, a poisonous Mineral found in many Parts of Europe, and affording also the fine blue Substance called Smalt. The Cobalt is burnt in a reverberatory Furnace, and the Flowers or Soot collected from its long Chimney, make Arsenic. From the Remainder of the Cobalt, Smalt is made, by adding Sand and Pot-ash, and running all into a Kind of Glass of a deep Blue.

The Soot of the Cobalt sublimed alone, makes the common White Arsenick; Yellow Arsenick is made by adding Sulphur to the Soot before Sublimation, and the Red by adding Sulphur and the Scoriae of Copper.

They are all Poisons, and of no Use whatsoever in Medicine: The Deaths that have been occasioned by them, should incur a severe Penalty on whosoever sold or kept them.

DIGITALIS. *Fox-Glove.* A wild Herb brought entire to the Markets. It is a Yard high, and has large red Flowers.

The fresh Leaves given in Infusion, are a rough Vomit, but it is not used except by the Country People.

An Ointment made of the Flowers boiled in Lard, has been supposed to have great Virtues against Piles: but it is not in much Esteem at present, except amongst the good Women.

GENTIANÆ RADIX. *Gentian Root.* A Long, thick Root of a yellowish brown Colour, with little Smell, but very bitter to the Taste. We have it from Germany, where they dry some in the open Air and some in Ovens. The latter Kind is worst, 'tis too dry, brittle, and often burnt. The Plant which produces it is common in our Gardens, and has large broad Leaves and little blue Flowers.

It is an excellent Stomachick, with Orange Peel and a little Galangal it makes an excellent bitter Infusion in Wine or Water.

IPECACUANHA. *Indian Root.* Two Kinds of Ipecacuanha are imported, a brown and a grey; but as the grey is the Kind that ought to be used, 'tis Pity the other is brought over. Both are from the Spanish West-Indies. The grey or right Ipecacuanha is long slender, twisted and annulated; greyish on the Surface, and paler within; the Brown is smaller; it is of a deep brown on the Surface, and white within. The grey has not much Smell, this has less; the Taste of both is disagreeable. The Plant to which we owe the one, affords also the other; the only Difference is, that the brown is starved, the grey grows in a rich Soil. The Plant is ten Inches high, and has a few Leaves at the Top only, the Flowers are white, and are succeeded by Berries.

The Root is the best Emetick we know, and is almost the only Medicine used at this Time for that purpose. It has also a great Astringency, and taken for a Length of Time in small Doses, cures Dysenteries.

NUX VOMICA. *The Vomic Nut.* A rounded flat Fruit of the Breadth of a Shilling, striated, tough and of a whitish Colour, and of an horribly acrid bitterish Taste. We have it from the East-Indies. The Tree which produces it is large and beautiful. Its Fruit is of the Bigness, Shape and Colour of an Orange, and in each there are about fifteen Kernels, which are these Nuces Vomicæ.

They are used as a Poison for Animals. They have been recommended however, in small Doses internally as a Medicine, but we have seen ill Consequences attend them, and we have so many safe Medicines for the same Purposes, that it is rash to use them.

SABINA. *Savin.* The young Branches with the Leaves of the Garden Shrub of this Name, brought fresh to Market. The Leaves are little, of a bright Green, and terminates in Prickles.

It is famous for a Promoter of the Menses and it will cause Abortion; but great Danger as well as Guilt attends the Use of it to such Purposes: Many have perished by it.

SARSAPARILLÆ RADIX. *Sarsaparilla Root.* A Root brought over in long slender Pieces, which are usually split, and have the inner Part taken out, before they are sold for Use. When entire, the Root consists of a Head of the Bigness of a Walnut, from whence these Strings or Fibres grow in great Numbers, and to a great Length, but the Fibres only are used. They are of a greyish Colour on the Outside, and white within, of no Smell, and but little Taste. We have it from South America. The Plant is one of the prickly Bindweeds.

It is esteemed a great Sweetener of the Blood, a Sudorifick and Attenuant. It was once pretended to be a remedy for the Pox.

SENA. *Sena.* The Leaves of a small Shrub, but so carelessly collected, that we find Fragments of the Stalks and the Seed-Vessels among them. They are oblong, sharp-pointed, of a pale Green, fleshy, of little Smell, but of a Mawkish, unpleasant Taste. This is the Alexandrian Sena, the only Kind that should be kept. There are two other Kinds, one from Tripoly, with greener and blunter Leaves; another from Mocha, the Leaves of which are long and narrow. They have all the same Virtues, but the Alexandrian is greatly to be preferred. The Leaves are alated, and the Flowers are like Pea-Blossoms, but yellow streaked with purple.

Sena is an excellent gentle Purge: There have been many Ways invented to disguise its Taste, but none is so well as the old Womens Method of stewing it with Prunes, which also assist it in its Operation.

TOLUTANUM BALSAMUM. *Balsam of Tolu.* A Resin of the Consistence of thick Honey, of a brownish Colour, of a very fragrant Smell, and of an acrid Aromatick Taste. We have it from New Spain, in Shells of Gourds. It is thin when first put up, but thickens in keeping. The Tree which affords it, is a small Pine, frequent in South America.

It is an excellent Balsam in Consumption; for it is less acrid than any of the others; It has also their Virtues of a Detergent and Diuretick.

State Laws Against Drug Adulteration

The federal authorities, since the passage of the National Food and Drugs Act, have done much to improve the quality of drugs on the market. This law, however, being a federal one, applies only to goods shipped from one state to another, and spurious or adulterated drugs may be manufactured in a state and shipped to, and exposed for sale in, all parts of that state and yet be entirely without the province of the federal authorities. Such adulteration is entirely a matter for the state authorities to correct. Unfortunately, the individual states, as a rule, have not had efficient laws or the laws have been a dead letter. Conditions are changing, however, and such states as North Dakota, Massachusetts, Pennsylvania, New York and a few others are giving evidence that efforts are being made to check the traffic in adulterated drugs. We have before us a circular which indicates that Kentucky is one of the states that not only has a law for the regulation of the sale of medicines but is seriously concerned with its enforcement. The circular shows that Kentucky is concerned not only with the prosecution of offenders against the law but also takes the broader view and proposes also to combat the evil by educational methods. Thus it says:

> Two years' work under the Kentucky Food and Drugs Act has convinced those engaged in the enforcement of the drug sections of that act that there are two classes of adulterations: first, adulterations due to willful intent or gross carelessness; second, adulterations due to various trade and professional problems, which this office believes can be better overcome through mutual assistance rather than prosecution.

For the seminar the following comprehensive program is proposed:

(*a*) The general application of the state and federal pure-food laws for the drug business. (*b*) The drug regulations and notices of judgment under the federal law. (*c*) The regulations under the state law. (*d*) The proper labeling of patent and proprietary medicines under the law. (*e*) The proper labeling of U. S. P. and National Formulary products under the law. (*f*) Necessary equipment for a druggist's laboratory. (*g*) Drug store management and equipment. (*h*) Problems connected with the preparation, storage and handling of various pharmaceutical preparations. (*i*) Standard weights and measures. (*j*) The soda fountain. (*k*) Other similar subjects.

It is to be hoped that the pharmacists of Kentucky will avail themselves of the opportunity thus offered.

Correspondence

A Case of Near Blackmail

To the Editor:—It is seldom that the publisher of one of the popular magazines comes as near placing himself in the position of being accused of blackmail, as did the publisher of *Good Housekeeping* in its February number. Beneath the heading of the article, "Why Our Glasses Don't Fit," appears a statement which at once leads the reader to suspect that the editor had some misgivings as to the advisability of publishing the article. He must have succeeded in getting the "endorsement of two distinguished oculists" for he says so; and obtaining the distinguished endorsements, he proceeds to publish the article which consists of an assumed case of eye-strain, and the trials and tribulations of a patient—the author—and of an oculist, who with the patience of a Job, as the history relates, makes twenty odd separate and distinct examinations and prescribings of faulty lenses, at which juncture the oculist discovers his trial lenses, and incidentally nearly all other trial lenses in this country and Canada, to be faulty; and all because neither he, nor his brother oculists, as well as various opticians, manufacturing and otherwise, are testing out their trial cases and prescribed lenses by a certain apparatus which "costs sixty dollars"—"possessed by not over fifty opticians and oculists out of 28,000 in the country!" And hereby hangs a tale.

The manufacturer must needs make some sales. The apparatus is not selling well, at least the author makes that inference very strong in the article. Probably he needs the money, and hence this advice to the public: "You can make your oculist a better one by asking him some questions which will worry him. 'Have you yourself tested your trial lenses?' 'Have you a modern axis finder to enable you to test them? And to test also the centering of these lenses I have bought from the optician? Are you sure the man you are sending me to has a machine? If he hasn't why don't you make him get one?'" And now, the manufacturer having had the benefit of this most excellent advertisement, published in the body of a popular magazine, in the form of a most readable and interesting article—and it is interesting—follows up the advertisement by sending out broadcast over the country reprints of the same. "From *Good Housekeeping* Magazine by Permission" accompanied by a picture of the apparatus, and a letter stating among other things, that this is "The Instrument to which Prof. Tassin"—the author of the article—"alludes."

W. H. DUDLEY, Los Angeles, Cal.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

STING OF THE PORTUGUESE MAN-OF-WAR

To the Editor:—Please give me any information you can in regard to the treatment of stings by the Portuguese man-of-war fish. I have had a number of cases on this coast, but have not been able to give much relief. R. S. LOWRY, Fort Lauderdale, Fla.

ANSWER.—Apparently a confusion has arisen between the Portuguese man-of-war fish (*Nomeus gronorii*) and the Portuguese man-of-war (*Physalia pelagica, Physalis pellagica, Holothuria physalis*).

The Portuguese man-of-war fish is closely related to the sergeant fishes. It is of small size and inhabits tropical parts of the Atlantic and Indian oceans. Our species lives commonly under the protection of the Portuguese man-of-war, swimming freely among its poisonous tentacles.

The Portuguese man-of-war is one of the so-called jelly-fish belonging to the *Siphonophora.* It floats on the surface of the water and has long retractile tentacles, sometimes several feet in length, and containing batteries of stinging capsules, powerful enough to sting the hand as severely as a nettle. The greater the number of the cells which sting an individual, the more severe is the pain. A poison has been isolated from *Physalia* by Portier and Richet (1902) under the name of "hypnotoxin." Solutions of this substance killed experimental animals; they became somnolent and death followed through paralysis of the respiration. The intensity of the effects are supposed to depend also on the size of the animal. After removal from water, the stinging property diminishes, but it is reported that the irritative property, unattended, however, by any of the constitutional effects, remains in the tentacles for a long time. Bennett (1831) even reports that in touching a handkerchief some weeks after it had been used in wiping off some of the portions of the tentacles the stinging property was found to have remained, although it had lost its virulent quality, which produced on fresh application violent constitutional symptoms.

Portuguese man-of-war stings are so rarely observed by the average American physician that the following personal experimental experience published by Bennett will doubtless be of interest: "On taking hold of the animal, it raised its tentaculæ and stung me on the second and ring fingers. The sensation was similar at first to that produced by the nettle; but before a few minutes had elapsed, a violent aching pain succeeded, affecting more severely the joints of the fingers, the stinging sensation at the same time continuing at the part first touched. On cold water being applied, with the intention of removing or lessening the pain, it was found rather to increase than to diminish the painful effects. The irritation resulting from the poisonous fluid emitted by the animal extended upward, increasing in extent and severity (apparently acting along the course of the nerves), and in the space of a quarter of an hour the pain in the forearm (which was more particularly referable to the inner part) was very violent, and at the elbow-joint it was still more so. It may be worthy of remark that when the joints became affected the pain always increased. The pain became at last almost unbearable, and was much increased on the affected arm being moved; the pulse of that arm was also much accelerated, and an unnatural heat was felt over its whole surface. The pain extended to the shoulder-joint; and on the pectoral muscle becoming attacked by the same painful sensation, an oppression of breathing was occasioned, which we find produced in a similar manner by rheumatism, when it attacks that muscle; and it proved very distressing during the time it remained. The continuance of the pain was very severe for nearly half an hour, after which it gradually abated, but the after-effects were felt during the remainder of the day in a slight degree of numbness and increased temperature of the arm. . . . About two hours after I had been stung, I perceived that a vesicle had arisen on the spot; and when children have been stung, I have observed that numerous small vesicles arose, similar to those produced by the nettle."

Dr. Clarke Abel describes his own symptoms, mentioning especially "the aching pain in the armpit, accompanied by a sense of restriction within my chest; within fifteen minutes all uneasiness ceased."

It has been very difficult to trace much recent literature of more than very general statements on this subject, and in the articles consulted there is considerable contradiction.

According to popular belief, the sting of *Physalia* may be very dangerous, even resulting in death of a person or of animals, and if certain animals eat *Physalia* their flesh is alleged to become poisonous. These views find both acceptance and denial in medical and scientific writings, and it is difficult to escape the thought that the entire subject of *Siphonophora* stings might well be restudied with profit. Some points of confusion existing in the literature may possibly be traceable to the fact that doubts exist as to the correct zoologic determination of the animal which has produced serious results in certain cases. That the stings of some jelly-fish are insignificant and wear off promptly, so that no medical treatment is necessary, may be readily admitted, but that "no remedy except patience" is called for we are scarcely prepared to admit for those instances in which very severe pain and various other symptoms develop.

Just what treatment would be best we are unprepared to say, for the subject has not been sufficiently studied, and with the exception of Old's (1908) paper, little of a satisfactory nature exists in literature bearing particularly on this phase of the subject. That morphin can be used to relieve the pain is evident, and on general grounds one would be inclined to suggest local alkaline applications as used by Old, provided the case was seen immediately.

One of the most important papers on jelly-fish stings was recently published by Assistant Surgeon E. H. H. Old, U. S. Navy. It is based on nine cases (one fatal) recently observed in the Philippines. The symptoms appeared in from ten minutes to an hour. In four cases there were marked hysterical symptoms, with incessant cough, restlessness, pain and nausea, while in four cases the marked hysterical condition was not present. In treatment, Old used alkaline solution locally and morphin sulphate hypodermatically. The following may be quoted as an example of the cases Old observed:

"V., a hospital attendant at Canacao, on June 21, 1907, while in bathing off the hospital wharf, was stung by a jelly-fish. He said that he was some distance from the landing and as soon as he felt the sting he turned back to the wharf. On his way he felt some pain across his back, but thought it was due to swimming. On his way up from the wharf to the hospital he began to feel badly and sat down for a little while. When he reached the hospital, about thirty minutes after he had been stung, he became prostrated and had to be carried to a bed.

"On arrival I found a slightly raised, vesiculated, red area over the left biceps muscle. This 'wept' like an eczema. The patient was throwing himself around the bed and coughing almost incessantly, expectorating a thin mucus. He complained of nausea but did not vomit. His face was congested and anxious. He wept at intervals, a stream of tears flowing down his face. The nose was occluded as in a bad case of coryza and from it a thin mucus was discharging. He complained of pain in his head and of marked pain in the lumbar region. He expressed much anxiety as to his condition and exclaimed now and then: 'I don't know why, but I've lost all my nerve.' His temperature was 38 C. (100.2 F.); pulse 100, strong and full. The examination of urine and blood showed nothing abnormal.

"Morphin sulphate 1/6 grain was given by hypodermic injection, an alkaline solution was applied to the arm. The symptoms subsided shortly after and in a few hours the temperature was normal and the pulse 60. The next morning the patient felt weak and complained of a slight sore throat; the pharynx was slightly inflamed."

In the foregoing we have used many words in failing to give a direct answer to our correspondent's question, but if this lengthy confession of relative ignorance will lead to a careful study of the subject our time (about three entire days of one man) used in looking into the literature (both medical and zoologic) in the hope of finding something satisfactory, will have been well spent. Possibly some of our readers are more fortunate than we have been and can give more definite information than we have been able to trace.

In conclusion it may be mentioned that divers, suhc as sponge-fishers, are subject to an affection due to contact with celenterates. Smearing the body with fat is said to be a satisfactory preventive measure against this trouble.

WHAT KIND OF INFECTION?—PROBABLY ANTHRAX

To the Editor:—W. H., aged 17, male, coal miner and farmer, squeezed a blackhead and it developed into a small pimple surmounted by a crust. The patient scratched this crust off with his finger-nail. In less than twenty-four hours the lip and cheek began to swell, and in thirty-six hours the swelling was unusually large. At this stage I found him with a temperature of 102 F., pulse 98, very little pain, in fact, more discomfort than pain; he was unable to be up. There was no redness, no pustule.

I thought of erysipelas, actinomycosis, poison ivy. There were no horses nor cattle he could think of having been near, nor was there any poison ivy. I applied a lotion of saturated solution of boracic acid and alcohol, and gave a cathartic and a few powders. In twelve hours more the swelling became much worse; in fact, terrific; there was no heat or pronounced redness; nor was there sharp outlined margin. A small black spot developed at the corner of the mouth; the lips were swollen and parched. Both eyes were closed and a secretion was on the eyelashes like that seen in small children. All the swelling had a blue-black discoloration. Temperature was 103 F., pulse 110. There was neither crepitation nor fluctuation.

A few incisions were made, but they afforded no relief. They were painless. A small quantity of dark and thin fluid escaped, no gas, no odor, no pus. Some incisions were deep, some rather superficial. I also gave 10 c.c. antistreptococcus serum, and covered the swollen area with the solution already mentioned.

All the symptoms and swelling increased; the small black spot spread over the mucous membrane of the cheek and developed into necrosis. The patient died four and a half days after onset of symptoms. In the last twenty-four hours the disease resembled puerperal fever, the temperature being up to 107 F.; there was feeble, almost imperceptible, pulse. During his illness the man received 30 c.c. of antistreptococcus serum.

What kind of an infection was this? Septicemia appears on the death certificate. August Bechtold, M.D., New Athens, Ill.

Answer.—The pimple surmounted by crust which was removed with the finger, the great swelling, the watery fluid which exuded from the incisions, the absence of pain, the bluish discoloration, the development of gangrene, the high temperature and the very rapid progress ending in death point clinically to infection with the anthrax bacillus. This could easily have been verified by a microscopic examination of the fluid from the open pimple.

TINCTURE OF WHITE SOAP

To the Editor:—Some time ago you published a formula for making a neutral liquid soap. I have lost this recipe. Please publish it again. E. J. Bernstein, M.D., Kalamazoo, Mich.

Answer.—Our correspondent probably refers to tincture of white soap, the formula of which was given by F. P. Dunnington, Charlottesville, Va., in the *Old Dominion Journal of Medicine and Surgery*, August, 1909, and which was quoted in the Department of Current Medical Literature of The Journal, Sept. 25, 1909, p. 1058, as follows (with apothecaries' amounts added):

℞		gm. or c.c. for 1 gallon.
White castile soap (Conti's)	℥xl	1,200
Ammonia water, stronger	fl.℥iii	100
Alcohol	Oii	1,400
Water, distilled	q. s. ad. Oviii	4,000

The specific gravity of this mixture is 0.97, which is identical with that of green soap. Soft water (rain-water) might well be substituted for the distilled water in the formula.

To make one gallon: Mix the liquids for it in a one-gallon jar and then add the soap, previously cut into coarse shavings. Crowd all the soap into the jar and cover it with a glass plate. After twelve hours stir, and again stir after some hours. Allow to settle twelve hours, and then filter, decant or syphon off the clear liquid into a can, which may be kept closed. There will remain a few ounces retaining the impurities of the soap, which may be used for less particular washing. If this liquid is exposed to evaporation for a few hours, ammonia and alcohol escape, and a mass of the consistency of green soap will be obtained. While this preparation is said to be free from the objections to tincture of green soap, it presents the additional advantage of costing but $1.50 a gallon, and, if the alcohol is obtained tax-free, the cost will be about 60 cents a gallon, while tincture of green soap will cost $1 or more.

DIFFERENCE BETWEEN A VEGETABLE AND AN ANIMAL CELL

To the Editor:—What is the difference between a vegetable cell and an animal cell? I can find nothing on this subject in any of the books I possess; from what I know of the subject I can see no difference. A. D. Bundy, Osage, Iowa.

Answer.—The fundamental difference appears to be physiologic and connected with the separate manner of nutrition prevailing in the two kingdoms. The typical vegetable builds up its structure from carbon dioxid, water, ammonia and other substances existing in the air and soil. The animal has not this power and must use the material already formed by the vegetable or by other animals. As a result of this mode of nutrition it is found that cellulose, a modification of starch, is found only in vegetables and is employed by most vegetables in forming the cell wall. Cellulose is never found in the cell walls of animals. Some vegetables do not form cell walls composed of cellulose and such vegetable cells have no essential distinguishing features to differentiate them from animal cells.

The Public Service

Medical Department, U. S. Army

Changes for the week ended April 15, 1911.

Crampton, Louis W., colonel, relieved from duty in the Philippines division and will proceed on transport to sail from Manila, P. I., to San Francisco, about Sept. 15, 1911, and on arrival at the latter city to report by telegraph to the adjutant general of the Army for further orders.

McEnery, Douglas W.; Turnbull, Samuel J., and Upshur, Alfred P., M.R.C., ordered to active duty and will proceed to San Antonio, Texas, for duty with the maneuver division at that place.

Boehs, Charles J., M.R.C., ordered to active duty and will proceed to Plattsburg Barracks, N. J., for duty at that place.

Ragan, Charles A., captain, assigned to permanent duty at Walter Reed General Hospital, Takoma Park, D. C.

Kendall, William P., lieut.-colonel, left Fort Riley, Kan., on thirty days' leave of absence.

Wallace, George S., M.R.C., left Fort Sam Houston, Texas, for duty in the field at presidio of Texas.

McMillan, C. W., lieut., relieved from duty with the maneuver division, San Antonio, Texas, about July 1, 1911, and ordered to Fort St. Michael, Alaska, for duty.

Whaley, Arthur M., captain, on being relieved from duty at Fort St. Michael, Alaska, by First Lieutenant McMillan will proceed to Seattle, Wash., for further orders.

Roberson, Horace M., lieut., relieved from duty with the maneuver division, San Antonio, Texas, about July 1, 1911, and ordered to Fort Davis, Alaska, for duty.

Harmon, Daniel W., lieut., on being relieved from duty at Fort Davis, Alaska, by First-Lieutenant Roberson will proceed to Seattle, Wash., for further orders.

Gosman, George H. R., major, left Fort Barrancas, Fla., for Tokyo, Japan, for duty as attache at the American embassy.

DeLaney, M. A., major, ordered to proceed to Philadelphia on official business pertaining to the medical corps of the Army.

Medical Corps, U. S. Navy

Changes during the week ended April 15, 1911.

Ames, M. H., P. A. surgeon, detached from the naval hospital, Olongapo, P. I., and ordered to temporary duty on board the *Albany*.

Turner, H. W. B., asst. surgeon, detached from the *Barry* and the Asiatic torpedo fleet and ordered to the naval station, Olongapo, P. I.

Thomas, G. E., asst. surgeon, detached from the naval station, Olongapo, P. I., and ordered to temporary duty on board the *Saratoga*.

Hart, S. D., asst. surgeon, detached from the *Mohican* and ordered to the *Barry*.

Cook, F. C., surgeon, ordered to command the naval hospital, navy yard, Puget Sound, Wash.

Hale, G. D., P. A. surgeon, detached from the *Idaho* and ordered home to await orders.

Manchester, J. D., P. A. surgeon, detached from the naval recruiting station, Chicago, and ordered to duty at the naval hospital, naval training station, North Chicago.

Smith, W. B., P. A. surgeon, orders of March 17 modified; ordered to duty at the naval hospital, Annapolis, Md.

Ely, C. F., P. A. surgeon, detached from the naval hospital, Philadelphia, and ordered to the naval proving ground, Indian Head, Md.

Halton, E. P., asst. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the naval station, Guam, M. I.

Brown, E. M., asst. surgeon, detached from the naval proving ground, Indian Head, Md., and directed to await orders.

Ohnesorg, K., surgeon, detached from the *Prairie* and ordered home to await orders.

Stuart, Jr., D. D. V., asst. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *Idaho*.

Mears, J. B., P. A. surgeon, detached from the *Franklin* and ordered to the Asiatic station.

Howard, J. V., asst. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *Supply*.

Pratt, L. L., Omelvena, J. G., and O'Malley, J. J., asst. surgeons, detached from the naval medical school, Washington, D. C., and ordered to the Asiatic station.

Crow, G. B., asst. surgeon, detached from the naval station, Guam, M. I., and ordered home to await orders.

Toulon, A. J., asst. surgeon, detached from the *Supply* and ordered home to await orders.

Elmore, B., A. A. surgeon, ordered to the marine recruiting office, district of the Pacific coast, Seattle, Wash.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended April 12, 1911.

Stimpson, W. G., surgeon, directed to proceed to Marcus Hook, Pa., and Delaware Breakwater quarantine station on special temporary duty.

Anderson, J. F., P. A. surgeon, detailed to represent the Service at the meeting of the American Association of Pathologists and Bacteriologists to be held in Chicago, April 14-15, 1911.

McClintic, T. B., P. A. surgeon, directed to proceed to Delaware Breakwater quarantine station on special temporary duty.

Vogel, C. W., P. A. surgeon, directed to proceed to Marcus Hook, Pa., on special temporary duty.

Warren, B. S., P. A. surgeon, granted fourteen days' leave of absence from April 8, 1911, on account of sickness.

McKeon, F. H., P. A. surgeon, relieved from duty at the immigration station, San Francisco, and directed to report to the commanding officer of the Revenue Cutter *Rush* for duty.

Bailey, C. A., A. A. surgeon, directed to accompany the staff of the U. S. Immigration Service from St. John, N. B., to Quebec, P. Q., for the inspection of arriving aliens.

Hough, J. S., A. A. surgeon, granted thirty days' leave of absence to be taken at such times as may be approved by Surgeon B. W. Brown.

McLarty, A. A., A. A. surgeon, died March 24, 1911.

Board of medical officers convened to meet at the Bureau, April 11, 1911, for the examination of Assistant Surgeon J. R. Hurley, and reconvened, April 24, 1911, for the examination of Assistant Surgeon W. M. Bryan, to determine their fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Assistant Surgeon-General W. J. Pettus, chairman; Assistant Surgeon-General L. E. Cofer; Passed Assistant Surgeon L. L. Lumsden, recorder.

Board of medical officers convened to meet at San Francisco, April 24, 1911, for the examination of Assistant Surgeon A. J. Lanza, to determine his fitness for promotion to the grade of passed assistant surgeon. Detail for the board: Surgeon Rupert Blue, chairman; Passed Assistant Surgeon M. W. Glover; Passed Assistant Surgeon Friench Simpson, recorder.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POST-GRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

LEGAL RIGHTS AND OBLIGATIONS OF PHYSICIANS *

John E. Kehoe

CHICAGO

The most important legal question for the physician is that which relates to the rights, duties, legal obligations, responsibilities and liabilities of the physician in caring for his patient. This is becoming a more important question every day. Litigation in the nature of suits for damages of various kinds is, at present, occupying about three-quarters of the time and attention of the courts of Cook County. It almost seems as if the entire populace was trying to find an excuse for suing somebody for damages, and, in this epidemic of damage litigation, physicians and surgeons are by no means forgotten. If a person is dissatisfied with the professional service rendered by the physician or surgeon, it apparently is becoming almost the rule, rather than the exception, to consult a lawyer and see if some basis cannot be found for starting a suit for damages in which the lawyer, as a rule, agrees to accept a contingent fee, consisting of a percentage of the amount to be recovered. It becomes a very important matter, therefore, for the physician to know what his legal rights and obligations are, in order that while doing his full duty to his patient he may, at the same time, protect himself from the danger, embarrassment and annoyance of a claim for damages in case his patient is dissatisfied. A physician's rights and legal obligations are controlled by certain legal principles which, grouped together, are known as the law of negligence. Negligence is defined in law to be an omission to do something which a reasonable man, guided by those considerations which ordinarily regulate the course of human affairs, would do; or, doing something which a reasonable and prudent man would not do. In order to maintain an action for negligence, there must be shown to exist some obligation or duty which has been left undischarged or unfulfilled.

To understand just what constitutes legal actionable negligence on the part of a physician, it is necessary to bear in mind the various degrees of care which the law exacts under various conditions. There are a number of degrees of care under the law: First, there is the highest degree of care which human forethought, reason and diligence can attain. Where the law imposes this highest degree of care, as, for instance, in the case of a railroad company carrying passengers for hire, the slightest negligence or simplest omission of duty becomes actionable in law. This highest degree of care, however, is not exacted or required of a physician or surgeon under the law of this state, or in any other state of the Union. The next degree of care, under the law, is what is known as ordinary care or reasonable care, and is defined in law as being that degree of care which an ordinarily prudent person would exercise under the same circumstances or conditions. This is the degree of care which, together with the exercise of a proper degree of skill, is required in law from a physician or surgeon in the discharge of his duty to his patient.

Going on down the scale, there is a lack of care known to the law as gross negligence which, of course, both as a matter of reason and law, would lay the foundation for damages. There is also known to the law what is called wilful or wanton misconduct, which may be defined as an act showing a willingness to harm the person in question, or such an utter disregard of his rights as to indicate an abandoned or malignant heart. Such conduct in any walk of life would be actionable, and the law says that, as against a claim for wilfulness or wantonness, it is not even necessary that the person presenting the claim must show himself to have been in the exercise of ordinary care.

It will be seen from the above that neither is the highest degree of care exacted of, nor is a low degree of care tolerated on, the part of the physician or surgeon. In other words, the physician and surgeon is held in law to the exercise of ordinary, reasonable care and skill. In general, his duty may be defined substantially as follows: The physician is bound to bestow such reasonable ordinary care, skill and diligence as physicians, in the same neighborhood, in the same general line of practice, ordinarily have and exercise in like cases. Time and locality are to be taken into consideration, and the physician is bound to exercise the average degree of skill possessed by the profession in such locality. In the absence of special agreement, his engagement is to attend the case as long as it requires attention; unless he gives notice of his intention to discontinue his visits, or is dismissed, he is bound to exercise reasonable and ordinary care and skill in determining when his attendance should cease. But his engagement is not to cure the patient, that is, he does not insure that his treatment will be successful; the mere failure to effect a cure does not even raise a presumption of a want of proper care, skill or diligence. It is the duty of the patient to cooperate with the physician and to conform to his prescriptions and directions, and, if he neglects to do so, he cannot hold the physician responsible for his own neglect. On the other hand, he has a right to rely on the instructions and directions of his physician, and incurs no liability by so doing.

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* Read before the Evanston Branch, Chicago Medical Society, March 30, 1911.

This is substantially the rule in Illinois and in practically every other state. There is an implied contract on the part of the physician that he possesses that reasonable degree of skill, learning and experience which is ordinarily possessed by others of his profession, and that he will use reasonable and ordinary care and diligence in the treatment of the case committed to him, and that he will use his best judgment in all cases of doubt, as to the best course of treatment. He is presumed to possess the degree of skill above defined, and to exercise reasonable care and to use his best judgment, but he does not guarantee that his judgment is infallible, and he cannot be held in law responsible for an error of judgment where he shows that he exercised ordinary care, and that he possessed the skill ordinarily possessed by others of his profession in the given locality. His failure to effect a cure can never be held to indicate even a presumption of want of care or skill. It will be noted that the locality is a matter to be taken into account. In a rural community with limited opportunities, the same degree of skill is not required as that which is exacted in a metropolis, where superior advantages are available. For instance, a general practitioner who had had but little experience in the treatment of the eye would not be justified in performing a delicate and dangerous operation on the eye of a patient in a community where a specialist of especial skill and experience is obtainable; while the same general practitioner might be entirely justified in law in attempting the same operation in a community where it was impossible to secure the services of such a specialist. Time and place, therefore, cut some figure in the matter, but the general rule remains universally true that only such care and skill are required as are possessed and applied by physicians in good standing in the community. The Supreme Court of this state has said that you cannot exact of the physician the highest degree of skill which the most learned might acquire in the profession, nor can you regard him as an insurer of the successful termination of his work; that he is not required to possess the highest order of qualifications to which some men attain, but that he must possess and exercise the degree of skill which ordinarily is possessed by members of his profession in good standing. For anything short of a reasonable amount of care and skill in his practice the law will hold him responsible, but the burden always rests on the one presenting the complaint to show that the physician was deficient in this regard. If the physician, in the exercise of reasonable care and skill, uses his best judgment in case of doubt, he cannot be held for a want of success, and so, in the treatment of disease or injury, he is bound to bring to his aid such obtainable remedies and appliances as discovery and experience have found to be most appropriate and beneficial in aiding recovery. But it may often happen that the most appropriate appliances or remedies are the very simplest and most commonplace, and, in such case, he is bound only to use his best judgment with reasonable care and skill. He is not liable, even if injurious results follow his treatment, unless it is shown that such injurious results were due to a failure to use ordinary reasonable care and skill. A fatal result may follow from the peculiar condition of a patient of which the physician had no knowledge, or the peculiar temperament of the patient over which he had no control, and, in such case, the exercise of his best judgment, with the care above defined, constitute a complete defense. The fact that a patient grew worse under the treatment of one physician and became better under the care of another, does not even raise a presumption in law that the treatment of the first was not proper. In other words, the law will not permit the drawing of a conclusion of unskilfulness from the result of the treatment alone. A physician, in passing from a patient infected with a contagious disease to others who are not so infected, must take such reasonable precautions as experience has shown to be necessary to prevent the communication of the infection, but if he does this he will not be held liable for the consequences. In the application of the general rule, a physician is chargeable with the knowledge of the probable consequences of the form of treatment or operation that he undertakes, and is expected to exercise ordinary care and skill to prevent unfavorable consequences. Under the general rule of wilfulness and wantonness, a physician may be held liable for exemplary damages, that is, damages by way of punishment, if it be shown that he was guilty of such a gross want of care as to indicate that he was probably conscious of the consequences of his carelessness and indifferent to the danger to which he subjected the patient.

The patient has a right to assume that one holding himself out as a surgeon possesses reasonable skill; and so, if a physician attempts to perform surgical operations, when his lack of experience renders it impossible for him to exercise ordinary skill, his ignorance of the knowledge of his profession will not constitute an excuse.

The principle of ordinary care applies also to the question of attendance on a patient; that is, there is a duty on the physician to continue his attentions so long as from the condition of the patient one might reasonably expect him, in the exercise of an honest judgment, to believe it necessary, and any culpable neglect on his part in this regard would render him liable to an action. A physician who leaves a patient at a critical stage of a disease, without reason or without attempting to procure another medical attendant, would be held in law to be guilty of actionable negligence. Of course, if he is discharged by some one in authority, this relieves him of responsibility; but ordinarily he must exercise reasonable care in determining when his attendance may be safely discontinued; but no error of judgment in this regard, or any other matter pertaining to his treatment will render him liable for consequences where he keeps within recognized and approved methods, and uses his best judgment with ordinary care and skill. No error of judgment will hold the physician responsible, unless it is so gross as, on its face, to imply a want of ordinary care and skill. Of course, an error of judgment may be so great as to be inconsistent with the belief that ordinary care and skill were exercised. For instance, a man might hold himself out to the world as an oculist, without any knowledge of the science, and obtain a patient and commence tinkering with the most delicate of all the organs, the eye, and destroy the sight. Perhaps it would only be an error of judgment, but it would be such an error as to constitute malpractice.

The physician must exercise ordinary care in giving proper instructions to those in attendance on the patient, and a failure in this regard, if it results in damage to the patient, is actionable. In other words, he must exercise the same care in giving proper instructions to the attendants, where attention is necessary in his absence, as he gives in his own work on the case.

Another principle to be borne in mind is that the physician must follow established practice. The rule is very strict against trying experiments. On its face, this rule seems rather harsh, because it means that any advancement in the profession must be at the personal risk of the physician rather than of the patient. It has been held in many of the states that any deviation from the established mode of practice is sufficient to charge the surgeon in the case with any injury resulting to the patient. In general, the physician is bound by what is universally settled in the profession, not by what some writers and practicing surgeons recommend. If the ordinary and established practice of the profession is to treat an ailment in a particular manner, and the attending physician adopts some other mode that proves injurious, it is immaterial how much skill he possessed, since his experiment failed. If the settled practice of the profession allows but one course of treatment in the case, any departure from such course is at the physician's risk. He cannot try experiments with his patient to the patient's injury.

When we consider the wonderful advance in medicine and surgery from generation to generation, and consider how near it comes to being an exact science to-day, and how crude and barbarous were the methods described by early writers, and when we remember that all of this advance is the result of new discoveries, new experiments and new methods developed by skilled and learned members of the profession from age to age, the rule above set out seems very harsh, but it is an almost universal rule and it is one that physicians must bear in mind for their own protection.

There are some modifications to the rule: In case of emergency, when there is no well-known method that could be relied on in the particular case, and when the physician must act hastily with such means as are at his command, the rule, of course, would not be enforced. Again, by ordinary and established practice is meant the established practice of the physician's own school, and he is only expected faithfully to treat the patient according to the recognized rules of his particular school. Although someone else might think that some other school of medicine was better, his skill is to be judged by the school of practice to which he belongs and according to the avowed system which he professes. Of course, the law requires him to come up to at least the average standard of the school to which he adheres. By school in this sense the law means generally recognized method of treating disease or injury. A person who attempts to practice as a clairvoyant, or who attempts to heal disease by means of some occult influence exercised by him or some mental intuition received by him when in an abnormal condition, cannot excuse himself on the ground that he is practicing according to his school, but must take the risk if he fails to exercise the skill ordinarily possessed by a reputable practicing physician or surgeon.

In some states it has been held that if the service rendered was gratuitous the physician is not held to the exercise of so high a degree of care, but the rule in Illinois is that if a person holds himself out to the public as a physician he will be held to the exercise of ordinary care and skill in every case, whether he receives a fee for his service or not.

It is perhaps well to say, in connection with the rule of ordinary care above laid out, that the law imposes on the person making the complaint the duty of showing that he also exercised reasonable and ordinary care in carrying out the physician's instructions and in attempting to heal himself. Any failure in this regard on his part, if shown in an action, is a complete bar to his right of recovery in law; that is to say, in order to maintain his action, he must show two things: first that he was not guilty of any failure to exercise ordinary and reasonable care in carrying out the instructions of the physician and in attempting to cooperate with the physician for his own recovery, and second, he must show that the physician failed to exercise ordinary and reasonable care and skill in the conduct of the case; the burden of proof rests on the complainant in both of these respects.

164 Dearborn Street.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Ninth Month—Fourth Weekly Meeting

Diseases of the Nervous System (Continued)

Tuberculous Meningitis

Pathology: Tubercle, size, number, locations. Changes in pia and dura, in brain substance. Character, quantity and location of exudate. Association of meningitis with other tuberculous lesions. Relation of symptoms to lesions.

Symptoms: Prodromata, onset, duration of early symptoms. Convulsions, stupor or coma, headache, crying, muscular rigidity, eye symptoms, gastro-intestinal symptoms. Pulse, temperature and respiration. Second stage: Increase of early symptoms, paralyses, eye symptoms, mental symptoms, respiration. Duration of second stage. Third stage: Coma, eye symptoms, pulse, temperature, respiration. Variations in course of disease at different ages. Duration and prognosis.

Chronic Basilar Meningitis (Still)

Etiology: *Diplococcus intracellularis.* Syphilis.

Symptoms: Previous history. Onset, opisthotonos, hydrocephalus, muscular rigidity. Eye symptoms. Mental condition. Course and duration.

Chronic Internal Hydrocephalus

Etiology: Primary, congenital, cases: heredity, syphilis, rickets. Secondary; tumor, meningitis.

Pathology: Quantity, physical and chemical characteristics of fluid. Secondary changes in fluid. Changes in brain substance, in ependyma, in bony structures.

Symptoms: Size of head, character and rate of enlargement. Sutures and fontanelles. Motor symptoms. Eyes, mental symptoms. Clinical varieties.

Monthly Meeting

The Diagnosis and Treatment of Congenital Heart Disease.
The Treatment of Convulsions in Infants and Children.
The Early Diagnosis of Tuberculous Meningitis.
The Diagnosis and Treatment of Cerebrospinal Meningitis.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, May 9. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, May 9. Sec., Dr. P. C. Williams, Texarkana; Eclectic, Little Rock, May 9. Sec., Dr. G. A. Hinton, Hot Springs.

Florida: Regular, Tallahassee, May 8-9. Sec., Dr. J. D. Fernadez, Jacksonville; Eclectic, Lakeland, May 1-3. Sec., Dr. Hiram J. Hampton, Tampa.

Georgia: Homeopathic, Atlanta, May 2. Sec., Dr. R. E. Hinman, 153 Whitehall St., Atlanta.

Illinois: City Hall, East St. Louis, May 3-5. Sec., Dr. J. A. Egan, Springfield.

Kentucky: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

Louisiana: Regular, New Orleans, May 18-20. Sec., Dr. A. B. Brown, 108 Baronne St.; Homeopathic, New Orleans, May 1 Sec., Dr. John T. Crebbin, 1207 Maison Blanche Building.

Massachusetts: State House, Boston, May 9-11. Sec., Dr. Edwin B. Harvey, Room 159, State House.

Mississippi: Jackson, May 9. Sec., Dr. S. H. McLean.

Nebraska: State House, Senate Chamber, Lincoln, May 24. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

Nevada: Carson City, May 1-3. Sec., Dr. S. L. Lee.

New York: May 23-26. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

Wisconsin: Milwaukee, May 24-26. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

New Mexico January Report

Dr. J. A. Massie, secretary of the New Mexico Board of Health and Medical Examiners, reports the written examination held at Santa Fe, Jan. 9, 1911. The number of subjects examined in was 11; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 2, both of whom failed. Fourteen candidates were licensed on presentation of satisfactory credentials. The following colleges were represented:

FAILED

College	Year Grad.	Per Cent.
Tennessee Medical College	(1906)	44
Gate City Medical College	(1909)	35.4

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.
Columbian University, Washington, D. C.	(1894)
Georgetown University	(1908)
Louisville and Hospital Medical College	(1908)
University of Louisville	(1905)
Michigan College of Medicine and Surgery	(1897)
University Medical College, Kansas City	(1901) (1909)
American Medical College, St. Louis	(1891)
New York University Medical College	(1884)
Toledo Medical College	(1907)
Medico-Chirurgical College, Philadelphia	(1906)
University of Nashville	(1904)
Vanderbilt University	(1906)
Medical College of Virginia	(1899)

District of Columbia January Report

Dr. George C. Ober, secretary of the Board of Medical Supervisors of the District of Columbia, reports the written examination held at Washington, Jan. 10-13, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. The total number of candidates examined was 7, of whom 6 passed and 1 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
George Washington University	(1909)	78.7
Johns Hopkins University	(1910)	85.7
University of Michigan, Dept. of Med. and Surg.	(1898)	79.2
St. Louis College of Physicians and Surgeons	(1910)	76.9
Jefferson Medical College	(1909)	84.4
University of Virginia	(1910)	82.5

FAILED

College	Year Grad.	Per Cent.
Jefferson Medical College	(1908)	69.3

Book Notices

Deutsches Arzneibuch. Fünfte Ausgabe 1910. Paper. Price 3.90 marks. Pp. 680. Berlin: R. v. Deckers Verlag, G. Schenck, Königlicher Hofbuchhändler, 1910.

It has frequently been asserted that pharmacopeias, more than any other publication, reflect the ideals and the practices of the medical profession of the time and the country for which they are published. Accepting this statement as based on fact we can readily appreciate the reasons why this, the fifth, edition of the "German Medicine Book" has been so anxiously awaited by pharmacists and by teachers of materia medica. As indicated by the absence of the Latin synonym accompanying the official title in former editions, the present book is thoroughly German and, in fact, is the first of the several editions to be compiled entirely under government supervision, in the division on materia medica of the "Reichs Gesundheitsamt."

Because of the many innovations embodied in this edition the book is being liberally discussed and promises to prove the forerunner of a new era in medicine and pharmacy by indicating how the medicaments used by the physician can and should be controlled to insure their purity and efficiency. To appreciate this more fully it should be understood that in Germany the object and the use of the pharmacopeia is somewhat sharply defined and the book is recognized primarily as one of directions for the apothecary in the manufacture and control of medicaments designed to be used on physicians' prescriptions.

One of the more important innovations is the liberal recognition that has been accorded to perpetually protected or trademarked names. The German government by introducing proprietaries into its pharmacopeia not only gives due credit to German chemical industries for the introduction of new remedies but also safeguards the interests of the public by requiring that the medicaments advertised and sold under recognized trade names must conform to pharmacopeia requirements. Where a scientific designation is more convenient or in general use, it has been adopted as a chief title followed by the trade name.

In addition to the rather liberal recognition given to new remedies, a number of general descriptions or class headings have been adopted. These have long been a distinctive feature of the German Pharmacopeia and are of great practical value, particularly in a book which, like the one under discussion is designed to serve as a guide to the apothecary in the compounding of prescriptions and not to be a book of standards for regulating the trade in drugs and medicines generally. The new pharmacopeia contains a total of forty-four titles more than the Pharmacopeia Germanica IV and this difference is largely made up of new remedies and general headings.

For the medical practitioner in countries other than Germany and more particularly for the medical practitioner of the United States this edition of the German Pharmacopeia is an indication of the services that can and should be rendered by the pharmacist in controlling and safeguarding the identity and purity of the drugs used in the treatment of diseases. With the practice of pharmacy in this country based on scientific training and the pharmacist able to control and to guarantee the purity and efficiency of the drugs he dispenses there would be little or no need for special brands of medicines and absolutely no need for the many ready-made mixtures of the patent medicine type now prescribed by physicians.

I. Report on an Outbreak of Typhoid Fever at Omaha, Neb. (1909-1910). By L. L. Lumsden. II. The Water Supply of Williamson, W. Va., and its Relation to an Epidemic of Typhoid Fever. By W. H. Frost. Hyg. Lab. Bull. 72, November, 1910, U. S. P. H. and M.-H. S. Paper. Pp. 94, with illustrations. Washington: Government Printing Office, 1910.

L. L. Lumsden reports an investigation of an epidemic of typhoid in Omaha, lasting from November, 1909, to March, 1910, a brief account of which was given in The Journal, May 7, 1910, p. 1555. After eliminating, through a study of the statistics of 105 cases, such sources of infection as milk, ice, etc., a detailed account is given of the probabilities of water as the carrier. The public supply is obtained from the Missouri River at two points, one at some distance above Omaha, and the other at the city. The water is stored for about six hours, and alum is added for a coagulant. Sewage enters the river about 8 miles above the city intake, as well as at a number of places along the banks at no great distance from the city. The number of cases of typhoid fever among persons using water from this latter intake was disproportionately large. Analyses are given showing that the water from both intakes was badly polluted in spite of the attempted purification. A study of climatic conditions led the author to believe that during the fall of 1909 the river was subject to more than the usual degree of pollution. Infected water is regarded as without doubt the source of the outbreak. Recommendations are made that the river be more carefully guarded against dangerous pollution, and that the water be treated by mechanical filtration followed by the addition of hypochlorite of lime.

W. H. Frost, in the same bulletin, reports an investigation made during May and June, 1910, of an epidemic in Williamson, W. Va., which started about Nov. 1, 1909, and continued for several months. The general sanitary condition of the town and the water-supplies was carefully studied. A high power of pollution was found to exist not only in the town water but also in a number of shallow wells, which are in rather general use as the public supply is of a disagreeable character, being obtained from a river which receives washings from a coal mine located in one part of the town. Frost believes that the original source of the epidemic was the water, which became more than usually polluted on account of the low condition of the river in the fall of 1909 and the many possible sources of contamination which exist along its banks. A normal condition was resumed in January, but typhoid fever still continued. This is believed to have been due to contact infection. A study of the statistics of the later cases showed that many had to come in contact with previous cases. More evidence is furnished for this belief by the facts that in a majority of instances no efficient means of disinfection were used, and that great opportunity exists for contamination of wells, owing to the generally poor sanitary arrangements.

Recommendations are made: (1) that the public supply be purified with hypochlorite of lime or ozone, a new supply being considered impractical on account of the lack of sources in the region; (2) that methods of sewage disposal be improved; (3) that more careful disinfection be employed; (4) that the board of health supervise the sale of milk and other foods.

Plastic and Cosmetic Surgery. By. Frederick Strange Kolle, M.D., Fellow of New York Academy of Medicine. Cloth. Price, $5. Pp. 511, with 522 illustrations. New York: D. Appleton & Co., 1911.

The author has brought together in this work a rather full statement of the plastic surgery of the head and face. Preliminary to this he takes up the principles and the practical details of operations in this field, and thus in reality gives the first 100 pages to a consideration of minor operative surgery. In successive chapters he considers the plastic surgery of the eyelids, the ears, the lips, the mouth, and the cheeks; and these chapters are good. They represent a grouping of the subject of plastic surgery of the face and head that is valuable to anyone looking for practical knowledge in this field. The plastic and cosmetic surgery of the nose is taken up after considering paraffin prosthesis.

To the subject of subcutaneous hydrocarbon prosthesis Kolle gives 130 pages, in which the subject is very fully considered. It is a very useful presentation of the subject, to which anyone may turn with satisfaction for information. The author is a very enthusiastic advocate of paraffin prosthesis for the correction of defects. In its use for the correction of serious anatomic defects or deformities we have no criticism of his position to offer, but its use for the removal of trivial cosmetic defects—to smooth out wrinkles, to fill out hollow necks or flabby cheeks, for decorative purposes, for example—we believe should be very strongly condemned. Those of us who are seeing the hyperplastic tumors sometimes following these injections are impressed with the fact that to justify putting a mass of paraffin into the connective tissue there should be a more important indication than the smoothing out of a wrinkle or the improvement of the contour of the alæ nasi, particularly as in making the change one gives the injected tissue all of the motility of a graven image.

On the whole the work will be found a useful treatise on the subject of which it treats.

The Health Index of Children. By Ernest Bryant Hoag., M.A., M.D., Medical Director of Berkeley Schools. With Prefatory Note by Frank F. Bunker, Ph.B., Superintendent of Berkeley Schools. Cloth. Price, 80 cents. Pp. 188, with illustrations. San Francisco: Whitaker & Ray-Wiggin Co., 1910.

Dr. Hoag has that happy and all-too-rare ability to address the layman in the layman's own language without in the slightest degree compromising scientific accuracy. Perhaps a single exception may be found in the title of this book itself, which fails to convey to the uninitiated its real purpose and nature as the title of a popular treatise really should.

"The object of this little manual," to quote the author himself, "is to show teachers and parents how to detect easily those ordinary physical defects of the child which bar his progress in school and life, and to suggest means by which such defects may be removed and good health afterward maintained. Incidentally, it may prove of some value to physicians who are for the first time applying themselves to this special sort of public health work." The book contains just such practical information as every parent, teacher and school inspector should have to enable them to detect in their incipiency such defects as adenoids, deafness, eye-strain, nervousness, defective teeth, and to take the proper measures to have them remedied before irreparable damage has been done. The book contains admirable diagnostic tables, few but well-chosen photographs, clean-cut simple summaries, curves and diagrams, all so plain that any mother of average intelligence can understand them. In the present far-reaching tendency to take an eager public into the confidence of the medical profession, this little book should take a prominent position because it deals with those at the threshold of life where defects can be prevented or easily remedied. Such books are the natural antidote to the isms that have grown fat on ignorance; and we wish that every mother and father and school teacher could "read, mark, learn and inwardly digest" this little volume.

Practical Physiological Chemistry. By R. H. Aders Plimmer, D.Sc., Assistant Professor of Physiological Chemistry, University College, London. Cloth. Price, $1.80. Pp. 270, with 49 illustrations. New York: Longmans, Green & Co., 1910.

In this book an attempt is made to cover too much ground in a small space, and as a result both accuracy and clearness suffer. Thus, in the first thirty pages the student is informed on no greater number of subjects than qualitative and quantitative organic analysis, distillation, filtration, extraction, melting-point determination, boiling point determination, three methods of molecular weight determinations and discussions under headings such as "Constituents of a Cell" and "Life Cycle of the Elements." The remainder of the text is devoted to brief considerations of the most elementary features of organic chemistry and more or less detailed treatment of the biologically important constituents of protoplasm, the latter being considered from the qualitative and quantitative points of view. Statements such as that the constitution of d-glucose, d-mannose, d-galactose and d-fructose "is proved by their reduction to the corresponding hydrocarbon hexone and by oxidation" are very misleading. There is also at least one important omission. The pyrimidin bases are not mentioned; the student is simply told in different parts of the text that nucleic acid contains pentose, guanine and adenine, that it is obtained from nucleoprotein and that the latter contains phosphorus in the nuclein portion.

Diagnostik der Nervenkrankheiten. Von Dr. L. E. Bregman, Oberarzt am städtischen jüdischen Krankenhaus in Warschau. Mit einem Geleitwort von Dr. H. Obersteiner in Wien. Paper. Price, 12 marks. Pp. 535, with 193 illustrations. Berlin: S. Karger, 1911.

Of the books on the diagnosis of nervous diseases which have hitherto appeared in English or German, we know none which approaches the subject from the viewpoint of semeiology, a method which has long been in vogue among the French. It is this method which is successfully followed by Bregman. In sixteen short chapters he approaches diagnosis from such symptom-groupings as paralysis of motion, of sensation, the special senses, reflex and speech disturbances and other symptom-complexes, with, in addition, a chapter on the diagnosis of psychic disorders. In a work including so much, we might expect a mere collection of tabulated diagnostic aids. The author gives, however, a full and concise account of everything important in the clinical diagnosis of nervous diseases. To summarize, it may be said that all topics have been given due attention and are entirely up to date. This manual is the product of one who is not only well trained in the best methods of neurologic examination, but who can also explain them and teach how to correlate the findings. The book on the whole is a distinct gain to modern neurologic literature.

A Study of the After-Results of Abdominal Operations on the Pelvic Organs. Based on a Series of 1,000 Consecutive Cases. By Arthur E. Giles, M.D., Surgeon to the Chelsea Hospital for Women. Cloth. Price, 10 shillings 6 pence. Pp. 251. London Ballière, Tindall & Cox, 8 Henrietta St., Covent Garden, 1910.

The author analyzes the after-results in 1,000 cases of pelvic operations. Only one who has attempted to follow up patients for some time after operations will appreciate the immense amount of labor it has cost the author to follow out and determine the present condition of 1,000 patients who had been operated on for pelvic diseases during the past several years. It too often happens that the patient who escapes from the hospital with her life is immediately reported as having been cured of her trouble; or, if the case is reported later, it is assumed that the patient is well simply because she has not been seen or heard of since the operation. It is only by the painstaking method adopted by Dr. Giles that the defects, as well as the advantages, of a given operation become apparent. In the first part of the work the author gives in detail the present condition of the patients, classified according to the particular operation performed, and in the second, a brief clinical history of each case.

The author is to be commended for the earnest effort made and congratulated on the excellent results obtained.

Handbook of Treatment for Diseases of the Eye (Ophthalmic Therapeutics). By Dr. Curt Adam, Assistant-Surgeon in the I. University Clinic for Diseases of the Eye, Berlin. With a Preface by Prof. von Michel, Berlin. Translated from the Second German Edition (1910), by William George Sym, M.D., F.R.C.S.Ed., and E. M. Lithgow, M.B., F.R.C.S.Ed. Cloth. Price, $2.50. Pp. 264, with 36 illustrations. New York Rebman Co., (1911).

The second edition of this small manual, as its title indicates, contains the essentials of ophthalmic therapeutics. It is evident that a full account of this important subject cannot be crowded into so small a space, yet the book contains a surprisingly large amount of information. While it is merely a compend, we believe that it stands as a series of useful, predigested facts that will be more readily absorbed by the general practitioner and by the student of ophthalmology than larger and more imposing treatises. The space (20 pages) set apart for the consideration of refraction and the prescribing of spectacles seems unduly restricted, at least to our American notions, but probably from the German point of view it is sufficient. The work has a place in ophthalmic practice if for no other reason than that judiciously written compendiums on special subjects are always of value to those who do not make a particular study of the medical department in question.

Hernia. Its Cause and Treatment. By R. W. Murray, F.R.C.S., Surgeon, David Lewis Northern Hospital. Second Edition. Cloth. Price, $1.75 net. Pp. 184, with 62 illustrations. Philadelphia: P. Blakiston's Son & Co., 1910.

In explanation of the existence of this little volume the author says: "My reasons are that I believe the explanation offered in the following pages as to the cause of hernia to be the true explanation and the results I have obtained by a simple method of operating are extremely encouraging." The author is a firm believer in the so-called saccular theory of the cause of hernia, which was so well presented some time ago by Mr. Hamilton Russell of Melbourne. Most surgeons who have given the subject much study are now convinced that the great majority of hernias are due to congenital defects in the shape of preformed sacs regardless of the age at which the rupture becomes evident. Murray's method of operating does not differ materially from the standard operation generally in use to-day. He merely emphasizes again the necessity of complete removal of the sac whenever that is possible.

Le Tronc Cœliaque. Par Pierre Descomps, Prosecteur des Hôpitaux. Travail de l'Amphitheatre d'Anatomie des Hôpitaux. Recherches d'Anatomie Chirurgicale sur les Artères de l'Abdomen. Cloth. Price, 10 francs. Pp. 205, with 97 illustrations. Paris: G. Steinheil, 1910.

The amount of surgery being done in the upper abdomen on the organs which receive their blood-supply from the celiac axis makes it incumbent on the surgeon to have an accurate knowledge of these vessels, their surgical relations, anastomoses and their most common deviations from the normal. In order to be able to present this subject clearly, the author made a careful study of this region in fifty cadavers. The arteries were injected through one common iliac after ligating the opposite common iliac and the aorta just below the diaphragm. The findings in the fifty cases are well illustrated by ninety-seven figures, each of which is thoroughly described in a voluminous text of about 200 pages. The literature is also well covered and the findings of other anatomists are recorded, where these relate to deviations from the accepted normal. The work is an excellent study in descriptive and surgical anatomy and has a decided practical value.

History of Anthropology. By Alfred C. Haddon, M.A., Sc.D., F.R.S., Fellow of Christ's College, University Reader in Ethnology, Cambridge. With the Help of A. Hingston Quiggin, M.A., Formerly of Newnham, Cambridge. Cloth. Price, 75 cents. Pp. 206, with illustrations. New York: G. P. Putnam's Sons, 1910.

This book is one of a series on the history of the various great divisions of science. In addition to the study of the origin, physical and mental characteristics of man, the subject of anthropology includes many of the other sciences, as archeology, technology, sociology and religion, linguistics, etc. The science of anthropology still remains more or less incoherent and unorganized on account of the imperfection of the data on which final conclusions can be based. The history of each of these tributary sciences is given, in so far as it has a bearing on anthropology, together with theories and sketches of men concerned with the development of the science. The book is illustrated, has an extensive bibliography and an index.

A Fleshless Diet. Vegetarianism as a Rational Dietary. By J. L. Buttner, M.D. Cloth. Price, $1.35 net. Pp. 287. New York: Frederick A. Stokes Co. (1910)

If Buttner has missed any point of view on this interesting and much-discussed subject, we fail to discover it. If thoroughness of treatment could settle the question, we should all be vegetarians after reading this book, for it is certainly comprehensive. There are elaborate tables and abundant quotations—even pages of quotations from the opponents of vegetarianism which the author includes in order to be fair. Thus the work will be of service as a work of reference, whether or not one accepts the author's conclusions. Its perusal will do good, as no doubt many people eat too much meat and too little of some valuable vegetable products.

Hughes' Practice of Medicine. Including a Section on Mental Diseases and One on Diseases of the Skin. Revised and enlarged by R. J. E. Scott, M.A., B.C.L., M.D., Attending Physician to the Demilt Dispensary. Tenth Edition. Leather. Price, $2.50 net. Pp. 878, with 63 illustrations. Philadelphia: P. Blakiston's Son & Co, 1911.

This old standby for the student and the general practitioner is evidently keeping up the popularity it has enjoyed for so many years. This popularity is due to the fact that the book gives practical discussions of diseases as briefly as is consistent with the subject, theories being eliminated. The present edition has been brought thoroughly up to date, all necessary changes having been made to adapt it to modern medicine. Many of the articles have been practically rewritten, and some new ones added.

Medicolegal

License Rights of Certain Practitioners—Powers and Duties of State Board

The Supreme Court of Idaho holds, in Vadney vs. State Board of Medical Examiners (112 Pac. R. 1046), that, under the provisions of Section 1298 of the Revised Statutes of 1887, no person was permitted to practice medicine or surgery in that territory (now state) who had not received a medical education and a diploma from some regularly chartered medical school having a bona-fide existence at the time the diploma was granted, and when it appeared that the applicant for a license to practice medicine and surgery in the state was engaged in the practice of his profession under the provisions of the Laws of 1887, and had complied with all of the provisions of section 5 of the Act of 1899, it was the duty of the State Board of Medical examiners to issue to him a license to practice medicine and surgery in Idaho.

A diploma from a regularly chartered medical school, which has a bona-fide existence at the time the diploma was granted, and a compliance with the provisions of section 1298a and 1298b of the Revised Statutes of 1887, with reference to being identified and filing a copy of the diploma, was all the proof that the statute required at that time of the applicant's having a medical education, and under the act of 1899 the medical board had no authority to require any other or further evidence of the fact.

The State Board of Medical Examiners, under the law of 1899, had no authority to refuse a license to an applicant who was engaged in the practice of medicine and surgery under the Laws of 1887, on the ground that the college issuing the medical diploma under which he was practicing was not a "reputable college of medicine in good standing." The board had a right to determine the question about the college issuing the diploma being a "reputable college of medicine in good standing" under the Act of 1899, where the applicant had not been practicing medicine and surgery under the Act of 1887; but when the applicant had been practicing under the Laws of 1887, and made application under the fifth section of the Act of 1899 for a license, the board had no authority whatever to determine that question. If the plaintiff had a diploma from a regularly chartered medical school that had a bona-fide existence at the time the diploma was granted, that was all that was necessary, so far as the diploma was concerned.

If the plaintiff's application was not properly verified, it was the duty of the secretary of the board to return it to the applicant for verification, and if the persons who certified to the good moral character of the plaintiff were not satisfactory, the plaintiff ought to have been notified of that fact and given an opportunity to furnish the names of other persons who would certify to his good moral character, if he could.

Under the provisions of section 9 of the medical law of 1899 there is no provision for an appeal from an order of the State Board of Medical Examiners refusing to grant a license to an applicant; but said section contains a provision whereby the proper court may review by certiorari certain proceedings of said board.

Relative Weight of Evidence of Attending Physicians

The Supreme Court of Louisiana holds, in the personal injury case of Rickerson vs. Town of Minden (53 So. R. 667), that the testimony of a physician who attended a person immediately after an accident is of more weight on the question of the seriousness of the injury than that of a physician who attended the injured person a year after the accident. for other causes and conditions might have intervened during the year.

Evidence of Fetus Being Quick

The Supreme Court of Kansas says that it was urged in the criminal abortion case of State vs. Hatch (112 Pac. R. 149) that only the mother or persons who have placed their hands on her body and felt the independent motion of the fetus can know whether or not it is quick. But if this were adopted as the iron-clad rule of evidence in such cases, the statute defining the crime of abortion would be practically impossible of enforcement after the death of the mother. The court prefers to hold that where physicians testify, as experts, to the measurements and appearance of a fetus found by them in the body of a deceased woman, and that from such measurements and appearance they each had an opinion as to the age of the fetus and as to whether the woman at her death was quick with child, it is competent to allow such witnesses to testify each to his opinion.

Proof of Amount of Earnings of Physician Not Necessary

The Court of Appeal of the Second District of California holds, in Washington vs. Pacific Electric Railway Co. (112 Pac. R. 904), that, in an action brought by a physician to recover damages for personal injuries, including damages for loss of earning power, the right to recover the latter is not dependent, under the decisions of that state, on proof of some specific or particular sum of money that had been or was at the time of the injury being earned by the plaintiff, where the evidence shows that the plaintiff was a practicing physician and several witnesses testify to having been attended at different times by the plaintiff professionally.

No Illegal Discrimination Against Hospital

The Supreme Court of California reverses a judgment recovered by the plaintiff, in Union Labor Hospital Association vs. Vance Redwood Lumber Co. and others (112 Pac. R. 886), an action brought against the defendant named and six other lumber companies to enjoin them from conspiring and combining together to vex, injure and destroy the hospital business of the plaintiff. The defendants, the court says, compelled every employee to consent to the deduction of $1 from his monthly wage, 12½ cents of which went into a contingent fund to help needy employees who might be injured and 87½ cents of which went to a hospital for an employee's ticket that entitled im to medical and surgical care and attendance in case of njury. The occupations of their men were dangerous. That provision should be made for the medical and surgical care of the men injured was most proper. No objection was made o this, nor to the means adopted to effectuate it, saving that the plaintiff contended that because its hospital was not on the ist of enumerated hospitals from which the employees were authorized to make a selection, a species of unlawful discrimination was practiced against it. But the court does not agree with that, or, in other words, that there was an illegal boycott against the continuance of which the defendants should be enjoined.

There being no contractual relations between the plaintiff and the defendants, the defendants, individually or in combination, were under a duty only to refrain from inflicting a egal wrong on the plaintiff. Unquestionably there was nothng illegal in the measures employed by the defendants. The suasion or intimidation or coercion was purely moral, and went no further on the part of the defendants than a refusal o employ or to retain in their employ any one unwilling to comply with their hospital regulation. This was purely a matter between employer and employee, and, where no contract between them stands in the way, it is the unquestioned right of an employer to discharge at his pleasure, or to impose conditions on the retention of the employee in his employment. The court is unable to perceive where any element of monopoly entered into this case, as the plaintiff claimed. The defendants had the undoubted right to deal with any hospital which they might select. In fact, they were dealing with four, and they were not even prohibiting their men from engaging the services of the plaintiff. That is, the defendants insisted merely that the employee buy a ticket in one of their designated hospitals. Then he was at liberty to buy an additional ticket in the plaintiff's hospital, though, in the nature of things, an employee having purchased a ticket in another hospital would not be likely to lay out more money for such a purpose. And since the acts of the defendants were within their legal rights, the motive for those acts was not a subject of inquiry.

Liability of Company Requiring Injured Person to be Taken to Physician

The Supreme Court of New Jersey holds, in Perkins vs. Trenton Street Railway Co. (78 At. R. 666), that where a printed rule of a trolley company required the conductor of a car in case an accident should occur to take the injured person to a physician, and the motorman met with an accident by which his leg was crushed, and the conductor telephoned to the plaintiff, a physician, who came and amputated the limb, the company was liable on contract to the physician for the value of the service thus rendered.

The court says that the requirement of the rule that when an accident occurs, and necessity for it exists, the conductor shall take the injured person to a physician is meaningless, unless it means that the physician is to render the professional aid necessitated by the accident. The court thinks that this is its meaning and that services of such a character when so rendered are rendered to the company through its duly authorized agent. The authority to take the injured person to the physician of course carries the authority to call the physician to the injured person.

The rule or instruction not making any distinction as to cases of accidents for which the company is not liable, the court, on reflection, thinks that no such distinction can be made in view of the ground on which the rule or instruction itself must be supported as a reasonable exercise of corporate regulation. The directors of the company will be presumed to have framed and promulgated this instruction in the interest of the stockholders. From this point of view they may well have considered that for every injury resulting from an accident in their cars a lawsuit is possible, in the course of which their liability would for the first time be authoritatively determined. If liable they may be deemed, from their knowledge of human nature, to know that the damages assessed by the jury would as a rule be largely enhanced by any show of inhumanity toward the plaintiff at the time of his injury, or any lack of immediate care for him at that critical juncture, and also that humane aid promptly secured by the company would be a circumstance likely to affect the jury favorably. The directors also knew, unless blind to the details of their business, that it is of the utmost importance in litigated accident cases that the medical witness who first sees and ministers to the injured person should not be one selected and paid (or to be paid after the suit) by such person, and still more that such witness shall not be selected by the attorney who prosecutes the suit for damages. A rule that would in all cases tend to secure unbiased testimony on this important feature of every such litigation would be an exercise of sound discretion by the directors.

This answers the objection that it is no part of the directors' duty to provide medical attendance for persons for whose injuries the company is not liable. For such liability cannot be determined at the instant of the accident, and that is the instant at which the conductor is required to act. So that in view of the reason suggested for such rule it would be a sound exercise of discretion for the directors to incur the slight expense in those cases in which it was ultimately determined that the company was not liable in view of the far greater importance of the results flowing from such rule in cases where the question of damages was involved. For the same reason, and to the same end, the rule should not be interpreted, or rather frustrated, by making the conductor pass as judge and jury on the law and facts of an accident at the instant of its occurrence as the basis of his private judgment as to whether or not it came within the rule that prescribed his duties in case of an accident.

Regarding the case, therefore, as one in which the injured person was guilty of contributory negligence, or such as would bar his right of recovery against the company, the court thinks that that circumstance affected neither the interpretation of the company's rule nor its legal effect on the agency of the conductor.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Arkansas Medical Society, Fort Smith, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
Connecticut State Medical Society, Hartford, May 24-25.
District of Columbia, Medical Association of, Washington, April 25.
Florida Medical Association, Tallahassee, May 10.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maryland, Med. and Chirurgical Faculty of, Baltimore, April 25-27.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Regular Meeting, held Wednesday, March 8, 1911

The President, Dr. C. B. Longenecker, in the Chair

SYMPOSIUM ON NEPHRITIS

The Chemistry of Nephritis

Dr. Howard T. Karsner read a paper reviewing the status of the chemistry of nephritis in reference to the metabolism and the urinary changes in the various forms of non-suppurative inflammations of the kidney and presenting the chemistry of uremia and edema. The paper will appear in The Journal.

Symptomatology and Diagnosis of Nephritis

Dr. John F. Roderer: Bright's disease in my opinion should be divided into: (1) parenchymatous nephritis, (2) the so-called chronic interstitial nephritis. Parenchymatous nephritis, which is essentially a disease of the kidneys, is divided into the acute and chronic forms, and the principal diagnostic symptoms are connected with the urine. The diagnosis of chronic interstitial nephritis can be made, I believe, without any examination of the urine, by the continued high blood-pressure caused by the diseased blood-vessels, and the altered function in the heart, eye, kidneys and other organs, the result of the diseased arteries and high blood pressure. I am convinced that the condition called chronic interstitial nephritis is not essentially or primarily a disease of the kidneys, but an inflammatory disease of the arteries, possibly principally the terminal arteries. Chronic arterial fibrosis would be a better term. It is true that in this disease the kidneys become affected, but so may every other organ of the body. I am of the opinion that the retention of urea in the system in this disease acts only as an overdose of opium, and that uremia is given credit for some of the symptoms to which it is not entitled. The disease of the blood-vessels and the high blood-pressure will explain all the other symptoms. The brain as well as the kidneys suffers in this disease. The heart suffers most. The disease is insidious in its onset, and may exist for years without giving rise to serious symptoms. A patient may consult the physician for indigestion, headache, failing vision, shortness of breath on exertion, or a general lassitude, and any one of these symptoms may be the first evidence of the disease. Given any one of these symptoms in a patient past middle life engaged in mental labor, and inclined to worry, a thorough examination should be made. The eye is the one organ which will confirm the existence of this disease long before the evidence is shown by the kidneys. There may be normal vision with the presence of retinal lesions.

Operative Treatment of Bright's Disease

Dr. Morris Booth Miller: In my opinion, the question resolves itself somewhat as follows: First, there is no scientific justification for the assumption that surgery, or anything else, can cure nephritis once it is established. Second, the majority of the theories which have been advanced to warrant surgical interference have not been very convincing, to say the least. A constantly growing mass of clinical data, which is deserving of the closest scrutiny, tends to show, however, that the physiologic cure of Bright's disease through remission may be brought about by operation. Despite an immediate mortality of about 30 per cent., and a mortality of 44 per cent. within a short period, the results of the operative treatment have been hopeful when the desperately ill condition of many of these patients is taken into consideration. The reported cases, now running into many hundreds, show a striking number of recoveries, some of which can only be described as brilliant, and it is not surprising that nearly three-fourths of the surgeons who have expressed opinions are favorably disposed and satisfied with their results. I believe that nephrotomy in these cases does good and often saves life, because it does, and does abruptly and thoroughly, certain things which are within the mental horizon of every medical student whenever he thinks of nephritis. I believe that cutting down on the kidneys accomplishes all the purposes of cupping and bloodletting, and does it better, because it tends to relieve the disturbance at its focal point. Just as in intestinal obstruction the sympathetic nerve impulses create violent peristalsis to overcome the obstruction, so we may have in anuria and uremia intense local vasomotor efforts to overcome the renal block. Furthermore, the removal of the capsule seems wise. No man can say just what part is played in a case of suppression by the edema within the kidney itself, and decapsulation certainly offers an outlet. For this reason I believe with Harrison that drainage should always be done in these cases. There may be other explanations for the value of surgical interference in restoring renal equilibrium based on more precise knowledge of urinary physiology, but for the present these seem sufficient. It is in cases in which hypertension, local and general, and edema are the predominant phenomena that the most successful results have been obtained, while the least satisfactory subjects for the knife have been those whose kidneys were caught in the death-grip of interstitial change. Particularly apt has been the operation in saving life in the severe form of nephritis complicating and following the actue exanthemata, of which scarlatinal nephritis may be mentioned as a type. The results in chronic parenchymatous and, to a minor extent, in diffuse nephritis, have been less satisfactory. Those cases in which the cardiovascular changes are marked are the least favorable of all. Nephritis is and must remain a medical entity, and it is not until medical measures have been given a fair trial and have failed that we are justified in considering surgery. When that time comes, the following fairly well-defined principles may be borne in mind for guidance in the individual case: First, operation may be hopefully done in acute nephritis; second, young patients are the best subjects; third, there is sound reason for operating for anuria or uremia occurring in chronic nephritis; fourth, operation may be resorted to as a last desperate chance in any form of nephritis.

DISCUSSION

Dr. Henry K. Pancoast: The use of the *x*-ray examination in connection with kidney disease is rather closely limited to the diagnosis of calculus in the kidney or ureter, and to the determination of alterations in the position or size of the kidney. Considering the number and variety of the factors that may affect the accuracy of the *x*-ray diagnosis, it is almost remarkable that the percentage of error is as low as it is. Fortunately, the most frequent sources of trouble may be overcome, guarded against or eliminated. The various sources of error may be classified in somewhat the following manner: Obesity; inadequate preliminary preparation of patient; conditions of the abdomen or pelvis which offer shadows of unusual density; surgical dressings, drainage tubes, etc.; the presence of unusual conditions causing shadows that may simulate those of stones in the kidney or upper portion of the ureter; misplaced or supernumerary kidneys or ureters; conditions or objects which may, by their shadows, lead to error or confusion in the diagnosis of calculus in the lower portion of the ureter; certain anatomic structures, as in the case of stones obscured by the shadows of the pelvic bones and the lower ribs; the consistency of the calculus; lack of adequate clinical knowledge of the case on the part of the examiner. The fact should not be overlooked that it is possible for a stone to be present without producing a perceptible shadow on the radiograph, because pure uric-acid calculi possess such a slight degree of density that they may not produce a distinguishable shadow in any but a thin individual. The modern technic of the examination for renal calculus requires some knowledge of the clinical aspect of the case on the part of the examiner, and the physician who refers the case adds to the possibility of error in failing to supply the necessary data. As a further safeguard against mistakes, it is wise to confirm the findings of a positive examination before submitting the patient to an operation for the removal of a calculus.

Dr. B. A. Thomas: Until we learn more about the kidney along the line of physiologic chemistry, I think not much advance will be made in the investigation of this disease.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

April 5

1 Disorders of the Stomach and Duodenum, Especially Ulcers. W. J. Mayo, Rochester, Minn.
2 Duodenal Ulcer. F. W. White, Boston.
3 Present Treatment of Gastric and Duodenal Ulcer. A Review of the Recent Literature on the Subject. C. Frothingham, Jr., Boston.
4 Indications from a Medical Standpoint for Operative Procedures in the Presence of Chronic Gastric Symptoms. M. V. Tyrode, Boston.

New York Medical Journal

April 8

5 Growth and Development of the Training School for Nurses of the New York Hospital. G. L. Peabody, New York.
6 Study of Fats and Lipoids in Animal Tissue. J. Wright, New York.
7 Nervous Affections in Relation to the Adjustments of the Eyes. G. T. Stevens, New York.
8 Psycho-Analysis as a New Therapeutic Procedure in Psycho-Neuroses. A. Gordon, Philadelphia.
9 Ozone. M. W. Franklin, Schenectady, N. Y.
10 Sodium Cacodylate in Syphilis. O. L. Suggett, St. Louis.
11 Id. H. A. Schirrmann, Portsmouth, Ohio.
12 Rabies. J. A. McLaughlin, New York.
13 Morphinism and Morphinomania. F. McK. Bell, Ottawa, Canada.

Lancet-Clinic, Cincinnati

April 1

14 *A New Principle in Treatment of Hyperthyroidism. G. W. Crile, Cleveland, Ohio.
15 *Blood-Findings in Lymphatic Leukemia. H. L. Woodward, Cincinnati.
16 Indications for Nephrectomy. E. O. Smith, Cincinnati.

14. Abstracted in The Journal, Oct. 1, 1910, p. 1220.

15. **Blood Findings in Lymphatic Leukemia.**—In Woodward's case the left axillary lymph nodes became swollen and suppurated three years ago. They were incised; following this they remained enlarged. One year ago the glands of the right axilla became enlarged also, and soon after those of the neck and groin began to enlarge. In April, 1909, the patient, a woman of 65, was confined to bed for one week, with fever ranging from 100 to 101 F. She complained chiefly of weakness. On May 23, 1909, a blood examination gave the following results: hemoglobin, 48 per cent. (Dare); reds, 2,880,000; whites, 781,000; differential count of 1,000 white cells gave small lymphocytes, 98.6 per cent., 770,060 per c. mm.; large lymphocytes, 0.9 per cent.; 7,030 per c. mm.; polynuclear nutrophiles, 0.5 per cent., 3,900 per c. mm. No nucleated reds were seen in counting 1,000 whites, but careful later search showed a very few. Color index was 0.84. Fowler's solution was started at once, 3 drops, later increased to 10 drops, being given, thrice daily. December 10, 1909, just two weeks before death the blood examination was as follows: hemoglobin, 35 per cent. (Dare); reds, 2,600,000; color index, 0.67; whites, 1,406,000. Differential count of 1,000 whites: small lymphocytes, 7.8 per cent., 109,670; polymorphonuclear neutrophiles, 1.3 per cent., 18,280; transitionals, 0.1 per cent., 1,400. Two normoblasts seen in counting 1,000 whites, or 2,800 per c. mm.

A study of the blood in this case is of interest from several standpoints. On the day of the first examination, May 23, it gave the typical picture of a chronic lymphatic leukemia, the tremendous increase in the small lymphocytes being the most marked feature. Most of these cells were smaller than the red cells, had almost no cytoplasm, and their nuclei stained very deeply with Wright's stain; a smaller number were about the size of a red cell, or slightly larger; they had a somewhat greater amount of cytoplasm, which was very faintly blue, and a deeply-staining nucleus, not quite so dark as the first variety. A third variety of small or intermediate lymphocytes, slightly larger than the red cells, showed a narrow rim of cytoplasm which had taken the stain more deeply than the nucleus, which was concentrically placed and stained light blue; it frequently showed a nucleus. Numerous irregular masses, stained a purplish-blue, were undoubtedly small lymphocytes of the larger varieties which were artificially broken down in making the smears, for they were not seen in the first preparations and were much less numerous in thick smears than in thin ones. The large lymphocytes were only present in very small numbers in this first preparation, and differed only in size from the last-named varieties. Polymorphonuclear neutrophiles were present only in very small numbers, being absolutely as well as relatively decreased. The red cells showed a picture of a moderate anemia of the secondary type, the cells being practically normal in appearance, though somewhat paler than normal. A very few normoblasts were found after prolonged search. On December 10 the white cells had increased in numbers enormously, 1,406,000 per c. mm., the highest white count of which Woodward has found any record in the lymphatic type. The character of the cells had changed also. The large forms of lymphocytes were much more numerous, relatively and absolutely, than in any of the previous specimens. They had, as a rule, a large nucleus rather faintly stained, with a broad surrounding mass of cytoplasm staining only slightly. The small lymphocytes were mostly of the larger types also. One large lymphocyte was seen with a double nucleus, each portion of which showed a nucleolus. Some of the larger lymphocytes were vacuolated. The red blood-count remained almost stationary throughout. Nucleated reds were very rare except in the last count, when 2 were seen in counting 1,000 white cells. The hemoglobin index was persistently minus, except during a reactionary period in September, when it was 1.26, and in the next examination, when it was 1.11. None of the rod-shaped bodies, described by Auer and Ottenberg in acute leukemia, were found in any of the lymphocytes.

Wisconsin Medical Journal, Milwaukee

March

17 Rabies in Wisconsin. M. P. Ravenel and B. W. Hammer, Madison.
18 The Smith Operation for Extraction of Cataract in the Capsule. G. I. Hogue, Milwaukee.
19 Reconstruction of the Bile Ducts. A. S. Sullivan, Madison.

20 Value of Blood-Cultures in Puerperal Fever. J. S. Evans, Madison.
21 Development and Value of the Blood Culture in Typhoid. G. C. Ruhland, Milwaukee.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

March

22 Physiologic Action of Sodium Chlorid. D. R. Joseph and S. J. Meltzer, New York.
23 Distribution of Hemolysins, Agglutinins and Poisons in Fungi, Especially the Amanitas, the Entolomas, the Lactarius and the Inocybes. W. W. Ford, Baltimore.
24 *The Site of Action of Strychnin in the Spinal Cord. A. H. Ryan and H. McGuigan.
25 *Control of Strychnin Poisoning by Intratracheal Insufflation and Ether. T. S. Githens and S. J. Meltzer, New York.
26 Inhibitory Action of Sodium Chlorid on the Phenomena Following the Removal of the Parathyroids in Dogs. D. R. Joseph and S. J. Meltzer, New York.
27 Physiologic Studies in Anaphylaxis: Microscopic Study of the Anaphylactic Lung of the Guinea-Pig and Mouse. W. H. Schultz and H. E. Jordan.

24. **Site of Action of Strychnin.**—It was found by the authors that when the lower half of the spinal cord is poisoned by the transfusion method, spasms confined entirely to the lower half of the animal occur when the skin of that region is stimulated. The spasms then become spontaneous in the lower half of the animal. As the poisoning increases the spasms become general, occurring in the upper unpoisoned half when the lower half is stimulated. Spontaneous general spasms then ensue. If at this stage the spinal cord is cut at a level just between the poisoned and unpoisoned portions the spasms cease in the upper half of the animal while they continue below, indicating that the upper half is unpoisoned. An injection of strychnin subsequently into the upper part of the animal again throws it into spasms. If the poisoning be more gradual, as obtained by directly applying strychnin to the spinal cord in different regions, the symptoms of strychnin poisoning are slower to develop and stages intermediate to those just described occur, beginning with exaggerated reflexes and ending with spontaneous spasms, but always localized in the beginning to the poisoned region. Later symptoms are manifested in unpoisoned regions. In an animal in a state of complete general strychnin poisoning, occlusion of the aorta was, of course, followed by a disappearance of symptoms below the point of occlusion.

After the aorta was released, a time came when stimulating the skin above the point of occlusion was followed by general spasms (both upper and lower limbs) while stimulating similarly below the point of occlusion gave absolutely no response. When either the lumbar or the cervical region of the spinal cord is poisoned with strychnin an increase in the excitability of the poisoned area is observed when the corresponding area of the motor cortex is stimulated. The same result is obtained if the posterior roots in the poisoned area are severed. If strychnin is applied to the cervical region of the cord until that region is thoroughly poisoned so that stimulation of the skin of that region causes a general spasm, and then all of the posterior roots are severed, it is found that stimulation of the fore leg area of the cerebral cortex will cause a spasm of the fore legs but none elsewhere. The stimulus required to bring about this result is weaker than that required in the beginning to cause a mere twitch, and is also weaker than that required to cause a twitch of the hind leg on stimulation of its center in the cortex at the time the cervical region is poisoned.

25. **Control of Strychnin Poisoning.**—On the basis of their experimental experience it seems to Githens and Meltzer that ether anesthesia, intratracheal insufflation and intravenous infusion of Ringer's solution, offers a very effective method of treatment for strychnin poisoning in animals. They see no reason why it should not be available also in cases in human beings.

American Journal of Urology, New York

February

28 The Normal and Pathologic Posterior Urethra and Neck of the Bladder. L. Buerger, New York.
29 Massive Destruction of the Urethra After a Succession of Attempts to Restore It in a Case of Hypospadias. G. A. DeS. Saxe, New York.
30 Sexual Neurasthenia: Its Local and Hydrotherapeutic Treatment. M. Porosz, Budapest.
31 Catheter Left in the Deep Urethra and Bladder After Operation of External Urethrotomy. H. J. Scherck, St. Louis.
32 Massage of the Prostate. G. Greenberg, New York.

American Medicine, New York

March

33 A Morning at Bier's Clinic in Berlin. H. G. Watson, New York.
34 Quinin: Its History and Preparation of Its Alkaloids. J. J. Sheridan, New York.
35 The Oral Laboratory. C. E. Field, New York.
36 An Appeal to All Men of Honor of the Medical Profession of America. A. Rose, New York.
37 Posttyphoid Bone Abscess. H. Lilienthal, New York.
38 Colds and Catarrh. I. M. Heiler, New York.
39 Dosage to Effect. W. F. Waugh, Chicago.
40 Action of Animal Extracts on Intestinal Movements. I. Ott and J. C. Scott, Philadelphia.
41 The Dispensary Evil and Its Consequences. W. G. Wulfahrt, New York.
42 *A Tonsillotome Improvement. T. H. Shastid, Marion, Ill.
43 Sir Walter Raleigh's "Royal Cordial." J. Knott, Edinburgh, Scotland.

42. **A Tonsillotome Improvement.**—This is an ordinary Mathieu's tonsillotome with an improvement consisting in two anterior pillar hooks, or retractors, ⅜ of an inch in length, either straight or very slightly curved, probe-pointed, and soldered to the anterior margin of the fenestra on the side of the instrument opposite to the impalement-fork—in other words, on the side next the wall of the throat. The hooks diverge somewhat as they leave the instrument, being 4/8 of an inch apart where soldered to the tonsillotome and ⅝ of an inch apart at their probe-pointed extremities. These hooks or retractors are used in the following manner: The anterior pillar is of course, if necessary, first thoroughly separated from the tonsil, and then, the tonsillotome having been introduced into the throat, first the lower hook, or retractor, and then the upper, is inserted into the space between the pillar and the tonsil. The instrument is slightly drawn forward, and then the instrument is pressed round the tonsil, and the ablation completed in the customary manner.

Memphis Medical Monthly

February

44 Treatment of Acute Suppurative Otitis Media. W. L. Simpson, Memphis.
45 The Clinical Side of Fibroid Tumors of the Uterus, with a Brief Description of the Perfected Operation for Cure of This Condition. F. D. Smythe, Memphis.
46 Treatment of Fibroid Tumors of Uterus. W. T. Black, Memphis.
47 Pathology, Degeneration and Complications of Uterine Fibroids. O. S. McCown, Memphis.
48 Technic of Cholecystotomy. J. A. Crisler, Memphis.

Annals of Surgery, Philadelphia

April

49 *Injury as a Causative Factor in Cancer. W. B. Coley, New York.
50 *The Abduction Treatment of Fracture of the Neck of the Femur in Elderly Subjects. R. Whitman, New York.
51 *Fractures of the Shaft of the Femur with Marked Displacement. R. H. Harte, Philadelphia.
52 *Fracture of the Patella. E. G. Alexander, Philadelphia.
53 *Nephro-Ureterectomy. H. Lilienthal, New York.
54 Technic of Operative Treatment of Appendicitis. A. B. Johnson, New York.
55 *Diverticulitis of the Rectum. H. Z. Giffin, Rochester, Minn.

49. Abstracted in The Journal, Jan. 14, 1911, p. 142.

51. **Fracture of Shaft of Femur.**—Harte suggests finding out all that is possible about the seat of the fracture by the use of carefully prepared Roentgen-ray plates, the pictures to be taken at various angles. The operator should consider carefully what method is likely to give the best results. When the fragments are exposed, the diameter of the bone should be determined with a pair of calipers. In no case should the screws penetrate the opposite side. Suitable instruments, proper drills and screws, and competent assistants should be at hand so that the operation can be completed quickly and with as little destruction to the soft parts as possible. Before closing the wound the operator should see that it is thoroughly dry and that all dead spaces are obliterated, so that there will be no possible chance for the development of a small hematoma, which is so conducive to later infection.

52. **Fracture of the Patella.**—The point emphasized by Alexander in the operative technic is the advantage of the silver wire. Out of thirty cases that he has been able to follow, four refractured the patella; three of these were sutured with absorbable material. The one that refractured with wire was due to a fall downstairs, and so great was the strain thrown on the patella, that the wire cut through the upper fragment.

He regards silver wire as the most aseptic and at the same time the strongest suture material that can be used. The only disadvantage is that it occasionally has to be removed. Removal was necessary in three cases in this series. This undoubtedly can be avoided, provided no infection occurs, but even if skin infection—the most common in this operation—does occur, if the skin incision is well away from the line of the fracture, and if the ends of the wire are not left too long and are well covered by the tendon, fascia lata and prepatellar bursa, removal of the wire may not be necessary. If the wire has to be removed, however, it can easily be done with little inconvenience to the patient. That wire causes softening of the bone around the opening is highly improbable unless some infection occurs. Wire is certainly no more irritating than any other material used in these cases, as kangaroo tendon, chromic gut, or even, as has been used, silkworm gut.

53. **Nephro-Ureterectomy.**—Lilienthal describes a new method of operating which he devised.

55. **Diverticulitis of the Rectum.**—Giffin reports two cases in which operation was done. In one there was carcinomatous degeneration.

Journal of the Oklahoma State Medical Association, Muskogee

March

56 The Obliterated Appendix: Its Pathologic and Clinical Significance. A. L. Blesh, H. Reed and C. E. Lee, Oklahoma City.
57 The Medical Secret and Venereal Diseases. M. A. Warhurst, Sylvian.
58 Empyema. D. E. Broderick, Kansas City, Mo.
59 Thermogenesis. G. H. Thrailkill, Chickasha.
60 Physical Characteristics of the Negro. A. C. Hirshfield, Norman.
61 Cardiac Murmurs and Their Clinical Significance. L. J. Moorman, Oklahoma City.

New Orleans Medical and Surgical Journal

March

62 Importance of Regulating Diet in Treatment of Disease. A. Eustis, Abbeville, La.
63 Extirpation of the Lachrymal Sac. T. J. Dimitry, New Orleans.
64 Biography of Dr. Gordon King. O. Dowling, New Orleans.
65 Vocal Rest—Formol and the Galvano-Cautery in Treatment of Laryngeal Tuberculosis. H. Dupuy, New Orleans.
66 A New Method (Yankauer's) of Local Anesthesia in Tonsillectomy. A. L. Weil, New Orleans.
67 Mechanotherapy in Diseases of the Ear, Nose and Throat. O. Joachim, New Orleans.
68 Diphtheria in Children. E. M. Toler, New Orleans.

April

69 Obstinate Bone Cavities. W. M. Perkins, New Orleans.
70 *The Phenolphthalein Test for Occult Gastro-Intestinal Hemorrhage. J. A. Storck, New Orleans.
71 The Motais Operation as Performed at the Eye, Ear, Nose and Throat Hospital, New Orleans. T. J. Dimitry, New Orleans.
72 Present Status of Bacterial Vaccines and the Four Leading Serums. F. O. Northey, New Orleans.
73 A Very Severe Case of Lobar Pneumonia, with Delayed Resolution and Treatment Used. G. McG. Stewart, Laurel Hill, La.
74 Treatment of Pneumonia with Aconitin. J. T. Abshire, Leroy, La.
75 Tetanus Statistics. J. D. Bloom, New Orleans.

70. **Phenolphthalein Test.**—In his observation of the phenolphthalein test, Storck noted that whenever it gave a positive reaction, the benzidin test also proved positive. The benzidin test several times showed a positive reaction when the phenolphthalein, guaiacum and aloin tests were negative. In the experiments, from 2 to 5 c.c. of blood had been given once daily for forty-eight hours previous to the application of the test. It was found that when more than 15 c.c. of blood were ingested in forty-eight hours the phenolphthalein test always proved positive, but the guaiacum and aloin test often failed.

Denver Medical Times and Utah Medical Journal, Denver

March

76 Treatment of Inoperable Cancer of the Uterus. E. Lanphear, St. Louis.
77 Pregnancy with Unruptured Hymen and Vaginal Atresia. A. M. Ditson, Denver.
78 The Usual Care of Obstetric Cases at Mercy Hospital. T. M. Burns and J. C. Hutchison, Denver.
79 Obstetrical Complications. E. Stuver, Fort Collins, Colo.
80 Non-Surgical Treatment of Retrodisplacements of the Uterus. G. L. Monson, Denver.
81 Prevention of Blindness. F. Stauffer, Salt Lake City.
82 The Menopause. W. E. Waugh, Chicago.
83 Cancer as Known To-Day. I. Levin, New York.
84 Compulsory Notification of Venereal Disease. F. Clift, Salt Lake City.

Maryland Medical Journal, Baltimore

April

85 Korsakow's Syndrome—Cerebropathia Psychica Toxemica. A. P. Herring, Baltimore.
86 Reduction of Blood-Pressure by Phlebotomy—in Emergency. G. Timberlake, Baltimore.
87 Develop Sewerage Systems. W. J. Todd, Baltimore.
88 Ventilation of Schoolrooms. C. W. G. Rohrer, Baltimore.

Interstate Medical Journal, St. Louis

March

89 Bearing of Old and New Facts on Conceptions of Cardiovascular Disease. H. A. Hare, Philadelphia.
90 Autoserotherapy: Therapeutic Use of the Patient's Own Serous Exudates and Transudates. I. I. Lemann, New Orleans.
91 Present Status of Pneumonia. H. G. Beck, Baltimore.
92 The Use and Abuse of Tuberculin. W. V. Voorsanger, San Francisco.
93 Report and Analysis of a Goiter with Marked Intrathoracic Extension. N. W. Sharpe, St. Louis.
94 Salvarsan in Three Rebellious Cases of Syphilis. E. D. Holland, Hot Springs, Ark.
95 Primary Carcinoma of the Appendix. M. W. Myer, St. Louis.

Journal of Experimental Medicine, Lancaster, Pa.

April

96 *A Sarcoma of the Fowl Transmissible by an Agent Separable from the Tumor Cells. P. Rous, New York.
97 Treatment of Yaws (Frambesia) with Salvarsan. R. P. Strong, Manila, P. I.
98 *Cultivation in Vitro of the Thyroid Gland. A. Carrel and M. T. Burrows, New York.
99 *Cicatrization of Wounds in Vitro. E. S. Ruth, New York.
100 *Transfusion and the Question of Intravascular Agglutination. R. Ottenberg, New York.
101 Changes in Nitrogenous Metabolism After Parathyroidectomy. J. V. Cooke, New York.
102 Observations and Experiments on the So-Called Thyroid Carcinoma of the Brook Trout and Its Relation to Endemic Goiter. D. Marine and C. H. Lenhart, Cleveland.

96. A paper based on the same observations by the same author was published in THE JOURNAL, Jan. 21, 1911, p. 198.

98. **Cultivation in Vitro of the Thyroid.**—Since Sept. 22, 1910, the authors have cultivated the thyroid gland from mammals, many times. Small fragments of the gland were extirpated from living and anesthetized dogs, cats and guinea-pigs, and cultivated in the plasma obtained from the same animal or an animal of the same species. These cultures are distinguished as autogenic and homogenic. In all, they have now made fifteen series of cultivation experiments with the gland, each of the series being composed of from four to thirty separate cultures. The proliferated elements consist of connective tissue and epithelial cells, the former predominating. The cells survive in cultures for two weeks or longer, which period can be increased by secondary and sometimes tertiary cultivations. The authors call attention to the fact that the method of growing *in vitro* organs such as the thyroid may come to be used with advantage in the study of the substances concerned with the internal secretion of certain glands.

99. **Cicatrization of Wounds in Vitro.**—The process of the healing of a wound outside the body has been observed and recorded by Ruth in five experiments. The method of study consisted of making an incision or a rectangular wound in the middle of a small fragment of skin and cultivating it outside the body in a drop of plasma. The reparation consists of three mechanisms: the sliding of the epithelium from the edges of the wound into the open space, the epidermization and the progressive contraction of the original edges of the wound.

100. **Transfusion.**—This paper offers a solution of a special problem in isoagglutination; namely, the question whether transfusion is permissible between persons whose sera agglutinate the red blood-cells of each other. It also shows why such transfusions are not regularly followed by serious symptoms. Ottenberg found that intravascular agglutination can occur, and is the probable cause of occasional untoward symptoms, or even death, following transfusion of agglutinative blood. In the majority of cases, however, it does not occur, or if it does, it causes no symptoms. This is dependent on the influence of three factors: (1) concentration of the agglutinin; (2) absorption of the agglutinin by an excess of agglutinable cells; (3) interference with agglutination by an excess of non-agglutinable cells, so that when clumps occur they are microscopic in size. If, for a given transfusion, a non-agglutinative donor, i. e., a donor whose blood is of the same agglutinative class as the patient's, cannot be obtained, then

it is safer to use a person whose serum is agglutinative toward the patient's cells than one whose cells are agglutinated by the patient's serum. Ottenberg suggests that tests for agglutination as well as for hemolysis, ought to be made before transfusion. When time does not permit this, one has to weigh the possible dangers of agglutination or hemolysis against the dangers of letting the patient go without transfusion. Agglutinable cells when transfused are taken up by the phagocytes in the patient's blood; and, for this reason, the transfusion of agglutinable blood, even when no accident happens, can be expected to do little permanent good.

Ophthalmic Record, Chicago

March

103 Acute Retrobulbar Neuritis Caused by an Intestinal Toxemia. F. P. Calhoun, Atlanta, Ga.
104 Excretion of Hexamethylenamin into the Anterior Chamber of the Eye. H. S. Gradle, Chicago.
105 Two Cases in which the Roentgen Ray Failed to Locate a Foreign Body Afterward Shown to Be Present in the Eye. R. L. Randolph, Baltimore.
106 Treatment of Scleritis and Pterygium. E. R. Carpenter, El Paso, Texas.
107 Conjunctivitis with Ulceration of the Cornea, Due to the Bacillus Pyocyaneus. H. McKee, Montreal.
108 Congenital Pigmentation of the Cornea. H. V. Tweedie, Baltimore.
109 A Case of Herpes Zoster Ophthalmicus. W. T. Wallace, Berlin, Ontario.
110 Mixed Irregular Astigmatism Following Injury to the Eye. R. S. Lamb, Washington, D. C.
111 Toxic Paralysis of Accommodation. H. F. Hansell, Philadelphia.
112 An Expensive Pocket Transilluminator. H. Lowell, Boston.

Kentucky Medical Journal, Bowling Green

April 1

113 Conservative Surgery. I. Abell, Louisville.
114 Gall-Stones. B. F. Van Meter, Lexington.
115 How Shall We Improve Public Health Matters in the County? S. Griffin, Henderson.
116 Natural Defenses of the Body. D. O. Hancock, Henderson.
117 Hysteria: Its Symptoms, Etiology, Prognosis and Treatment. J. C. McCreary, Cave City.
118 Minor Eye Troubles. T. O. Helm, Bowling Green.
119 Management of Acute Appendicitis. P. C. Layne, Ashland.
120 Appendicitis. W. K. Smith, Adairville.
121 Typhoid. J. E. Payne, Paducah.
122 Chronic Rhinitis. H. C. Beazley, Hopkinsville.
123 Atropin: Its Physiologic and Therapeutic Effect. E. Harthill, Pewee Valley.
124 The Courteous Physician. W. Salin, Owenton.
125 A Plea for an Early Diagnosis of Pulmonary Tuberculosis. E. Morris, Sulphur.
126 Prostatic Hypertrophy. A. P. Dowden, Eminence.
127 *Treatment of Dysentery. P. F. Barbour, Louisville.
128 Congenital Absence of the Genital Organs, Including the Clitoris and Vagina. A. H. Barkley, Lexington.
129 Vis Medicatrix Naturæ. D. G. Simmons, Adairville.
130 Tonsillectomy: The Tonsils and Their Removal. W. S. Gabhart, Mackville.
131 Can Typhoid be Aborted? W. W. Lasley, Lewisburg.
132 Placenta Prævia. D. G. Simmons, Adairville.
133 The Onward Movement in Medical Organization. B. F. Fyke, Springfield, Tenn.
134 Pseudomembranous Croup. T. C. Nichols, Morgan.
135 Splenic Leukemia. E. D. Sellers, Fisherville.

127. **Treatment of Dysentery.**—After castor oil has been given and the bowels thoroughly moved, Barbour says that some astringent like bismuth subnitrate may be prescribed, 10 grains every two hours until the stools are dark and the frequency diminished. If the stools are not discolored by the bismuth then he would give zinc sulphocarbolate in ½-grain doses every two hours. If there is no fever then small doses of Dover's powder may be given, but usually will not be found necessary if there has been a thorough emptying of the bowels. When there is blood in the stools, bichlorid of mercury, in 1/150-grain doses should be given every two hours until the stools show some bile, when the bismuth may be substituted. For the cramping, the tormina and tenesmus hot applications over the stomach will give great comfort. Hot flaxseed or a glycerinized paste will be helpful. Warm enemata will help relieve the straining, sometimes starch and laudanum eases those cases in which the rectum is very congested and apt to prolapse with the stool. Occasionally, suppositories containing opium and belladonna will quiet this intense activity. Or the official liquor antisepticus alkalinus well diluted with warm water as a colon douche will deplete the inflamed area. With more extensive experience Barbour has grown to use the astringents less and less, for the removal of the fermenting and putrefying mass from the bowel has nearly always stopped the diarrhea. To gain this end the following prescription has been found very useful by him:

℞	gm. or c.c.		
Olei ricini	8	or	ʒij
Pulveris acaciæ	q. s.		
Syrupi rhei aromatici	30		℥i
Misturæ cretæ q. s. ad	60		℥ii

M. Fiat. emulsio. Sig. One teaspoonful every two hours.

When the character of the stools show that the upper bowel has been unloaded there will be a great improvement in the condition of the child. Then the astringents may be administered with benefit but will not always be found necessary.

Washington Medical Annals

March

136 Progress of Gynecology in 1910. J. W. Bovée, Washington, D. C.

Medical Fortnightly, St. Louis

March 25

137 Influence of the Mind on Health and Disease. L. H. Lanier, Kansas City, Mo.
138 Gases in Their Relation to the Body. A. L. Benedict, Buffalo, N. Y.
139 Abortive Treatment of Gonorrhea. W. R. Jamieson, Torreon, Coah., Mexico.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

March

140 Acromegaly: Pierre Marie's Disease. P. E. Launois and M. H. Cesbron, Paris, France.
141 Scope and Value of the Blood-Pressure Test. F. A. Faught, Philadelphia.
142 Etiology and Treatment of Gout. A. Bassler, New York.
143 Effect of Alcohol on the Heart Muscle. A. W. Downs, Philadelphia.
144 *Use of Oxygen Baths. A. Bernheim, Philadelphia.
145 *The United States Pharmacopeia. M. H. Fussell, Philadelphia.
146 The Metric System. E. H. Long, Buffalo, N. Y.

144. **Oxygen Baths.**—The use of the oxygen bath in a great variety of affections is advocated by Bernheim. He says that in addition to exercising a powerful suggestive influence, the oxygen bath exerts an effect on the innervation as shown by its removal of parasthesias, its soporific property, and its general sedative and indirectly stimulating action. It assists the circulation, deviating the blood from the skin and doubtless from the viscera, very probably to the skeletal muscles. It reduces excessive blood-pressure and the frequency of the pulse as well.

145. **United States Pharmacopeia.**—Fussell protests against the presence in the Pharmacopeia of such combinations as pulvis acetanilidi compositus. The best method of prescribing acetanilid and caffein is to give to each individual for whom these drugs are used the dose necessary for that individual, and for the particular condition present at the time the patient is seen. This cannot be done if a fixed formula is used, even though, of course, one may use different doses at different times. It is manifestly impossible for anyone to tell before a case is seen just what dose of the drug is necessary. To advise the use of compound remedies is to confirm slipshod, improper methods of prescribing. On this principle, fixed formulas should not be used. If it is not correct principle to use fixed formulas, then they surely should be expunged from the Pharmacopeia.

Still another point made by Fussell is the following: The Pharmacopeia to-day contains certain drugs, their preparations, the method of manufacturing them, their doses, their description, and in certain instances, tests for their purity and assay. As the book stands, therefore, it is manifestly of great use to the pharmacist. Its only use to the general practitioner is the knowledge it gives him of what is supposed to be useful in drugs and their doses. It gives no hint of their indications or contraindications, of their toxic or non-toxic properties. All this knowledge he must perforce get from other books, or from manufacturing chemists. He can get reliable information from the various publications on materia medica or from the dispensatories, and he does get some from these sources; but, sad to relate, most of the information as to drugs which the average physician now obtains after graduation is from manufacturing drug firms, in the form of more or less well-written literature, accompanied by samples and often supplemented by the glib-tongued detail man. Fussell has had described to him the treatment being carried on in certain cases, and has been able to recognize but few of the articles used, because they were prescribed under trade names of which he was entirely ignorant. One reason why the drug firms, with their literature and instructed agents, are such potent powers in grounding the young physician as to the means he should use in prescribing is because that method is easy and is brought immediately to his attention, whereas the knowledge of materia medica is more or less difficult to attain. Another reason is because the medical schools are not insistent enough in teaching their students that the only proper method to pursue in prescribing drugs after they become practitioners of medicine is to hold fast to that which has been proved of value, and to accept new remedies only after their usefulness has been attested by men of standing by methods of value. Therefore, he continues, if the next issue of the Pharmacopeia is made to contain the therapeutic indications of the drugs recommended for use, it will be of some practical value to the practicing physician. If this should make the volume too bulky, two volumes might be printed; one after the style now in use, and the other to contain the names of the drugs, their description, their dose, and a short description of their therapeutic use.

Vermont Medical Monthly, Burlington

March

147 Practical Points on Diagnosis and Treatment of Diseases of the Upper Abdomen. S. E. Maynard, Burlington.
148 Management of Patients with Sugar in the Urine. C. H. Beecher, Burlington.
149 Principles and Application of Serotherapy and Bacteriotherapy. B. H. Stone, Burlington.

Bulletin of the Manila Medical Society

February

150 *A Case of Masked Tertian Malarial Fever with Marked Mental and Nervous Manifestations and with Unusually Few Parasites in the Peripheral Circulation. W. E. Musgrave, Manila.
151 An Effort on the Part of the Bureau of Health to Improve the Milk Supply of Manila. C. Fox, Manila.

150. **Masked Tertian Malarial Fever.**—At the age of 14, Musgrave's patient had a moderate attack of chills and fever, which recurred at irregular periods for about one year. At the age of 21, he suffered an attack of pleurodynia, following exposure, which kept him in bed for about five days. When 25 years old, he was attacked by bronchitis, which, however, was so mild as not to confine him to bed. At 29 and 31 years of age, there were attacks of influenza, moderate in severity, confining him to bed for about one week in each case. At 35 years of age, he had diarrhea, which lasted for about two weeks and did not incapacitate him for duty. In 1897, there was an attack of intermittent fever ushered in by a chill, two other chills occurring during the first ten days. Malarial parasites were not found. Following this illness, he began to be troubled with palpitation of the heart, shortness of breath on exertion, indefinite rheumatic pains occasionally in the fingers, but no swelling or fever. About this time he began to be troubled with nervousness, inability to think on a definite subject for any length of time, insomnia, and worry over petty details. In July, 1897, he was granted sick leave for nervous debility and rapid heart action; this leave was later extended on other certificates to November. During this time, in addition to periodic attacks of intermittent fever, the general nervous condition failed to improve much and he began to be troubled with a suffocating sense of oppression in the chest and throat. At times there were spells of dizziness. In the fall of 1898, jaundice of a severe type developed and lasted for about four months. The jaundice came on gradually and was accompanied by pain and tenderness over the liver and abdomen. During the latter part of this trouble, chills and fevers developed, lasting for about three days, and a few tertian malarial parasites were found.

From about July 1 to Aug. 12, 1899, there was mild continuous fever. While on sick leave convalescing from this attack, he was exposed to the hot sun for some time and suffered with a recurrence of the old symptoms, insomnia, burning oppressive headache, palpitation of the heart, weakness, general debility and nervousness; and in addition had fever again, which lasted for a week or two, but no chills. His condition again improved and on arrival in the Philippine Islands in October, 1909, his general health was fairly good. The hard duties and the trying climate of the tropics, however, soon caused a return of the old symptoms. The mental phenomena became very marked and the patient made application to be retired on account of mental and physical debility, stating that he believed himself insane. While under observation after this application, he suffered from two attacks of fever, one of them accompanied by jaundice, but malarial parasites were not found. He was finally invalided to America with a diagnosis of melancholia and severe cerebral neurasthenia.

On returning to the United States, he was again placed under observation in one of the large hospitals. While there, he had two or three attacks of fever of an irregular type; but again malarial parasites were not found. He made a second application to be retired for mental and physical disability and the hospital authorities recommended that he be transferred to an insane asylum. Instead, however, he was transferred to the Army and Navy General Hospital, Hot Springs, Arkansas, for further observation and report. On admission, the patient complained of a constant feeling of mental and physical depression and difficulty of concentrating the mind on any one subject, especially on details. Forced thinking in one channel, as in adding a column of figures, gradually weakened the memory so that all track of count was soon lost. All exercise, whether physical or mental, was followed by mental and nervous prostration and physical exhaustion. There was insomnia, mental depression, palpitation of the heart and a suffocating sensation in the chest and throat. Practically nothing was found on physical examination. The patient was fairly nourished and developed; his color was slightly yellow; the general sensation was good; the reflexes normal; the chest negative. There was no apparent enlargement of the spleen, but slight enlargement of the liver and tenderness on deep pressure over the gall bladder. The temperature, pulse and respiration were normal. The red blood-cells numbered 4,020,000, the leukocytes, 6,280; the hemoglobin was 92 per cent. (Fleischl). The differential count showed eosin 0.8 per cent., mononuclears, 2.3 per cent., polynuclears, 75.5 per cent. and irregular cells, 2 per cent. Malarial parasites were not found in fresh or stained specimens. The urine was normal and remained so throughout the five months that he was under observation. The patient did not have diarrhea; but following the hospital custom in cases returned from the tropics, he was given a saline and the stool examined microscopically, but nothing abnormal was found.

After seven weeks in the hospital he had a slight chill one night, which he said was followed by fever and sweat. His blood was carefully examined, but no malarial parasites were found. Following this attack and continuing until the true cause of his trouble was found and removed, he complained constantly of photophobia, which at times was very marked. Seven days after the first chill he had another one at night, which was also followed by fever and sweat as well as by a slight jaundice. Again malarial parasites were carefully sought for but not found. Following this chill the mental and nervous phenomena became more marked and the patient sang, laughed and talked almost constantly for about twenty-four hours. Five days later, there was another chill and the temperature reached 104 F., with more marked jaundice and gastro-intestinal symptoms, including vomiting, slight diarrhea and abdominal pain. The abdominal pain was most marked in the region of the gall-bladder and the patient had not been free from it since the first chill. Malarial parasites were again sought for but not found, either in fresh or in stained specimens. Two days afterward there was another chill similar to the last one, and on this occasion the examination of the blood showed a few—very few—parasites. At this time the patient was in a nervous and mental condition requiring a constant attendant.

Immediately after the finding of the parasites, the patient was put on 1 gram doses of quinin every four hours until marked cinchonism was produced, after which he was kept on 3 grams of quinin daily for fifteen days, when all medication was stopped. Two weeks afterward there was another slight chill and a few parasites were again found. He was then put on a systematic quinin treatment extending over a period of five months, as follows: 3 grams in three doses daily for fifteen days; then 3 grams in three doses on alternate days for one month; then once a week for another month, and finally once every two weeks for at least two more months.

In addition to this treatment, the patient had thermal baths, and iron, arsenic and strychnin. A clearing up of the symptoms was noticed shortly after the quinin treatment was instituted and progressed rapidly. This case is reported somewhat in detail because it is believed to be rare, and because of the injury that was done the patient by a faulty diagnosis which came so near causing him to be incarcerated in an asylum.

Journal of the Delaware Medical Society, Wilmington

March

152 Is Plasmodium Malariæ Conveyed to the Human System Through Any Other Avenue than the Mosquito? J. H. Wilson, Dover.

American Journal of Diseases of Children, Chicago

April

153 Influenzal Meningitis, with Especial Reference to Its Pathology and Bacteriology. D. J. Davis, Chicago.
154 Treatment of Chronic Infantile Paralysis. M. Strunsky, New York.
155 *A Study of Blood-Pressure in Normal Children. M. Michael, Chicago.
156 *Spontaneous Hemorrhage in the New-Born Infant. O. M. Schloss, New York, and L. J. J. Conmiskey, Brooklyn, N. Y.
157 *Inflammatory Changes in the Appendix During Early Infancy. G. M. Smith, St. Louis.

155. Abstracted in The Journal, Feb. 25, 1911, p. 617.

156. **Spontaneous Hemorrhage.**—A review of the literature, and a study of nine cases of spontaneous hemorrhage in new-born infants, serve as the basis of this communication. Schloss and Commiskey have treated seven new-born patients with hemorrhage by subcutaneous injections of human blood. The first patient was treated in April, 1908, with, first, an injection of 20 c.c. of human blood serum, and later, an injection of whole blood. The whole blood was used instead of the serum for the reason that it was easier to obtain and could be used immediately, the time required for the serum to separate being saved. It seemed an additional advantage to inject, not only the serum, but also the formed elements which have influence on the coagulation of the blood. In most cases the blood was taken from one of the parents. The required amount was withdrawn from a vein of the forearm by means of an exploratory syringe and injected immediately into the subcutaneous tissue of the infant's back. Of the seven infants thus treated, six recovered and one died. The fatal case was in an infant who had suffered from multiple hemorrhages for eight days and died three and one-half hours after admission to the hospital. The patient was in a moribund condition when admitted and received only a single injection of 10 c.c. of blood. In five of the six cases in which recovery took place, the hemorrhage ceased soon after treatment, and at the same time there was marked improvement in the general condition. In four cases, the hemorrhage was rather severe and the patients presented all the signs of severe anemia due to loss of blood. One case was of moderate severity. In the remaining case a positive Wassermann reaction was obtained; the hemorrhage was only slightly improved after the blood injections, but ceased after the use of mercurial treatment. Whether the blood injections were of value in this case was difficult to determine. The authors believe that the best results can be expected from the use of human blood or serum. In the four successful cases the curative effect of blood transfusion was immediate, but, they say, this method of treatment must have a rather restricted field. The technical difficulties of transfusion in a young infant are formidable and render the method available only in the hands of a very skilful surgeon.

157. **Changes in the Appendix During Infancy.**—Among 200 appendices examined by Smith, fifteen showed inflammatory changes of varying intensity. The two youngest infants were 13 days and 17 days old, respectively. In nine instances, the age ranged between 20 and 30 days. Four infants were between 1 month and 2 months old. In two instances, the cecum was still in an incompletely descended position, lying between the iliac crest and the liver; but in the remainder of the cases the cecum occupied its usual position in the iliac fossa. Three times the distal part of the appendix was found hanging over the pelvic brim, and in such instances the distal part gave the evidence of severe inflammation. In eight cases, the appendix occupied a position directly behind the cecum and proximal part of the ascending colon. It is in this position of the appendix that in infants sharp angulation frequently occurs. The cause apparently is found in the relatively small retrocolic compartment at the time of birth, to which a relatively large appendix accommodates itself. Thus, the appendix passing upward directly behind the cecum and colon, may be bent sharply downward by the upper limit of the retrocolic space formed by the reflection of the peritoneum from the ascending colon to the iliac fossa or posterior parietes. Under normal conditions, even, fusion of the appendix with the cecum, ascending colon, posterior parietal peritoneum or iliac fossa is frequently found. There may result from these conditions not only a permanent fixation of the sharply bent appendix, but also changes in the form of the mesentery of the appendix, possibly causing circulatory disturbances.

In the majority of the cases reported by Smith, inflammation occurred when the appendix was found sharply bent on itself, lying in close relation with the cecum and colon; and in several instances the inflammation was more marked at the site of angulation than in other parts of the appendix. In three cases, the proximal part of the appendix passed upward, inward and to the left, so that the distal part lay curled behind the mesentery of the terminal coil of the ileum. The last described position of the appendix is that most frequently found in infants, as it formed 50 per cent. of all cases in 1,050 autopsies in infants studied by Smith. It is of interest to note that although the majority of inflammatory changes were found in appendices lying erect directly behind the cecum and colon, this variation in position of the appendix in the infant was found in only about 25 per cent. of all infants. Peritoneal exudate was present in seven cases. Thrombosis of the arteries occurred in the appendix and in the mesentery of the appendix in several instances.

Atlanta Journal-Record of Medicine

March

158 Local Anesthesia. W. L. Cooke, Columbus, Ga.
159 Vaccine Therapy in So-Called Surgical Tuberculosis. L. M. Gaines, Atlanta, Ga.
160 What Are the Indications at Present for Transfusion of Blood? E. G. Jones and D. F. Winn, Atlanta, Ga.
161 Salvarsan. E. G. Ballenger, Atlanta, Ga.

Detroit Medical Journal

March

162 Modern Ideas or Conceptions of Kidney Pathology. A. O. Hart, Maple Rapids, Mich.
163 Treatment of Gonorrhea. N. E. Aronstam, Detroit.
164 Relation of the Physician to the Problem of Nurses for People of Limited Means. C. A. Aikens, Detroit.
165 Prof. Herman Schwartze. E. Amberg, Detroit.

Journal of the Medical Society of New Jersey, Orange

April

166 Salvarsan. H. J. F. Wallhauser, Newark.
167 Tonsillar Hypertrophy: Anatomy, Surgical Treatment and Operative Dangers. R. B. Scarlett, Trenton, N. J.
168 *Can the Future Sex of the Family be Controlled at Will by the Parents? W. W. Kain, Camden, N. J.
169 *Medical Expert Testimony. G. A. Rogers, Newark.
170 What Can We Do for the Betterment of Our Society? W. J. Burd, Belvidere.
171 Salvarsan in Syphilis. N. J. Ramos, Newark.
172 Medical Inspection of Schools. W. J. Lamson, Summit.

168. **Can the Future Sex of the Family Be Controlled?**—Kain agrees with E. R. Dawson that the supplying ovary is in reality the essential factor in the causation of sex. Dawson held that the sex of the fetus is not due to the male parent, but depends on which ovary supplied the ovum which was fertilized, and so became that fetus. He found that a male fetus is due to the fertilization of an ovum that came from the right ovary, and a female fetus is due to the fertilization of an ovum that came from the left ovary.

169. **Medical Expert Testimony.**—Rogers suggests as a remedy for present evils that one or more experts should be jointly selected by the two opposing parties, and that these experts should be paid by both sides. In case the two sides should be unable to agree in their choice, the judge might deliver a casting vote; or each side might choose an expert, and a third might be selected by the two experts originally chosen, or by the court—these three physicians to make a joint report. He suggests further that the medical testimony in any given trial might be reviewed by a special committee appointed for that purpose by the medical council of the local medical society. By this means, a physicians who was found guilty of habitual perversion might be expelled from the society and thus discredited in the eyes of the court

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

March 25

1 Ankylostoma Infection. A. E. Boycott.
2 *Traumatic Myositis Ossificans. R. J. Godlee.
3 *Idem. G. H. Makins.
4 Formation of Bone in Periosteum Separated by Injury. A. A. Bowlby.
5 A Case of Poisoning by Tragopogon Pratense, or Goat's Beard. F. J. Smith.
6 A Record of Ninety Diphtheria Carriers. A. G. MacDonald.
7 Grave and Prolonged Cardiac Failure Following the Use of Cocain in Dental Surgery. F. W. Price and A. B. Leakey.
8 *Two Uncommon Forms of Deformity of the Female Generative Organs. J. A. C. MacEwen.
9 Nuchal Lipomata in the Lower Animals. Sir J. Hutchinson.
10 Clinical Aspects of Some Varieties of Excitement. W. T. Munro.

2. **Traumatic Myositis Ossificans.**—One case of this kind is reported by Godlee. A young man had been kicked on the front of the thigh at football. When Godlee saw him there was a very large oval swelling on the front of the lower half of the thigh. It was symmetrical and very hard, except just above the patella, where it fluctuated, and there was only slight pain on movement. There was pain and stiffness for several months. After three months the mass was slightly smaller. It was obviously fixed to the bone. After another month the lump had almost gone, but a skiagram showed that there was then a distinct flake of bone on the front of the femur, fading off above into the surface of the shaft, but ending below in a sharp spicule. Godlee points out that a very large swelling without treatment may diminish so much in size as almost to disappear and cause no further trouble or inconvenience. He raises the question whether this condition should be called myositis, and what is the evidence that it is due to inflammation of muscle. He thinks it more probable that the essential things are, first, an injury to the periosteum, and, second, an effusion of blood; and that the injury to muscle and the inclusion of muscular fibers in the callus are, so to speak, accidental, though they no doubt govern the shape and position of the new mass of bone. In other words, the injury is more analogous to what occurs when periosteum is stripped off in such operations as excision of the elbow, or in the cephalhematomata of infants, in which it is easy to demonstrate true bone at the margins of the clot, or to the formation of provisional callus in simple fractures.

3. **Traumatic Myositis Ossificans.**—Two cases are reported by Makins. The patients were of the same age, came under observation at the same time, and while one was treated by an active method, the other practically recovered spontaneously. Makins maintains that no active treatment should be adopted in the early stages of the condition. The frequency with which two muscles of the body, the quadriceps extensor femoris and the brachialis anticus, are affected seems to Makins to support the theory that the exciting influence is to be referred to bone-forming cells detached from the periosteum. Makins says that in the general line of treatment to be adopted a period of some weeks' complete rest should be maintained during the continuance of the active progress of ossification. When it is judged by clinical observation and Roentgen-ray examination that progress has ceased or that the process is retrogressive, massage and exercise should follow. Operative treatment should only be considered when the process has manifestly come to a definite standstill, and the patient suffers from functional disability which there is a chance of relieving.

8. **Deformity of Female Generative Organs.**—In the first case cited by MacEwen, a woman, aged 46 years, was suffering from symptoms pointing to intestinal obstruction. The abdomen was distended and tender to palpation, particularly over the left iliac fossa, where a large mass was easily detected on palpation, and it was dull to percussion. On vaginal examination, the cervix was found to be normal in position and direction, but small and ill-developed. The uterine sound could not be introduced into the canal, but an ordinary probe went in for about an inch. The fundus could not be detected. The vaginal roof on the left side was occupied by a mass which was tender to palpation, while on the right side a hard rounded mass was detected which projected toward the rectum, and was easily felt in rectal examination. This mass was about the size of a golf ball and was fixed. The peritoneal cavity was opened and a quantity of sanguineous fluid was evacuated. A large tumor, subsequently ascertained to be fibromyomatous, at once presented. This tumor was freely movable, being attached to a pedicle, which had become twisted and was partially gangrenous. The pedicle was ligated down close to what was supposed to be the serous surface of the uterus and the tumor removed. The left Fallopian tube was also in a gangrenous condition and was also removed. The left ovary appeared normal but of small size. On passing the finger down along a course of the rectum a mass was now detected. There was no uterine body present. On the left side there was an ill-developed broad ligament, with the gangrenous tube already mentioned, and fairly normal ovary. On the right side, the appendages seemed to be entirely wanting, while a little to the right of the normal position of the uterus the hard mass referred to presented. It emitted a slightly hollow note when tapped. It consisted of a roughly spherical shell of osseous matter, which contained an oily material at first sight resembling pus. No hairs, teeth or other tissue elements were present. The patient made an uninterrupted recovery save for slight transient jaundice for a few days after operation.

MacEwen expresses the belief that the intestinal obstruction in this case was probably due to the pressure of the fibromyoma on the bowel, but no evidence was obtained of any portion being damaged thereby. This woman had menstruated regularly. In the second case there was an absence of the lower end of the vagina.

Bristol Medico-Chirurgical Journal, London

March

11 Cerebrospinal Syphilis. J. M. Clarke.
12 Defects in the Visual Field. F. R. Cross.
13 Nature and Treatment of Chorea. C. F. Coombs.

Clinical Journal, London

March 15

14 A Case of Spasmodic Torticollis and a Case of Cerebellar Tumor. P. Stewart.
15 Facial Tetanus. W. F. Fedden.

March 22

16 The Weak Heart. W. J. Fenton.
17 *Acute Pneumonia in Children. J. P. Parkinson.

17. **Acute Pneumonia in Children.**—With regard to the general treatment of the disease, Parkinson says that the child should be put to bed, and frequently moved from side to side to allow collapsed areas of lung to expand, for the same reason as a fit of crying is useful now and then. The room should be well ventilated so that oxygen is given in a natural way, though oxygen from a cylinder may be useful in cardiac failure with cyanosis. Bronchitis has to be treated on the ordinary lines, and if there be much secretion an emetic may give relief. Ipecacuanha often fails to produce vomiting, and the author considers a small dose of apomorphin safe and efficacious. Ipecacuanha is much too frequently prescribed, he asserts, for it is useless when there is no bronchitis, and when there is, it is by no means sure that this drug acts favorably. It is also certain, Parkinson says, that it upsets the digestion; it is better, therefore, if the child seems to be getting rid of the bronchial secretion without drugs not to give them unless there is definite indication for their employment. The author has often found a hot mustard bath useful in cases of collapse in young infants; it relieves congestion of the lungs and heart by dilating the peripheral arterioles as well as helping the action of the skin. He insists on disinfection of the mouth and teeth to prevent further infection of the lungs. Alcohol, he says, is not necessary as a routine treatment, but may be very useful, especially in long-continued bronchopneumonias, and in cardiac failure. Brandy, well-matured, has an action far superior to that possessed by the cheaper varieties. The feeding in acute pneumonia is of the greatest importance, and so long as a child takes its food all goes well; one of the earliest signs that cause anxiety is failure of the appetite. An important rule is, more water and less food than in health. It has been found from examination of the digestive ferments in children suffering from acute disease that the peptonizing power of the stomach and pancreas is very weak. Emulsifying powers are real or absent. The greatest activity is in the

diastatic power of the pancreas. The practical inference of this is that the food should consist chiefly of carbohydrates, such as starches and sugars; fats should be given in very small amounts and proteids may be predigested. If curds are passed in the stools the milk should be diluted or peptonized.

Indian Medical Gazette, Calcutta

March

18 Cirrhosis of the Liver. J. T. Calvert.
19 Exploratory Laparotomy in Diseases of the Gall-Bladder and Bile-Ducts. F. A. Barker.
20 Ulcerated and Swollen Gums in the Native Army. P. Hehir.
21 An Aid to Diagnosis of Poisonous Snakes. V. B. Green-Armytage.
22 Modern Midwifery Practice in India. G. T. Birdwood.
23 Wounds Inflicted by Tigers, Panthers and Bears. F. H. Gleeson.
24 Native Gunpowder Injuries of the Eye. R. H. Elliot.

Medical Press and Circular, London

March 22

25 Diseases of the Breast. J. R. Morison.
26 Treatment of Lupus Vulgaris with Zinc Ions. S. Taylor and R. W. MacKenna.
27 Colitis. L. A. Bidwell.
28 Bacteriologic Aspects of Colitis. J. C. Matthews.

Archives des Maladies du Cœur, etc., Paris

March, IV, No. 3, pp. 145-208

29 Present Status of Electrocardiography. E. Bordet.
30 Relations Between Pseudoleukemic Anemia and Leukemia. L. Tixier.

Obstétrique, Paris

March, IV N. S., No. 3, pp. 249-344

31 *Uterine Pregnancy After Extra-Uterine Pregnancy. (Des grossesses utérines survenant après une grossesse extra-utérine.) E. Essen-Möller.
32 *Ocular Disturbances in Pregnant Women. (Des troubles oculaires chez la femme enceinte dans leurs rapports avec l'azotémie et la chlorurémie gravidiques.) A. Weil and A. Wilhelm.
33 Structure and Development of Uterine Mucosa. E. Retterer and A. Lelièvre. Commenced in No. 2.

31. **Uterine Pregnancies After Extra-Uterine.**—Essen-Möller remarks that very little attention has been paid to pregnancies occurring in the uterus after an extra-uterine pregnancy, while a number of articles have been published on simultaneous uterine and extra-uterine pregnancies. Nilsson was able to compile sixty-eight cases of this kind in a memoir not long ago, and a number have been reported since. In Essen-Möller's experience with fifty-six patients with extra-uterine pregnancy, 46 per cent. of the thirty-nine women followed to date became pregnant again later; the sound tube performed its functions apparently normally in twenty-eight pregnancies, two of the women passing through three pregnancies afterward. Seventeen of the thirty-nine women thus bore healthy children, and this experience confirms the necessity for leaving the sound tube unmolested in operating for extra-uterine pregnancy. Engström has reported uterine pregnancies in six cases after removal of the pregnant tube and liberation of the other tube from adhesions; Prochownik has reported the same in four cases, and Essen-Möller reports a pregnancy after the release of the sound tube from adhesions, although in his case the succeeding pregnancy was likewise tubal. The main point in respect to pregnancy later seems to be the refraining from drainage. The tabulated details of his fifty-six cases show only two cases in which a pregnancy followed when there had been resort to drainage, and in these two cases the succeeding pregnancy was likewise extra-uterine or there was an interval of four years before the following conception, showing that the tube required a long time to regain its normal functional capacity. In Engström's series likewise drainage had not been attempted in nineteen of the twenty cases in which the extra-uterine pregnancy was followed by normal pregnancy later.

32. **Visual Disturbances in Pregnant Women.**—Weil and Wilhelm compare the visual disturbances liable with retention of chlorids, the dropsical form, and with retention of urea, the dry form. In the first type the visual disturbances are an amaurosis of sudden onset, which promptly subsides when elimination of the chlorids is once more under way; the ophthalmoscope shows nothing or merely a venous congestion around the papilla which disappears without leaving a trace. On the other hand, the distinguishing feature of the eye disturbances with retention of urea is the so-called albuminuric retinitis, the gravity of which is explained by the coincident uremia or azotemia. Even with severe symptoms of this kind, emptying the uterus generally causes their complete retrogression. In a typical case reported the patient was at the seventh month of her first pregnancy. She had had primary chronic nephritis as a child, and during the pregnancy the clinical picture of severe azotemia gradually developed, with apathy, anorexia, pruritus, albuminuric retinitis and convulsions, with almost total amaurosis, while the cerebrospinal fluid contained 2.67 gm. of urea. Delivery was induced and the copious diuresis which followed seemed to wash out the retained nitrogenous bodies and the patient rapidly recovered. Sudden transient amaurosis was observed in two other cases reported, evidently due to chloridemia and subsiding at once after spontaneous delivery. One of these patients had had eighteen, the other three eclamptic convulsions. Venesection was done in both cases. There were no convulsions after delivery.

Presse Médicale, Paris

March 11, XIX, No. 20, pp. 185-200

34 Inaugural Lecture on Internal Pathology. (Les orientations de la médecine.) F. Widal.
35 Albumin Reaction in Sputum. Lecaplain.
36 Support for Visceral Ptosis. (Pneu-sangle anti-ptosique.) Charnaux.

March 15, No. 21, pp. 201-208

37 Vaccine Therapy. A. Mauté.

Revue de Chirurgie, Paris

March, XXXI, No. 3, pp. 281-400

38 *Papilloma of Larynx in Children. A. Broca and E. Roland.
39 Experimental Ligation of Inferior Vena Cava. J. Béjan and M. Cohn.
40 Mixed Tumors of the Thyroid. G. Chavannaz and P. Nadal.
41 *Perforation of Bile Ducts. (Traitement des perforations biliaires en plein péritoine au cours de la lithiase.) G. Cotte and L. Arnaud.

38. **Laryngeal Papillomas in Children.**—Broca and Roland expatiate on the fact that there is no good method of treatment for these laryngeal growths, ensuring against recurrence and leaving the voice normal; the only choice is to determine the least bad technic. If there is dyspnea and much wheezing, tracheotomy may be required; it is well to wait for a time after this as the tracheotomy may eventually lead to the shriveling of the growths. They come and go in the arbitrary and mysterious manner of warts on the skin. Removal of the growths through the mouth, under direct visual inspection, is of course the preferable method and can generally be done after the age of 4 or even a little earlier. But it usually requires more than one operation; the operations must be repeated during months or even years. Tracheotomy may finally become necessary, even then, if the growths sprout again and there is much obstruction of breathing. Exceptionally, thyrotomy or better, perhaps, thyrostomy, may be found preferable. Even after tedious treatment by these various technics, stricture of the larynx may compel laryngostomy. There is always the hope that the papillomas may shrivel spontaneously, however, as the child outgrows the tendency. They sprout as if growing from seed sown by the primary growth, and behave in the larynx much the same as in the bladder. Luys has recently reported a case in which a large papilloma was removed from the bladder, with no sign of recurrence, but a new crop of minute growths of the same kind developed around, requiring multiple cauterization. In addition to the danger of suffocation from the growth of the laryngeal papillomas, there is danger of a suddenly fatal inhibiting reflex. Frenkel has cited such a case in which a child of 6, with no history of dyspnea, suddenly suffocated on rising in the night. The prognosis of papillomas in the larynx is more serious in children than in adults as the lumen is smaller and as children are more liable to warty growths. Spontaneous expulsion and cure was observed by Bruns in three of the forty-eight cases he has compiled; over half the children died before the age of 3 and only five reached the age of 10 without operation. The spontaneous subsidence of the papillomas may explain these cures in some of the cases, and the possibility of this justifies expectant treatment for a reasonable time after tracheotomy. Warts on children's hands sometimes subside after the children have taken a little magnesia, and this treatment has been suggested for children with papillomas in the larynx, hoping thus to favor spon-

taneous retrogression or to aid the retrogression which may follow opening the trachea.

41. **Perforation of Bile Ducts in Lithiasis.**—Cotte and Arnaud give the details of seventy-six cases on record of perforation of the gall-bladder or a biliary passage into the peritoneum. The bile escaping into the peritoneum is almost inevitably septic in case of lithiasis. The main point in treatment, they say, is to drain the gall-bladder outward without delay, not attempting its removal until later if the patient seems unable to bear cholecystectomy at once. This operation is less difficult in these cases than under other conditions as the perforation occurs when the gall-bladder is distended and without adhesions to adjacent organs. If the operation follows soon after the perforation and the peritoneum is not seriously involved, he prefers to wipe it dry and strives to prevent absorption by pouring camphorated oil into the abdominal cavity, and keeping the patients in the Fowler position, that is, raising the head of the bed 18 or 20 inches. There were thirty-four recoveries and forty-two deaths among the seventy-six cases summarized from the literature, including a previously unreported case in a woman of 62. The gall-bladder was merely drained and the liver tamponed off but the temperature did not drop quite to normal, and six weeks later chills, vomiting and fever led to discovery of an abscess near the foramen of Winslow. Prompt and complete recovery followed cholecystectomy.

Semaine Médicale, Paris

March 15, XXXI, No. 11, pp. 121-132

42 *Exercise of the Ear in Treatment of Deafness. (De la gymnastique auriculaire et de son application au traitement de la surdité.) C. Fernet.

March 22, No. 12, pp. 133-144

43 *Diagnosis of Suppurating Echinococcus Disease of the Liver. (Difficultiés et ressources du diagnostic dans certains kystes hydatiques suppurés du foie.) F. Lejars.

42. **Exercise of the Ear in Treatment of Deafness.**—Fernet is not an otologist but he has experimented in his own person and has trained others to exercise the ear as a means of warding off encroaching deafness and utilizing all the auditory capacity left. Instead of using the "best" ear, he turns the defective ear whenever possible and strains to listen with this ear, listening for the ticking of a clock, etc., thus training the ear to listen better. In addition to this exercise in listening he strives to influence the ear muscles so as to favor the hearing by enlarging the meatus and promoting the circulation in the parts. For this he works the scalp around the ear forward and backward, then the outer ear in this way with the regional scalp, and then forward and back and up and down and then in a circle. The sensation of movement is felt down to the depths of the meatus. The exercises should be done gently, with frequent pauses. The best time is in the morning, before arising, for ten or fifteen minutes. Another set of exercises is to listen to a clock's ticking and then gradually draw farther and farther away from the source of the sound until it becomes inaudible, but gradually it is heard again if the ear listens very intensely. The reflex action of the listening act may influence the muscles of the ear to enhance the perception of sounds. By systematic training in this way it is possible to hear the ticking or other sounds at distances previously supposed impossible. The sensibility of the nerves and the better nourishment of the parts all contribute to the benefit derived. The entire organ of hearing functionates better when all its parts are in good vital condition, while any organ doing active work grows stronger and better all the time. In his own person the Eustachian tube leading to the partly deaf ear became permeable after these exercises, thus permitting normal ventilation of the middle ear.

43. **Suppurating Echinococcus Disease of the Liver.**—Lejars comments on the relative frequency of suppurative hydatid cysts in the liver and the available means for diagnosis. The complement-fixation test is extremely valuable in case of positive findings, but it is baffling to obtain a negative response when the operation reveals a large hydatid cyst, as in a recent case in his experience. The cyst was filled with fluid but without daughter cysts. In another case there had been liver colics for three years and a suppurating gall-stone process was surmised, as nothing pathologic could be palpated in the liver. A small subcapsular pus pocket was found and evacuated but the temperature ran up two weeks later and the fixation reaction was distinctly positive. There were chills and jaundice but deep punctures of the liver were negative. Finally he opened the lips of the wound and found in the very center of the liver a large hydatid cyst, distending the liver evenly on all sides, and prompt recovery followed its removal. The suppurating septic angiocholitis first found was evidently secondary to the deep cyst, which was also infective and suppurative. Lejars gives the details of a number of other cases in which the diagnosis was difficult. Fever and local and radiating pains are the most instructive features.

Archiv für Gynaekologie, Berlin

XCIII, No. 2, pp. 189-412. Last indexed April 1, p. 1010

44 Droplets of Fat in the Placenta. J. Bondi.

45 Epinephrin Treatment of Osteomalacia. (Zur Adrenalinbehandlung der Osteomalacie.) J. Novak.

46 Interrelations Between Multiple Sclerosis and Menstruation, Pregnancy and the Puerperium. (Die multiple Sklerose und das Geschlechtsleben der Frau in ihren Wechselbeziehungen.) H. Offergeld.

47 Bacteriology of the Lochia. (Die geeignetsten Methoden zur Untersuchung des Lochialsecretes auf aerobe und anaerobe Streptokokken, ihre Resultate und klinische Bewerthung.) F. Goldschmidt.

48 *Tuberculosis of the Ovaries and Fallopian Tubes. (Beitrag zur Tuberculose der weiblichen Adnexe.) Loiacono.

49 Puerperal Inversion of the Uterus with Chronic Nephritis. Loiacono.

50 The Formation of the Corpus Luteum. (Corpus luteum-Bildung beim Menschen.) R. Meyer.

51 "Pregnancy Liver." (Zur Klärung des Begriffs "Schwangerschaftsleber.") J. Hofbauer.

48. **Tuberculosis of the Ovaries and Tubes.**—Loiacono discusses the findings in twelve cases of tuberculosis of the adnexa in which operative treatment was applied. The first signs of the tuberculous process were noted between the ages of 20 and 37 in all but two cases in which the women were 46 and 47 respectively. There was a primary process in the lungs or bronchial glands in these as in almost all the other cases on record. Eight of the patients were sterile, another had had an abortion, one had borne one and another two children. The symptoms of the tuberculous process in the adnexa were merely disturbances in menstruation, leukorrhea and pains of varying intensity in the region of the adnexa, but there were no sweats, fever or anorexia and tubercle bacilli could not be cultivated from the uterine secretions. The left tube was the seat of the process in all twelve, the right being also affected in nine; the entire adnexa on both sides were involved in only three cases. Three of the patients died soon after the operation; the pulmonary processes were far advanced in these women. The other patients were in comparatively good health at the time of the removal of the diseased tubes, and they regained apparently complete health after the removal of the focus. Histologic study of the adnexa removed and the course of the cases confirm the fact that it is not generally necessary to remove the ovaries in such cases; the tubes are the organs involved, and they display a marked predisposition to tuberculous infection. Their removal is further justified by the necessity for preventing conception later in such women. Even when the ovaries seem slightly involved in the process, it is liable to retrogress to complete restitution after removal of the focus. He adds in conclusion that it may prove an advantage to flush out the abdominal cavity with a weak formalin solution, as is done after an operation for tuberculous peritonitis, in order to rinse out any bacilli that may have been scattered by the operation.

Berliner klinische Wochenschrift, Berlin

March 13, XLVIII, No. 11, pp. 461-508

52 *Affinity of Salvarsan for Nerve Tissue. (Zur Frage der Neurotropie des Salvarsans.) A. Géronne and C. Gutmann.

53 Salvarsan in Leprosy. H. Isaac.

54 *Spontaneous Fractures in Tuberculous Coxitis. O. Ehringhaus.

55 *Modification of Holmgren's Method for Forcing Out Instead of Aspirating Pleural Effusions. E. Aron.

52. **Disturbances in Nervous System After Injection of Salvarsan.**—Géronne and Gutmann give the details of thirteen cases of this kind. The list includes a case with symptoms of irritation of the cerebral and spinal meninges, a month after injection of salvarsan three weeks after infection. Under a second injection of salvarsan all the symptoms subsided. In a

second case there were evidences of basal meningitis and double facial paralysis, coming on eight weeks after injection of salvarsan and disappearing after a second injection. The facial paralysis and psychic disturbances returned four months later but subsided permanently under injection of calomel. In the other cases there were respectively a basal meningitis with double facial paralysis and disturbance in the auditory nerves; double otitis interna with right optic neuritis and hemianopsia; facial paralysis; oculomotor paralysis; optic neuritis with signs of irritation of the meninges and left otitis interna; alternating double otitis interna; double otitis interna; otitis interna with predominant disturbance in the vestibular nerve, and otitis interna with the Menière symptom-complex. These nervous disturbances came on six or eight weeks after injection of salvarsan. The patients were all in the early stage of secondary syphilis except one with a tertiary gumma on the tongue. There were no syphilitic manifestations in any case on the skin or mucosa, but in one case these developed several weeks afterward. Géronne and Gutmann regard these manifestations as an inflammatory infiltration of nerves or meninges resulting from the action of the spirochetes or their toxins and readily influenced by treatment so that complete restitution is the rule. The manifestations have nothing in common, they assert, with symptoms of arsenic intoxication, and nothing of the kind, they say, has ever been observed in patients given salvarsan for diseases other than syphilis, malaria, chlorosis, relapsing fever, etc. They have also encountered in the last six months four syphilitics with disturbances in the auditory nerve who had been treated with mercury alone and had never taken salvarsan; two were in a late stage of syphilis and two had been infected five and six months before. One of the latter patients presented a typical otitis interna exactly as observed in his six patients who had been injected with salvarsan. In this latter group the patients had complained of headache before the drug had been given or their nervous system had been impaired by drink or age and most of them were women. At the same time the frequency of these nervous disturbances and their association with the salvarsan treatment suggest, Géronne and Gutmann remark, that the salvarsan must possess a certain affinity for these nerves. This neurotropic action is not enough to induce a degenerative inflammation in this or that predisposed nerve domain, but yet it is enough to induce some slight change in the nervous system, probably not appreciable even with the microscope, but yet enough to decide the localization of the syphilis. In short, these neuro-recurrences, they say, may be classed as traumatic syphilis. They recommend in conclusion treatment based on this assumption, that is, energetic mercurial treatment, bearing in mind that syphilitic manifestations in the nervous system have a better prognosis the earlier treatment is applied.

54. **Spontaneous Fracture with Tuberculous Hip-Joint Disease.**—Ehringhaus states that in no less than six cases of tuberculous hip-joint disease in his charge the bones in the entire leg became fragile from the trophic disturbance resulting from the tuberculous process. In each case there was spontaneous fracture and it occurred always at the same point where the spongiosa joined the more compact part of the bone, at the lower end of the shaft of the femur, just above the condyle. It is extremely important to keep watch of the bones below with tuberculous coxitis and to examine this special point repeatedly with radioscopy to detect any tendency to fracture and apply appropriate measures to prevent it.

55. **Improved Technic for Forcing Out Pleural Effusion.**—Aron commends Holmgren's technic, described in these columns Jan. 28, 1911, page 312, but he thinks that the same results can be obtained without the necessity for two puncture holes, using merely a two-way trocar. One mouthpiece can be connected with the bulb to pump air into the pleural cavity while the other mouthpiece is connected with the receptacle into which the effusion is blown out by the air forced into the pleural cavity.

Deutsche medizinische Wochenschrift, Berlin

March 16, XXXVII, No. 11, pp. 481-528

56 *Anaphylaxis. (Die Anaphylaxie mit bes. Berücksichtigung ihrer Bedeutung für Infektion und Immunität." E. Friedberger
57 Auto-Infection of Parturients. (Zur Frage der Selbstinfektion.) L. Aschoff.
58 Biologic Action of Radium Emanations. J. Piesch.
59 Technic for Intravenous Injection of Salvarsan. W. Wechselmann.
60 *Cause for Toxic Action of Acid Solutions of Salvarsan. (Ursache für die giftige Wirkung säurer Salvarsanlösungen.) Meissner.
61 *Vaccination Against Small-Pox. (Zur Frage des Impfschutzes.) E. Levy.
62 Quartan Malaria in Germany. A. Hatzfeld.
63 Broad Button Probe for Diagnosing Strictures in Esophagus and Rectum. (Neue Methode der diagnostischen Sondierung der Mastdarm- und Speiseröhrenverengerungen.) R. Callmann.
64 Congenital Angioma of Parotid Gland. P. Harrass and W. Suchier.
65 Ephemeral Traumatic Glycosuria in New-Born Infants. E. Hoeniger.

56. **Anaphylaxis.**—Friedberger recapitulates the arguments which have convinced him that immunity and anaphylaxis are merely quantitative variations of a single phenomenon. Both result from the presence of alien albumin in the organism, which has obtained access outside of the alimentary canal. With natural infection the albumin is produced by the bacteria only gradually; it is not incorporated all at once, like the amount causing anaphylaxis. He has been able to produce anaphylaxis or the symptoms of acute infection at will by administering large or small amounts of the foreign proteid. The temperature curve is particularly interesting under these various conditions, as he shows by detailed reports of his experiments.

60. **Precipitation in Acid Solutions of Salvarsan.**—Miessner is in charge of the veterinary institute at Bromberg and he applied arsenic treatment to ten cattle with foot-and-mouth disease; arsenophenylglycin was given to six and salvarsan to four, in an acid solution. The dose of the latter was only 3 gm., that is, 0.007 gm. per kilogram of weight, but all the animals showed severe symptoms at once—difficulty in breathing, foaming at the mouth—and they all died in from ten hours to two days. Ehrlich suggested that these fatalities might have been the result of a special susceptibility in foot-and-mouth disease, and another group of animals was treated with a smaller dose, 0.005 gm. per kilogram. Similar symptoms developed in these while cattle injected with an alkaline solution bore much larger doses, 0.4 gm. per kilogram, without any signs of disturbance. Microscopic examination confirmed the assumption that the intravenous injection of the acid solution had caused accumulation of the blood in the pulmonary artery into which the drug made its way after being injected into the jugular vein, the vessel becoming obstructed and arresting the arsenic which accumulated at this point. This assumption was confirmed *in vitro*, the acid solution entailing precipitation in defibrinated blood. The injurious action of the acid solution in man is due to the same cause, that is, thrombosis of the pulmonary artery and its sequels, as shown, he says, by the necropsy findings in a recent case in Hamburg in which death followed an injection of an acid solution of salvarsan. These data confirm the necessity for neutralizing the salvarsan. One gm. of salvarsan requires 4.4 c.c. of normal solution of soda to neutralize it; a heavy precipitate is thrown down which requires 6 c.c. more of the soda to dissolve it.

61. **Vaccination Against Small-Pox.**—Levy remarks that small-pox is now so rare in Germany that the present generation of physicians know scarcely anything about it and some may fail to realize the absolute importance of vaccination. He reports a case which is as convincing as a laboratory experiment in respect to the protective power of vaccination and the danger of transmission of the disease from the mildest forms. A German returning from a trip to Siberia had a slight eruption in the face but did not feel ill and paid no attention to it, but it was evidently variola. He had been vaccinated twice, the last time forty years before. His mother had never been vaccinated, and she came down with small-pox and died. Her daughter's family with three children came from a distance to the funeral; all had been vaccinated except the youngest, a boy of 2, and this child developed severe small-pox. The other members of the family contracted the small-pox from the child but in such a mild form that it was scarcely recognizable. The disease had not been recognized at

the time in any of the cases and no measures for disinfection had been applied.

Medizinische Klinik, Berlin

March 12, VII, No. 11, pp. 402-440

66 Office Tuberculin Treatment. (Notwendigkeit und Möglichkeit ambulanter Tuberkulinbehandlung durch den praktischen Arzt.) K. Blümel.
67 *Treatment of Thoracic Empyema. (Behandlung der Thoraxempyeme nach Bülau.) R. Frank.
68 First Aid to the Injured by the Laity. (Erste Wundbehandlung durch Samariterhände.) H. Hans.
69 *Salvarsan in Syphilis. O. Rissom.
70 Bronchial Stenosis. (Chronische Bronchialerkrankungen mit Ausschluss der Tuberkulose. VIII.) A. Posselt.
71 Gastro-Intestinal Hemorrhage with Purulent Cholecystitis. Feldhahn.
72 Tests and Limits of Visual Acuity. (Ueber Sephrüfungen und die Grenze der Sehschärfe.) W. Thorner.

March 19, No. 12, pp. 441-478

73 Importance of Phosphorus in Courses of Forced Feeding, Rest and Passive Exercise. (Ueber Mastkuren.) A. Bickel.
74 *Intestinal Stenosis. J. Schnitzler. Commenced in No. 11.
75 The Sinus Node. (Welche Bedeutung kommt dem Sinusknoten zu.) W. Koch.
76 *Salvarsan in Syphilis. F. Port.
77 Malt Extract. E. Seel.
78 Action of Thyroid Extract on Gastro-Intestinal Cancer. (Wirkung von Schilddrüsenextrakt auf Magendarmkrebse.) E. Diesing.
79 Bronchial Concrements. (Chronische Bronchialerkrankungen mit Auschluss der Tuberkulose. IX.) A. Posselt.
80 Intoxication from Inhaling Volatile Substances in Tubercle Bacilli Cultures. (Vergiftung mit den Riechstoffen der Tuberkelbazillen.) E. Leschke.

67. **Continuous Drainage of Empyema of the Chest.**—Frank reports his experiences with forty-three patients with empyema in the thorax in the last ten years. About 55 per cent. of the patients were cured; in none of these cases had the empyema been installed for more than six weeks. Three boys and two girls were under 10; four boys and one girl were under 20. In only two cases was tuberculosis certain; it was suspected in two others among the twenty-four cases of recovery. His experience confirms the advantages of permanent drainage according to Bülau's technic; with this a flat flask is suspended by a strap from the opposite shoulder. The empyema drains into the flask through a rubber tube and drain inserted at the lowest point of the empyema, held in place with straps of adhesive plaster. A clamp on the tube is opened every two or three hours to allow not more than 200 c.c. of pus to escape; it is important not to drain too much at one time. He commends this technic as excellent for acute and not too old empyema; it is the simplest and the least annoying of all, he states, and the final outcome is good. Thoracocentesis should be reserved for small encapsulated empyema while the thoracoplastic operations should be reserved for the cases in which the Bülau technic is impracticable or in which there are chronic pathologic changes in the pleura.

69. **Salvarsan in Syphilis.**—Rissom concludes from his experience in the army that salvarsan should not be recommended for the sole treatment of syphilis among soldiers, although in the malignant form and with recent primary lesions it is certainly efficient. If it is used in military hospitals he advises intravenous injection of from 0.4 to 0.5 gm. followed at once by a course of mercurial treatment. The local infiltration with subcutaneous injection interferes with the military service, so that this technic is not advisable.

74. **Acute Intestinal Stenosis.**—Schnitzler advocates prompt relief of peritonitic stenosis of the intestine by opening into the bowel. He has made a fistula of this kind in peritonitic ileus in almost one hundred cases and he has never had occasion to regret it. More than once he has regretted that he had not done it twenty-four hours sooner. Feculent vomiting should not be waited for; colic pains, lack of stool and flatus and the metallic tinkling sounds in the intestine to which Wilms recently called attention—these are signs enough of stenosis and there should be no further delay. He treats the patients in this category the same as for incarcerated hernia, except that he does not try to remove the obstruction but merely makes one or more openings into the distended loops. It is foolish, he declares, to waste time and to annoy the patients with medical measures in these cases; in fact, high enemas are rarely indicated and the most misused measure in modern medicine. Only with volvulus of the sigmoid flexure is the high irrigation superior to an ordinary enema. If a small enema does not bring stool within twenty-four or forty-eight hours he advocates enterostomy without delay. When it is done early, the fistula can be made by the Witzel technic. When the ileus was not due to a neoplasm or other permanent obstruction, stool was voided by the natural route within a few days in every case. He adds that appendicitis may from the start present merely the picture of purely mechanical ileus. In conclusion, he refers to the mesenteric occlusion from compression of the duodenum by the root of the mesentery—the postoperative ileus to which he called attention in 1895. He still maintains that the dilatation of the stomach in these cases is secondary to this compression, this assumption being sustained by the benefit from turning the patient on the abdomen. In all cases of postoperative ileus he urges the physician to refrain from exploring the abdomen, mere enterostomy generally proving sufficient for the time being.

76. **Salvarsan in Syphilis.**—Port insists on having his patients sign a paper which states that the new drug has not crowded out the tried and tested mercury, but is administered at the special desire of the patient and with the understanding that a course of mercurial treatment must follow and that the hospital is not to be held responsible for any injurious consequence of the salvarsan injection. He states that he was delighted to have the certificate in his hands in the numerous cases in which a deep necrotic process developed at the point of the subcutaneous injection. This occurred, he says, in a shockingly large proportion of his sixty cases until he changed to the intravenous technic. In one case there was evidently a small infarct in the lung responsible for pain in the left chest, area of dulness and bloody sputum the day after the injection. The danger of thrombosis and embolism is shown by this case not to be so negligible as many maintain. In any event, the patient should stay in bed for two or three days after the injection. One of his patients insisted on leaving the clinic twenty-four hours after the intravenous injection, but returned two days later with local thrombosis, the arm being swollen; the symptoms subsided under appropriate measures in a few days. On account of the danger of such disturbances the injection is made in the left arm. It is his impression that patients with recent infection react with higher temperature than others. Vomiting and diarrhea were common after intravenous injections, and one patient became very deaf but hearing gradually returned in the course of two weeks. One patient had total right deafness coming on five months after subcutaneous injection of the neutral emulsion, although there were no signs of recurrence of the syphilis. He thinks that these cases of neuro-recurrence are due to toxic injury of the nerves, not only by the endotoxin of the germs killed by the salvarsan but by the drug itself, and he thinks that patients should be warned against such eventualities. He declares, further, that the intravenous technic is not suited for general practice, and that it is not free from danger of thrombosis and embolism even in the hands of specialists.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXII, No. 5, pp. 675-794. Last indexed April 1, p. 1011

81 *Tumors in Cerebellopontine Angle. (Die Kleinhirnbruckenwinkeltumoren.) H. Leischner.
82 *Gastric Functioning After Gastro-Enterostomy and Resection of the Pylorus. L. Schüller.
83 Reciprocal Relations Between Typhoid and Appendicitis. (Wechselbeziehungen des Abdominaltyphus und der akuten Appendicitis.) E. Hesse.
84 *Conservative Treatment of Spasm with Hour-Glass Stomach. (Ueber Erfolge und Aussichten einer konservativen Therapie des Sanduhrmagens, nebst Beiträgen zur röntgenologischen Diagnostik desselben.) E. Schlesinger and J. Nathanblut.

81. **Tumors in Cerebellopontine Angle.**—Leischner analyzes ten cases of this kind in which operative treatment was applied in the surgical clinic at Vienna in charge of von Eiselsberg. The patients were between the ages of 30 and 50, and the symptoms pointed unerringly to a process obstructing the cerebellopontine angle. In one case, the history of syphilis, the positive Wassermann reaction and the transient benefit under antisyphilitic medication suggested the possibility of a gumma, but the rapid disturbance in vision compelled immediate operation, which proved to have been fully justified as the growth was a true fibroma. Headache, dizziness and deafness in one ear or subjective sounds in the ear first brought the patients

to the clinic; then came vomiting and choked disc. The operation was done in two sittings with an interval of from six to nine days. The intervention has been borne much better since it has been the practice to maintain permanent subcutaneous saline infusion during the first sitting. No attempt is made to drain the site of the tumor since one patient succumbed to secondary infection from this cause. Six of the patients died; four were discharged much improved. This brings to fifty-one the number on record of tumors of this kind given operative treatment. Excluding the incomplete operations, twenty-nine of the remaining forty-four patients died during or soon after the operation, including six who did not survive the first sitting. Shock or paralysis of the respiration or heart centers was the fatal factor in most of the cases; fulminating hemorrhage as the tumor was being shelled out was the cause in three cases. Fifteen patients bore the operation well and eleven are still in comparative health from one to eighteen months since the operation. The end-result depends, naturally, on the degree to which the nerves in the region have been injured by the tumor before its removal, especially the optic nerve. The younger the patient and the smaller the tumor, the better the outcome. An operation should be advocated in every case, he affirms, in which the general condition is still good and the medulla oblongata does not show signs of injury. The tumors are generally readily shelled out, even when they have attained quite a large size.

82. **Functioning of the Stomach After Gastro-Enterostomy.**—Schüller has examined forty patients to determine present conditions after a gastro-enterostomy, and here analyzes the findings in twenty-five, including thirteen cases in which the pylorus was resected. The findings teach the necessity for making the opening at the lowest point of the stomach after resection, and further that the gastric digestion nearly always suffers after a gastro-enterostomy. The conditions in regard to the passage of fluids along into the intestine differ in the human and the dog stomach after this operation.

84. **Treatment of Hour-Glass Stomach.**—Schlesinger and Nathanblut conclude from their analysis of two cases of hour-glass stomach that Roentgen-ray examination is indispensable for estimation of the conditions, and that a superposed spasmodic contraction may be relieved by medical measures and thus the whole clinical picture be so improved that operative treatment may be avoided.

Münchener medizinische Wochenschrift

March 14, LVIII, No. 11, pp. 553-608

85 *Temporary Eventration of Intra-Abdominal Organs for Roentgen-Ray Examination and Treatment. R. Werner and A. Caan.
86 Etiology of Puerperal Fever. H. Schottmüller.
87 Ubiquity of Paratyphus B. Bacilli. P. Schmidt.
88 Pharmacologic Study of Uterine Tonics. (Zur Pharmakologie und klinischen Dignität der Uterustonika.) M. Neu.
89 *Roentgen Rays in Diagnosis of Pregnancy. (Anwendung des Röntgenverfahrens bei der Diagnose der Schwangerschaft.) L. Edling.
90 Behavior of Blood-Pressure with Intravenous Injection of Salvarsan. (Verhalten des Blutdrucks bei intravenösen Salvarsaninjektionen.) R. Sieskind.
91 Jaundice After Injection of Salvarsan. (Ikterus nach Salvarsan.) E. Klausner.
92 Transverse Osteotomy to Correct Torsion of Leg with Club-Foot. (Torsion der Unterschenkelknochen bei angeborenen Klumpfüssen und ihre Heilung.) R. Purckhauer.
93 Preservation of Digitalis Leaves. (Wert der frischen Fol. Digitalis und ihre Konservierung.) M. Winckel.
94 Bolus Alba for Dressings. (Der Bolusverband, ein neuer steriler Wundverband.) J. Stumpf.
95 Finger and Toe Bones as Substitutes for Each Other. (Auswechselung von Finger- und Zehenknochen.) H. Wolff.
96 Eclampsia. W. Hannes.
97 Thucydides' Plague. (Das klinische Bild der Pest bei Thucydides.) Schröder.
98 Memorial Tribute to E. G. Janeway. H. Oertel.

85. **Eventration for Roentgen-Ray Treatment of Internal Organs.**—Werner and Caan have been applying the method suggested by Carl Beck for temporary eventration of inoperable cancers to submit them to the action of the Roentgen rays. They report their experiences with fourteen cases including nine with inoperable gastric cancer, two with advanced rectal carcinoma, and one each of a gall-bladder, ovarian or colon tumor. Besides the beneficial action of the radiotherapy, it is possible, by this means, to apply more radical local measures to the growth. They describe the technic with which they eventrated gastric and rectal cancers, keeping them exposed in this way for some time while the region around is fully protected. They think this method of temporary eventration should take the place of simple exploratory laparotomies and of gastro-enterostomies in most cases, and of other palliative measures. Five illustrations show the technic advocated for this "radiosurgery," as they call it.

89. **Roentgen Rays in Diagnosis of Pregnancy.**—Edling has found it possible to obtain instructive radiographs of the fetus as early as the beginning of the third month of pregnancy. Multiple gestation and abnormal positions and malformations can also be readily recognized by this means. He has been applying the Roentgen rays systematically to a number of pregnant women in the Malmö and Lund Hospitals, and has found the radiographs equally reliable for diagnosis of extra-uterine pregnancies. No harm from the procedure was ever detected.

Wiener klinische Wochenschrift, Vienna

March 16, XXIV, No. 11, pp. 371-410

99 Bacteriologic Revision of Aseptic Operations. (Untersuchungen über Asepsis.) V. Hecht and R. Köhler.
100 Action of Ferments on Tuberculin. T. Pfeiffer and H. Trunk.
101 *Syphilitic Disease of Auditory Nerve. (Erkrankungen des Akustikus bei erworbener Lues.) O. Mayer.
102 *Occurrence of Syphilitic Disease of Internal Ear in Early Stages of Syphilis. H. Frey.
103 Echinococcus Disease of Muscles and Skin. (Muskel- und Hautfinnen. Röntgennachweis verkalter Zystizerken.) K. Pichler.

101. **Disturbances in the Auditory Nerve with Acquired Syphilis.**—Mayer has been analyzing the histories of sixty-five cases of syphilitic affections of the auditory nerve observed at Graz since 1896, continuing the series of sixty-six previous cases reported at that date by Habermann. These series show that the auditory nerve is liable to become affected early after syphilitic infection, even as early as three weeks after the primary sore, and thus by the sixth week after infection. The auditory affection is most frequent during the first six months but it may not develop until after twenty-five or thirty years. Syphilitic affections of the auditory nerve generally commenced with subjective sounds in the ears and, in about half the cases, with dizziness. These symptoms were noted sometimes as part of the prodromal picture. In the later stages of secondary syphilis the ear affection usually develops accompanying recurring manifestations, in which case it may be regarded as part of the latter. The syphilitic affection of the auditory nerve almost always came on gradually and was more or less severe. It was generally bilateral or the deafness was more pronounced on one side than the other. In about half the cases vestibular symptoms were also observed, sometimes merely slight dizziness, in others severe vertigo accompanied by vomiting and serious disturbance in balance. An isolated affection of the vestibular nerve was never encountered in any of the 131 cases in the series, while this was the trouble in Urbantschitsch's five cases of disturbances in the auditory nerve after injection of salvarsan. Isolated disturbance in the vestibular nerve is extremely rare; Mayer knows of only two cases of the kind on record: Ruttin's case, in which no explanation for the disturbance was found, and Leidler's case in which the isolated affection of the vestibular nerve was traced to sausage poisoning. Ehrlich has reported vestibular symptoms in mice treated with arsacetin. These experiences show that the vestibular nerve may be injured by poisons which do not affect the cochlear nerve, and they sustain the assumption that the isolated vestibular disturbance observed after salvarsan may be the result of toxic action from this drug. The fact that not a single instance of an isolated vestibular affection was observed in the sixty-five cases of Mayer's series of syphilitic disturbances of the auditory nerve certainly sustains this assumption. Another argument in favor of it is the fact that the vestibular disturbances developed so soon, within a few hours of the injection of salvarsan, and, further, that such a comparatively large number of cases have been observed within such a short period. In conclusion Mayer reiterates that true syphilitic disturbances in the auditory nerve are not so infrequent as some have asserted recently, while, on the other hand, they differ in many respects from those which have been observed after injection of salvarsan.

102. **Disturbances in the Auditory Nerve with Acquired Syphilis.**—Frey, reviews the literature on this subject citing thirty-five authors and adding that auditory affections for which syphilis is responsible are probably more common than is generally recognized as attention has not been attracted particularly to them until recently and only the more striking cases have been reported.

Zentralblatt für Chirurgie, Leipsic

March 11, XXXVIII, No. 10, pp. 345-384

104 Mixed General Anesthesia. (Ueber Injektionsnarkose mit Pantopon-Skopolamin.) G. Brüstlein.
105 Drainage of the Thorax. M. Tiegel.

March 18, No. 11, pp. 385-416

106 Etiology of Cleft Palate. (Zur Entstehung der angeborenen Gaumenspalte.) W. Kramer.
107 Operation for Umbilical Hernia with Extensive Excision of Fat. (Die Nabelbruchoperation mit ausgedehnter Fettexzision.) F. Ochlecker.

Zentralblatt für Gynäkologie, Leipsic

March 18, XXXV, No. 11, pp. 433-472

108 *Progress Forward or Backward. (Vermeintlicher Fortschritt und Rückzug.) B. Krönig.
109 *Etiology of Eclampsia. A. Dienst.
110 The Suprasymphyseal Transverse Incision. (Zur Diskussion über den suprasymphysären Fascienquerschnitt.) R. Klotz.
111 Hypnosis. (Täuschung oder Wirklichkeit?) H. Fulda.
112 Shortening the Ligaments for Uterine Prolapse and Retroversion. (Die Verkürzung der Ligamenta cardinalia bei Prolaps und Retroversionen durch W. M. Polk in Neuyork.) J. Kocks.

108. This is a denunciatory reply to Roth's article summarized in these columns, March 25, page 935.

109. **Etiology of Eclampsia.**—Dienst ascribes eclampsia to the injury resulting from accumulation of fibrin ferment from destruction of polynuclear leukocytes used up in the pregnancy. The fibrin ferment or thrombin accumulates in the liver, and in consequence of the congestion in this organ and the mechanical hindrance to the circulation in the vena cava from the pressure of the large uterus at term, the fibrin ferment does not get into the blood as under other conditions and thus does not come in contact with the antithrombin. The liver suffers from this accumulation and is no longer able to produce the necessary antithrombin in sufficient amounts. Then the fibrin ferment accumulated in the lower part of the body in such large amounts is suddenly mobilized when labor commences, and the blood is thus suddenly overwhelmed with a flood of it. This explanation of the origin of eclampsia has been sustained, he asserts, by his experimental research.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 9, XXXII, No. 30, pp. 315-322

113 *Experiences with Contracted Pelvis. (Casistica dei bacini ristretti) O. Rigamonti.

March 12, No. 31, pp. 323-338

114 Fracture of the Pubis. (Frattura del pube con rottura dell'uretra e della vescica.) M. Fasano.

March 14, No. 32, pp. 339-346

115 Pathogenesis of Rigidity of Abdominal Walls. (Sulla patogenesi della tensione addominale.) U. Fabris.

113. **Contracted Pelvis in Italy.**—Rigamonti states that the custom of carrying a basket on the back, the *gerla*, in common use in the Italian mountains, has a tendency to deform the pelvis, reducing particularly the anteroposterior diameter. He found contracted pelvis in 52 of the 399 women he has delivered in the last three years in his practice in an Italian mountain district with a population of 3,500. Every one of the women with contracted pelvis had been accustomed to carry heavy burdens on her shoulders in this way from the age of about 11.

Policlinico, Rome

March 12, XVIII, No. 11, pp. 326-356

116 *Electricity in Treatment of Post-Diphtheritic Paralysis of the Velum. G. Fumarola.

Riforma Medica, Naples

March 13, XXVII, No. 11, pp. 281-308

117 Spasm of the Larynx. (Laringismo.) F. Massei.
118 Tint and Spectrum of Normal Blood Serum (Colore e spettro del siero sanguigno normale.) D. De Sandro.
119 Causes of Errors in Localization of Lesions in the Brain. (Diagnosi di sede delle alterazioni e dei tumori encefalici.) G. Finzi.
120 Major Operations Under Primary Ether Anesthesia. (L'ebbrezza eterea alla Sudeck specie in operazioni di lunga durata.) G. Gheza

116. **Postdiphtheritic Paralysis of the Velum.**—Fumarola reports five cases of paralysis of the velum following diphtheria in which he applied Larat's technic for electric treatment. In the first three cases the paralysis dated from twenty and forty days and rapid relief followed three or four sittings, with a complete cure after eight and eleven. No benefit was anticipated in the fourth case as the paralysis was of seventeen years' standing, and none was realized. In the fifth case, the electric treatment was commenced too soon, while the diphtheritic neuritis was still in progress, the sixth day after the first signs of trouble. The consequence was an aggravation of both subjective and objective symptoms; this case teaches the importance of waiting for the subsidence of the neuritis before commencing treatment. The current may be a rapid intermittent faradic or the alternating sinusoidal. It should be turned on for about fifteen minutes. The patient should feel it but not enough to cause pain. One of the large electrodes is placed at the back of the neck and the current is closed by placing the hands or feet in a basin of water.

Hospitalstidende, Copenhagen

February 8, LIV, No. 6, pp. 137-168

121 *Rapid Eating in Origin of Gastric Disease. (Om Madslugningens ætiologiske Betydning for Ventrikellidelser.) E. A. Hallas.

February 15, No. 7, pp. 169-192

122 The Wassermann Reaction in Danish Imbeciles. (En Undersøgelse af de aandssvage i Danmark ved Hjælp af Wassermann's Reaktion.) O. Thomsen, H. Boas, B. Hjorth and W. Leschly.

February 22, No. 8, pp. 193-224

123 *Non-Operative Treatment of Cancer. (Den ikke-kirurgiske Behandling af Kræft.) T. Rovsing.

March 1, No. 9, pp. 225-248

124 Syphilis Transmitted to Infant at Birth. (Et Tilfælde af Syfilis erhvervet ved Fødslen: Smitte fra Moder til Barn.) P. Haslund.
125 Croupous Pneumonia in Greenland. A. Bertelsen.

March 8, No. 10, pp. 249-272

126 Case of Polypous Sigmoiditis. H. A. Sølling.

March 15, No. 11, pp. 273-304

127 Case of Lympho-Endothelioma. K. Secher.
128 Two Cases of Obstruction from Meckel's Diverticulum. T. L. Smith.
129 Fatal Ether Accident. (Et Dødsfald ved Aeternarkose.) J. Sturup.

121. **Hasty Eating in Origin of Stomach Disease.**—Hallas found in examination of thirty-two idiots signs of abnormal stomach functioning in no less than twenty-two. All the patients were inmates of the asylum and none chewed food properly. Akesson has also reported six patients with achylia in thirteen imbeciles examined who swallowed their food hastily, while there were signs of abnormal gastric functioning only in five of nineteen who ate more hygienically. Hallas thinks that the insane asylums offer facilities for study of gastric affections better than can be obtained elsewhere, as the patients are under observation for long periods.

123. **Non-Surgical Treatment of Cancer.**—Rovsing's article was read to open the discussion on this subject at the recent international cancer conference at Paris. He has had wide experience with various non-operative means of treating cancer, the results being negative with trypsin in his fifteen cases; fulgurization he has never tried as it cannot be thoroughly curative, while it is too painful for a palliative measure. His experience has been more favorable with Roentgen-ray treatment, especially in a number of cases of small rodent ulcers of the face. He has become convinced that the Roentgen rays actually promote the growth of carcinomas. On the other hand, they have a curative influence on some sarcomas. It is impossible to say, however, which sarcomas are going to yield to this influence; the action is local, having no effect on metastases elsewhere. At the same time he reports the complete subsidence of a sarcoma in the neck in two cases and of an osteosarcoma in three under Roentgen-ray treatment, but only one patient is still in good health to date. The details of this cured case are given with illustrations. This case seems to show that the sarcoma first must be opened up so that it can be directly exposed to the action of the rays. The sarcoma in this case was on the top of the head and after twenty-one exposures in seven weeks not a trace of it was left. The scalp flap was then replaced and five series of exposures were made later. There has been

no sign of recurrence during the four and a half years since. Rovsing thinks that radium may be counted on for a similar curative local action for cancer but, like the Roentgen rays, there is no general action. He also reports retrogression of a cancer after inoculation of erysipelas streptococci. The resulting erysipelas had an unmistakable curative action on the sarcoma on the forearm but the patient succumbed to unsuspected metastasis in the lungs. He adds that the success of salvarsan in syphilis suggests the possibility of an effectual arsenic treatment of cancer. His experiences were still more promising, he states, with vaccination according to Wright's technic. He has applied this since May, 1909, in seven cases of sarcoma, seven of carcinoma of the breast, one of cancer of the bladder, one of the vulva and one of epithelioma of the cheek. No permanent benefit was apparent in the carcinoma cases, but with sarcoma the outlook is more promising; he has two patients who seem to have been permanently cured by this means, one of a recurring sarcoma in the liver and the other in the thigh. There has been no sign of further trouble during the five and nine months since. He is inclined to accept the possibility of direct contagion of cancer. In his own family an uncle, 70 years old, had an ulcerating osteosarcoma. His young daughter tended him and soon developed universal sarcomatosis, fatal in two months. He knows of other cases in which daughters who tended a mother with cancer of the breast also developed cancer. He cites further statistics showing that in the Sorø district cancer is extremely prevalent, while scarcely any cases are known in the Aalborg district. He knows of houses where the people moving in get cancer; in one house at Faxe occupied by several physicians in turn they developed sarcoma and died in the course of a year or two—these experiences speak against the assumption of embryonal factors and point to infection. They are only clinical observations, he adds, but he is convinced that the microbe will some day be found which will explain them. In the discussion of Rovsing's article, Poulsen stated that he has kept records of 400 cancer patients after radical treatment, and nearly all have succumbed since to cancer, if not to metastasis, to a primary cancer at some other point. He even ventures to say that when a human being is once operated on for cancer, he will, if he lives long enough, certainly die of cancer.

Hygiea, Stockholm

February, LXXIII, No. 2, pp. 130-252

130 *Roentgen-Ray Examination of Kidney Pelvis. (Pyelografi.) E. Key.
131 Sigmoiditis, Diverticulitis and Perisigmoiditis. A. Hedlund.
132 Improved Technic for Artificial Anus After Resection of Intestines. (Metod att anlägga anus præternaturalis i vissa fall af tarmresektion.) K. Dahlgren.
133 Progressive Deafness. (Om otoskleros och andra former af kronisk progressiv döfhet.) J. Möller.

130. **Roentgen Findings of the Kidney Pelvis.**—Key discusses the technic for pyelography and the extremely instructive and reliable findings thus to be obtained. He gives them as found in twenty-one cases with the detailed clinical histories and commends it as a harmless method for examination. The method could not be applied in three of the cases described on account of tuberculous ureteritis or other cause.

Ugeskrift for Læger, Copenhagen

March 16, LXXIII, No. 11, pp. 357-404

134 *Chondrotomy for Apical Disease. (Om den operative Behandling af Spidseftise og Emfysem—Freund's Operation.) E. Brandorff.

134. **Chondrotomy for Apical Disease.**—Brandorff reviews the articles that have been published on Freund's operation to restore elasticity to the upper part of the chest wall. He has found forty-five cases on record, to which he adds four done in Denmark. The results have been very encouraging. When the operation is done on one side at a time, it seems comparatively free from danger.

Correction: Louse, Not Flea, Transmitter of Typhus.—Prof. Russell M. Wilder, Chicago, calls attention to the fact that in The Journal, April 8, p. 1073, in the abstract of an article by Nicolle in the *Annales de l'Institut Pasteur*, the word flea is used in place of louse. Mr. Wilder says that Nicolle's work has all been with the body louse, *Pediculus vestimenti*, and it is with this insect that he obtains transmission of typhus to monkeys, not with the flea. Mr. Wilder is correct. Nicolle states expressly that his experiments with fleas and bedbugs were constantly negative. The prophylaxis of typhus is much easier with the body louse than with the flea, as soap and water and clean linen, Nicolle says, will usually banish lice, whereas fleas are harder to get rid of.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Text-Book of Operative Surgery. By Dr. Theodor Kocher, Professor of Surgery and Director of Surgical Clinic in the University of Bern. Third English Edition. Authorized Translation from the Fifth German Edition by Harold J. Stiles, M.B., F.R.C.S., Edin., Surgeon to the Chalmers Hospital, Edinburgh, and C. Balfour Paul, M.B., F.R.C.S., Edin., Assistant Surgeon, Royal Edinburgh Hospital for Sick Children. In Two Volumes. Cloth. Price, $12 net. Pp. 723, with 415 illustrations. New York: The Macmillan Co., 1911.

The Applicability to Medicolegal Practice in India of the Biochemical Tests for the Origin of Blood-Stains. By Lieut.-Colonel W. D. Sutherland, M.B., I.M.S. (Edited by the Director-General, Indian Medical Service). Scientific Memoirs. By Officers of the Medical and Sanitary Departments of the Government of India. New Series. No. 39. Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India. Paper. Pp. 35. Calcutta: Supt. Government Printing, 1910.

The Wassermann Sero-Diagnosis of Syphilis in Its Application to Psychiatry. By Dr. Felix Plaut, Scientific Assistant in the Psychiatric Clinic of the University of Munich. Authorized Translation by Smith Ely Jelliffe, M.D., Ph.D., Professor of Psychiatry, Fordham University, New York, and Louis Casamajor, A.M., M.D., Assistant New York Neurological Institute. Nervous and Mental Disease Monograph Series No. 5. Paper. Pp. 188. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

What Shall I Eat? A Manual of Rational Feeding. By F. X. Gouraud, Formerly Chief of the Laboratory of the Medical Faculty of Paris. With a Preface by Prof. Armand Gautier, of Paris. Only Authorized Translation into the English Language by Francis J. Rebman. With a Glossary Containing Definitions of the Principal Technical Terms, and an Index of Diseases Referred to in the Text. Cloth. Price, $1.50. Pp. 379. New York: Rebman Co., (1911).

Clever Hans (the Horse of Mr. von Osten). A Contribution to Experimental Animal and Human Psychology. By Oscar Pfungst. With an Introduction by Prof. C. Stumpf. Translated from the German by Carl L. Rahn, Fellow in Psychology in the University of Chicago. With a Prefatory Note by James R. Angell, Professor of Psychology in the University of Chicago. Cloth. Price, $1.50 net. Pp. 274. New York: Henry Holt & Co., 1911.

The Social Evil in Chicago. A Study of Existing Conditions with Recommendations by the Vice Commission of Chicago (a Municipal Body Appointed by the Mayor and the City Council of the City of Chicago) and Submitted as Its Report. Chairman, Dean Walter T. Sumner, 117 North Peoria Street, Chicago. Paper. Pp. 368.

Verhandlungen der Berliner medizinischen Gesellschaft aus dem Gesellschaftsjahre 1910. (Separat-Abdruck aus der Berliner klinischen Wochenschrift.) Herausgegeben von dem Vorstande der Gesellschaft. Band XLI. Paper. Pp. 380, with illustrations. Berlin: L. Schumacher, 1911.

Thirty-Fifth Annual Report of the Ladies' Union Charitable Society (Incorporated), Conducting the Lawrence General Hospital and Children's Home. For the Year Ending Sept. 30, 1910. Organized Oct. 5, 1875. Paper. Pp. 69, with illustrations. Lawrence, Mass., 1910.

Die Behandlung der Frauenkrankheiten. Für die Praxis Dargestellt. Von Dr. J. Veit, Professor und Direktor der Universitäts-Frauenklinik in Halle a.S.Geh.Med.-Rat. Paper. Price, 8.20 marks. Pp. 242, with 34 illustrations. Berlin: S. Karger, 1911.

Thirteenth Annual Report of the Managers of the New Jersey State Village for Epileptics, Skillman, Somerset County, N. J. For the Year Ending Oct. 31, 1910. Opened Nov. 1, 1898. Paper. Pp. 22, with illustrations.

Forty-Fifth Annual Report of St. Francis' Hospital, East One Hundred and Forty-Second Street, New York. Under the Charge of the Sisters of the Poor of St. Francis. For the Year 1910. Paper. Pp. 46, with illustrations.

Diseases of the Stomach and Intestines. By Boardman Reed, M.D., Member of the American Medical Association. Third Edition. Cloth. Price, $5. Pp. 1037, with 112 illustrations. New York: E. B. Treat & Co., 1911.

Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States. For the Fiscal Year 1910. Cloth. Pp. 256. Washington: Government Printing Office, 1911.

Sketch of a Course of Chemical Philosophy. By Stanislao Cannizzaro (1858). Alembic Club Reprints, No. 18. Cloth. Price, 43 cents. Pp. 55. Chicago: University of Chicago Press, 1911.

Litora Aliena. By Medicus Peregrinus. Paper. Pp. 78. Price, 50 cents. Boston: W. M. Leonard, 1911.

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PRACTICAL EXPERIENCES WITH BERIBERI AND UNPOLISHED RICE IN THE PHILIPPINES *

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MANILA, P. I.

The advances made during the past year in placing the etiology of beriberi on a scientific basis have now proceeded far enough to warrant the inference that prophylactic medicine has the knowledge at its command to place this scourge among the preventable diseases.

While it has been possible to control outbreaks of beriberi in public institutions in the Philippines during the past ten years by reducing the rice in the diet and replacing it with meat, vegetables, mangoes, etc., yet it was not until the 1910 meeting of the Far Eastern Association of Tropical Medicine that a rational method for the prevention and cure of the disease became available. This was due to the papers on this subject read at the meeting, especially those presented by Foster and by Aron.

Briefly, it will be remembered that these authors showed by experimental data that beriberi in man and polyneuritis in fowls could be caused by using, as the staple article of diet, rice from which the outer portion or pericarp had been removed; and that, unless advanced degeneration of the nerves had occurred an immediate amelioration of the symptoms took place when rice with the pericarp, or its equivalent, was substituted.

Numerous analyses of rice sold in the Manila market have been made by Dr. Aron, and these showed that Saigon rice Number 2, and locally polished rice almost invariably contained less than 0.4 per cent. of phosphorus pentoxid. (It is desired here to digress for a moment for the purpose of stating that the amount of phosphorus in rice is given only because it is a ready method for determining the degree of polishing that a given rice has undergone; in other words, it is a laboratory method of ascertaining whether much or little of the pericarp has been removed and at this time it cannot be said that the lack of it causes beriberi.) Unpolished or slightly polished rice was found to contain from 0.5 to 0.75 per cent. of phosphorus pentoxid.

Since the opening of the Culion Leper Colony in 1906, rice has been the staple article of diet, and it was customary to use either Saigon rice Number 2, or local polished rice. Beriberi was more or less continuously present until February, 1910. By substituting meat and mangoes for rice it was always possible to reduce the number of beriberi cases, but the disease was never completely eradicated. It was found later that this failure was probably due to the fact that many of the lepers preferred to deny themselves food rather than eat mangoes, so that the authorities had starvation as well as improper diet to deal with.

The total number of deaths at Culion by months from February, 1909, to February, 1910, among an average population of 1,537, was as follows: February, thirty-nine; March, fifty-four; April, fifty-two; May, forty-seven; June, forty-eight; July, fifty-seven; August, sixty-one; September, sixty-five; October, forty-three; November, eighty; December, 188; January, 164; or a total of 898; of this number a total of 309 were due to beriberi.

In February, 1910, the use of unpolished rice was made compulsory for all inmates of the Culion Leper Colony.

The total number of deaths by months from February, 1910, to February, 1911, among an average population of 1,952, or a 27 per cent. greater population, was as follows: February, sixty-six; March, thirty-six; April, twenty-nine; May, twenty-two; June, twenty-seven; July, fifteen; August, twenty-four; September, twelve; October, thirteen; November, fifteen; December, fifty-eight; January, fifty-two; or a total of 369, a reduction in the deaths of over one-half.

Of this number there were no deaths from beriberi after February, 1910. The increased death-rate in December and January was due to an acute outbreak of bacillary dysentery, or even a better showing would have resulted.

At the end of January, 1910, there were approximately fifty patients with beriberi undergoing treatment in the Culion Hospital. On the suggestion of Dr. Aron, 15 grams of rice polishings mixed with milk and sugar were given to these patients twice daily. Two patients in very advanced stages of the disease died within a few days after this treatment was begun; all the others began to improve. Within two weeks half of the number were able to leave the hospital, and within four weeks every patient with beriberi was reported as cured by the attending physicians of the hospital. So much for Culion.

Prior to May, 1910, beriberi was very common throughout the Philippines—in jails, lighthouse stations, charitable institutions, on Government vessels, and among the Filipino troops of the U. S. Army. An investigation has shown that it was the invariable practice to use polished rice as the staple article of diet in all of the places mentioned. In May, 1910, an executive order was issued by the Governor-General of the Philippine Islands prohibiting the use of polished rice

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* Read at the eighth annual meeting of the Philippine Islands Medical Association, Manila, P. I., Feb. 23, 1911.

in all public civil institutions. Since August, 1910, only two cases of beriberi in the above places have come to my attention. One of these was among the crew of the steamer *Rizal*. An inspection of the ship's stores showed that the crew's rice was of the white polished variety. Further inquiry elicited the fact that it was customary for most of the crew of this vessel to use a varied diet, which may account for the fact that there were not more cases. The other case occurred in a prisoner in the Tacloban jail. The physician in charge reported that it had not been possible to purchase unpolished rice at Tacloban and for that reason polished rice was being used. He added, however, that every effort was being made to comply with the spirit of the executive order by using more meat, mangoes, potatoes, green vegetables and fish.

At the Hospicio San José, which is an insane hospital, orphan asylum and asylum for the aged, of over 700 inmates, beriberi had been constantly present at least during the past ten years. Since June, 1910, unpolished rice has been used and a few weeks afterward beriberi disappeared, and since then no further cases have been reported.

Extensive inquiry made throughout the Philippine Islands has almost invariably shown that in districts in which hand pounded or, in other words, unpolished rice is commonly used, there is little if any beriberi; whereas in districts in which machine or polished rice is used as the staple article of diet, beriberi is common. An apparent exception to this general rule is found, however, among the residents of the Batanes Islands. It may be mentioned that these are isolated islands north of Luzon and south of Formosa which have communication with the outer world only a few times each year, and owing to their inaccessibility they generally escape visitations of cholera and many other dangerous communicable diseases.

The Batanes are poorly adapted to rice culture, and for this reason considerable polished rice is imported each year, and it would seem reasonable to infer that if the present theories with regard to the etiology of beriberi are correct cases of this disease should be encountered. An investigation of the dietary of the inhabitants of these islands shows, however, that meat and potatoes are more commonly used than in other parts of the Philippines. In brief, food of various kinds, other than rice, is so plentiful that rice is not the staple article of diet to the same extent as it is elsewhere in the archipelago.

Considerable difficulty has been encountered and much opposition has resulted from the attempt to introduce unpolished rice on a large scale in the Philippines. When the Army and the insular government entered the market to purchase large quantities of unpolished rice it developed that the dealers were unable to supply the demand, because managers of rice mills refused to adjust their process of manufacture to meet the new requirements. This resulted in large quantities of rice being used that came from the mills immediately after it was husked.

The machines that are used locally for this purpose let many of the smaller rice grains pass through without the husks being removed from them. Previously such rice went directly to the polishing machine which not only polished the rice, but removed the husks from such grains as still retained them, so that the finished product was clean. It was apparent then that much of the unpolished rice that was issued in the beginning was not very clean and contained many husks. This gave rise to much complaint among those who were required to use it. It was frequently alleged that the husks tickled the throats and often caused gastritis. On investigation, no reliable evidence as to the gastritis could be obtained. Commissary officers, prison wardens, and others who were directly charged with carrying out the orders to use unpolished rice, were constantly besieged with complaints and it was but natural that they should take the course of least resistance and recommend that its use be discontinued. To add to the difficulties of those who were insisting on the use of unpolished rice, the rumor spread that unpolished rice when stored in bulk soon spoiled, thus causing great financial loss. Investigation of this matter showed that there was no reason to believe that unpolished rice, when stored under the same conditions as polished rice, spoiled more quickly.

A campaign of education was then begun. Dr. Aron frequently went to the rice mills in person and was invariably able to demonstrate that rice could be rendered clean and free from husks without polishing it to a degree that would be harmful. Similar work, with like results, was accomplished by Highet in Siam, so that it may now be said that clean, unpolished rice, satisfactory in appearance, can be obtained in the Philippines and abroad, and that the original objections to its use no longer exist.

By January, 1911, so much evidence had accumulated that unpolished rice was an important factor in the prevention of beriberi that it was deemed most desirable to bring about its general use in the Philippines, for a few years at least, in order to test the theory thoroughly. At the most, no harm can result, and on the other hand there is every promise that many hundreds of lives may be saved and a still greater morbidity avoided. Experimental investigations made by Dr. Aron showed that a rice which has only been polished to a point where it still contains 0.4 per cent. of phosphorus pentoxid may be regarded as incapable of producing beriberi. Almost coincidently, similar conclusions were announced by Highet.

For purposes of convenience, then, a rice that contains less than 0.4 per cent. of phosphorus pentoxid is regarded as polished rice, and that which contains a greater percentage of phosphorus pentoxid is regarded as unpolished rice.

Accordingly, a bill was drafted which had for its purpose the bringing about of the general use of unpolished rice in those places where rice was the staple article of diet. After considerable discussion with physicians, lawyers, legislators and others, it was deemed advisable to attempt this with a law that would impose a tax of 5 centavos (2½ cents U. S. currency) per kilo on all polished rice sold, whether foreign or domestic.

Owing to the fact, however, that the legislature adjourned during the early days of February, there was not sufficient time to present this matter to both of its branches.

On account of the successful experience with unpolished rice in the prophylaxis of beriberi in the Philippines during the year, and since these data confirm th work of Fraser, Stanton, Aron, Kilbourne, de Haan an Highet, as reported at the last annual meeting of th Far Eastern Association of Tropical Medicine, it i believed that the time has come for the medical profession to aid in completing the last step in the te which promises to place another weapon in the hands o prophylactic medicine for the eradication of another o the world's serious and costly diseases.

THE RELATION OF PREMENSTRUAL FEVER TO PULMONARY TUBERCULOSIS:

A STUDY OF ONE HUNDRED CASES *

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In 1861 Fiedler[1] drew attention to definite rises in temperature occurring with anomalies in menstruation, particularly dysmenorrhea. He noticed that fever occurred one or more days preceding the menstrual period and disappeared rapidly with the onset of the menses. He called this "menstrual fever" and thought that it was due to an anomaly in menstruation, but not to an inflammatory process. At times since, physiologists have studied the changes occurring in the circulation, temperature and metabolism associated with menstruation; gynecologists have seen an increase in inflammatory pelvic conditions, or a lighting up of those which had been seemingly latent at this time, and finally, internists have noted the influence of menstruation on pulmonary tuberculosis, particularly the aggravation of subjective symptoms and an increase in the physical signs and temperature changes (F. Neuman[2]). Macht[3] has recently published a review and a careful study of the history of the subject and has indicated the relation between menstruation and tuberculosis, from the point of view of physiology and internal medicine. He states that the heat-regulating apparatus in woman seems to be peculiarly unstable at the time of menstruation; that those who have studied the temperature charts of tuberculous patients at this time have been impressed by the constancy and regularity of these periodic menstrual exacerbations in temperature which seem to differ only as to the frequency of occurrence. The difference in figures, he believes, is due to carelessness in temperature observations, and to disregard of relative rises in temperature; he quotes Mantoux,[4] to the effect that fever may exist without hyperthermia. Macht studied forty cases and states that 50 per cent. showed periodic monthly exacerbations. The cases are not given in any detail whatever and some of the patients were, furthermore, being treated with tuberculin at the time of observation. He finds that rises in temperature may occur in early, as well as in advanced cases, and in the former, are of diagnostic importance. In an extended experience with tuberculosis patients, I was quite unable to substantiate the observations made by Macht, or indeed those of any of the other observers, including Riebold. I consider it of interest, therefore, to add the facts gathered from our patients to indicate the variant findings. Before turning to the cases to be reported a review of the literature directly related to this phase of the subject may be of interest.

In 1899 Turban[5] described a temperature curve with a rise preceding the menstrual period by three to five days and a depression following it. Nine years later he (Turban[6]) presented curves showing premenstrual, intermenstrual, menstrual and postmenstrual temperature rises. The first mentioned he considered diagnostically the most important. Without giving the criteria for his observations he mentions that seventy-three of 100 tuberculous women showed this premenstrual fever on several occasions. Following Turban, Saugman,[7] Sabourin,[8] Kraus,[9] and Jessen[10] laid stress on the fact that premenstrual fever lent evidence to the existence of pulmonary tuberculosis.

Riebold[11] made careful studies of the periodicity of menstruation, the relation[12] between menstruation and ovulation and their influence[13] [14] on disease. He believes that menstruation is dependent on ovulation, and usually follows this by one, two, or three days; that ovulation, not menstruation, is the process which is strongly periodical and that the periodicity in woman's life processes is dependent on it. The question whether this characteristic periodicity is inherent in the actively functionating ovary, or whether external, special cosmic influences play a rôle, he thinks must remain for the present unanswered. He advances the theory that during ovulation certain secretions reach the circulation and that these cause an increase in nervous and psychic irritability, increase in blood-pressure and vital energies, general heightening of metabolic processes, and an accompanying vigorous hyperemia of internal organs and activity of lymph-flow. During such a period of increased physiologic activity, the opportunity is offered for resorption from old infectious foci, for the lighting up of latent processes, or for an increase in activity of acute infections already present, which thus become the cause of premenstrual fever. He has later shown from a study of a large series of cases, that premenstrual rises in temperature occur in a great variety of diseases, such as acute infectious diseases, anginas, gynecologic and neurologic conditions.

I have for some time been impressed by the absence of this so-called premenstrual fever in cases of definite pulmonary tuberculosis. The mention in the literature of its frequent occurrence and the emphasis placed on its diagnostic significance led to the study of the following 100 cases. These cases were observed at Bedford, N. Y., in a sanitarium, in which the hygienic conditions were especially favorable. The sanitarium is devoted to the treatment of tuberculous patients only. The patients were under constant observation; a few were confined to bed, but the majority were up and about. Of these 100 cases forty-seven were incipient, thirty-nine moderately advanced, fourteen far advanced, classified according to National Association classification.[15]

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* From the Montefiore Home Country Sanitarium, Bedford Station, Westchester County, N. Y.

[1] Fielder: Die Verhältnisse der Körperwärme in verschiedenen fieberhaften Krankheiten: Manuskript, 1861-2; quoted by Riebold, Deutsch. Arch. f. klin. Med., 1908, No. 93, p. 15.

[2] Neuman, F.: Beziehung zwischen Menstruation und Lungentuberkulose, Berl. klin. Wchnschr., 1899, No. 21.

[3] Macht, D. I.: Tuberculosis and Menstruation, Am. Jour. Med. Sc., December, 1910, p. 835.

[4] Mantoux: Revue de la Tuberculose, October, 1905.

[5] Turban, K: Beiträge z. Kenntnis d. Lungentuberkulose, 1899.

[6] Turban, K.: Menstruation und Lungentuberkulose, Verhandl. d. 25 Kong. f. inn. Med., 1908.

[7] Saugman: In von Schröter und Blumenfeld's Handbuch der Therapie der chronischen Lungenschwindsucht, 1904.

[8] Sabourin: La fièvre menstruelle des phthisiques, Revue de méd., March, 1905.

[9] Kraus, H.: Ueber praemenstruale Temperatur-Steigerung bei Lungentuberkulose, Wien. med. Wchnschr., 1905, No. 13.

[10] Jessen: Lungenschwindsucht und Nervensystem, Monographie Jena, Fischer, 1905.

[11] Riebold, G.: Der Nachwais des Vorhandenseins somatischer Perioden in weiblichen Organismus und ihrer Abhängigheit von kosmischen Perioden, Arch. f. Gynäk., 1907-1908, lxxxiv, 182.

[12] Riebold, G.: Ueber die Wechselbeziehungen zwischen dem Ovulationsvorgang inkl. der Menstruation und inneren Krankheiten, München med. Wchnschr., 1907, No. 38, p. 1868; No. 39, p. 1935.

[13] Riebold, G.: Ueber periodische Fieberbewegungen mit rheumatischen Erscheinungen bei jungen Mädchen, Deutsch. Arch. f. klin. Med., April 24, 1908, p. 15.

[14] Riebold, G.: Ueber praemenstruelle Temperatur-Steigerungen, Deutsch. med. Wchnschr., 1907, Nos. 11 and 12.

[15] Classification adopted by National Association for Prevention and Study of Tuberculosis: *Incipient:* Slight initial lesion in the form of infiltration limited to apices or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms. Slight or no elevation of temperature or acceleration of pulse at any time during the twenty-four hours, especially after rest. Expectoration usually small in amount or absent. Tubercle bacilli may be present or absent. *Moderately advanced:* No marked impairment of function either local or constitutional. Localized consolidation moderate in extent, with little or no evidence of destruction of tissue or disseminated fibroid deposits. No serious complications. *Far-advanced:* Marked impairment of function, local and constitutional. Localized consolidation intense; or disseminated areas of softening; or serious complications.

The average period of observation was nine months. Rectal temperatures were taken in all but one case. The sputum in ninety-two of these 100 cases contained tubercle bacilli; of the 8 remaining patients, the evidence for pulmonary tuberculosis was:

Case 1.—Patient aged 13. Six members of immediate family and one cousin had tuberculosis. Physical examination showed bilateral apical dulness and diminished breathing, more marked on left side. Intracutaneous and von Pirquet reactions were positive. No expectoration; laryngeal smear negative.

Case 2.—Patient aged 38. Non-tuberculous family history. A history of five years of weakness and cough; five months before admission, blood tinged sputum; slight dulness and shrinkage at right apex; diminished expansion at right base; ophthalmic, von Pirquet and intracutaneous reactions positive.

Case 3.—Patient aged 18. Non-tuberculous family history; gradually increasing weakness for one and one-half years; cough; thoracic pain; lowering of right shoulder; dulness, increased voice and increased muscular resistance at right apex. Reaction to 7 mg. of Koch's old tuberculin to 102 F.

Case 4.—Patient aged 16. Non-tuberculous history; hemoptysis on two occasions; dulness, diminished expansion and crackling râles at right base; intracutaneous, von Pirquet and ophthalmic reactions positive; 0.5 mg. tuberculin produced a rise of temperature to 101.4 F.

Case 5.—No history of exposure to tuberculosis; history of two years' cough; expectoration and pain in chest; dulness at right apex, with a few scattered râles to second space; dulness, diminished tactile fremitus, diminished expansion and a few moist râles at right base; intracutaneous reaction positive.

Case 6.—No history of exposure to tuberculosis; bilateral apical dulness; few fine râles at right first space; von Pirquet and intracutaneous reaction positive; reaction to 5 mg. tuberculin to 102.2 F.

Case 7.—Patient, aged 19. No history of exposure to tuberculosis; cough persisting after influenza; dulness and fine râles at left apex anteriorly and posteriorly; injection of 0.5 mg. tuberculin caused rise in temperature to 101 F.; locally moist râles at left supraspinous fossa; injection repeated with similar results.

Case 8.—Patent aged 21. No exposure to tuberculosis; hemoptysis two years ago; weakness, cough, slight expectoration, anorexia; dulness and dry râles after cough at right apex; impaired resonance, prolonged expiration and shower of fine râles at end of inspiration at left base; von Pirquet and intracutaneous reactions positive.

There are, then, ninety-two cases with demonstrated and eight with very probable pulmonary tuberculosis.

In ninety-six of these 100 cases, there was no evidence of premenstrual fever; i. e., no rise in temperature occurring within five days preceding the onset of a menstrual period. Neither did the patients show any elevation of the minimal temperature described by Saugman;[7] that is, an elevation of the lowest point in the diurnal temperature while still remaining below normal. The intermenstrual fever, described by von Voornveldt,[16] that is, a rise in temperature occurring thirteen to fourteen days after the onset of the preceding menstrual period, thus falling in the interval between two normal menses, was never present in my series. The four remaining cases, however, did show a rise in temperature; in detail they were as follows:

Case 9.—R. G., aged 16, single; case moderately advanced; observed twelve months, sixteen days; menstruated twelve times while under observation, and presented two premenstrual rises: (a) four days before menses, a rise from usual temperature of 99.5 F. to 101.6 F. for twenty-four hours; (b) three days before menses, rise to 103.2 F. for twenty-four hours.

Case 10.—L. K., aged 17, single; case moderately advanced; observed eleven months, twenty-three days; eleven periods; two premenstrual rises: (a) rise to 101 F. on third and fourth days before menses; usual temperature 99.2 F. to 99.8 F.; nine days preceding this same period, a rise to 100.8 F. had occurred; (b) rise to 101 F. twenty-four hours before menses; eight days preceding this a rise to 101.6 F. had occurred.

Case 11.—L. F., single; case incipient; tubercle bacilli in sputum; observed twelve months, twenty days. During this period the patient menstruated fourteen times; seven times preceding the onset of menstruation by twenty-four hours to forty-eight hours, and once, on first day of menstruation, her temperature reached 100 F. On eleven other occasions her temperature reached 100 F. and bore no relation to her menstrual period. A mitral and aortic endocarditis was a complication in this case. It is doubtful, therefore, whether an interdependence between the menstruation and tuberculosis can be maintained.

Case 12.—S. P., aged 20, married; case moderately advanced; observed nine months. A rise in temperature to 101.6 F. forty-eight hours preceding her menstrual period occurred on one occasion. It is interesting to note that just at this period the patient had a breast abscess.

It appears, therefore, that in the 100 cases of pulmonary tuberculosis, in all stages of the disease, here reported, only two uncomplicated cases of premenstrual fever occurred. It has been shown in a large series of cases (2,000)[14] that similar rises may occur in a large number of unrelated conditions. The proportion in which the rises occurred in my cases is out of all proportion to that assigned to it in literature; so I am forced to conclude that far too great stress has been laid on the incidence of premenstrual fever in tuberculosis. The theory of Riebold, which refers to the relation of ovulation to premenstrual fever, in dormant disease, is one which commends itself, but for which sufficient evidence is not yet present.

I wish to express my thanks to Dr. Kramer for aiding in the compilation of the statistics.

LEAD-POISONING IN ILLINOIS

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INTRODUCTION

Lead-poisoning in the United States is almost an unknown subject. Go through the literature and you will find here and there the report of an unusual case, an occasional compilation in a text-book, the material for which has had to be drawn from foreign sources; no experimental work, little study of the newer methods of diagnosis and no effort to gather statistical material or to bring the disease under the control of sanitarians.

When we began the study of the lead trades of Illinois we were assured that conditions here were very different from conditions in Europe; that lead-poisoning was a rarity, owing to our superior methods in industry. We found the reverse to be true. There is far more lead-poisoning in Illinois than in the same trades in England and Germany; at least in all those trades in which it has been possible to obtain anything like accurate figures. Far from being safer, American methods are often more dangerous than European, and while the German and English workman is not only better protected, but is under the supervision of an experienced physician, the American workman is, as a usual thing, under no medical supervision at all.

We found, in addition to the greater dangers arising from our methods of work, a very general ignorance o the hygiene of the lead trades on the part of the employ

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16. Von Voornveldt: Ztschr. f. Tuberk., 1905, p. 543.

ers. In Europe and England employers have been carefully trained in industrial hygiene, but here they have been taught nothing. The result is a mortifying contrast between our industrial morbidity rate and that of other countries.

The fundamental difference does not lie in the attitude of the American employer as compared with his European brother. A perusal of Parliamentary bluebooks shows that English employers in the lead trades have been just as vigorous in their objection to outside control of their factories as Americans could be. Nor does it lie primarily in the difference between the two classes of employees, although the isolation of the foreign-born workmen in America, the class who fill our lead industries for the most part, has undoubtedly something to do with their neglected state.

The great contrast appears when we look at the attitude of the medical profession in Europe. There the health of the working classes, the problems of trade diseases, have been and are still studies worthy to engage the best intellects; here, we leave them to a few overworked practitioners with no leisure to use their material. There, it is the medical man who gathers statistics showing the prevalence of lead-poisoning, who outlines the necessary reforms, and gets them embodied in the shape of laws. We find in this field such men as Brouardel, Sommerfeld, Pieraccini, Glibert, Teleky, Rambousek, to mention only one representative from each country. Here it would be difficult to point to any activity on the part of the medical profession. The American Medical Association has never had a single session devoted to the diseases of industry.

It is this very general neglect of one of the most prevalent of trade diseases which has induced me to try to present the results of a study of industrial lead-poisoning in one state, in the hope that by calling attention to the many and varied industries in which lead is used, the lack of protection against lead-poisoning in American factories, and the large numbers of men poisoned, the medical profession may be induced to take that interest in the question without which no reform can be hoped for. The admirable results obtained in England and on the Continent show that much of the lead-poisoning in industry is avoidable.

STATISTICS GATHERED IN ILLINOIS

It is difficult to give the exact number of trades which involve the use of lead, because the classification of trades may be made in so many different ways. One can count manufactured articles, or processes in the manufacture of articles. If we follow the latter method, which was Layet's when he computed that in France 111 industrial processes involved the use of lead, we shall find on our list some seventy industrial processes in Illinois in which lead or its salts are handled and which have caused lead-poisoning in recent times. The list is far too long to give in full, but it may be of interest to mention some of the more unusual industries, such as making and selling wall-paper, polishing brass, polishing nickel, finishing cut-glass, cabinetmaking carried on in the same room with the sandpapering of white lead paint; holding lead-covered nails in the mouth while shingling a roof; working with aluminum foil (7 per cent. lead) in lithography; zinc-smelting; making ornamental tiles (with a non-fritted lead glaze); wrapping cigars in tin-foil; enameling bath-tubs; laying electric cables; stopping the inequalities of wood with white lead in making automobiles; assembling and recharging old storage battery plates; polishing handles of coffins.

That it was difficult to find individual cases, anyone who has attempted to compile statistics of this sort will readily understand. The physicians interviewed could often give valuable information, but seldom remembered the details of single cases, and I can recall but four, three of them foreign-born and trained, who kept written records, other than financial, of their cases. Consequently the 578 individuals on our list represent only a fraction of the real number, but as the record stands it is very startling when one compares it with the records in other countries. In the English and German reports we have statements based on the careful medical inspection of each man employed, repeated once a week or once a month, according to the danger of the trade. Our figures are based on the study of hospital and dispensary[2] records and on the statements of some of the physicians, not nearly all, of course, whose practice is drawn from the workers in the lead trades. Considering the necessarily incomplete character of our figures, one would expect them to fall far below those of England and Germany, but the reverse is true.

WHITE LEAD

One of the large white lead factories in England employs 182 men. No man was poisoned there during the year 1910. A Düsseldorf factory had two cases of lead-poisoning among 150 men during the same year. On the other hand, an Illinois factory with about 142 employed throughout the year had twenty-five cases last year, and another employing from seventy to eighty men had eleven cases during two months' time, which, if kept up during the year, would mean sixty-six cases. The British statistics for 1910 show that in the district of Newcastle-on-Tyne 1,320 persons were employed in white lead works; five cases of lead-poisoning were reported for that year, or one in 264 men employed. One case was fatal. The figures for the same year in Illinois are between 425 and 450 men employed; sixty-three known cases of poisoning, or one for every seven men employed; three fatal[3] cases. These figures are, of course, open to criticism, for there were more men employed in the course of the year than the pay-rolls indicate, and there were persons with lead-poisoning who did not visit hospitals or dispensaries. One physician, for instance, gave us the names of three patients from one white lead factory and said that he had had more than twenty additional cases during the year. We, of course, entered on our list only the three cases.

LEAD-SMELTING

Bad as are the conditions in the white lead trade, it has at least the advantage of being admittedly a dangerous occupation, and in three of the four Illinois factories regular medical supervision of the employees has been introduced, the first step toward controlling industrial lead-poisoning. This is not as yet true of the lead-smelting industry, in which large numbers of men suffer from lead-poisoning and no apparent effort is made to protect them from it. According to physicians practicing among these men, the great majority, if not all, become poisoned sooner or later, if they remain at work for more than a few months.

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[2] These records are not always satisfactory. Meillere at the Brussels Congress of Industrial Hygiene, in 1910, said that to the average physician, as to the layman, lead-poisoning means colic or wrist-drop, an attitude of mind which he compared to that of a man who would say that alcoholism meant delirium tremens. The large number of cases of lumbago, rheumatism, nephritis and heart disease among lead workers, which we find in the records of some hospitals and dispensaries, lead one to suspect that Meillere may be right.

[3] Our statistics of fatal cases are very incomplete. There is in the City of Chicago a curious ruling of the coroner's office by which every case of death by "poisoning" must be a coroner's case. Consequently, to save the family this needless annoyance, the physician makes out the death certificate for nephritis, arteriosclerosis, gastro-enteritis, etc.

I had the opportunity last summer to visit a large lead-smelting works at Ems, a place under the charge of one of Germany's foremost engineers and subject to the regular inspection of an experienced physician. The contrast between that plant and the best of ours in Illinois was so great that I could easily understand the difference in the morbidity rate of this trade in the two countries. Germany has systematically set herself to control conditions in lead-smelting and the results are shown by a fall in morbidity from 73.7 per cent. of all employed in 1885 to 0.8 per cent. in 1892.

STORAGE BATTERIES

Another trade listed abroad as very dangerous is the making of storage batteries or electric accumulators, as they are called over there. This does not seem even to be recognized as a lead trade in this country, either by physicians or factory inspectors. To make storage battery plates, grids of metallic lead with deep grooves must be filled and covered smoothly with a paste made of oxid of lead. It is a dusty trade and, in the absence of all regulation, a very dangerous one.

We found some cases of very rapidly developing and severe lead-poisoning among workers in storage batteries, and an amount of sickness quite disproportioned to the number of men employed, for Illinois has no large storage battery works. Two small places, one employing eighteen men, the other fifteen, sent each two men to hospitals with acute lead-poisoning within a period of nine months, while the Hart Accumulator Works in London, employing more than a hundred men, did not have one case of poisoning last year. The actual contrast would of course be more striking than this, for there were undoubtedly other cases of lead-poisoning in the Illinois factories. Only a small proportion of workmen go to hospitals for treatment.

PRINTING

It is unnecessary to give further figures showing the contrasting results of neglect in America and scientific control in Europe. That point is certainly clear. There are, however, some interesting facts concerning the all-important subject of occupation which were brought out during this investigation. The printer's trade was found to be much more dangerous than should be the case in these days of linotypes. This is a trade which suffers greatly from lack of ordinary hygienic control; accumulations of lead dust, the practice of dry-sweeping, the use of unhooded melting kettles with no provision for the removal of fumes and an insufficient lavatory equipment—all these are avoidable evils, but they are the rule, not the exception.

The fifty-seven cases of lead-poisoning found among printers were probably all due to the neglect of ordinary precautions. We found, as Sternberg of Austria has noted, that lead-poisoning in printers tends to assume the slow, chronic form, and that, in addition to the fifty-seven typical cases, the death records of the Typographical Union show an unduly large mortality rate from nephritis, heart disease and apoplexy.

COMMERCIAL ILLUSTRATION

The mechanical or commercial artists are a class we had not suspected to be exposed to lead-poisoning. One does not see them mentioned in foreign statistics, and when I inquired about them of the Factory Inspection Department in London, I was told that no cases of lead-poisoning in artists were ever reported in Great Britain. The discovery of the fifteen cases on our lists came as the result of a conversation with a young artist who had been referred to me by his physician as an "unusual case of zinc-poisoning." The man's history was absolutely typical and analysis showed that the paint he supposed to be zinc-white was really white lead.

The artists seem to suffer more than any other one class from their physicians' lack of acquaintance with industrial processes. The patient assures his doctor that he is using no lead paints, for it is the policy of many engraving houses to withhold from their artists the fact that they are using a dangerous lead paint. Consequently all sorts of erroneous diagnoses are made.

The young man I interviewed had been urged by three physicians to have his appendix removed, and a friend of his, well known in the trade, actually had four abdominal operations before the development of a typical radial paralysis revealed the real nature of his trouble. These artists work chiefly with white paint, and we found that all but four of the seventy-four places visited use white lead. The paint brushes are very fine and in order to get just the right degree of moisture and a fine point, the artists put their brushes in their mouths. In addition they use an "air-brush," worked with compressed air, which sends a stream of finely divided white paint over the picture and which is also used to blow off the superfluous paint after it is dry. Owing to the fact that it is a highly skilled, well-paid trade, the men are loth to leave it, and among the fifteen cases there were some of very severe poisoning.

LEAD-POISONING IN WOMEN

There are very few women on our lists and the fact that the lead trades in Illinois do not employ many women is a great advantage, for women are notoriously more susceptible to lead-poisoning than men. Our eighteen women were employed in polishing type with emery, making car-seals, dusting lead colors on litho-transfers, labeling paint-cans in an atmosphere of white lead dust, working with aluminum foil, making artificial flowers, wrapping cigars in tinfoil; one was a commercial artist.

The lead trades of Illinois are not as important as those of some of the large Eastern manufacturing states. Illinois has no large pottery works using lead glazes, or lead glass works or storage battery works of any importance, or rubber works in which white lead is used. There are probably several states in the Union which would yield a much larger return than Illinois to such an inquiry as this. Among the industries classed as lead trades in other countries, but not found in Illinois, are the weighting of silk, lace and passementerie with lead, file-cutting, polishing jewels, making white straw hats, white gloves, using lead glazes for pottery, enameled signs, etc., and making rubber goods. Lead-poisoning is undoubtedly an important trade disease in every state in the Union, for even those states which have little manufacturing have large numbers of painters and printers.

The general subject of lead-poisoning is too well known to need discussion, but it may be of value to give briefly the results of very recent studies in diagnosis and experimental pathology, especially as some of them are to be found only in the reports of the International Congresses on Industrial Hygiene, which are not easily accessible.

DIAGNOSIS OF LEAD-POISONING

The most important point in the diagnosis is universally stated to be the history of the patient's occupation, and this of course assumes, on the part of the diagnostician, an acquaintance with the industrial processes which involve the use of lead. One point should be mentioned in this connection, and that is the latest theory as to the localization of lead paralysis. It used to be assumed that lead had a selective action on certain muscles or certain nerves—according as this paralysis was held to be myogenic or neurogenic—first, the extensor muscles of the fingers and wrist; second, the muscles of the shoulder; third, the extensors of the foot. But close study of the motions involved in those processes in which lead-poisoning occurs, has led to the belief that overwork is the determining factor (Edinger, Teleky). The group of muscles involved in the paralysis of painters and printers includes those of the forearm and hand. Storage battery workers suffer from paralysis of the muscles of the shoulder (Labbé). File-makers grasp the chisel with the left hand, and have paralysis of the left fingers and thumb (Bernhardt, Leichtentritt). Children, who use their legs more than their arms, have paralysis of the leg muscles (Escherich, Variot); laborers, the muscles of the shoulders and legs (Pieraccini).

It can easily be seen, then, that the diagnosis of lead-poisoning in a case of paralysis may depend largely, if not entirely, on the physician's knowledge of the details of his patient's industrial history. His anamnesis may otherwise be of little value, for Tanquerel des Planches found that fourteen of his 200 patients with lead paralysis had no history of colic.

Next to the history the most important place has been assigned now to one diagnostic sign, now to another. At the Milan Congress of Industrial Hygiene in 1906, basophilic granulation of the red corpuscles was agreed on as the earliest and most unfailing diagnostic sign, but at the congress held in Brussels last September a change in opinion was evident. Biondi insists that the granules are merely evidence of the formation of new cells and as this process is intermittent the cells may be present one hour and absent the next, depending on the activity of the hematopoietic tissues. Even if present they must not be regarded as significant unless they reach appreciable numbers, according to P. Schmidt. At least 100 out of 1,000,000 red cells must contain basophilic granules and a count of as many as 300 to 3,000 is usual in lead-poisoning. Oliver stated that he did not find basophilia in most of his cases, and thought the diagnostic value of this sign very dubious. Rambousek failed to produce basophilia experimentally in rabbits which were undoubtedly lead-poisoned. The general verdict of the Brussels congress was that basophilic granulation of the red cells is a good positive, but a bad negative sign.

The value of the procedure advised by Du Moulin, smearing the carefully washed skin with sodium sulphid to produce the black sulphid of lead, has been much criticized of late, especially by von Jaksch and Rambousek, and will probably never be generally used.

As for the search for lead in the urine, there is a wide divergence of opinion between authorities. Oliver finds it present in almost all cases, and regards the test as one of the greatest importance. He found lead in the urine of a woman who had symptoms suggestive of lead-poisoning nineteen years after she had given up work in lead, during which time she had not been in any ascertainable way exposed to lead. Oliver frequently finds lead in the urine of patients with old chronic cases, and Edsall makes the same statement. Agasse, Lafont and Heim also state that lead can always be found in the urine in cases of lead-poisoning. On the other hand, von Jaksch says that the search for lead in the urine in the later stages of chronic lead-poisoning is negative, although lead is present in acute poisoning and in the early stages of chronic. Rambousek and Pieraccini both advise testing the stools for lead instead of the urine. They find lead in the feces constantly, but they doubt whether the kidneys play much part in its elimination.

The lead line on the margin of the gums, so valuable a confirmatory sign when present, is absent in some otherwise well-marked cases.

It is therefore generally held that plumbism is too variable in its development for any one sign or symptom to be regarded as diagnostic. The following is the group of symptoms which, when present, point to lead-poisoning: pallor, due to vascular spasm and disproportioned to the degree of anemia, foul breath, caries of teeth, gingivitis, loss of appetite, increased by the disagreeable taste in the mouth, recurrent attacks of weakness which may render fine work impossible, spots before the eyes, itching around the eyes, gastro-intestinal disturbances, diarrhea or constipation, loss of flesh, showing especially in the cheeks. If these symptoms, each one slight in itself, are present in a lead-worker, T. Weyl would diagnose lead-poisoning in an early stage. When colic has come on, the general vascular spasm is shown in the great pallor, the absence of sweat, even with extreme pain and restlessness, the slow hard pulse, low temperature, retraction of the abdomen, strangury and unconquerable constipation. Dyspnea from spasm of the smooth muscles and sudden, severe myalgia, especially in the flexors of the legs may accompany the colic (Weyl). Oliver finds that the pain is often localized on one side and that the pupils may be unequally contracted, the one on the affected side being the smaller. In such cases pressure on the pneumogastric nerve in the neck on the affected side shows great tenderness in this nerve. Potain finds the liver contracted during the attack of colic, and returning to its normal size after the attack is over, another result of the vascular spasm.

ABSORPTION

The question of absorption of lead is of great practical importance. For many years it was a disputed point whether the skin or the intestinal tract was the chief channel of entrance for the lead salts, but now it is conceded that the intestinal mucosa, including that of the mouth, plays by far the most important part. The English have of late laid great stress on the inhalation of dust as a cause of lead-poisoning, and Goadby reported to the Brussels Congress the result of studies on animals showing that lead could be demonstrated in the lung capillaries of cats which had breathed red and white lead dust. German authorities concede the importance of dust but believe that the greater part of that which is breathed into the mouth is swallowed.

As for the skin, it is admitted by all that water-soluble salts of lead, such as the acetate, chlorid and nitrate, may be absorbed through the skin, but that this is slow and requires long exposure. The non-soluble or poorly soluble salts are thought by some to be changed by contact with the fatty acids in the sweat into soluble compounds. It is held by these observers that in summer while the skin is very active it may be an important channel of absorption. On the other hand, Leyman says that skin absorption of non-water-soluble lead compounds has never been proved and he does not believe it of the least importance in industrial poisoning. To this Weyl, Toth, Legge, Oliver and Sommerfeld agree. Edsall thinks skin absorption relatively unimportant.

A large single dose of white or red lead is required to bring on symptoms of intoxication, but as lead is a cumulative poison, very small daily doses may be enough to give rise finally to the severest symptoms. Brouardel says that poisoning may follow the ingestion of no more than 1 mg. daily. It is of course only a question of disturbing the equilibrium between absorption and elimination, so that if the dose is suddenly increased or if there is a check to elimination, storing up of the lead begins.

PROPHYLAXIS

It would not seem logical to close without saying anything on the subject of prevention of lead-poisoning. As far as industrial poisoning goes, preventive measures have been worked out with great care by foreign governments and we have only to avail ourselves of the fruits of their experience.

The first requisite is the abolition of dust. Where this is impossible, and unfortunately American methods are much dustier than European, the workman must be protected by a respirator, although it should be remembered that no respirator is really an efficient shield against dust. Men obliged to work in lead dust should be given short hours, for fatigue is one of the strongest predisposing causes of lead-poisoning. Another necessary regulation concerns food. No man should be allowed to begin work fasting. Ample washing and bathing facilities and ample time to use them must be provided, and the men must be obliged to make use of them. If this is done, if dust is abolished and the men not allowed to eat lead[4] or carry it home on their persons, they can work in it with fairly little risk. I saw white lead workers in English and German factories very badly smeared with the lead while at work, yet the records showed no cases of poisoning.

Another necessary part of prevention, one most necessary in America, is the elimination of the casual shifting labor. We found in our study of the lead trades in Illinois that many newly arrived non-English-speaking Slavs, Italians and Greeks were engaged in the more dangerous processes of the lead industries and that they had little idea of the danger to which they were exposed, still less of how to guard against it. When such a man develops symptoms of acute plumbism he leaves his work and another ignorant immigrant takes his place, so that there is a constant procession of untrained men in and out of the lead trades. This condition is notoriously bad. In Germany statistics have shown that the amount of lead-poisoning in the white lead industry is in direct proportion to the number of casual laborers employed, and Oliver makes the same statement for England.

The regular medical inspection which is required by law in most foreign countries makes it possible to detect and remove susceptible workers and to abort a threatened attack of colic. There are factories in Illinois in which this feature has been voluntarily introduced by the employers and the bill now pending before the legislature will make it compulsory.

Legislation to regulate the poisonous trades is much needed in every state, but the first logical step toward it is a study of the conditions in that state, a task which naturally belongs to us physicians.

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THE VALUE OF ANIMAL EXPERIMENTATION AS ILLUSTRATED BY RECENT ADVANCES IN THE STUDY OF SYPHILIS *

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I. INTRODUCTION

No one who is alive to the nature of physical pain or aware of the charm of the domestic animals could fail to sympathize with an inquiry into the warrant for animal experiments. It has always seemed odd, it is true, that this critical demand should not only begin with, but often single out for its entire attention, the one human activity involving animal sacrifice which has for its aim the relief of human distress; and that the good souls who become so concerned over one etherized dog, can regard with indifference the packing industry—with its wholesale slaughter to appease appetite; or the fur industry—with its reckless massacres to satisfy vanity; or the fisheries—consigning myriads of helpless beings to slow death by drowning in the air.

Nevertheless, those who are responsible for deliberate experiments on animals recognize the request for its grounds of justification, as a perfectly reasonable one. If the discussion is one in which facts may be offered as evidence, it ought to be a simple matter to determine whether or not the achievements of the experimental method justify its continuance. The history of the subject is an open book; and in commending it to the honest inquirer, medicine need speak in no apologetic tone. Abundant facts for a final decision of the question would come to light through a study of bacteriology and surgical asepsis—a whole science based on experimentation; or of the acute diseases for which specific cures have been determined (malaria, diphtheria, cerebrospinal meningitis); or of the plagues which may be absolutely prevented by hygienic and therapeutic measures (malaria, diphtheria, yellow fever, small-pox, rabies, tetanus); or of the hospital plagues which aseptic technic has almost abolished (erysipelas, blood-poisoning, hospital gangrene); or of the developments which have made every portion of the body accessible to surgery; or of the triumphs of obstetrics, which have reduced the appalling dangers of childbed fever to an almost negligible minimum. Even then only the most striking conquests of medicine would have been considered; and their significance would not have been even approximately grasped by those unfamiliar with the difficulties encountered by medicine at every step forward.

Nowhere, however, can the value of animal experimentation be so satisfactorily tested as in a study of the history of syphilis.

II. THE SOCIAL IMPORTANCE OF SYPHILIS

A just estimate of the value of animal experimentation in the development of the knowledge of syphilis is of vital interest because of the importance of the disease in the community. This is an importance usually overlooked by the public, whose interest is attracted by the more deadly plagues. Yet it is well within the limits of conservatism to say—so wide-spread is the disease, so calamitous and far-reaching are its effects—that none surpasses it, and few equal it in hygienic importance. The attitude of the public toward experimentation undertaken to extend our knowledge of this disease is then, obviously, by no means a matter of indifference.

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[4] In many Illinois factories it is customary for foremen to encourage the men to chew tobacco, under the impression that the expectoration clears the mouth of lead dust. In Europe and England tobacco chewing in lead works is forbidden by law, for the sanitarians hold that lead is carried into the mouth by a plug of tobacco which has been lying in lead-smeared clothes and is handled with lead-smeared fingers.

* Editor's Note: This is Pamphlet 20 in the Defense of Research series. A list will be sent on request.

Wide-spread as the disease undoubtedly is, we have no means of determining its exact extent with accuracy; so many cases go unreported, and so many of the late effects of the disease unrecognized, that all our estimates are underestimates. Yet even so, the figures are sufficiently striking. LeNoir, after a study of nine years, reported at the International Congress in Brussels that between 13 per cent. and 15 per cent. of the male adults of Paris were syphilitic; in other words, that in this city alone, and considering only the male sex, there were 125,000 cases of the disease. These figures were confirmed by Fournier;[1] yet they by no means give even an approximate idea of the extent of the disease, for they take no adequate account of the ravages of late hereditary and parasyphilitic processes.

Syphilis in its acute stages is not a frequent cause of death; and examination of mortality statistics would, therefore, hardly be expected to demonstrate the extent of its ravages — as it might be expected to do, for instance, in the case of typhoid fever. Yet some idea of its spread and significance may be obtained by a consideration of the attitude of insurance toward it. Runeberg[2] found that, including certain apoplexies, probably syphilitic in origin, the mortality from the disease was about 15 per cent. — the total being second only to that of tuberculosis which caused 21 per cent. of the deaths. These figures, which may be somewhat higher than other statistics would justify, assume added importance when it is remembered that they represent the facts existing among the insured, that is to say, the most vigorous portion of the population. The damage done by the disease consists largely in its lowering the standard of average health, paving the way for other diseases and possibly laying the foundation for mental degeneration and alienation. The extent of these secondary effects can only be estimated. Most insurance companies require that four or five years shall have elapsed after the disappearance of the last symptoms of the disease; and no applicant who has had syphilis is given a policy which will keep him on the company's books after his fifty-fifth year. Greene[3] goes even further, and firmly believes insurance at ordinary rates (even after an interval of five years) to be an error. Under no circumstances would he advise a straight life policy to be issued to a man who has a syphilitic history.

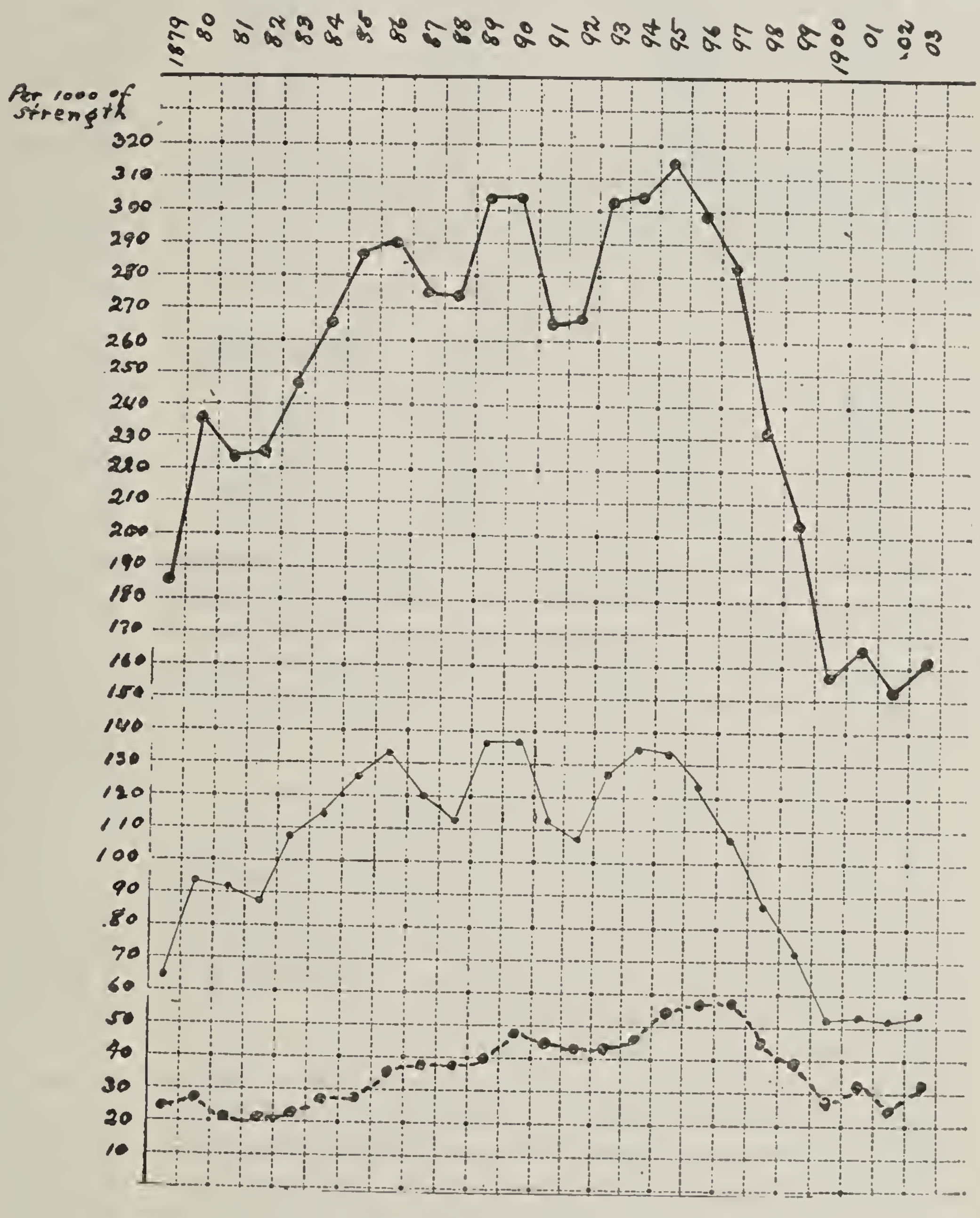
III. SYPHILIS IN THE ARMY

Consider the state of affairs in national organizations in which men are under constant discipline and something like accurate statistics may be obtained. Table 1 represents the admission-rate per 1,000 of strength for syphilis among the British troops in India.

TABLE 1.—SYPHILIS AMONG BRITISH TROOPS IN INDIA PER 1,000 OF ADMISSIONS

Year.	Primary Syphilis, Inc. Soft Chancre.*	Secondary Syphills.
1887	142.1	29.4
1888	142.1	32.4
1889	225.1	51.2
1890	220.7	66.3
1893	213.6	61.6
1894	248.1	74.6
1895	239.0	84.9
1896	226.4	97.7
1897	201.7	101.9

*It must be observed that the figures in this column include certain non-syphilitic venereal lesions. The above table is from French: Syphilis in the Army.



Chart, taken from French: Syphilis in the Army, Chart III, Appendix III. The upper, heavy line represents the incidence of all venereal disease; the middle, fine line represents the incidence of primary venereal sores; the lower, dotted line represents the incidence of secondary syphilis.

It is the study of such figures as these which leads experts like Sir Alfred Keogh[4] to write:

> It may be stated without fear of contradiction, that there is no disease, with the possible exception of malaria, that has so important an influence on the efficiency of an army or navy as syphilis. Other diseases doubtless are more deadly and consequently attract more attention; no other is so lasting in its effects, or so persistent in its attack on the bodily strength of the man who has once acquired it. A soldier gets enteric fever and either dies or recovers. Out of a hundred such, it may safely be prophesied that eighty will survive, and of these seventy, at least, be not only none the worse for their experience, but eventually all the more efficient for field ser-

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[1] Fournier: Treatment and Prophylaxis of Syphilis, Marshall's translation, edition 1906, Part II, p. 157.

[2] Osler and Churchman: Chapter on Syphilis, Osler's Modern Medicine, III, 495.

[3] Greene: Examination for Life-Insurance, p. 118.

[4] Keogh: Introduction to D'Arcy Power and Murphy's System of Syphilis, vol. vi.

vice in consequence of it. . . On the other hand, thirty men get syphilis, and not one of these can ever be considered the man he was before.

With this expert opinion in mind, a glance at the accompanying chart will convince any one of the tremendously crippling power of syphilis in an army. It represents the facts for the British army at home and abroad.

These statistics may be supplemented by two further tables, showing the incidence of syphilis in the armies of Great Britain and the United States.

Table 2.—The Incidence of Syphilis in the British Army at Home and Abroad *

Year.	Strength.	Admissions for Syphilis.	Admissions Per 1,000 of Strength.
1894	203,469	27,436	145.01
1895	200,681	28,081	140.41
1903	282,182	12,668	52.31
1904	244,425	9,219	37.72
1905	240,075	7,039	29.32
1906	230,128	5,958	25.89
1907	217,844	5,033	23.11
1908	215,647	4,137	19.19

*The slight discrepancies between figures in this table and those in the previous chart are apparently due to the fact that in the chart a certain small number of non-luetic lesions are included under "primary venereal sores." Tables 2 and 3 are from D'Arcy Power and Murphy: System of Syphilis, Volume VI.

Table 3.—The Occurrence of Syphilis in the Army of the United States

Year.	Strength.	Admissions for Syphilis.	Admissions Per 1,000 of Strength.
1903	71,679	1,676	23.36
1904	59,671	1,525	25.56
1905	55,619	1,953	35.11
1906	53,573	1,869	34.89
1907	53,249	1,534	28.80
1908	50,705	1,436	28.32
1909	62,263	1,592	25.57

Syphilis is thus seen to be one of the most important causes of military inefficiency, even under the best conditions of medical supervision. Given the least leeway it may break out to an appalling extent, as it did among the British troops in the Peninsula, who christened it the "Black Lion of Portugal."[5]

IV. THE SERIOUS NATURE OF SYPHILIS

The wide incidence of syphilis is, then, sufficiently evident. But the great menace of the disease, not only to the two arms of the national defence, but to the health—even to the existence—of the nation as a whole, can be made plain only by a consideration of the calamitous nature of its clinical manifestations.

1. *Danger to the Individual.*—The dangers of the disease to the afflicted individual himself are perhaps roughly appreciated, though it is doubtful if the serious handicap to work, which the compromising and disagreeable secondary symptoms cause, is sufficiently understood. What is certain is that the laity and a majority of physicians wholly fail to appreciate the grave and often fatal nature of the tertiary manifestations. These are particularly pathetic, because they may appear in the prime of life, years after the initial lesion has been forgotten as a thing of the past; and may absolutely incapacitate an otherwise healthy man, who has become involved in the responsibilities of a husband and father. Nothing is more distressing than the sinister predilection of tertiary syphilis for the nervous system. Of 5,749 syphilitic patients studied by Fournier,[6] 758 developed syphilis of the brain, and 1,099 others syphilis of the cord and nerves. That is to say, nearly one out of every three of the patients exhibited syphilis of the nervous system. And if to the multiform manifestations of the disease in its active stage be added the parasyphilitic phenomena — serious, incapacitating and as yet not amenable to treatment — some faint idea may be gained of the far-reaching effect of the disease on the individual.

2. *Danger to the Family.*—But it is as a menace to the family that this disease appears most formidable. No catastrophe can be more disastrous than its spread by the marital relation; no spectacle more dreadful than its transmission to innocent children.

It is the wife, of course, who is most often—though not *always*—innocently infected; and when this occurs, disasters of many kinds follow. The woman herself is submitted to the discomfort, the risk and the degradation of syphilis; and no consequence of the disease can be more distressing. Nor is this occurrence a rare one. Those who regard syphilis as the peculiar property of the underworld, and eye its victims with suspicion, would be surprised at the facts brought out by Fournier[6] who, in a study of 100 syphilitic women, found one in every five to have been innocently infected by her lawful husband. Such a woman must suffer not only in her own body; she must expose her children to the most serious form of syphilitic heredity—mixed heredity. It is only natural that such a train of affairs once started often ends in the dissolution of the family. Even if actual divorce does not ensue, the family ties fail to stand the test; affection and respect die; and we have the melancholy spectacle of a house divided against itself. Moreover, not infrequently, economic ruin ensues through incapacitation of the head of the family and the household becomes a public burden.

3. *Danger to Posterity.*—But this foul disease appears most foul in its dastardly attacks on the second and third generations; and all other features fade beside its importance in heredity. Indeed, the need of protecting innocent children from syphilitic infection is the complete answer to those who object to the removal of the consequences of syphilis as inciting to vice.

An infant mortality astonishingly high is what the disease produces. In many instances this amounts to a complete annihilation of posterity. Ninety women studied by Fournier—all seen in private practice, all of good constitution and surrounded by a favorable environment of hygiene and wealth—became pregnant during the first year of the disease ("the year of terror"). Fifty of these women aborted, thirty-eight infants died soon after birth, and only two children survived—a mortality of 97.7 per cent.! Another study included 200 men who had married while syphilitic, but who failed to contaminate their wives. Four hundred and three pregnancies for which these men were responsible resulted in 288 living children and 115 still-births, abortions and early deaths. Instances of excessive infantile mortality could be indefinitely multiplied. Ribemont-Dessaignes, for instance, reports a woman who contracted syphilis from her husband; she became pregnant nineteen times, had five still-births and gave birth to fourteen children, every one of whom died under 6 months of age. "A child," writes Fournier, "conceived by a woman in the course of recent syphilis is almost certainly condemned to death."

But to this dreadful indictment must be added the woful heritage which syphilitic parents bequeath to the children who do manage to survive. Fragile infants—a prey to every infection; monsters; pathetic and wizened mannikins; idiots; normal children, condemned to a late syphilitic heredity at the second dentition or at puberty—this is the spawn of syphilis. Nor does the trail of the beast stop here; the heritage which these unfortunates receive they pass on to their descendants; and the effects of the disease in heredity may be traced through three generations (Gilbert, Caubert, Étienne). "To cleanse the brothel," writes Fournier, "is not only to protect those who frequent it; it is also to protect the family hearth, the honest woman, the child and the race."

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[5] Ricord: Illustrations of Syphilis. Historical introduction in Belton's Translation.

[6] Practically all that is here written on the dangers of syphilis is taken from Fournier's Treatment and Prophylaxis of Syphilis, Marshall's Translation, ed. 1906, a book that should be familiar to everyone interested in the disease and its relation to society.

That syphilis is a formidable national scourge and that complete knowledge of it is of fundamental hygienic importance may, then, be regarded as established.

V. KNOWLEDGE OF SYPHILIS GAINED BY THE EMPIRICAL METHOD

We have next to inquire into the state of medical knowledge of the disease before animal experimentation began. This will be particularly instructive; because by comparing the knowledge thus slowly acquired, through long years of simple observation, with the rapid advances made in the few years in which the study of the disease by the experimental method has been possible, we get a vivid picture of what productive animal experimentation, now adding daily to our knowledge of syphilis, really means.

It may be said at once that the information about syphilis which medicine was able to accumulate, entirely without the aid of animal experiment, was marvelously complete and accurate. Here is a disease, protean in its manifestations, affecting probably every organ in the body, pursuing a long and insidious course, almost identical in its initial forms with other simple venereal infections and possessing a peculiar power of mimicry, whereby it can simulate minutely the signs and symptoms of numerous other diseases. The conditions could hardly present greater difficulties. Yet, purely by the method of clinical observation, chaos was gradually reduced to order. It is true that this result was many long years achieving. At the time of the European syphilitic pandemic (1494) enormous confusion prevailed as to the nature of the various venereal infections. The difficult problem was gradually solved—but how gradually, may be realized when it is recalled that not until nearly 400 years had elapsed was the question of the dualistic nature of syphilitic and non-syphilitic venereal infections settled.

Quite as interesting as the completeness of the clinician's acquaintance with syphilis in pre-experimental days, was the satisfactory condition of its therapeutics. Working by purely empirical methods and entirely without a rational or an experimental basis, the early physicians found and developed a method of treatment by which the disease could almost always be controlled, and, in a large majority of cases, absolutely cured. The choice of mercury—recommended in syphilis by the Galenists for the most absurd of reasons—happened to be a lucky guess.

In 1836 the administration of potassium iodid in syphilis was recommended by Wallace. This date is an important one in the history of the disease; for it does more than mark the year of a valuable contribution to therapeutics. It marks, too, the end of important advance in our knowledge of the disease; for from that year until the recent successful experimental work on animals, medicine stood practically still so far as syphilis was concerned. A few advances were, of course, made; the debate as to the dual nature of luetic and non-luetic lesions was brought to a conclusion by the French school (Bassereau, Fournier, Clerc, Ricord); certain unrecognized syphilitic lesions were described (arthropathies by Richet, bursopathies by Verneuil); extensive statistical studies were made by Fournier and others; and the importance of parasyphilitic and late hereditary forms was recognized and emphasized. But no really new light was thrown on the disease. Clinical study had about reached the limit of its possibilities.

VI. DEFICIENCIES IN PRE-EXPERIMENTAL KNOWLEDGE OF SYPHILIS

It is essential for one interested in good faith in determining the value of experiments on animals in syphilis to ask whether there was any need that this intimate, and in many respects, satisfactory clinical and therapeutic knowledge be supplemented by facts which animal experimentation might supply. Was it merely that scientific curiosity craved satisfaction? Or were there real hygienic needs to be met, and to be met only by the study of the disease in animals?

That a vital demand for further knowledge existed becomes at once apparent when it is stated that, complete as our knowledge of syphilis was, there were a number of points at which it was replaced by ignorance as complete; and that this ignorance concerned certain fundamental features of the disease.

In the first place, it has often been impossible to make an early diagnosis. The first sign of syphilis (the chancre) usually appears about three weeks after infection has occurred. When it *does* appear its nature is often so uncertain that further phenomena must be awaited before the prolonged and disagreeable treatment can be instituted. If specific treatment is undertaken immediately, the sore will disappear, secondary symptoms may never present themselves, a positive diagnosis may never be made and the treatment—which, to be effective, must be carried on thoroughly over a period of years—will at first be half-heartedly undertaken and in a short time discontinued. On the other hand, if treatment is not promptly begun, valuable days, even weeks, pass before the disease can be positively recognized and attacked.

In the next place, positive diagnosis in the later stages of the disease is often impossible. Those unfamiliar with the protean manifestations of syphilis have no conception of the difficulty it may present in diagnosis. Even the most experienced physicians are often unable to tell whether a given condition is syphilitic or not.

But a graver deficiency in our knowledge of this disease, is our inability to recognize it in its "latent" forms. In these cases the infection, though still present and likely to break out at any time or to be passed on to others, is not at the moment producing any obvious signs or symptoms. It is this form of the disease which contributes largely to the danger of syphilis among prostitutes; for the existence of latent syphilis, though a real menace to the community, may escape the most careful medical inspection. A syphilitic woman could quite well be the source of widespread infection and yet possess a clean bill of health on the absence of obvious signs.

Moreover, we have never known how long it was necessary to continue treatment before a complete cure was obtained. As our knowledge of the disease advanced, it became clear that a longer and longer duration of treatment was necessary for safety; and it is now rather arbitrarily estimated at about three years. But this is only an estimate. And how unsafe it is to proceed, in this matter, on an estimate becomes apparent when the importance of the disease to marriage is borne in mind.

All physicians are agreed that no syphilitic should marry until the disease has been positively cured; but they have no way of telling just when cure has been effected; and have, therefore, always lacked the necessary data for intelligent advice to their patients.

Finally, so long as the cause of the disease was unknown and the possibility of its study by the methods of reproduction in animals excluded, advances in the knowledge of the disease—such as these methods had made possible in the case, for example, of suppuration—were quite out of the question.

VII. WHAT EXPERIMENTAL RESEARCH HAS ACHIEVED IN THE CASE OF SYPHILIS

1. *Successful Reproduction in Animals.*—Previous to 1903 animal experimentation practically did not exist so far as syphilis is concerned. So many of the attempts to transmit the disease to animals had been unsuccessful, and so difficult was it to control the supposedly successful results, that the general attitude toward the subject was one of apathy. Certain observers had indeed reported successful transmission to animals. Auzias-Turenne,[7] for example, claimed to have inoculated the cat; LeGros and Lancereaux,[8] the pig; and an occasional success had been obtained in monkeys (Klebs,[9] Martineau and Hamonic,[10] Nicolle[11] and others). But the successes had been only occasional and could not be substantiated by independent observers.

In 1903, however, the first communication of Metchnikoff and Roux[12] was published by the Pasteur Institute. The authors reported the undoubtedly successful transmission of syphilis to a two-year-old female chimpanzee; and the equally successful inoculation of a male chimpanzee with material taken from the first animal. Several bonnet monkeys (*M. sinicus*) were also successfully inoculated; but certain species (e. g., the mandrils) seemed to be insusceptible. These experiments were promptly repeated by Lassar[13] and the results confirmed.

The successful inoculation of animals immediately opened up a dozen avenues of research, and a second communication soon appeared from the same workers.[14] Here, continuation of the inoculation experiments was reported; and it was apparently demonstrated that monkeys might be divided into two groups, according to their susceptibility to syphilis — the anthropoids approaching the lower races of man in susceptibility, the mandrils and maimons exhibiting a complete natural immunity to the disease. The idea was therefore confirmed, which had previously been advanced by others, that failure to use susceptible animals probably explained much of the inconsistency of the experimental work done before this time. Additional confirmation of this work soon came from Neisser,[15] who reported successful inoculations of chimpanzees, orang-outangs and a gibbon. In 1904, Metchnikoff and Roux's third communication[16] appeared. Here the particularly interesting point was made that the syphilitic virus would not pass through a Berkefeld filter. Klingmüller and Baermann[17] had previously made the same assertion *after having inoculated themselves with human syphilitic material* which had been passed through a Berkefeld filter. Finally, the two workers at the Pasteur Institute published their conviction, in a fourth communication,[18] that the chimpanzee, by reason of its susceptibility to syphilis and the similarity of the symptoms produced with those seen in human beings, was the most suitable animal for experimental purposes. More important still, they were able to confirm the work of Schaudinn, which had meanwhile appeared, by finding the *Spirochæta pallida*[19] in 74 per cent. of thirty-one syphilitic monkeys. Thus did the two lines of research promptly cross.

Experimental work on animals other than monkeys was never very conclusive until Bertarelli[20] reported the successful inoculation of the cornea in rabbits. A similar result had been obtained by Haensell;[21] and Bertarelli's observations were promptly confirmed by Hoffmann and Brüning,[22] by Scherber,[23] and by Greef and Clausen.[24]

Thus, in a few short years the technic of animal experimentation—so fruitful in other fields—has been developed for syphilis. It is impossible to exaggerate the importance of this advance, which touches the whole dreary prospect of syphilis with hope. The work of Metchnikoff and Roux on susceptibility and immunity, of Finger and Landsteiner[25] on the infectiousness of tertiary lesions and of semen, of Neisser on the syphilitic testicle: these are a few instances of the way in which new avenues of progress were immediately opened up and promptly traveled by eager scientists. The prevention of syphilis, which previously seemed an utopian dream, became—once the transmission of the disease to animals was assured—a reasonable, if remote, hope; and there was not a single dark crevice into which this discovery did not throw encouraging light.

2. *Discovery of the Cause of Syphilis.*—The year 1905 marks the beginning of a new era in the history of syphilis; for a publication which then appeared put an end to the long and weary search for the cause of the disease. The idea of a living contagium in syphilis had long been held, and the tale of the search for it is one to make the judicious grieve. But a new light broke with the appearance of the paper of Schaudinn and Hoffmann.[26] It was an epoch-making report, but it was a model of calmness. Despite the importance of the observations, the facts were cautiously stated and a discussion of their significance postponed until the accumulation of further data. The authors had found, they said, a characteristic, nonrefractile, delicate organism, from 4 to 14 microns in length, pointed at both ends, with numerous clear, tight, cork-screw-like spiral curves. It was readily distinguishable from other bacterial and protozoan forms, and had been found in numerous primary and secondary syphilitic lesions. Moreover, Metchnikoff had been able to demonstrate its presence in the primary lesion of an experimentally inoculated ape.

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[7] Auzias-Turenne: La syphilisation, 1878, p. 422.

[8] Legros and Lancereaux: In Dictionnaire Encyclopédique des Sciences Médicales, 1884, xiv, 498.

[9] Klebs: Arch. f. exper. Path, 1879, x, 161.

[10] Martineau and Hamonic: Bull. de l'Acad. de med., 1882, 1907; Soc. med. des hôp., 1883; Rev. Clin. d' androl. et de gynecol., 1903, p. 225.

[11] Nicolle: Not published; quoted by Metchnikoff and Roux in their first communication.

[12] Metchnikoff and Roux: Ann. de l'Inst. Pasteur, 1903, xvii, No. 12.

[13] Lassar: Berl. klin. Wchnschr., 1903, No. 52, p. 1; 1904, p. 801.

[14] Metchnikoff and Roux. Ann. de l'Inst. Pasteur, 1904, xviii, No. 1.

[15] Neisser: Deutsch. med. Wchnschr., 1904, pp. 1369, 1431.

[16] Metchnikoff and Roux: Ann. de l'Inst. Pasteur, 1904, xviii, 657.

[17] Klingmüller and Baermann: Deutsch. med. Wchnschr., 1904, p. 766.

[18] Metchnikoff and Roux: Ann. de l'Inst. Pasteur, 1905, xix, 673.

[19] There is some disagreement as to the proper name for this organism; *Treponema pallidum* is probably more correct, but *Spirochæta* is used here as being more familiar.

[20] Bertarelli: Centralbl. f. Bakt., Orig. 1, 1906, xli, 320.

[21] Haensell: Arch. f. Ophth., 1881-3, xxvii, 93.

[22] Hoffmann and Brüning: Deutsch. med. Wchnschr., 1907, No. 14, p. 553.

[23] Scherber: Wien. med. Wchnschr., 1906, p. 726.

[24] Greef and Clausen: Deutsch. med. Wchnschr., 1906, p. 1454.

[25] Finger and Landsteiner: Arch. f. Dermatol. u. Syph., 1906, lxxviii, 385; lxxxi, 146.

[26] Schaudinn and Hoffmann: Arb. a. d. k. Gsndhtsamte, xxii, No. 2, p. 527; Deutsche. med. Wchnschr., 1905, No. 18, p. 711.

This paper immediately awakened a new interest in the subject throughout the world; and confirmatory evidence soon accumulated in enormous amounts.[27] Before long, what had at first been cautiously accepted as a probability bordering on certainty, became a certainty; the *Spirochæta pallida* of Schaudinn and Hoffmann withstood all efforts to disprove its etiologic relation to syphilis; and the long and weary search for the cause of the disease was at an end.

3. *Discovery of a Diagnostic Reaction Specific for Syphilis.*—Hardly less important than the discovery of the cause of syphilis, was the demonstration of a biologic reaction, the presence of which is absolute proof of the existence of the disease, even in the absence of signs or symptoms.[28] The very great value of such a reaction in cases of doubtful diagnosis, and particularly in latent syphilis, needs only to be mentioned to be appreciated. The reaction was discovered almost simultaneously by Wassermann, Neisser and Bruck,[29] and by Detre,[30] working independently, but with practically the same technic. The names of Bordet and Gengou[31] must, however, be borne in mind in this connection. These two pioneer observers (who also recognized the *Spirochæta pallida* before Schaudinn and just missed appreciating its significance) were the first to describe the general phenomenon of complement fixation (or deviation), of which the Wassermann reaction for syphilis is a modified example. *This highly theoretical investigation and the immensely practical application of it by Wassermann depended on animal experimentation at every step.*

The Wassermann reaction depends on the capacity which the serum of syphilitic patients has to fix complement in the presence of extracts of syphilitic tissue, or certain other alcoholic extracts. This fixation of complement is tested for by the use of a so-called hemolytic system, which consists of red blood-cells, and a serum capable, in the presence of complement, of hemolyzing them. It is impossible to define the reaction without the use of highly technical terms which would themselves require extensive definition. Here, one may simply state how the test is made. Extract of known syphilitic material and the blood-serum of the patient to be tested are mixed in a test-tube. Fresh guinea-pig serum is then added and the mixture incubated to allow complement-fixation to occur. The hemolytic system, which requires complement for the completion of the hemolysis, is next added. If the serum to be tested is not syphilitic, complement is not bound and hence is available for the use of the hemolytic system; hemolysis, therefore, proceeds, the red blood-corpuscles continue to be destroyed, the mixture becomes red in color and the test is negative. If, on the other hand, the serum is syphilitic, complement is bound, hemolysis inhibited, the red blood-cells not destroyed, the mixture not reddened, and the test is positive.

This test, while not absolutely constant, has turned out to be one of the most valuable of the biologic reactions. When the test is negative, syphilis is not excluded; but when positive, a diagnosis of syphilis is to be made with almost absolute certainty. It has already shown itself even more reliable than the Widal reaction; and no one familiar with typhoid fever is ignorant of the very great value of this diagnostic test.

4. *Discovery of a Specific Drug for Syphilis.*—It would be difficult to find in the history of medicine a more interesting and instructive story than the account of the work which led up to the discovery of salvarsan (606). When Ehrlich began his work years ago, syphilis was the last thing in his mind. He was interested at that time in the idea which possessed him that every living cell has a chemical affinity for some particular substance. This property of mutual attraction he called chemotropism; and in experimenting with dyestuffs he came upon a very pretty example of it in the selective affinity which methylene-blue exhibits for cells of the nervous system. If, then, such a specific affinity did exist, it seemed quite probable that it might also exist between certain drugs and certain parasites; and after some years of further experimentation Ehrlich was able to investigate this point. He believed that for each specific parasite, a specific curative drug could and would be found.[32] Because of the sleeping-sickness epidemic in Africa and because the disease is easily transferable to mice, Ehrlich began with a study of this affection. He succeeded, in connection with Weinberg, in producing a new dyestuff (trypan-red) which caused the organisms to disappear from experimentally inoculated mice in one injection. It was soon shown that parasites rapidly acquired a tolerance for such drugs and that, in order permanently to cure a parasitic disease, it was necessary to destroy every single parasite in the shortest possible time. Ehrlich's very difficult problem then became to produce a substance which was so specific for given parasites as completely to destroy them at one injection, but which was at the same time harmless to the infected animal itself. Starting, then, from atoxyl—an arsenic compound known to be efficacious in trypanosomiasis, but dangerous to the animal—Ehrlich proceeded to the solution of the problem. The task was one of colossal dimensions. Hundreds of substances had to be synthetized and then tested for toxicity on various species of animals. Of the large number of drugs made and tried, only about ten stood the test.

At about this stage in the work it was shown by Bertarelli and others, that syphilis could be transferred to rabbits; and Ehrlich turned his attention to the diseases caused by the spirilla and spironema: syphilis, relapsing fever and chicken spirillosis. In a short time a drug was produced—No. 606 in the series—which Hata found would definitely cure chicken spirillosis in a small, safe, dose, would completely sterilize a mouse infected with relapsing fever, and—in a dose one seventh of the *dosis tolerata*—was sufficient to cause the *Spirochæta pallida* to disappear from a syphilized rabbit.[33] Ehrlich repeated the experiments; the drug was again tested on dogs, *and on two of Professor Alt's assistants, who volunteered to demonstrate in this way the safety of the drug for*

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[27] It is impossible to indicate even the more important articles. The early literature on the *Spirochæta pallida* is collected in a Leipsic thesis by Julius Glass, December, 1905; and by Herxheimer, in Lubarsch and Ostertag's Ergebnisse der Alleg. Path., Jahrgang, xi, Abteil. 1. The article by F. P. Gay in Internat. Clin., 1907, iii, series 17, p. 199, is accompanied by a useful bibliography.

[28] The reaction has been observed also in leprosy and in scarlet fever; but for practical purposes these exceptions do not impair its diagnostic value.

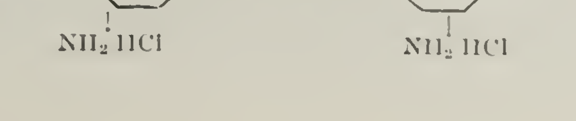
[29] Wassermann, Neisser and Bruck: Deutsch. med. Wchnschr., 1906, xxxii, 745; Wassermann, Neisser, Bruck and Shucht: Ztschr. f. Hyg. u. Infektionskr., 1906, lv, 451; Wassermann: Wien. klin. Wchnschr., 1906, xxi, 745; Wassermann and Meier: Deutsch. med. Wchnschr., 1907, xxxiii, 1287.

[30] Detre: Wien. klin. Wchnschr., 1906, xix, 619; Detre and Brezovski: Wien. klin. Wchnschr., 1908, xxi, 1700.

[31] Bordet and Gengou: Ann. de l'Inst. Pasteur, 1901, xv, 289; Bordet: Bull. de l'Acad. royale de Belgique, 1906, xx, 454; Ztschr. f. Immunitäts-Forsch., 1909, Referate i, 1. Bordet and Gay: Ann. de l'Inst. Pasteur, 1906, xx, 467.

[32] Marks, L. H.: Ehrlich's Biochemical Theory, Its Conception and Application, THE JOURNAL A. M. A., Dec 3, 1910, p. 1974.

[33] The chemical name of this preparation is p.p.—dioxy=m.m.—diamido-arseno-benzol. It is used in the form of hydrochlorid of the sodium salt, which has the following structural formula:



$$\underset{NH_2\,HCl}{Na - C_6H_3} - As = As - \underset{NH_2\,HCl}{C_6H_3} - O$$

human beings. It was then tried on patients. In order to make the test of the drug on human beings as convincing as possible, Ehrlich distributed 20,000 doses to clinicians of standing throughout the world, on the condition that certain rigid restrictions in administration be observed, and that the patients be kept in hospitals several days for observation. On the results thus obtained, Ehrlich will base his conclusions as to the value of the drug in the treatment of human syphilis. Those who have attempted to assemble, one at a time, 20,000 objects of any kind—say something as readily accessible as a canceled two-cent stamp—will appreciate something of the magnitude of this task, when they remember that the preparation of the dose of the drug, the necessary examination and subsequent observation of the patient, the preparation of the records, the critical examination of the results—are proceedings which represent hours of work for each individual case; and that this colossal task is merely the final stage in a research which has been going on for years. This point is worth calling to the attention of those who are accustomed to regard animal experimentation as child's play, undertaken at odd moments, by brutes who love to see animals squirm.

This account of the work of Ehrlich is the briefest possible sketch.[34] It conveys no idea whatever of the difficulty of the problems attacked, or of the genius displayed in overcoming them. It says nothing of several important contributions made to the theory of science, and to the practice of medicine, by the way. One of the earliest points brought out, for example, was a demonstration of the true chemical nature of atoxyl. Again, trypan-red—though used by Ehrlich against sleeping-sickness—was shown by Nuttall to be also effective in the widely distributed Texas fever of cattle. Salvarsan (606), sent by Ehrlich to Iversen in Russia, proved to be of very great value in the treatment of relapsing fever.

Of the exact value of the drug in syphilis it is too early to speak; the evidence is not yet all collected and has not been made public. Moreover, it is recognized as quite possible that a drug so powerful may have important deleterious effects; and until this point is cleared up by experience, any judgment as to its final place in medicine is ill-advised. It is, however, an open secret that astonishing results have been obtained. From the clinics of Wechselmann and many others, reports have already appeared which make it seem certain that—even if the final results fail to fulfil the early hopes—a contribution of the very first importance has been made to the therapeutics of syphilis.

But Ehrlich's work has been more than a contribution of this sort. He has founded a new science of chemotherapy, and has given a new vitality to pharmacology—hitherto interested largely in the toxic effects of drugs on normal animals. He prophesies a new era to be brought about by the interest of chemists like Baumann and Emil Fischer, and clinicians like von Mehring in practical therapeutics. "On the basis of years of experience in the laboratory," he writes, "I indeed believe I am justified in expressing the hope that, by carefully following the path [of chemotherapy] which I have sketched, a sure advance will be made."[35] These are the cautious and serious words of a serious man, whose talent and achievement place him in the very first rank. It is the opinions of such men which should be decisive in these matters.

This, then, is what animal experimentation has done for syphilis. In a period of about seven years the cause of the disease has been established, a specific reaction for its detection has been discovered, its successful transmission to animals has been accomplished, and a drug of apparently first-rate importance has been advanced for its treatment. Those who make practical achievement the final test of the value of experimental work, could hardly ask for more convincing evidence than these splendid results provide.

VIII. PRACTICAL VALUE OF RECENTLY ACQUIRED KNOWLEDGE OF SYPHILIS

To appreciate, however, the real significance of these advances it is necessary to do something more than merely state them. No one could possibly deny their importance, regarded simply as achievements. But it is conceivable that this might not be regarded as sufficient justification for them. "Do they," it might be asked, "represent merely the triumph of scientific curiosity over great natural obstacles; or have they really made medicine more efficient, by enabling it to deal better with this disease?"

It must, in reply, be at once stated, and stated with great emphasis, that there is not a single weak point in the medical attack on syphilis which recent animal experimentation has not strengthened; that complete knowledge has in many places replaced complete ignorance; that diagnosis has been made easy where it was previously difficult, and possible where it was previously out of the question; that the efficiency of treatment has been tremendously increased; and that the way has been indicated for the solution of many, if not all, of the difficulties which still remain.

In order to justify these extreme claims let me take up, in an itemized way, the deficiencies in our previous knowledge, which have already been indicated, and apply to them the facts which animal experimentation has supplied.

1. *Possibility of Early Diagnosis.*—An early diagnosis of syphilis is now possible. On the appearance of the initial lesion, we are able—by finding the recently discovered *Spirochæta pallida*—to make a positive diagnosis of the disease. The confusion with non-syphilitic genital lesions has become a thing of the past and it is no longer necessary to waste valuable time awaiting the appearance of secondary symptoms before treatment is begun.

2. *Increased Possibility of Positive Diagnosis.*—A positive diagnosis is now possible in many cases which previously went unrecognized. The Wassermann reaction and the demonstration of the *Spirochæta pallida* are of great importance in making the sometimes difficult differential diagnosis between syphilis and the host of affections which may simulate it—a diagnosis which, without these aids, was often simply not made.

3. *Recognition of Latent Syphilis.*—It is now possible, in a large majority of cases, to recognize "latent" syphilis. Heretofore, unless symptoms recognized as definitely syphilitic were present, we had no means of detecting the disease. Now, it is possible to say not only that a man has syphilis, but (in a fairly large proportion of cases) that he has had it. This is an advance of the very greatest importance. It enables us to recognize the syphilitic nature of many affections which might otherwise be badly treated. And it promises to be of value in the solution of the vexed problem of prostitution; for we are now able to tell, with a good deal of exactness, which prostitutes are infectious, and efficient hygienic control becomes a possibility. Indeed, the means for

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[34] Marks, L. H.: Paul Ehrlich: the Man and His Work, McClure's Magazine, December, 1910; Schweitzer: Ehrlich's Chemotherapy—a New Science, Science, Dec. 9, 1910.

[35] Ehrlich: Ber. d. deutsch. chem. Gesellsch., xlii, No. 1.

the detection of the disease in the absence of symptoms, the means for its positive diagnosis, and the means for its cure, having been provided, it is now possible for the community—if it choose to make intelligent use of the knowledge—to rid prostitution of syphilis. And this means, in time, the abolition of the disease from the face of the earth. If this sounds like a utopian dream, one has but to recall small-pox, which once raged everywhere, but which medicine—with slender means at her disposal—finally overcame. Sufficient knowledge is now at hand to enable us to recognize and control the main foci of infection; proper use of this knowledge will eradicate syphilis, even though prostitution itself continue, as it quite well may, to flourish.

4. *Possibility of Ascertaining a Definite Cure.*—The time when a syphilitic patient may be regarded as cured, and not only free from the disease himself, but incapable of transmitting it to others, may now be known with practical exactness. The importance of this fact in relation to the question of marriage is evident. To the syphilitic patient anxious to marry, but equally anxious not to confer on his future wife and children the dangers of the disease, medicine has heretofore been able to give only halting advice. After three or four years of treatment she has allowed him to marry, but always with some misgivings. Now, she will certainly forbid his marriage if his Wassermann reaction is positive, no matter how long he has undergone treatment, or how complete is his freedom from symptoms; and she will allow the marriage confidently, if the reaction becomes negative and remains so without treatment. Moreover, if the state ever finds itself prepared to exercise an enlightened control over the physically unfit to prevent them from passing their burdens on to posterity, medicine stands ready to indicate to the state just what, so far as syphilis is concerned, constitutes unfitness.

5. *Proof of Infectiousness of the Tertiary Lesion.*—Not least of the contributions of experimentation has been the proof of the infectious nature of the tertiary lesions. This fact has only to be stated for its importance to be understood.

6. *Increased Activity with Regard to Syphilis.*—Finally, now that the cause of syphilis is known and methods for its study in animals are at hand, the lethargy of preexperimental days, in regard to syphilis, disappears, and is replaced by enthusiastic and hopeful activity. For it must be remembered that the study of syphilis by the use of animals is yet in its infancy; that only the bare beginnings have been made. The recently acquired knowledge of the disease is still in a fluid state; and it is difficult to estimate exactly what the ultimate value of the observations made, will be—as difficult as to prophesy the exact future position of every boat in a fishing fleet, making for harbor with favoring wind and current. Yet, the wind that blows is the wind of progress; the current is the current of hope; and the haven ahead is the harbor of health. Behind, lies the troubled sea of chaos and despair. Anyone who thinks this a mere figure of speech is invited to consider the incalculable value of the achievements of recent experimentations for the host of innocent women, menaced by this disease, and the great army of unborn children, threatened with a syphilitic heritage; and to recall that the loss of animal life involved in the work shrinks to insignificance beside that represented in any meat market you choose to pass, while the amount of animal suffering entailed might easily be duplicated in every one of a thousand fisheries, to whose activities the "humane" societies give never a thought.

IX. SYPHILIS AND ANTIVIVISECTION

The importance of a consideration of syphilis in arriving at any conclusion as to the justification of animal experimentation has, I think, been made sufficiently clear. But a word should be said about the light thrown on one or two of the stock objections to animal experimentation by a consideration of the experimental investigation of syphilis.

It is often asserted that research should be so controlled and limited that only those lines of work could be followed which give reasonable promise of practical result; and that the repetition of experiments solely for the purpose of confirming the work of others, should be made impossible. This sounds like a reasonable suggestion. Yet see how fatal such a policy would have been to the development of the knowledge of syphilis.

The whole remarkable success of Schaudinn came during a research undertaken to confirm the observations of another. Siegel[36] had reported the constant finding of an organism (*Cytorrhyctes luis*) in syphilitic lesions; and the Imperial Board of Health of Berlin appointed Schaudinn—a highly trained protozoölogist—to repeat the work and see if the observations could be substantiated. Siegel's findings were not confirmed, but during the investigation, the real cause of syphilis was unearthed.

Again, who could possibly have prophesied that Ehrlich's early interest in the chemistry of the dyestuffs would lead to contributions to the therapeutics of syphilis? If it was to have any valuable results, one would have expected them in the industrial arts. Yet, starting with chemistry, he then turns his attention to protozoan disease, founds the new science of chemotherapy, hears of the work of Schaudinn and Bertarelli, becomes interested in syphilis and ends by making an important contribution to its therapeutics. One is reminded of the career of Pasteur, who began in physics, with the study of crystallography, was led into an investigation of the wine and silk industries, founded the science of bacteriology and made a contribution to therapeutics of the first importance.

Indeed the work of the various students of syphilis has been so intertwined, and the results of one of so much value to the others, that in an account of any one research most of the prominent names appear and reappear. Schaudinn, Ehrlich, Metchnikoff and Roux, Siegel, Bertarelli—it was the constant familiarity of each of these with the work of the others, and the constant attempts to confirm and advance the results already obtained, that led to the marvelous progress made. Even so remote an event as the discovery of the coal-tars, years before, by Perkins, contributed to the result; for it made not only bacteriology, but also chemotherapy possible.

It is this interdependence of research and the property of discoveries to have the most remote and unexpected value that makes restriction to experimentation, based on the probable importance of its results, unwise. Those who have become familiar with the subject by actual work in the laboratories, feel that to add to the already great difficulties of experimentation, by surrounding it with petty restrictions, would be to reward medicine for her fine achievements by crippling her, to equip her for future tasks by veiling her eyes. For it must be remembered that it is after all to medicine, and not to the "humane" societies, that the public looks for relief from disease; and when your "humane" legislation has forced your scientist into exile if he is to continue his work of enlightenment (this is how Great Britain "encouraged" Lister!), who is to accept the high responsibility for increasing efficiency in the treatment of disease demanded by the suffering patients who will continue to crowd the hospitals? Will the "humane" societies, after making it a misdemeanor for a scientist to operate on an etherized dog without running to them for a permit, undertake to furnish us, in some other way than by experimentation, with the sorely needed facts about cancer and other unconquered plagues? Or should this work be entirely entrusted to those who have proved their fitness by their achievements in the study of syphilis?

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[36] Siegel: München. med. Wchnschr., 1905, p. 1321.

It is high time that some protest was made against the cowardly charge that animal experimentation brutalizes men; and time, too, that those who launch it ceased to attain thereby a reputation for high moral sense in the community. The facts in the case are readily accessible; and if the charge is made in good faith, it ought to be backed by a notorious evidence of brutality in the profession which authorizes, and is in sympathy with, this "brutalizing" work. But whatever else physicians, as a class, are, brutal they most decidedly are not. Medicine can point to a group of heroes, not to be surpassed in any profession, who have testified to the sincerity of their scientific zeal by offering their own bodies as material for experiment: and until the opponents of animal investigation can match this, charges of brutality come from them with very bad grace indeed. Moreover, it is a simple fact that the physicians of any community—devoting their lives to the relief of distress—maintain a reputation for interest in others to which the term "brutal" is simply not applicable; and that in communities where experimentation is going on it is to those interested in animal investigation that the profession looks for leadership in its far-sighted campaign for the health and happiness of this and future generations. The reputation of these leaders, so far as brutality is concerned, is above reproach. The high standard of Pasteur, most kind-hearted of men, most active of experimentalists—has been maintained by his successors: and those who, in their righteous indignation, echo the outcry against experimentation on the ground of its brutalizing effect, might better serve the cause of righteousness by an inquiry, among the scientists in their own community, into the truth of this serious accusation.

If, however, this charge—so far from being made in good faith and on the basis of actual instances of brutalization of character by experiment—represents, for all its odor of piety, merely an academic makeshift for the purposes of debate, then one can but marvel at the moral standard of those who, in their concern over animals, permit themselves to make against a profession, busy with intelligent philanthropy, a charge so grave and so unjust.

CONVENIENT TABLE IN THE USE OF TUBERCULINS

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LOS ANGELES

The revival and wide use of tuberculin in the last few years has led a comparatively large number of makers of biologic products to place the different kinds of tuberculin in most common use on the market. As made by several of these firms, preparations like T. R. and B. E., presumably of the same strength, really contain a different amount of the tubercle solids in the concentrated solutions.

SYSTEM OF NUMBERING DILUTIONS OF TUBERCULIN *

No. of Dilutions	Strength Per Cent.	Compartment A		Compartment C		Compartment D		Compartment E		Compartment F	
		Fld. mg. in 1 c.c. conc. sol.	Fld. mg. in 0.1 c.c. conc. sol.	Solid mg. in 1 c.c. if 10 mg. to 1 c.c. conc. sol.	Solid mg. in 0.1 c.c if 10 mg. to 1 c.c. conc. sol.	Solid mg. in 1 c.c. if 5 mg. to 1 c.c. conc. sol.	Solid mg. in 0.1 c.c. if 5 mg. to 1 c.c. conc. sol.	Solid mg. in 1 c.c. if 2 mg. to 1 c.c. conc. sol.	Solid mg. in 0.1 c.c. if 2 mg. to 1 c.c. conc. sol.	Solid mg. in 1 c.c. if 1 mg. in 1 c.c. conc. sol.	Solid mg. in 0.1 c.c. if 1 mg. to 1 c.c. conc. sol.
I (orig.)	100.	1000.	100.	10.	1.	5.	.5	2.	.2	1.	.1
II	10.	100.	10.	1.	.1	.5	.05	.2	.02	.1	.01
III	1.	10.	1.	.1	.01	.05	005	.02	002	.01	.001
IV	.1	1.	.1	.01	.001	.005	.0005	.002	.0002	.001	.0001
V	.01	.1	.01	.001	.0001	.0005	.00005	.0002	.00002	.0001	.00001
VI	.001	.01	.001	.0001	.00001	.00005	.000005	.00002	.000002	.00001	.000001
VII	.0001	.001	.0001	.00001	.000001	.000005	.0000005	.000002	.0000002	.000001	.0000001

* Old Tuberculin contains 1,000 mg. of Old Tuberculin to 1 c.c. Conc. O. T. (Compartment A, 1,000 mg.).

Von Ruck's T. R. contains 10 mg. of tubercle bacilli to 1 c.c. Conc. T. R. (Compartment C, 10 mg.).

Cutter's B. E. contains 5 mg. of dried tubercle bacilli to 1 c.c. Conc. B. E. (Compartment D, 5 mg.).

Cutter's and Mulford's T. R. contain 2 mg. of solid substance to 1 c.c. Conc. T. R. (Compartment E. 2 mg.).

Parke, Davis & Co.'s T. R. and B. E. each contain 1 mg. of tubercle bacilli to 1 c.c. of Conc. T. R. or B. E. (Compartment F, 1 mg.).

Von Ruck's Watery Extract contains 1 mg. of dry solids to 1 c.c. Conc. W. E. (Compartment F, 1 mg.).

In reading reports concerning patients under treatment, therefore, the dosage mentioned may be actually quite different from that which the reader has in mind from the figures given. As a rule, these firms also use different systems of nomenclature in numbering their dilutions. As a consequence physicians in the West not infrequently have patients referred to them with letters concerning the dosage of tuberculin previously used, the exact meaning of which dosage it is not always easy to understand.

The table above, which I use in dispensary and hospital work, may be worth printing because, if desired, they allow notations of the dose to be made in small space on the history cards and allow one at any time to estimate at a glance the exact amount of tubercle solids in milligrams which is contained in the dose of any dilution injected.

Starting with the original or concentrated solution, which in this system of numbering always receives the Roman digit I, the dilutions, made as is the custom, according to the metric system, are carried to as great a degree as is desired, each dilution being ten times stronger than the dilution below it, so that 10/10 of a c.c. of any dilution is equal to 1/10 c.c. of the dilution just above.

When these tables are used, the bottles containing the dilutions are labeled with the Roman numerals I, II, III, IV, etc., and in making notations of dosage on the history cards, this number is used as the denominator. The numerator is an Arabic numeral 1, 2, 3, 4, 5, 6, 7, etc., to represent 1/10, 2/10, 3/10, 4/10, etc., of a c.c. of that particular dilution.

Thus, 3/IV O. T. would mean 3/10 c.c. of dilution IV of old tuberculin, which, as may be readily seen by reference to Compartment A of the table below, implies a content of 3/10 milligrams of old tuberculin. Likewise 3/IV T. R., if made by Parke, Davis and Company (see Compartment F), would mean 3/10,000 mg.; while 3/IV T. R. of Cutter's make (see Compartment E) would mean 3/5,000 mg.; and of Von Ruck's T. R. (see Compartment C) would mean 3/1,000 mg. The name of the maker of the tuberculin is, of course, always mentioned on the history card.

The use of some such system of numbering as this can effect, therefore, a considerable saving of time when tuberculins are used with any frequency, and may also be of convenience to those who have need from time to time to calculate the exact dosage of some tuberculin only occasionally used, or in the more accurate interpretation of dosage figures given by colleagues elsewhere.

240 Bradbury Building.

THE FORMATION AND FUNCTIONS OF HYGIENE COMMITTEES FOR UNIVERSITIES

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AND
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The position of a university or any other large educational institution in regard to its students is a peculiar one, involving grave responsibilities of many kinds. Boys and girls are brought from their homes from greater or lesser distances, and perhaps for the first time in their lives are freed from the restraining influences of home life. These students collect in various dormitories or lodging houses and mix together on the campus, in class rooms, and in various assemblages incident to university life. The responsibility of the institution is, therefore, an exceedingly grave one. It takes the place of the parent or guardian to this mass of students. The danger of epidemic diseases, which is always present when numbers of people are brought together, is constantly present. That institution which looks only to the education of the mind through the completion of a fixed course of study falls very far short of its true functions. Those of us who are interested in the teaching of hygienic life see in every educational institution a golden opportunity to spread the doctrine of good living. Education, after all, is designed to fit one for a useful career in life and such a career demands first and foremost a vigorous and healthy body.

Most of our institutions, like Topsy, have "just growed." The old buildings which are objects of reverence and affection to many were built at a time when our youth perhaps possessed more vigorous constitutions than those which the present-day fast living has brought about, and when the principles of lighting and ventilation were not as well understood as now. Partly through reverence and partly through the necessities of the case, almost all institutions are still utilizing many of these old buildings, and large classes are held in rooms absolutely unfit to furnish suitable accommodations.

HISTORY OF THE HYGIENIC MOVEMENT AT THE UNIVERSITY OF WISCONSIN

A history of the movement for better things in health matters at the University of Wisconsin will serve to elucidate many of the considerations which we wish to bring before you. Although the university is still comparatively in its youth, having recently celebrated its fiftieth anniversary, many of the buildings are antiquated as regards hygiene. A few years ago, several of the professors, recognizing that there was no one connected with the university whose special duty it was to look after the sanitation of the buildings and the health of the students, asked the president to appoint a committee on university hygiene. The first committee was composed of representatives from the departments of bacteriology and hygiene, physiology, physical training and home economics. The work was developed along several lines.

Ventilation.—First, an attempt was made to secure better conditions in the class-rooms and offices. Where artificial means of ventilation were not provided the windows were fitted with window-boards which permitted the raising of the lower sash without producing direct draughts on the occupants of the rooms. In most of the buildings a combined system of ventilation and heating had been installed. Direct radiation from the steam radiators was supplemented by passing air over steam coils by means of fans and blowing this into the rooms through galvanized iron channels. This apparatus was used for the most part only in extremely cold weather. When the weather was not cold enough to require the use of both systems no artificial ventilation was given at all. The committee insisted that the fans should be used for ventilation and not merely to supplement the heating of the rooms. This improved matters considerably, but still many complaints came in to the committee from professors and students alike that the rooms were stuffy and close, causing headache and sleepiness.

Humidity.—A study of the humidity of the air in a number of these rooms was next undertaken, and it was found that the moisture was frequently as low as 20 per cent. and some times as low as 14. The moistening of the air was brought about by the introduction of steam jets into the ventilating flues at or near the fan, so that the moisture would be thoroughly mixed with the air passing into the rooms. Examination of these rooms after this showed that the air was fairly well moistened and the comfort of the occupants of the room was greatly increased. Several of the professors who had used these rooms for ten or more years stated that never in their experience had they lectured with so little fatigue and discomfort. The committee has several times asked for funds to make more complete studies of the air of class rooms, but it has not been able to procure them up to the present time.

It is not believed that conditions at Wisconsin were worse than those at many other institutions, and yet the actual state of affairs was represented by the following incident. The matron of the woman's dormitory went into the room of one of the girls and, noticing the bad air, called the girl's attention to it, and received this reply: "What, is the air bad here? Since coming to the university I have become so used to bad air that I do not notice it any more."

Water.—The university had a pure water-supply, but everywhere the common drinking-cup was in evidence, some installed in the early days of the university, but some quite recently. The committee succeeded in having all of these drinking-cups abolished and in their place sanitary drinking fountains (Fig. 1) have been installed. These fountains were devised at the university and made by the mechanics connected with the institution. The cost was estimated at $5 each.

Sweeping.—A third matter to be considered was the cleansing of the buildings. Dry sweeping and dusting were the usual customs. In several of the buildings the committee succeeded in having vacuum cleaners introduced. In two buildings permanent systems have been introduced, and in two, portable machines are being tried out. In selecting a type of vacuum-cleaner, the committee found that while there was evidently a good deal of difference in the relative cleansing power of the machines, there was no described method of testing them. Some members of the committee have undertaken a study of this problem, the results of which are about ready for publication. In anticipation, however, it may be said that, while the permanent systems vary in their ability to clean, they are all satisfactory from a hygienic standpoint; that the portable cleaners are all, so far as tested, less efficient in their cleaning power, and that they all have an insanitary feature of very considerable importance, namely, the discharge of a large number of bacteria into the air again. Such machines, instead of reducing the danger from air-borne germs, may actually increase it.

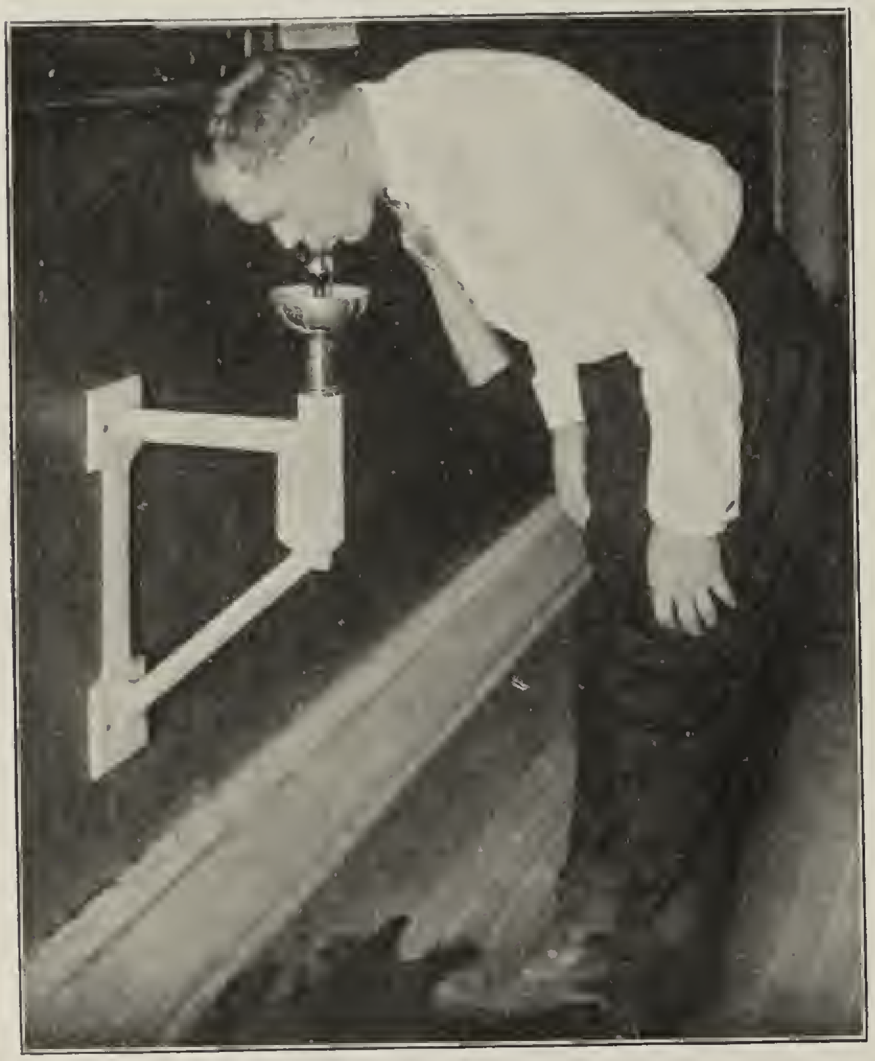

Fig. 1.—Sanitary bubble drinking fountain.

Toilets.—The toilet rooms of the university have been objects of especial care. Where possible, ventilators have been put into these; but unfortunately change in such facilities often involves a heavy expense and in most instances it has been impossible so far to make any radical changes. The supervision exercised has, however, improved matters considerably. The roller towel has been banished from the university almost entirely and in its place individual towels are provided. A special towel-holder and soiled towel box in one, so arranged that the top towel of the pile may be used and then passed over a curved rod into the compartment for soiled towels (Figs. 2 and 3) has been installed throughout the university. It is the device of three members of the committee and has served an excellent purpose. There is some increase in the expense of laundry, but we feel that this is money well spent. As an example of some of the difficulties which such a committee has to contend with at times we may relate that in one department of the university the dean objected to the increased laundry expense, slight though it was, and, without consulting the committee or any one else, had these small hand-towels sewed together into roller towels.

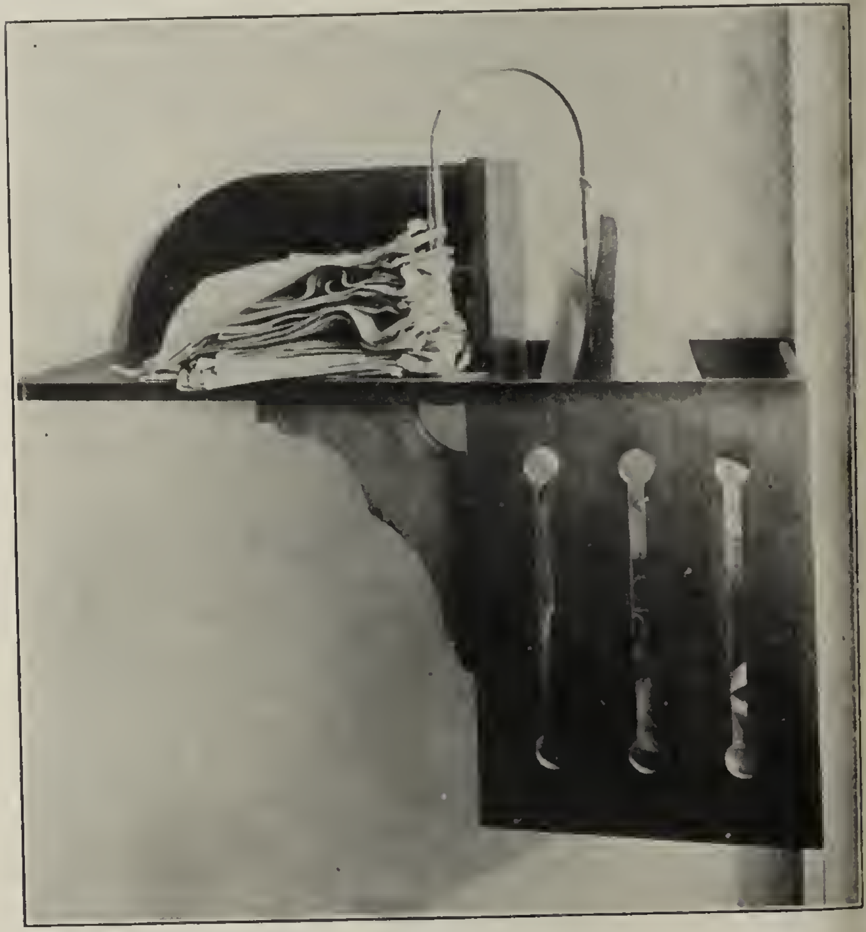

Fig. 2.—Individual towel distributor.

Gymnasium.—At the University of Wisconsin physical training is compulsory during the first two years of student life. Consequently the university gymnasium is likely to become an important focus for the distribution of disease; but if properly managed it may serve as a valuable center of educational influence along sanitary lines. The committee went vigorously to work at this building. Spitting was common, some of the instructors even believing that it was necessary to spit during exercise. Members of the committee attended all indoor games and kept watch on the careless spitting of the players. In two years' time this habit has been entirely stopped and it is a very rare occurrence to see anyone spit about the gymnasium, or to find the marks of expectoration on the floors. Under the influence of the committee the gymnasium has been cleaned from top to bottom, new mats have been provided, varnish and whitewash applied, and very important changes made in the toilet-rooms. Formerly any slight wound in the gymnasium meant suppuration and slow healing. This condition of things has greatly improved. Every student was formerly familiar with what is generally known as "gym itch" and "gym sores." While these still exist to a certain extent, conditions have improved. The committee has made a number of analyses of the water in the swimming-pools, both chemical and bacteriologic, and the hygienic laboratory is now preparing to publish the result of these examinations.

Lodging-House Inspection.—Wisconsin has no dormitory system (with the exception of one building for girls, which does not lodge more than one-tenth of the total number). The students are therefore domiciled at private rooming and boarding houses in various parts of the city. The Greek-letter fraternities and sororities flourish, and there are upward of thirty lodges in the town. The university regents, on the request of the committee, have for two years past granted money for the inspection of student boarding and rooming houses. A trained nurse is employed, one hundred and seventy houses have been inspected and a record made of them. A few houses have refused to allow inspection, but as a rule the landlords and landladies have cooperated with the committee in trying to improve the standard. It is proposed to make from one to two inspections yearly and to provide students with lists of the accredited houses; that is, those houses which have such qualifications in regard to lighting, ventilation, heating, bathing and toilet facilities as render them desirable habitations.

Medical Adviser.—The university had never made provision for a medical adviser for the students. When a student was sick he went to one of the physicians in the city, or not, as he saw fit. There was no system even of keeping a record of illnesses. Cases of small-pox have appeared in the class-rooms and in 1908 a severe outbreak of typhoid fever (forty-one cases in one boarding-house) occurred which would probably have been prevented had proper medical supervision, free of charge, been provided. Excuses were granted for non-attendance at classes, etc., by physicians who had no concern with the university. The committee spent a great deal of time in trying to evolve some plan for the correction of this evil and finally recommended to the president the appointment of a medical adviser. This proposition was considered favorably by the board of regents and the matter was then put into the hands of the executive committee of the medical school. Several of its members were also members of the hygienic committee. In February, 1910, an office was opened and it was not long in proving very popular with the students. In less than one year the staff has been enlarged from one physician to three, with three assistants, two of whom are trained nurses. We believe that much epidemic sickness of a minor character has been avoided by consultation with the university physician, who insists on isolation in such cases. More than 3,000 students have consulted the medical adviser during the year 1910.

Emergency Kits.—Accidents of greater or less severity not infrequently happen in the laboratories of the university, especially in chemistry and engineering. Emergency kits, designed by the committee, have been placed throughout the university. They contain absorbent cotton, assorted bandages, a tourniquet, adhesive plaster, safety pins, carron oil, boracic acid ointment and aromatic spirits of ammonia. Each article is plainly labeled. Those on the drugs give the indications for use and the dosage. Charts giving directions for first aid to the injured have also been distributed. Those obtainable have not been satisfactory and the committee is now taking steps to obtain better ones which will be distributed.

Education.—Apart from the practical work which has been outlined, the committee has been strongly impressed with the necessity of educating students along hygienic lines. It has tried in every way to give and to foster instruction in the principles of hygiene. The department of bacteriology and hygiene has for some time wished to make a primary course in hygiene compulsory on all students entering the university. The committee has aided the department as far as possible in this work. Up to the present time it has seemed impossible to require work from each student in the university, but both the department and the committee are impressed with the necessity of this and are working toward such an end. In the meantime an elective course has been offered. This is primary in character and no preliminary studies are required. It consists of eighteen lectures with assigned reading and an examination, for which one hour of credit is given. This course is repeated in each semester of the scholastic year. The lectures are given almost entirely by men connected with the university, especially those in the departments of physiology, physical training, bacteriology and hygiene and chemistry. At the request of the committee the regents have for several years granted a fund of $300 for lectures. The object of these lectures is to bring to the university men prominent in sanitary work, hoping thereby to interest the professors as well as the students in the study of hygiene, and to convince them of its importance and its practical value.

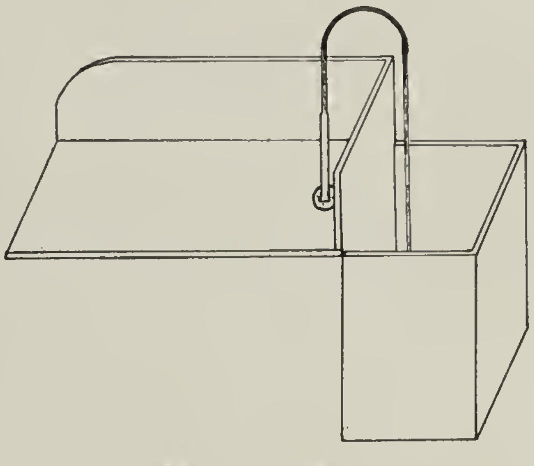

Fig. 3.—Drawing of towel distributor.

MEANS AND METHODS OF HYGIENIC IMPROVEMENT

Institutions of high learning should have their buildings perfectly equipped from a sanitary standpoint. Many institutions, in which technical departments exist, have model machine shops, creameries, cow-stables, libraries, etc. They are leaders in these various lines. Schools, colleges and universities ought to lead in sanitary construction, sanitary equipment, and sanitary care. Class-rooms and laboratories ought to be models of sanitary excellence as well as of convenience and attractiveness. The educational value of such buildings far outweighs any additional expense involved.

Exhibits.—In connection with the educational work which can be done along the line of hygiene, mention ought to be made of the value of exhibits, museums, etc. Collections of models and plans are excellent means of public education. Permanent museums of hygiene are desirable, not only as an aid to class work, but for the instruction of the general public, and it would seem desirable that various sanitary appliances might be exhibited where the public could study them. Such museums should contain also exhibits which would illustrate the important advances made along the line of public health, and the results which have been accomplished. They should contain models showing the various aspects of water-supply and purification, the disposal of sewage, the details of milk-production and distribution, working models illustrating methods of ventilation, types of bubble fountains, etc., etc.

Janitors.—In Wisconsin, as elsewhere, we are largely dependent on the corps of janitors for the proper care of the buildings and the observance of regulations concerning their care. The superintendent of buildings, who has charge of the force of janitors, has agreed to call them together for instruction, and the committee has outlined a course of lectures for them in which such subjects as lighting, heating, ventilation, cleaning, etc., will be discussed in a simple and practical manner.

Organization and Personnel of a Hygiene Committee.—Our experience has taught us that in order that hygiene committees may do efficient work certain features in regard to organization and the powers given to them are necessary. We have not been able to solve certain questions as yet, but the following points seem clear:

The hygiene committee should be composed of men who are experts in various matters with which the committee has to deal, and it would seem desirable to have a representative from such departments as chemistry, bacteriology, engineering (as heating or ventilation expert), physical culture, and home economics. The chairman of the committee should be the health officer of the institution and would ordinarily be a physician, although what is really needed is a person with special training in health matters.

Of more importance perhaps than the personnel of the committee are its functions and powers. If it is an ordinary faculty committee, it has only the power to make recommendations and to enforce such regulations as may be adopted by the faculty. The committee ought to possess this power, but in addition should have authority derived directly from the governing body—the regents or trustees—since its greatest service to the institution would often come through the duties which it might perform for this body, and its value depends very largely on the powers delegated to it by such a governing body.

This committee should have power to pass on the location, construction, and arrangement of new buildings so far as these items have sanitary significance. It should have the power to dictate the selection of such parts of the equipment as have hygienic significance and to decide on the way in which the buildings must be kept. This would include the method of running the ventilating apparatus, the regulation of heat and moisture in the rooms, the way in which the rooms are to be cleaned, the type of vacuum-cleaner, the kind of water, the type of drinking-fountain, and similar matters. In matters pertaining to the health of the students, this committee, through its chairman, ought to have practically the same powers as conferred on boards or commissioners of health, which would include authority when infectious diseases exist to enforce quarantine, and to disinfect the buildings of the institution, or the rooms of students, when these are not properly cared for by the local health authorities.

In institutions in which dining-rooms, lunch-counters, etc., are conducted in university buildings and under the university authorities the hygienic committee should have supervision of the food-supplies so far as expert advice is needed, and should from time to time see that the preparation of food is well carried out. Where this service does not exist or where it is utilized by only a portion of the students, the committee should be active in the inspection of boarding-houses, and in the examination of public food supplies, such as milk, ice, etc. The work devolving on the committee in this regard will, of course, vary with the enforcement of the laws in individual cities in which the institution may be located.

The cost of analyses of water, milk, food, etc., will vary with the size and equipment of the institution. Generally speaking, however, the cost will be small, as most institutions are provided with such facilities. Whatever the cost, it is money well spent. Preventive medicine is the cheapest life-insurance which can be taken out.

PERIPHERAL NEURAL ATROPHY OF THE THENAR MUSCLES

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In a recent communication[1] Dr. J. Ramsay Hunt described a clinical type of occupation neuritis affecting the deep palmar branch of the ulnar nerve, characterized by a purely motor syndrome, namely, atrophy of the hypothenar and other small muscles of the hand supplied by this nerve. In the present paper I wish to describe and to illustrate a similar motor syndrome, characterized by atrophy of those thenar muscles (abductor, opponens and part of the flexor brevis pollicis) supplied by the median nerve, due, most probably, to compression of this nerve in some part of its course.[2] The by no means remote resemblance of these thenar and hypothenar types of atrophy to progressive spinal muscular atrophy, and, in some degree, to toxic degeneration of the lower motor neurons, renders their recognition a matter of some importance. Obviously prognosis and treatment will vary according to the type of pathologic condition with which we are dealing. In the neural and toxic types the outlook is fair or good; in the progressive spinal type it is, of course, unfavorable.

ANATOMY OF THE MEDIAN NERVE

Between the median and the ulnar nerves in the palm of the hand there is an interesting similarity of arrangement. While still in the forearm, both of them give off palmar cutaneous branches; and having entered the palm of the hand, both are placed in such mechanical relations as very easily to permit of their being subjected to undue pressure, with consequent interference with function. The deep branch of the ulnar dips between the tendons of the abductor and flexor brevis minimi digiti and is here subject to compression, while the branch of the median to the thenar muscles passes over the margin of the annular ligament of the wrist where it, too, may suffer injury in a mechanical way. The palmar cutaneous branch leaves the median at a variable distance above the wrist. It becomes superficial near the upper margin of the anterior annular ligament by piercing the deep fascia between the flexor carpi radialis and the palmaris longus. It supplies the skin of the palm. The thenar branch of the median is a short nerve which arises below the anterior annular ligament and curves outward toward the base of the thumb. It breaks up into filaments which supply the abductor pollicis, the opponens pollicis and the superficial head of the flexor brevis pollicis. These terminal filaments lie between the abductor pollicis and the superficial head of the flexor brevis pollicis above and the opponens pollicis and the deep head of the flexor brevis pollicis below. Compression in the main trunk of this nerve, if it occurs, must occur as the nerve passes to the inner side of the flexor brevis pollicis and over the margin of the anterior annular ligament; and such compression will give rise to the syndrome about to be described.

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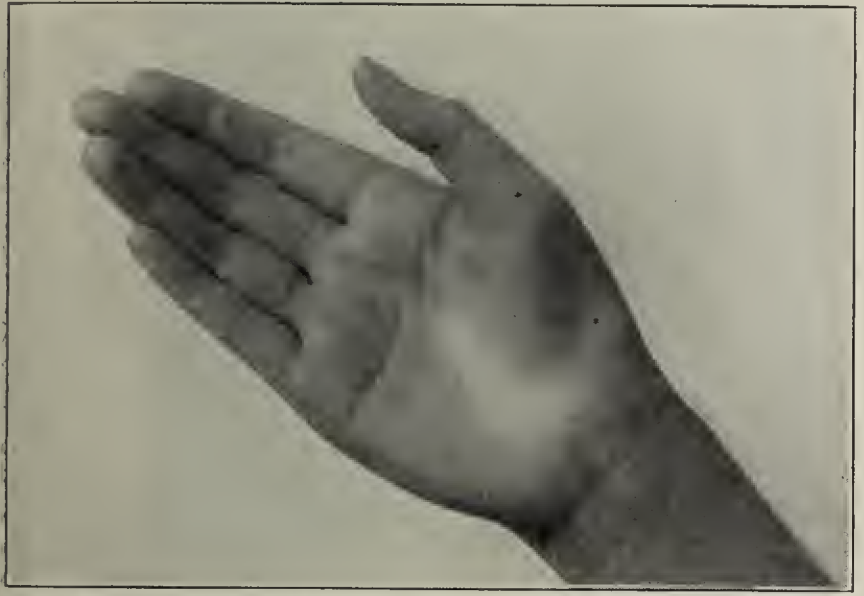
[1] Hunt, J. R.: Occupation Neuritis of the Deep Palmar Branch of the Ulnar Nerve, Jour. Nerv. and Ment. Dis., November, 1909.

[2] After this paper was completed in manuscript Dr. Hunt published (Am. Jour. Med. Sc., February, 1911) another valuable paper, The Thenar and Hypothenar Types of Neural Atrophy of the Hand, in which he covers precisely the same ground as that traversed in the present paper. It would seem, however, that the condition is of sufficient importance to warrant this supplementary description.

THE SYNDROME OF NEURAL THENAR ATROPHY

The symptoms of peripheral neural atrophy of the thenar muscles are precise and may be easily recognized. They are atrophy and paralysis (or weakness) of those muscles supplied by the thenar branch of the median. In the two cases here recorded no sensory changes whatever could be discovered on careful examination, nor did the patients complain of any changes referable to the lesion. The muscles affected were, in both instances, the abductor pollicis, the opponens pollicis and the superficial head of the flexor brevis pollicis. In these muscles there was marked wasting, as the illustration indicates. The muscles involved failed to respond to electrical stimulation through the median at the elbow; when the current was applied to the muscles directly there was no response to faradism and a very feeble reaction of degeneration to galvanism. Voluntary movements in the wasted muscles were abolished, and nearly a year later showed little, if any, return. I never observed fibrillary twitchings in the affected muscles, nor were they sensitive on pressure. All the other intrinsic muscles of the hand were normal in respect of voluntary movements, nutrition and electrical response.


Marked flattening of outer side of thenar eminence, Case 1.

Case 1.—Miss A. B., aged 22, single, a stenographer by occupation, some two months before coming under observation, began to experience some difficulty in retaining hold of and manipulating her pen. At about the same time she began to experience some limitation of facility in her use of the typewriter. Soon she noticed that the ball of the thumb was beginning to waste and this it was which caused her to seek medical advice. The wasting, after she noticed it, went on very rapidly. When first examined the thumb presented the appearance shown in the illustration. There were no sensory alterations and no subjective discomfort in the thumb. The abductor pollicis, opponens pollicis and superficial head of the flexor brevis pollicis were so wasted as to be scarcely distinguishable as muscles. They did not respond to indirect electrical stimulation nor to faradism applied directly. To galvanism there was a feeble reaction of degeneration in the small amount of muscular tissue remaining. The voluntary movements subserved by these muscles were in abeyance. After almost a year of massage and electricity (galvanic and sinusoidal) there seemed to be no appreciable improvement.

Case 2.—Mr. X., aged 32, married, an elevator operator, while operating an elevator controlled by a forward and backward lever, observed that the muscles of the thumb of his right hand were smaller than those on his left hand. To this, however, he paid no special attention, for two reasons—he suffered no pain or other discomfort, and he experienced no difficulty in his work. He states distinctly that many times while closing the doors of the elevator shaft in the New York sky-scraper where he was employed, he was accustomed simultaneously to push the side of the handle of the lever with the ball of his thumb. It may be imagined that he did this many thousand times in the course of a week. Having changed his occupation to that of a butcher he noticed the first time he tried to handle a knife that he had much difficulty in doing so. Hence his seeking medical attention. The muscles involved in the wasting, their abnormal electrical reactions and the limitations of voluntary movement were precisely similar to those observed in Case 1. The same treatment was carried out as in Case 1, with somewhat better, though by no means brilliant, results. After eight months of faithful treatment there is some slight access of voluntary power with an appreciable, though small, increase in muscular growth.

The distinguishing marks of peripheral neural atrophy of the thenar muscles are: (1) precise limitation of atrophy and motor defect to the opponens pollicis, abductor pollicis and superficial head of the flexor brevis pollicis; (2) reactions of degeneration confined to these muscles; (3) absence of subjective sensory changes; (4) absence of objective sensory defect; (5) absence of fibrillary twitching; (6) rather rapid onset of atrophy and weakness.

222 Broadway.

A CASE OF ORIENTAL SORE (DERMAL LEISHMANIOSIS) IN A NATIVE COLOMBIAN

S. T. DARLING, M.D., and R. C. CONNOR, M. D.
ANCON, CANAL ZONE

Oriental sore (dermal leishmaniosis), a disorder endemic in the Levant and the East, has been detected in a few localities in the New World: São Paulo and Bahia, Brazil, French Guiana and Panama. When the latitude and climate of the Oriental countries where the sore is endemic are considered, together with the fact that the autochthonous disorder is present in the New World, so far having been detected between 23.5 S. and 8 N. latitude, it is natural to presume that the disease will be found in Central America, Mexico, and some of the southern states, when especially looked for. A case of autochthonous oriental sore was discovered by one of us (S. T. D.) in the Canal Zone and renewed efforts have been made to find other cases and to ascertain if some have been overlooked in the past.

These facts should be noted by practitioners and laboratory workers in the southern states and seaport cities where examples of this type of ulceration may be encountered. They must also be taken into consideration in the diagnosis of all chronic ulcers in this region. Film preparations from ulcers on exposed parts of several months' duration should be carefully examined for the presence of the pathogenic agent of Oriental sore (*Leishmania tropica*). A preliminary experience with the cultural forms of trypanosomes or with insect flagellates—*Herpetomonas* or *Crithidia*—is helpful in knowing what to search for when the microorganisms are sparse.

Specific diagnosis is important because the infection is undoubtedly transmitted by flies or mosquitoes and the ulcers should be properly treated and protected by dressings from the visits of suctorial invertebrates.

The case reported here is the third one found to date and illustrates certain peculiar features of the disease: the chronic eroding character of the ulcer, its location on an exposed part, the presence of a second ulcer near by (auto-inoculation), the history of a fly-bite, and the difficulty experienced in this case in finding the pathogenic agent.

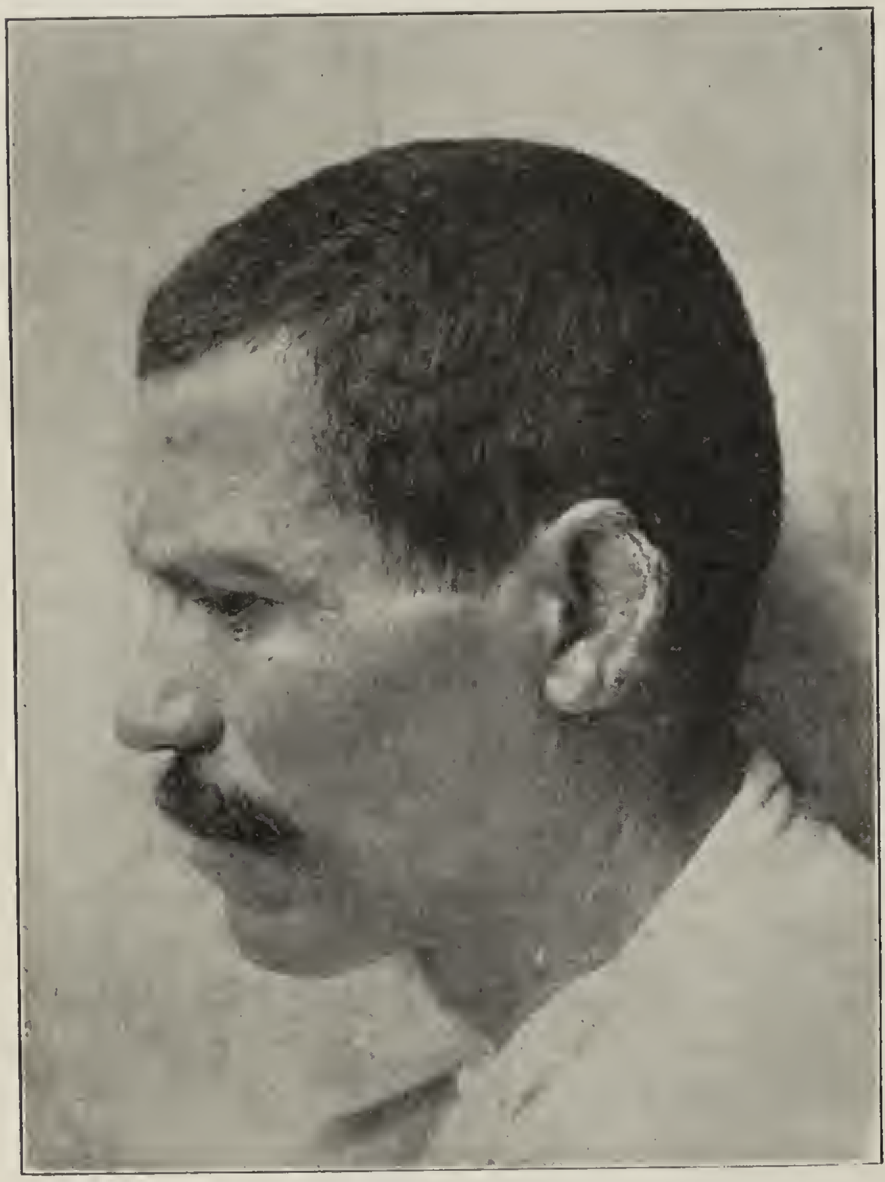


Fig. 1.—Patient with oriental sore on left ear.

It should be mentioned that each one of the three patients affected with this disorder who have been examined up to date gave a history of being bitten by a fly out in the bush. No case has arisen as yet within the zone of sanitation.

CASE REPORT

History.—A. V., Hospital Number 88,593; aged 43; native Colombian laborer; born in Cartagena, came to Panama during the régime of the Compagnie universelle du Canal interocéanique, and has lived continuously in Panama for twenty-two years. Recently he had been working with surveying parties in the bush near Frijoles. He was admitted Nov. 25, 1910, with well-developed pulmonary tuberculosis. The peculiar lesions on his left ear were examined on two occasions for the presence of *L. tropica* and on the occasion of the second examination after a crust had been permitted to form, a few characteristic microorganisms were detected.

Examination.—When seen December 21, his left ear was of a dusky, brawny color, somewhat swollen, and the skin rather tense. The margin of the helix was eroded for about 3 to 4 cm. and covered with a depressed, tough, dry crust. At its junction with the lobule there was a second smaller ulcer, circular in shape, about 1.5 cm. in diameter, covered with a flattened tough crust (auto-inoculation). The appearance of the ulcers was suggestive of lupus or rodent ulcer and of Oriental sore. A protective dressing of boracic acid ointment was applied constantly and some improvement in the appearance of the lesions was noted, but the infiltration of the margin of the skin about the ulcers increased. The patient refused more radical treatment on account of his feeble health.

The larger ulcer made its appearance, according to the patient, six or eight months before the date of his admission to the hospital. He believed that it followed a fly-bite, but on inquiry about the variety of fly and additional circumstances connected with the development of the sore, rather a fanciful statement was made by the patient. This is given as it conveys the natives' notion about the cause of this chronic type of skin ulceration.

The fly which the natives believe causes the ulceration is called by them *mosca bayano.* This fly, they say, is found only in the woods in the large yellow flowers of the bayano, a jungle plant. It was impossible to get from the patient a very exact idea of the kind of fly. When shown a number of specimens of *Tabanus, Musca, Stomoxys, Pyrellia, Compsomyia,* and others, he thought the fly was about the size of *Stomoxys calcitrans,* but when he described its habits he said that on approach, the flies darted away so quickly that one could not make out either color or markings. Again the patient said that the fly did not really bite or draw blood, but deposited white feces which made the skin rot.

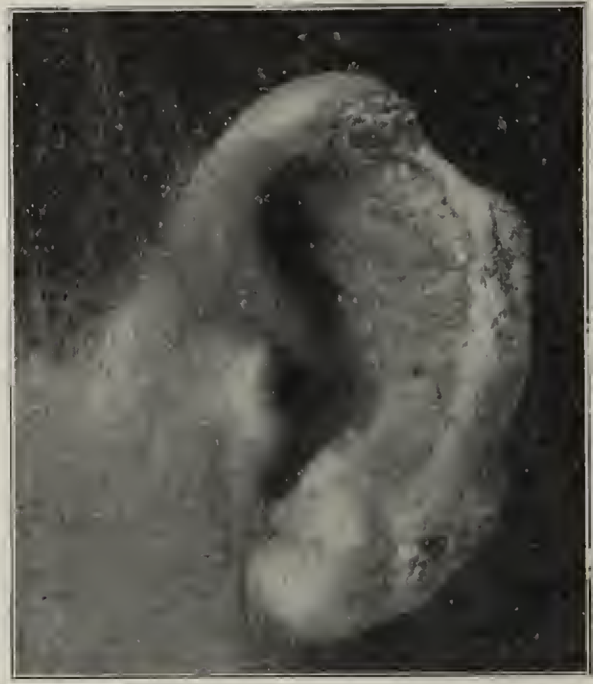


Fig. 2.—Closer view of oriental sore.

After the visit of the fly the place began to itch, a blister formed, which was scratched considerably, increased in size and became purulent. An ulcer soon appeared, which, with each removal of the scab, became deeper and larger.

Whatever the mode of infection may have been, there is no doubt of the cause: smears taken from just beneath the raised margin of the crust, when stained by Hastings' and Giemsa's stains, contained a few intracellular and extracellular specimens of *L. tropica,* exactly like those described in the case to be published by one of us (S. T. D.) in the *Archives of Internal Medicine.*

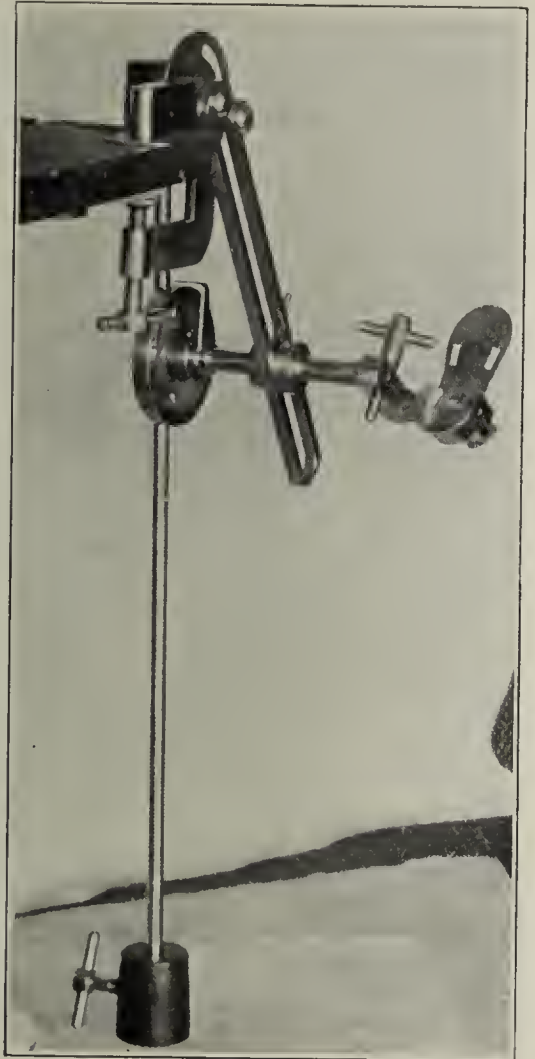
Regulation of Diet.—An ideal diet should be one with not less than 1,500 calories in the twenty-four hours, containing the foodstuffs in as assimilable a form as possible, entailing the least work on the eliminative organs in ridding the body of waste products.—**A. Eustis,** in *New Orleans Medical and Surgical Journal.*

MINIATURE EXERCISE MACHINE FOR INFANTILE PARALYSIS *

MAX STRUNSKY, M.D.
NEW YORK

In treating chronic infantile paralysis by massage, electricity and passive motion of the paretic muscles we must not forget that the seat of the disease is not in the muscles, but in the anterior, gray cornu of the spinal cord, and that atrophy and degeneration in this disease are not limited to the muscles alone, but involve all the structures that enter into the muscular contraction, chiefly, the spinal nerves, the motor cells in the spinal cord, the conducting tracts, the motor brain centers dominating the affected muscles, as well as the weakening of the will power to concentrate on these muscles.

Function is the antagonist of atrophy and degeneration. Massage, electricity and passive motion exercise the muscles, but they do not exercise the other structures involved in the voluntary muscular contraction, and the effect of such exercise — whatever it may be—is limited to the muscles. Permanent benefit to the paralytic muscles is produced only by voluntary exercise because in such exercise the structures involved are simultaneously and cooperatively functioned. The effect of voluntary muscular contraction is to exercise the will power and the atrophic motor brain centers and, by reciprocal action, to develop the motor cells in the spinal cord and the strength of the muscles.



Miniature Zander machine for exercising limb in infantile paralysis. May be attached to a table or chair.

That the spinal motor power can be developed is proved by the improvement that takes place in infantile paralysis often years after the original attack, and by the increased strength in the paralytic limb after scientific and persistent treatment, and by the fact that a great many children, especially those that are mildly affected, gradually outgrow their trouble.

Improvement in chronic infantile paralysis cannot be accounted for by the regeneration of the destroyed motor cells in the spinal cord. The pathologic law that dead organic cells never regenerate is fixed. Improvement can be explained only by the development of the motor gray matter in the spinal cord based on the physiologic law that cells increase in size and strength with function. This is accomplished by the use of the paralytic limb, by muscle education, whereby the child develops his mental power to force the contraction of the paretic muscles, and by the natural growth and evolution of the cerebrospinal system during childhood.

Voluntary exercise of the paretic muscles, the most important element in the treatment of chronic infantile paralysis, is, unfortunately, monotonous and the child's feeble attention soon wanders from its work. The machine illustrated gives the child something to do, with the result that more voluntary muscular contractions are accomplished. The machine is also labor-saving, inasmuch as it assists and resists the movements of the paralytic limbs automatically and takes away this strain from the person supervising the physical culture.

The instrument shown in the illustration is a miniature Zander machine. It is small, portable, cheap, and can be attached to a table or chair. The child sits on the table or chair to which the machine is attached and the paralyzed limb swings the handle. The resistance to the movement is regulated by the length of the pendulum and the "assistance" by the angle of the handle.

Resistance to the movements must be gradually increased. This cannot be done with the hand, because it is hard to remember the exact force exerted at the previous treatment. By regulating the length of the pendulum the resistant force is controlled to a fraction. The gradually increased length in the pendulum is also the record which tells of the amount of improvement that has taken place in the paralytic limb in a given time.

24 West Forty-Fifth Street.

THE TRANSPLANTATION OF BONE FOR CORRECTION OF DEPRESSED DEFORMITIES OF THE NOSE

REPORT OF CASES *

WILLIAM WESLEY CARTER, A.M., M.D.
Assistant Surgeon, Manhattan Eye, Ear and Throat Hospital
NEW YORK

It is not my purpose in this paper to discuss the fundamental principles of bone transplantation in the human body, nor do I intend to review in detail the work of the various experimenters in this field of surgery. Suffice it to say that nearly all that has been written on this subject has had to do with supplying defects in the various bones of the body, chiefly those of the head and the long bones, while little has been said about the introduction of bone into the soft tissues, where the conditions for its nourishment and growth must differ widely from those where the graft is used to supply a deficiency in the continuity of another bone.

It is generally admitted (1) that the autoplastic operation, i. e., the transference of bone from one part of the body to another gives the quickest and best results; (2) that homoplastic transplantation, i. e., from one animal to another of the same species, is usually successful; (3) that heteroplastic transplantation, i. e., from one animal to another of a different species, is unsuccessful.

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* Demonstrated to the Orthopedic Section, Academy of Medicine, New York City, March 17, 1911.

* Read before the New York Academy of Medicine, Section on Laryngology, Dec. 28, 1910.

The belief is almost unanimous that it is necessary to include the periosteum with the graft; with this view, however, I do not agree.

There are a variety of opinions as to the fate of the implanted bone, the majority of writers believing that it is resorbed and new bone deposited in its place by the periosteum. This however, so far as I know, is the observation of those who have done only the homoplastic operation and who removed the periosteum with the graft; their work, therefore, sheds little light on the ultimate fate of the bone in my cases, for each of my patients furnished his own tissue for transplantation, and no periosteum covered the graft. The observations of all these writers relate to implantation for defects in the various skeletal bones, and however interesting and pertinent they may be to the work in hand, the scope of the present paper does not admit of their discussion.

Depressed deformities of the nose, from a surgical point of view, may be divided into two classes: (1) cases without loss of bony tissue; (2) cases in which a large part of the bony framework of the nose has been destroyed.

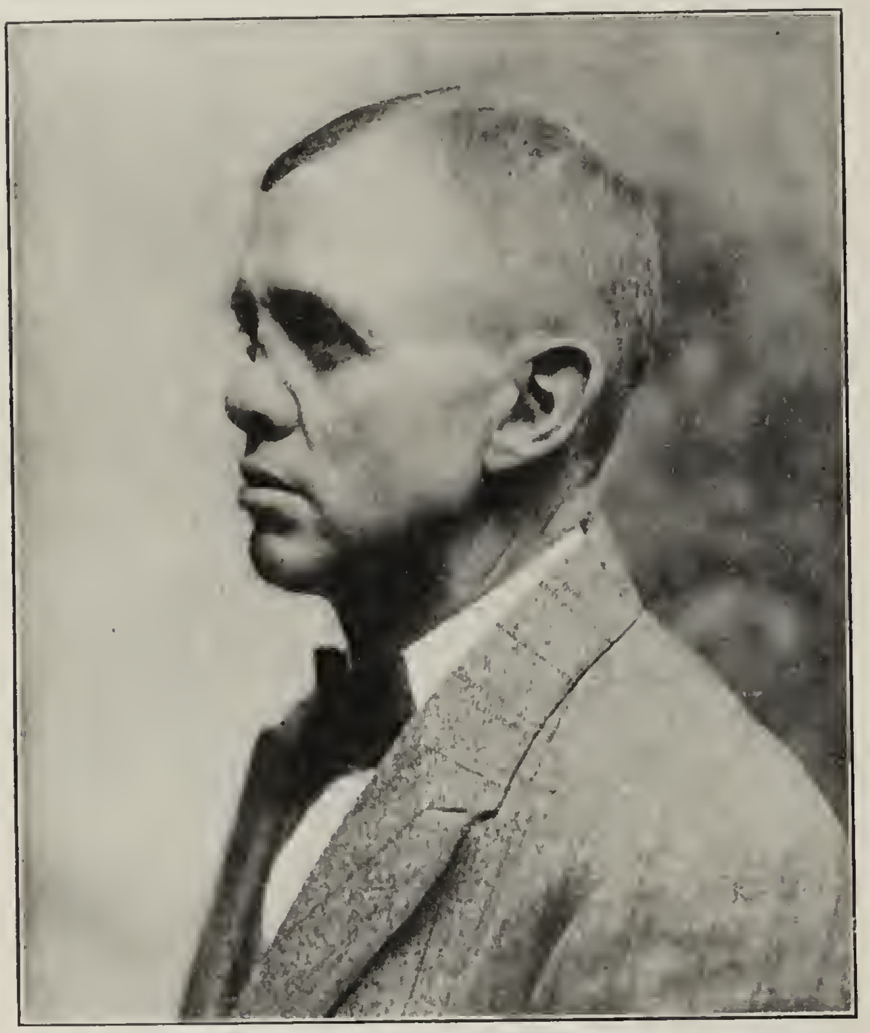

Fig. 1.—Patient in Case 3 before operation.

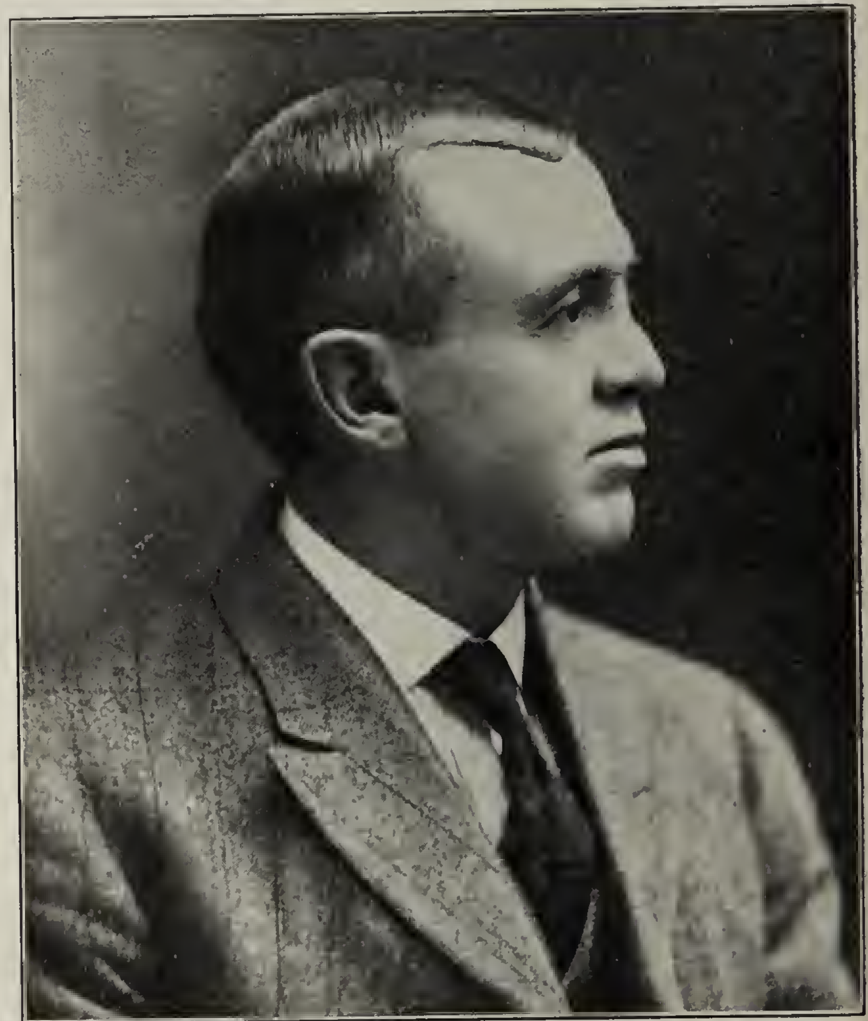

Fig. 2.—Patient in Case 3 after operation, from an unretouched photograph.

Cases of the first class are suitable for my bridge-splint operation, which I have described[1] in a previous paper, and which I have used with satisfaction in about forty cases.

But patients in the second class, as I stated in my first presentation of the subject, cannot be relieved by this method, for the success of the bridge-splint operation depends on the presence of a sufficient amount of bony tissue in the nose to retain it in the corrected position after the removal of the supporting bridge.

The cases which I report are from the clinic of Dr. Harmon Smith at the Manhattan Eye, Ear and Throat Hospital. Each patient had a depressed deformity due to traumatism, and each had suffered considerable loss of bony framework of the nose.

The deformity in each case being clearly due to the deficiency in bone, it occurred to me that this might be supplied by transposition of bone from another part of the body; my idea being that the transplanted tissue would receive only a temporary injury, and that it would continue to live and would take part in the process of repair in its new position in the nose.

I decided to use the rib for the following reasons:

1. A portion of the rib is easily removed, especially about the middle of the ninth rib, where the muscular covering is very thin. The patient is caused no inconvenience, and the resected portion is quickly reconstructed from the periosteum. This new growth of bone is hastened by the movements of the chest, for it has been found that a certain amount of irritation is favorable to bone-production. According to Ollier from three to eight months are required for the construction of a bone of considerable size, while he has known a metacarpal bone to be restored in forty days.

2. The shape and structure of the rib favor its use for this purpose. The rib is composed of cancellous tissue covered with a thin layer of compact bone. When the bone is split and the cancellous tissue removed, the strips of compact bone can be easily shaped to suit the deformity and, if the occasion demands it, several layers of this bone can be superimposed. It is necessary to remove the cancellous tissue, as this does not add to the vitality of the graft. In cases in which implantation has been made for defects in the long bones and the medullary tissue has not been removed, it has caused an irritation and aseptic fever.

Furthermore, I believe that the rib is well adapted for transplantation purposes, because it is so abundantly supplied with minute nutrient foramina. This can be easily demonstrated by examining the surface of a rib with a lens and comparing it with the tibia.

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[1] Carter, William Wesley: The Correction of Depressed and Irregular Deformities of the Nose by Mechanical Replacement, The Journal A. M. A., Dec. 4, 1909, p. 1893.

My reasons for removing the periosteum from the grafts are: First, it is easier to resect a rib without injuring the pleura by shelling it out of its periosteal covering. Besides it is desirable to leave the periosteum for the reconstruction of the rib. In the second place, I believe that the bare bone is more quickly and surely nourished by the connective tissue envelope which quickly covers it when it is introduced into the soft tissues of the nose. In this location, all we want is sufficient nourishment for the implanted tissue, we have no desire to grow bone; hence we can dispense with the osteogenetic layer of the periosteum.

The operation in all three of my patients was essentially the same.

The skin over the nose and over the ninth rib on the right side is prepared for an aseptic operation; a short, transverse incision is made down to the bone at the nasofrontal suture. Through this incision the skin and subcutaneous tissues over the dorsum of the nose are elevated with a long, thin, two-edged knife, curved on the flat. (A Seiler septal knife answers the purpose very well.) Above this incision the tissues, including the periosteum, are elevated for about three-eighths of an inch. This wound is covered with sterile gauze. The ninth rib at about its middle is then exposed for two inches and shelled out of the periosteum and removed. I then split this section of rib in its transverse diameter, scrape off its medullary portion and shape one of the strips of bone to suit the deformity. This is then inserted into the wound in the nose previously made for its reception, care being taken to insert the upper end under the periosteum over the nasofrontal process. Both wounds are then irrigated with sterile salt solution, closed with silk sutures and sterile dressings applied. The dressings are changed for the first time on the seventh day and the sutures removed two days later.

Case 1.—The patient was a little girl, aged 6, who, when 2 years old, fell on her nose, fracturing it. The nose retained its infantile type, developing broad and flat and scarcely protruding beyond the general level of the face. On examination, no nasal bones could be demonstrated. After the operation, which was performed on June 21, 1910, the profile was almost perfect and has remained so up to the present time.

Case 2.—This patient, a woman, aged 25, fell on her nose when she was 7 years old, the injury in this case being followed by septal abscess. There is no history of specific infection, and the woman says that she has always enjoyed the best of health. The deformity was marked and was of the flattened and concave variety.

Operation was performed on June 25, 1910. In this instance two layers of bone grafts had to be superimposed. When the deformity had been completely corrected the tension on the skin was so great that it became blanched; so, fearing that sloughing might occur, I had to slip the transplanted bone up a little, which left a slight depression near the tip. The bridge, however, is completely reconstructed and the result is satisfactory. There has been no retrograde change in the profile up to the present time, seven months after the operation. The bone is firmly imbedded and interstitial union seems to have occurred between the two implanted fragments.

Case 3.—A railroad man, aged 47, always healthy, and having no specific history, was knocked down by a train on Dec. 14, 1908. In addition to other severe injuries, his nose was almost completely destroyed (Fig. 1). The nasal bones, the nasal processes of the superior maxillæ and the septum were involved. Erysipelas followed the injury and much bony tissue sloughed out. The bridge was badly depressed and flattened, and a large scar bound the skin to the subjacent tissue. The septum was almost completely destroyed. The case presented a very unfavorable outlook for correction by any method of treatment.

Operation, which was done on Oct. 20, 1910, was somewhat tedious, owing to the large amount of scar tissue making it very difficult to elevate the skin over the dorsum of the nose. The elevated flap, too, was very thin, owing to the large destruction of skin at the time of the injury. A piece of the rib about 2 inches long was inserted, one end extending well down to the tip of the nose, and the other resting on the nasal process of the frontal bone. The normal contour of the nose was immediately restored. The grafted bone acted as a rafter, being firmly supported by the nasofrontal process, and it continued to exert a gradual traction on the soft tissues of the nose, which, having been unsupported, had subsided into two folds on either side of the nose. Within two weeks these folds had completely disappeared, the tissue having been drawn up into its proper place in the nose. The result in this case was practically perfect (Fig. 2).

In none of these patients did the temperature rise above normal, and none complained of much discomfort after the operation. The recovery of all was uneventful, primary union of the wound being obtained in each instance.

The vitality of the bone seems to have been affected in no way, and it is my belief that it has taken part in the process of repair, being nourished by an envelope of connective tissue forming practically a new periosteum. Certainly none of the transplanted bone has as yet been absorbed, and I see no reason why it should be, since the transplanted tissue is not a foreign body but is a living part of the same body into which it is replaced. Its molecular constitution is exactly the same as that of the tissues that surround it in its new position. Therefore it will continue to live, provided that its circulation is reestablished from the surrounding tissues; a sufficient time has elapsed to make us feel reasonably certain that this has already occurred in all three of my cases.

I believe that a large proportion of what have been considered hopeless cases of nasal deformity may be relieved by this method of treatment. Its superiority over all methods involving the introduction of foreign bodies into the tissues is self-evident.

69 West Fiftieth Street.

Black Plague in Newspaper Advertising.—It is encouraging to note from time to time in these columns the indications of an awakening conscience on the subject of truthful advertising. In an address at the one hundred and tenth dinner of the Sphinx Club, at the Waldorf-Astoria, New York City, James Schermerhorn, publisher of the Detroit (Mich.) *Times*, gave little comfort to newspaper men who sell advertising space to any one who has the price to pay for it. "It is a shabby trick," he said, "to capture the reader with editorials upholding the decencies of life only to deliver him over to the spoilers who lie in wait for him in the advertising section of the paper. There is a white plague, and philanthropists are fighting it. The publisher helps in his editorial and news columns. But in his business section there is a black plague, an inky infection in the form of spurious consumption remedies offering false hope to the hopeless; brazenly guaranteeing to cure the incurable. The awful cry of the despairing leper, 'Unclean! Unclean!' ought to be branded on the newspapers infected by the black plague. What of the publisher who entices his readers into wildcat investments by lifting the shell and showing the pea? Is he an opinion-holder or just a capper? The genuine brand of national righteousness should begin with the newspaper that advocates it. It is better to protect the reader every day against chicanery and betrayal than to use tainted money for the spectacular schemes for relief." Such public statements as these help to bring the day when there will be but one standard for right and wrong, and when there will be no privileged class that is permitted to lie and swindle with impunity.

POTASSIUM PERMANGANATE AS A HEMOSTATIC

L. BUCKLE, M.D.
NEW YORK

History.—A new-born baby boy, Jewish, weighed 9 pounds, had good color, nursed well and looked healthy up to the eighth day. No history of hemophilia. When the cord was tied and divided immediately after birth, there was no unusual bleeding and on the sixth day it came off.

Hemorrhage.—On the eighth day, about noon, the boy was circumcised and bandaged. Two or three hours later, the nurse noticed that the bandage and parts of the diaper were saturated with blood. She called me, and, finding the oozing very slight, I ordered gauze saturated with hydrogen dioxid to be applied to the bleeding surface. This I had found adequate to control hemorrhage in apparently similar cases. About 7 p. m., I was again called. The bleeding had not ceased, though the oozing was just as slight as before. I applied styptic cotton, adrenalin 1 to 1,000, powdered alum, tannic acid, and solution of silver nitrate, at different times, but without result. The family became so anxious and excited that they took the child to the hospital. There the skin was stitched to the mucous membrane above the glans, in the hope that this would help to check the bleeding; but it did not. In the two days the baby was in the hospital, it grew so pale and weak from the loss of blood that the father, not getting much assurance from the surgeons of its recovery, took it "to die at home," as he said.

Application of Potassium Permanganate.—On the fourth day after the circumcision I was called hurriedly. The baby was extremely pale and very feeble. It could not nurse from the breast but when some milk was pressed from the nipple into its mouth it slowly swallowed it. Temperature was subnormal; pulse and heart-beats were so weak and rapid that I could not count them. I again tried various styptics, but the result was as disappointing as before. I recalled that on several occasions of slight bleeding from small cuts, I used potassium permanganate with good results. I applied powdered potassium permanganate to the wound. The oozing immediately ceased and there was no recurrence of bleeding.

The action of the potassium permanganate in this case surprised me, and I mention it not with any enthusiastic conclusion, but merely that others may perhaps think of it in similar cases when the usual other agents fail to give good results. A deep cut on the forehead caused by a fall three months later healed without trouble.

321 East Tenth street.

UNUSUAL IDIOSYNCRASY TO ASPIRIN

G. BURTON GILBERT, M.D.
COLORADO SPRINGS, COLO.

The following case is reported because it seems unusual, and because of the violent reaction to an extremely small dose of aspirin. Judging from reports in the literature, poisoning from large doses of aspirin is relatively more frequent than that from small doses, which alone can show a distinct idiosyncrasy to the drug.

History.—On June 20, 1910, the patient, a woman aged 40, on complaining of slight frontal headache, was given, at 10 a. m., 5 grains of aspirin and $^1/_{60}$ grain strychnin sulphate, with instructions to take a similar amount of each at the end of one hour, if the headache persisted.

Symptoms of Poisoning.—Fifty minutes later I was called and found the patient very nervous, excited and frightened. She complained of feeling queer and dizzy. The headache was worse and pain in the inner corner of the right eye was intense. Both eyes were puffy and much swollen, especially under the lower lids. She complained of severe itching all over her head, which she scratched almost constantly. In about fifteen minutes the lips began to swell, reaching three times their normal thickness, and being tense and almost purple. This edematous condition also involved the upper portion of the throat. The voice became husky and breathing very difficult, the patient being unable to lie down. The finger-nails and ears were blue; the pulse was 110 and very irregular, while the temperature remained subnormal. The patient next complained of stiffness in the back of the neck and insisted that her throat was closing up. The itching extended over the ears and back, thence over the entire body, being accompanied by large blotches or wheals. Thus there was a generalized urticaria with a condition of the lips and throat resembling urticaria gigantea or angioneurotic edema.

Treatment and Result.—Cold compresses were applied to the lips, eyes and throat, and an ice bag was applied to the head. A hypodermic injection of ¼ grain of codein was followed in twenty minutes by another of 10 minims of epinephrin (adrenalin chlorid). Warm water containing a little salt was given until vomiting was induced at half past twelve. After this the patient felt somewhat better. She was given an injection of 1/60 grain of strychnin and a high enema. Within half an hour the swelling in lips, eyes and feet began to go down, the color improved and the breathing became easier. About 4 p. m., the patient fell asleep and slept for thirty minutes. By 6 p. m. the urticaria had disappeared except from the back of the neck and the only painful spot was in the right eye. On the following day the woman had entirely recovered except for considerable weakness and some aching in the back and legs.

The patient gave a history of having been poisoned on two other occasions; once from some spoiled sea food, when she was much sicker than anyone else in the party, and once from morphin which her physician had told her never to take again. She was also subject to chronic bronchial asthma. Therefore, the above may represent an asthmatic attack brought on, aggravated and complicated by an intense idiosyncrasy to aspirin.

817 North Cascade Avenue.

THE CAUSE OF THE IMMEDIATE PAIN AND ABSCESS FOLLOWING THE ADMINISTRATION OF SALVARSAN BY THE ALKALINE SOLUTION METHOD

B. C. CORBUS, M.D.
CHICAGO

The intravenous method of administering salvarsan will continue to hold its position as the most comfortable one for the patient, but whether or not it is as potent in the later stages of syphilis, time will have to tell. The trend seems to be toward some form of intramuscular injection.

As the alkaline solution method seems to be the most feasible and simplest in preparation and most far-reaching in its results in the later syphilids, it has been the aim of many observers to perfect it as far as possible. The two objections against this method have been the pain and lasting induration following the injection, the induration being followed at times by abscess formation. In all the reports published, such abscesses are sterile.

In my experience, covering 100 cases, I have found that the pain and induration are due to the sodium hydrate. The directions that accompany the tube of salvarsan advise that a 15 per cent. solution of sodium hydroxid be used in making the solution alkaline. One can readily see how easy it is to get an excess of sodium hydroxid; even one drop might cause an excess of alkalinity which would not only cause excess of pain, but in an ill-nourished individual might cause considerable necrosis. Following the Alt-Lesser technic, I used a 4 per cent. solution (normal sodium hydroxid) and my success was good in regard to pain and induration. Only twice have I observed an abscess. In one case, the patient was extremely debilitated, and in the other I had to deal with an excessively fat individual. In each of these cases, I believe the abscess was the result of the sodium hydroxid.

I now use a 2 per cent. solution of sodium hydrate. In this way any excess of alkalinity is more easily avoided, the initial pain is lessened, and I find that uniformly the coagulum formed in the muscles is absorbed, leaving the muscles in a soft, pliable condition ready for a second injection whenever necessary.

I first put the 0.6 gm. of salvarsan in a 25 c.c. graduated cylinder, and dissolve it in 8 or 10 c.c. of hot water. The sodium hydroxid is then added in small quantities until a clear solution is obtained, care being taken not to add any sodium hydrate in excess. Hot water is then added in sufficient quantity to bring the total solution up to 20 c.c.: 10 c.c. of this solution are injected deeply into the buttocks on either side. Great care should be used to keep the injected fluid out of the adipose tissue. The sodium hydrate solution should be sterilized before each injection. This is also true of all the glassware used.

32 North State Street.

Modern Conditions Require Evolution in Personal Hygiene.—Dr. Irving Fisher, president of the American Health League, in an article in the New York *Christian Advocate*, says that the health movement means a revolution in the habits of living now prevalent in this and most civilized countries. It seems a radical statement, yet no observer can fail to see that it is already in process of realization. The "outdoor life" undoubtedly has come to stay, including even the growing custom of sleeping out of doors. Likewise, largely under the influence of Mr. Fletcher, and with the approval and aid of scientific and medical authorities, says Fisher, the art of eating is changing rapidly. When hard foods, thorough mastication, and lessened consumption of protein have become universal, we may expect to see less of the dentist or the stomach specialist. The invention of cooking and preparing foods has been a much mitigated benefit. While it has widened the variety of man's diet, it has led to the decay of his teeth. Many of the other inventions of civilization have their unhygienic side. The invention of houses has enabled mankind to dwell in all parts of the world, but it is responsible for tuberculosis, especially after glass was devised, which, while letting in the light, keeps out the air. The invention of the alphabet and printing has made possible the accumulation of knowledge, but it has produced eye-strain with all its attendant evils. The invention of chairs has added to human convenience, but has led to spinal curvature and abdominal congestion. The device of a division of labor has added to wealth, but has destroyed the normal balance of mental and physical work, recreation and rest. Similar fault may be found with clothing, especially corsets, shoes and hats, and with numerous other contrivances. Yet it would be foolish, even if it were possible, to attempt to "return to nature" in the sense of abolishing civilization. We must not go backward, but forward. The cure for eye-strain is not in disregarding the invention of reading, but in introducing the invention of glasses. The cure of tuberculosis is not in the destruction of houses, but in devices for ventilation. It is a little knowledge that is dangerous. Civilization can, with fuller knowledge, bring its own cure, and make the "kingdom of man" far larger, even in respect to hygienic conditions, than "nature" people can even dream of. Unhygienic customs and fashions are exceedingly slow to yield, but they do yield in the end. It should be the part of intelligent men to lead in hygienic reform, not by intolerant and impatient abuse, but by the quiet force of example

Therapeutics

CONSIDERATIONS IN THE MANAGEMENT OF PULMONARY TUBERCULOSIS

The earlier treatment is commenced in pulmonary tuberculosis, the better for the patient, and the greater the chances of an ultimate cure. This axiom indicates the importance of an early diagnosis of the presence of the disease. One of the benefits which has resulted from the recent agitation in regard to tuberculosis is the more frequent recognition of the disease at its beginning. Before the present general interest in tuberculosis, it was not uncommon for patients to go untreated until they had reached an advanced stage of the disease. Less often, but altogether too frequently, patients were under the care of a physician for months before the real nature of the trouble was recognized. So much has been said and written on this subject within the last fifteen or twenty years, that no physician is excusable for neglecting to recognize the nature of the disease as soon as he undertakes the treatment of the patient.

At this day, it is hardly necessary to enumerate the symptoms which would lead one to suspect the presence of the disease and to act on his suspicion by making a thorough investigation of the case, including a careful physical examination. Among these symptoms may be mentioned loss of strength, loss of appetite, loss of weight, loss of physical and mental energy, increased body temperature, increased rapidity of the heart, increased rapidity of the respiration, cough, especially when accompanied by vomiting, and hemoptysis. When any of these are present, if some other cause cannot be found, the presence of tuberculosis should be suspected, and the possibility of its existence should not be given up while the symptom exists, or until some other cause for it has been found.

As soon as it is definitely determined that the patient is suffering from pulmonary tuberculosis, several important questions arise and demand an early solution. In the first place, it must be determined whether the patient shall be treated at home, or shall be sent to a sanatorium in the neighborhood of his home, or shall be ordered a complete change of climate. Certain conditions may determine that the treatment shall be conducted for a time at least, in his own home. When the patient is found to be in an advanced stage of the disease, with a high temperature, rapid pulse, poor appetite, frequent cough, and copious expectoration, it is, in most cases, poor judgment, and cruel, to advise such a person to leave home and friends in order to have the very slight advantage which change of climate will afford him. On the other hand, it may happen, in rare instances, that even patients in the very worst condition improve, contrary to our expectations, hence if the patient manifests considerable powers of natural endurance, and is not likely to be unfavorably influenced by separation from his friends, he may be allowed, even if the symptoms are serious, to try a change of climate. But such cases are certainly rare. Many patients must be treated in their own homes because they cannot afford to leave their homes and be at the expense of traveling and paying board in a sanatorium or health resort.

If the patient while showing sufficient symptoms to enable the physician to make a positive diagnosis is at the same time not very weak, not suffering from much fever, and not coughing very much, it may be wise for the physician to suggest a very radical move. Unquestionably, in some instances, it is the duty of the physician to advise the family, for the sake of the stricken member, to sever all relations with the community in which the disease has arisen, to sell their home if necessary, to dispose of their business if they have one, and to remove as a whole to a climate where the patient may recover from his disease, and to remain there permanently. This advice may be based on the now generally recognized fact that, if a person suffering from incipient tuberculosis goes to a climate where he recovers from the disease, he should continue to reside there, probably for the remainder of his life, certainly for many years. The converse of this is often true, viz., that patients who have recovered from tuberculosis in any particular climate, when they leave this climate and return to their former residence, often have a recurrence of the disease and go from bad to worse, or frequently develop pneumonia and die of that disease.

When a change of climate has been determined on, there is a wide range for choice in the selection of the particular climate, and it cannot always be determined in advance what climate will be best for the individual patient. Sometimes the patient's own experience of feeling better in summer or in winter will determine the selection for him of a mild or a cold climate. Often it will be found that patients who were born and have passed the early years of their life in a northern climate will do better, when making a change of climate, to select a cold climate. On the other hand, people who were born and raised in a warm climate, and who habitually feel better in summer, will usually do better in a warm climate, such as that of Florida or California.

Those who have a great tendency to have new foci in lung tissue break down, and those who have profuse bronchial discharge, and those who have fibroid phthisis, will generally do well in Arizona and New Mexico.

Some patients with pulmonary tuberculosis do well at the seashore, as has been observed to be the case with children suffering from bone and joint tuberculosis.

On the other hand, many do well in a mild climate, such as in the hills of the Carolinas.

Those who seem likely to do well in a cold climate, may be recommended to go to the Adirondacks or to Colorado.

Altitude is a thing that must be considered in selecting a climate for the tuberculous patient, and it will be found that those of nervous temperaments, with weak, rapidly acting hearts, those with high fever, and those with a tendency to hemoptysis, usually do not do well at a high altitude. On the other hand, those who are depressed by the heat of summer, but who are stimulated and feel stronger in winter, frequently do not do well in a low altitude like that of southern California or Florida. Whatever opinion may have been formed by the physician in advance, if his opinion is not confirmed by the experience of the patient, a change should be made to a climate of a different character.

It should never be forgotten that very sick patients do not stand travel and separation from their friends well, and that patients who find a climate in which they can live comfortably are foolish to leave it.

If the family of a patient is in moderate circumstances, and the patient is in an early stage of the disease, removal to a sanatorium in the neighborhood is frequently advisable. In the first place, this removes a focus of infection from the family and friends of the invalid. It also places him in a position of being instructed as to the proper care of himself. These are very important considerations. Further, his symptoms are daily, perhaps hourly, observed; he is required to do what is best for himself, and he is furnished with abundant and nutritious food. These are of great importance, and most patients at the beginning of the disease are benefited by them, even in the absence of any very marked change in climate. Much may be accomplished by treatment in such an institution as has been lately demonstrated, but it is perhaps too much to claim that such treatment is just as good as treatment in a more distinctly advantageous climate. Unquestionably certain climates are far better for certain tuberculous patients than others; and, unquestionably, for many, a considerable altitude is better.

Wherever the patient is treated, the matter of air is of first importance, as it is also in the preventive treatment of the disease. The patient should remain out-of-doors, if possible, during the whole twenty-four hours. Space forbids here a discussion of the various methods which may be adopted in order to secure this. Shacks, porches, balconies, and window tents may be utilized in appropriate cases. If it is entirely impracticable for the patient to sleep out-of-doors, or while suitable provisions are being made for this, he should at least sleep in a room with the windows open, and in a room to which sunshine has access during the day. At the same time that he is enjoying the benefit of this fresh air, often cold air, he must be adequately protected so that he will not suffer from the cold. He should wear woolen clothing, and be covered with light woolen blankets supplemented by adequate bed quilts and puffs. In cold weather, the head and ears must be protected from chilling, and also the patient must be kept comfortable; *he should be protected from draughts.*

In the advanced stages it is not wise to insist on absolute out-of-door treatment in the coldest weather, and often not even in milder weather. If the patient is weak, he may be treated with benefit within his usual sleeping room, if the windows are allowed to remain open, and the cold air warmed, but the room not allowed to become over-heated.

The question of rest is pre-eminent, and the importance of rest has been increasingly recognized by the medical profession during the last twenty-five years. If the patient has fever even of moderate degree, it will do him very little good in any case, and in most cases will do him positive injury to exercise or even to sit up out of bed. Exercise, even walking or sitting up, is now generally recognized as being almost as detrimental to the patient with tuberculosis as to a patient with typhoid fever. It is necessary to diminish oxidation and to conserve strength as much as possible, and this can only be satisfactorily accomplished by keeping the patient in bed, this to be continued as long, at least, as the temperature rises to 100 F. at any hour of the day, and probably as long as it rises above 99 F. While this is the rule, it is possible that in exceptional cases in which the temperature rises to 100, but not above, the patient may be benefited by brief exercise each day, but these instances are exceedingly rare, and this privilege should be granted only in chronic cases with low fever and not very rapid pulse. A weak and rapid pulse is also a strong indication for rest in bed.

Next in importance to rest and fresh air comes the question of diet. Many patients have been tormented and abused by overfeeding, which has been a fad at many tuberculosis sanatoria. It is now generally recognized by the best authorities on the treatment of pulmonary tuberculosis that overfeeding beyond the provision of an adequate physiologic supply of food is not wise. The character of the food administered should depend somewhat on the digestive power of the patient. If there is much fever and the digestion is weak, a strictly milk diet may be employed for a limited time. This may be supplemented, as the fever diminishes, and the digestive power increases, by broths and gruels. As improvement continues, eggs may be added. For a convalescent patient and the patient who has not much fever and a good digestion, an ordinary mixed diet (excluding indigestible and innutritious foods) including all easily digestible and nutritious foods, such as milk, eggs, fresh meats, stale bread, boiled rice, baked potatoes, fresh vegetables and fruit in season, will be found useful.

If the patient is very ill and has much fever, the rest in bed implies refraining from doing any business, from corresponding, from reading, or from seeing much company.

The fresh air, the rest, and the diet are the sheet anchors of treatment. Medicines are entirely subordinate to these hygienic measures, and yet, in many cases they are of great value.

Barrels of cod-liver oil have been consumed by patients, and not infrequently with considerable benefit, improving the nutrition and lessening the cough and expectoration. It should, perhaps, be regarded as a food rather than as a medicine, and as a food, unquestionably it will prove of value in many cases.

For many years, the hypophosphites, and especially the hypophosphite of calcium, and in some cases the hypophosphite of sodium, have been used with apparent benefit. Recent studies of the physiologic action of calcium on cell growth and nutrition may lead to a renewal of interest in the hypophosphite of calcium. The use of a combination of half a dozen different hypophosphites need only be mentioned to be condemned. There is no reason for the use of such a combination except the desire of a physician to order some one of the many proprietary hypophosphite combinations on the market.

So many unkind things have been said by such distinguished authorities about creosote, that one hesitates to mention it in connection with this subject, but if one feels impelled to administer an antiseptic drug in the treatment of this disease in which an efficient antiseptic would be so highly esteemed, he cannot do better than administer the carbonate of creosote. It will rarely injure the stomach, and it may promote digestion and nutrition by preventing gastric and intestinal fermentation, and may possibly, and many men believe that it does actually, have a favorable effect on the pulmonary pathologic process.

For the fever it is usually not necessary to give any drug, the light diet and the rest in bed in cool fresh air usually accomplishing the desired result.

If there is much cough, some simple codein expectorant mixture may be given. Such a mixture must not be sweet. The following are suggestions for treatment of the cough:

℞.

	gm. or c.c.			
Codeinæ sulphatis		20		gr.iv
Ammonii chloridi	5			ʒiss
Syrupi ipecacuanhæ	5		or	fl.ʒiss
Syrupi acidi citrici	25			fl.℥i
Aquæ	ad 100			ad fl.℥iv

M. et Sig.: A teaspoonful, in water, every two or three hours. Shake.

Or,

℞.

	gm. or c.c.			
Codeinæ sulphatis		20		gr.iv
Ammonii chloridi	5			ʒiss
Syrupi acidi citrici	25		or	fl.℥i
Aquæ	ad 100			ad fl.℥iv

M. et Sig.: A teaspoonful, in water, every two or three hours. Shake.

Or, if the cough is just a throat tickling, without much expectoration, the following is often efficient:

℞.

	gm. or c.c.			
Codeinæ sulphatis		20		gr.iv
Alcoholis	10			fl.ʒiii
Spiritus chloroformi	5		or	fl.ʒiss
Syrupi tolutani	50			fl.℥ii
Aquæ	ad 100			fl.℥iv

M. et Sig.: A teaspoonful, in water, every three hours. Shakè.

If there is profuse expectoration, a 5-grain tablet of terpin hydrate crushed by the teeth and taken with water four or five times in twenty-four hours is efficient in diminishing the amount of bronchial secretion.

Coughing that results in vomiting, or at least in retching is very likely to be due to either pharyngeal or lingual tonsil irritation and not to any trouble in the stomach. Gargling with some warm alkaline solution, as the *liquor antisepticus alkalinus,* diluted with equal part of warm water, or a Seiler's tablet solution, or gargling with one-fourth of a teaspoonful of salt and one-fourth of a teaspoonful of bicarbonate of soda to one-half a glass of warm water, will relieve and soothe the throat and stop this kind of irritation. Slippery elm and flaxseed tea are also valuable aids in stopping this lingual tonsil cough.

Codein is the best opium sedative to use. It does not dry up the secretions as does morphin, or interfere with digestion as does morphin, and is not as depressant as heroin.

The question of stimulants is one which often arises, and concerning which there is much discussion. In the advanced stages of the disease, where there is great prostration and no hope of recovery, alcoholic stimulants may be allowed on the ground that they increase the comfort of the patient and make him more reconciled to the wretchedness of his condition; otherwise, they should not be advised for habitual use. The various extracts of malt which contain a small percentage of alcohol are not to be included in this condemnation, and may often be administered with considerable benefit.

As has been urged before in these columns, unless a patient has become cured in a new climate and intends to remain there with new possibilities of occupation, he should, after recovery, return to the occupation to which he is accustomed, or to that which he left when he became ill, unless it is a peculiarly dangerous one for this disease.

Histologic Changes in Hodgkin's Disease.—F. Eve, in the *Practitioner*, states that the histologic changes in Hodgkin's disease are in the connective tissue framework and in the endothelial elements of the gland; and the diagnostic features are thickening of the stroma, with the presence of large multinucleated cells, and of cells rich in eosinophil granules; whereas in primary malignant disease a small round or lymphosarcoma is found, originating from the adenoid tissue, or a round or spindle-celled sarcoma arising from the stroma. Occasionally tuberculous glands present after removal the same pink homogeneous section as lymphadenomatous glands, and show no macroscopic evidence of caseation. Their nature can only be determined with the microscope.

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THE LOST ARTS

We are sometimes made to feel humble in the midst of our triumphal march of progress, by being told that in the ancient civilizations men did many things better than we do them now, and that at the best we ought to recognize that what we consider discoveries are mostly but rediscoveries. Probably we need this sort of corrective to self-satisfaction; nevertheless, it seems likely that modern iconoclasts will destroy its efficiency. "The lost arts" is a catch-word by which we set great store, and according to Dr. W. D. Richardson[1] its popularity in this country rests largely on the prominence given it by Wendell Phillips in his lecture on this topic, which he repeated two thousand times, more or less, in lyceum courses all over the country. Dr. Richardson examines the evidence on which rest the claims of unusual chemical achievements by the ancients, and finds it worthless.

The ceramic arts, it is true, did yield products at certain times which were not duplicated later, but it was not the art but the materials which were lost, for the results obtained by the potter depend in large measure on the particular clays he has to work with, and when a certain supply of clay gave out, a particular form of pottery might be discontinued. Fabulous tales of glass, with unequaled beauty and unbelievable ductility and malleability, are of wide popularity. To be sure, the ancients did make a sort of glass, opaque or translucent, often possessed of great beauty from the standpoint of the fine arts; but when it became possible to make a good transparent product the imperfect if more beautiful form lost its market and ceased to be made. Recently the interest in objects of art made of opaque and translucent glass has revived, and this glass is again being manufactured, but the art of making it was never entirely lost. So, too, the stories of marvelous cements, plasters, dyes and pigments, vastly superior to anything now available, are found on examination to possess no truth.

We must always remember that only the best examples of the materials used by the ancients can now exist; it is not at all fair to judge their entire work by these exceptional specimens. As we have pointed out in these columns before,[2] the reputed lost art of embalming, as performed by the ancient Egyptians, was nothing more marvelous than simple pickling in a brine of common salt; its wonderful efficiency was contributed by the dry climate in which the bodies were left. The oft-repeated statement that the same people filled carious teeth with gold according to the most modern practice, is also a myth. The building of the pyramids involved no preternatural knowledge of mechanics, but simply the inhuman use of myriads of slaves. Some arts, of course, depend on dexterity and manual skill, best transmitted by the personal training imparted by one artisan to another, rather than on scientific principles. If, therefore, the demand for the objects so produced becomes lessened, as by war, social disturbances, or change of customs, the arts may be forgotten. Real science, however, does not go backward, and to such extent as arts depend on science rather than on exceptional personalities, or on the continued maintenance of a high level of dexterity and skill, they cannot well be lost.

ANTIPLAGUE MEASURES

We have referred previously[1] to the outbreak of plague in Manchuria, which promised to be unusually severe and extended, and the death-rate of which was extremely high. On account of the appalling nature of the outbreak, the Chinese government was led to call for international assistance with a view to gaining control over the disease. Scientific studies of plague in a latitude so far north and under the conditions of life to be found there should be productive, and there should be elicited new facts regarding the epidemiology, especially of the pneumonic form of the disease.

Recent official reports and press dispatches indicate the marked diminution in the severity of the outbreak in North China, especially in those centers in which it first appeared. On account of the extension from those centers, however, new foci have been established, and it is safe to say that a wide territory is now affected, thus rendering more difficult the precautionary measures as to sanitation that have been inaugurated.

Notwithstanding the limited trade relations with ports in Manchuria and North China, some apprehension arose as to the possible dangers to our ports from such a severe epidemic, but the precautions taken in Manchuria itself by the Chinese government and other governmental agencies, and by railway officials and others interested, were undoubtedly a great protection to international shipping and particularly because the disease was of the pneumonic type. Besides, there is reliable authority for the belief that there was no infection of the rat population, which, when infected, constitutes the greatest danger to international commerce.

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[1] An address delivered before the American Chemical Society, Dec. 28, 1910, Science, April 7, 1911

[2] May 16, 1908, p. 1610; April 15, 1911, p. 1110.

[1] Feb. 11, 1911, p. 45.

Additional precautions were also afforded through sanitary supervision of passenger and freight traffic by medical officers of the Public Health and Marine-Hospital Service stationed at the principal ports of China and Japan. The quarantine system of the Japanese government, on account of the location of that country in the line of transpacific ships from China to the United States, also serves as a barrier to the extension of epidemic diseases. With these precautions abroad, and the careful supervision maintained over arriving ships, their passengers and cargoes, as well as a campaign for the extermination of rats on all vessels at home ports, required under the national quarantine regulations, there appears to be no likelihood of the introduction of the infection of plague as a result of the recent outbreak referred to.

The question arises as to the measures taken to prevent the spread of the infection that has been shown to exist on the Pacific coast. The last outbreak in California began Aug. 12, 1907, from which date to Jan. 30, 1908, there occurred in San Francisco 159 cases with seventy-seven deaths.

Were it not for the fact that the infection had secured a hold among ground-squirrels, all probability of further cases would have ceased, since the disease was eradicated from San Francisco and other bay cities. Those cities are now protected, however, by a squirrel-free zone established and maintained by the sanitary authorities interested.

The first infection among squirrels was found in August, 1908, which indicated that these rodents might serve as a potential agency in fostering the infection, and emphasized the necessity of a systematic and vigorous campaign for their extermination. According to the weekly Public Health Reports, this work has been carried on with the view to the destruction of known foci of infection, determination of the extent of the area of infection and general squirrel extermination.[2]

That the plague-suppression measures have been extensive is shown by the fact that since July 1, 1908, they have cost the federal government approximately $800,000, and the State of California not less than $500,000. Until March 4, 1911, there had been collected 992,247 rodents, 937 of which were found to be infected. Squirrels have been collected over a considerable area of the State of California, and the area of infection appears to be definitely determined. In addition to the maintenance of the squirrel-free zone mentioned, the work carried on includes the destruction of known foci of infection, and the work of squirrel extermination is becoming general, being actively carried on in ten counties.

While the work is being conducted by an officer of the Public Health and Marine-Hospital Service in cooperation with state and local health authorities, much is being done by ranch-owners and farmers, and county authorities are aiding extensively by the appropriation of money and the employment of inspectors.

From the character and extent of the work done and the plans for its continuance, the plague situation on the Pacific coast should cease to be a menace; but the problem of squirrel extermination is a large one, and there is necessity of a clear understanding on the part of the public, not only of the difficulties involved, but of the strenuous measures that have been taken. Those having charge of this work not only should be provided with ample funds, but should also be supported by an enlightened public opinion.

EXPERIMENTAL TUBERCULOUS REINFECTION AND ITS BEARING ON HUMAN TUBERCULOSIS

In a series of experiments, Römer and Joseph[1] show that in guinea-pigs and sheep a preexisting tuberculosis protects wholly or in part against a later experimental infection. The procedure in general is briefly as follows: An emulsion of tubercle bacilli in physiologic salt solution is penciled over a short incision in the skin of guinea-pigs which some time previously have been infected with tubercle bacilli subcutaneously. Guinea-pigs which were healthy, except so far as the incision and its treatment were concerned, served as controls. Various experiments like this modified in different ways gave the same results. The previously tuberculous pigs were completely immune to cutaneous reinfection, and the wounds made in the skin for the purpose of reinfection healed promptly, whereas the control animals died from disseminated tuberculosis. Guinea-pigs were also immune to reinfection when the bacilli used in the experiments were obtained directly from the organs of tuberculous animals. Experiments on sheep gave the same results as those on guinea-pigs, the reinfected sheep being wholly immune to quantities of bacilli which in control animals caused death from wide-spread pulmonary tuberculosis in the course of eight weeks.

Now it is generally assumed and believed that in man the resistance to tuberculosis increases with age. The young are especially prone to tuberculous infection, only too often of a progressive type running a rapid course. It is usually said that in the very young there exists a physiologic state or "disposition" which renders them more susceptible to infection and less resistant than adults. This predisposition is regarded as specially marked in the children of tuberculous parents. Such children are exposed very freely to infection because of the close contact in which they are placed with those about them and this may explain in part at any rate the apparent increased susceptibility. It may be noted that experiments with the young of tuberculous animals do not appear to indicate that there is any special susceptibility to tuberculosis in them. The large percentage of positive tuberculin reactions in children points unmistakably in the direction indicated, namely, the case with which infection occurs early in life. Indeed, it seems not improbable that, at least in the large cities, almost every person is infected with tuberculosis by the time he reaches puberty. Hence it lies near at hand to conclude that the increasing resistance to tuberculosis as age advances may be largely the result of infection with tubercle bacilli early in life.

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[2] Public Health Reports, April 21, 1911.

[1] Römer and Joseph: Beitr. z. Klin. d. Tuberk., 1910, xviii, 281.

In the struggle now waged everywhere against tuberculosis the efforts are not always directed toward the point where most effective progress might be achieved. Thus, it should always be borne in mind that in the adult the susceptibility is relatively less than in the young. It is the child that we should aim to protect by all means and especially against the most dangerous sources of infection, namely, the constant association with the tuberculous.

Current Comment

PUBLIC HEALTH PERSONNEL BILLS

Two bills,[1] S. 1182 and H. R. 5599, which deserve the cordial support of those interested in increasing the efficiency of the federal health agencies, have been recently introduced into Congress, one by Senator Owen and one by Representative Charles G. Edwards. These measures relate entirely to the personnel of the Public Health and Marine-Hospital Service and are designed to make that service more attractive to young medical men. While varying in phraseology, the bills have in view the same object—increase in pay. For over a century there have been three national medical services—the Army, the Navy and the Public Health and Marine-Hospital Service—and the requirements for admission to all have been equally exacting. In 1871, the Marine-Hospital Service was organized on its present basis and the appointments and promotions therein were placed on the merit system. In 1889, the pay of its officers was placed on a parity with that of the other medical corps, but in 1908, when the pay of the Army and the Navy medical corps was materially increased, that of the Public Health and Marine-Hospital Service was not similarly raised. The annual salary of a physician entering the Navy at the present, for example, is within $45 of that of one who has been in the Public Health and Marine-Hospital Service for fourteen years. As a result, it is difficult to retain the best men in the service and almost impossible to recruit its ranks with men of proper qualifications. The present bills are designed to overcome these difficulties by more nearly equalizing the pay of the three services. The officers of the Army and Navy receive certain allowances and perquisites which are not contemplated for those of the public health service, so that on the whole the pay of the former would continue somewhat higher. The proposed increased pay in the public health service, however, would doubtless attract a class of young physicians who prefer a civilian to a military career. Within the last few years Congress has repeatedly recognized the justice and necessity of such legislation as is now proposed; in fact every provision of the Edwards bill has at one time or another passed either the Senate or the House of Representatives, but the question of pay, unfortunately, has become so involved in questions of function that bills passing one house have not been acceptable to the other. Thus some members of Congress have opposed all bills for increased pay which did not impose additional duties, while others have not favored bills providing for increased function on the ground that their passage would imperil the chances for a federal department of health. It is to be hoped that this question will be considered solely on its merits, as all interested in public health work, in or out of Congress, agree as to the need and justice of increasing the pay of the officers of the public health service.

OPIUM-CONTAINING PROPRIETARIES

In the "Propaganda for Reform" department of this issue, appears a report of the Council on Pharmacy and Chemistry on a proprietary product called Pantopon and a contribution from the chemical laboratory on another proprietary—Papine. While both are opium preparations—that is, owe their chief or entire activity to morphin—there the resemblance ceases. Papine, according to our chemists, is merely a solution of morphin. The manufacturer, a typical St. Louis proprietary firm, claims for this preparation the impossible, namely, that it contains morphin minus morphin's harmful properties; and the unthinking physician is thus led to prescribe morphin recklessly and without due consideration of its dangers. Pantopon, on the other hand, is made by a firm whose products, in a number of cases, have been accepted by the Council for inclusion with New and Nonofficial Remedies. The composition of Pantopon is not secret, for it is definitely stated that it consists of the alkaloids which naturally occur in opium, freed from the other constituents of opium—extractive matter, etc.—in the form of hydrochlorids. Papine and Pantopon, however, resemble each other in that they have names which do not sufficiently indicate to the physician their chief constituent, morphin, and they are, therefore, a menace to the public. In spite of the testimonials for both these products, we believe that physicians would not be far amiss if they would continue to use the drugs, morphin and opium, whose value—and dangers—they know.

SELF-SUPPORTING CRIPPLES

The compensation of workmen in factories and other industries for injuries sustained in the line of their work is a live question at the present time. Many European countries for years have had laws concerning employers' liability and workmen's compensation. A step further in this humanitarian line is the education of persons prevented from following their former occupation or trade by reason of injury. This is accomplished by the establishment of schools wherein such persons are taught various trades by which they may earn a livelihood, even in their crippled condition. At Charleroi, France, at the instigation of Pastur and Caty,[1] a school has been established for this purpose. Among the trades taught to people injured in the industrial establishments of this manufacturing city are brush-making, the making of paper boxes, turning, binding, stenography and typewriting, drawing and other forms of manual training. The trade which the crippled individual must take up is, of course, governed in a measure by the nature of the injury; for instance, individuals crippled in the legs would follow occupations allowing them to sit at their work. In one case described in the article referred to, a man with both arms amputated near the shoulder, by means of a mechanical appliance about his neck, follows the trade of a wood-turner. In another instance, an individual with both hands gone was enabled to make brushes. The many occupations which may be followed by the blind are more or less familiar. Similar schools are conducted in other places, at present mostly through private philanthropy. There is no reason why such schools should not be supported by the state; this undoubtedly will be a development of the future, following the securing of efficient employers' liability and workmen's compensation acts.

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[1] Reprinted in Miscellany Department, this issue, page 1279.

[1] Presse Médicale, Feb. 18, 1911.

UNIVERSITIES AS OBJECT-LESSONS IN HYGIENE

"Preventive medicine is the cheapest life-insurance which can be taken out." With this sentence Ravenel and Frost of the hygienic committee of the University of Wisconsin conclude an admirable paper in this issue on "The Formation and Functions of Hygienic Committees for Universities," which gives a history of the formation of the committee on hygiene of the university and its achievements. The need for such a committee in this instance is abundantly shown. Conditions in the University of Wisconsin are probably representative of conditions to be found in many other universities and in smaller schools as well. The worth of the paper lies not so much in the statement of the good accomplished in this one school, as in the admirable scheme of investigation employed and the measures adopted for bettering the hygienic conditions of the buildings and health of the students, which may serve as a model. Their studies have brought them to the following conclusion: "Schools, colleges and universities ought to lead in sanitary construction, sanitary equipment and sanitary care. Class-rooms and laboratories ought to be models of sanitary excellence as well as of convenience and attractiveness. The educational value of such buildings far outweighs any additional expense involved." It might be added that the lessons of this paper would apply with still greater force to industrial establishments employing large numbers of men and women, with longer hours and more exacting conditions than in the schools; and the sentence first quoted might be changed to read, "Preventive medicine is the cheapest industrial insurance which can be taken out."

THE SCOPE OF THE NEXT PHARMACOPEIA

Although the Committee on Revision of the United States Pharmacopeia was appointed nearly a year ago, it has issued no report to show what progress is being made. While there are doubtless good reasons why no such report has been published, the committee should realize that the medical profession is interested as never before in the question of what should be added to, or deleted from, the next edition of the Pharmacopeia. It may not be amiss to point out that physicians frequently accept at their face value claims made by interested persons regarding the therapeutic action of certain drugs. This applies to both proprietary and non-proprietary articles. There is a tendency on the part of certain doctors to prescribe such drugs, even after they have been shown to be worthless, especially if the preparations have been admitted to the official standards and consequently included in text-books. An example of the official recognition — not pharmacopeial — of a valueless preparation is that mixture of pepsin and pancreatin known as Elixir Digestivum Compositum, N.F. A formula for this preparation was put in the National Formulary because of the very extensive use of a nostrum widely exploited with most extravagant and untruthful claims. This nostrum has been and is widely used, not because it is of any therapeutic value, but simply and solely because it has been extensively and extravagantly advertised. It is well known that liquid preparations of pepsin and pancreatin are therapeutic absurdities and chemical impossibilities. So, while a drug may be widely used, it does not necessarily follow that it is of any value whatever. Many text-books contain recommendations for the use of drugs simply because some other text-book recommended them, not because they are of any value. It is to be hoped that those who select the articles to be included in the next Pharmacopeia will have some other basis for inclusion than the mere fact that they are being used. If the Pharmacopeia is to be a scientific treatise on drugs, and is to enlist and keep the respect of the medical profession, the adoption of some other standard becomes inevitable.

Medical News

ALABAMA

Tag Day in Montgomery.—The Young Ladies' Auxiliary of the Montgomery Antituberculosis League will hold a Tag Day, April 29, the proceeds to be devoted to the purchase of a site for a day camp for tuberculous patients.

Antituberculosis Society Election.—At the annual meeting of Jefferson County Antituberculosis Association, held in Birmingham, April 16, Dr. Benjamin L. Wyman was elected first vice-president, and Drs. Cabot Lull and Cunningham Wilson were elected directors. By the efforts of the association, a tuberculosis camp has been established on Red Mountain. The most recent addition to the camp is a dining room pavilion just completed which will accommodate seventy-five patients.

Personal.—Dr. James T. Fowler, Dothan, has succeeded Dr. Edgar R. Burns, Sheffield, as medical member of the State Convict Board.——Dr. George I. DeWald, state bacteriologist, has resigned and will resume practice at his home in Philadelphia.——Dr. Jackson T. Brown, Riverside, has been appointed road commissioner of St. Clair County.——The residence of Dr. James T. Searcy on the State Hospital grounds, Tuscaloosa, was destroyed by fire, March 5.

ARKANSAS

State Society Meeting.—The annual meeting of the Arkansas Medical Society will be held in Fort Smith, May 9-12, under the auspices of the Sebastian County Medical Society.

Sanitarium Established.—A number of physicians of Missouri and Kansas have united in the organization of a sanitarium company at Sulphur Springs. The building is a five-story, stone structure containing 100 rooms with modern equipment; is situated in a well kept park of 40 acres, which contains also an 8-acre lake and five mineral springs. Dr. J. Morse Griffin is president of the company, and Dr. Edward R. Tenney, medical superintendent.

Needs of the Sanatorium.—After meeting with the board of trustees of the State Tuberculosis Sanatorium, the joint committee of the legislature has decided to ask for an appropriation of $25,000 for construction work, and of $60,000 for maintenance of the institution for two years. The sanatorium at present accommodates seventy patients, but with the infirmary and additional quarters proposed, the capacity will be increased to 100. The cost of maintenance is estimated at $600 per annum per patient.——A bill has passed the senate appropriating $85,000 for a state tuberculosis sanatorium and the bill is at present pending in the house with fair prospects of passage.

CALIFORNIA

Personal.—Dr. Addison Morgan, San Diego, has been appointed autopsy physician to the coroner of San Diego County.——Dr. Annette Buckel, Piedmont, was the guest of honor at a banquet of the Professional Women's League, Oakland, March 21.

State Society Meeting.—At the annual meeting of the Medical Society of the State of California, held in Santa Barbara, April 18 and 19, Del Monte was chosen as place of meeting in 1912. The following officers were elected: Dr. Thomas W. Huntington, San Francisco, president; Drs. Charles S. Stoddard, Santa Barbara, and John R. Walker, Fresno, vice-presidents; and Dr. Philip Mills Jones, San Francisco, secretary-treasurer (reelected).

COLORADO

Ball for Nurses.—The first annual ball of the Denver Visiting Nurses' Association was given April 18, and netted for the association about $1,000..

Hospitals in State.—The last report of the State Board of Charities and Corrections states that there are eighty-two hospitals in Colorado, of which twenty-two are private or semiprivate institutions for the care of tuberculous patients.

Personal.—Dr. Mary E. Phelps, Canon City, has returned after a year abroad.——Dr. William C. Mitchell, Denver, has gone to Europe.——Dr. Richard S. Grant, Colorado Springs, was painfully injured in a runaway accident, April 4.——Dr. Peter H. Heller, Pueblo, who has been ill in St. Mary's Hospital, has recovered and resumed work

Dispensary Will Build.—The Free Medical Dispensary, established six months ago under the direction of the North Denver Italian Mission, has been so successful that plans are now being made for the erection of a building to cost $20,000. About $7,000 of this amount has already been subscribed. The dispensary has treated so far more than 400 cases a month.

Consumptive Relief Society.—The Jewish Consumptive Relief Society, Edgewater, celebrated its seventh annual meeting, April 16. and laid the cornerstone of the second New York Ladies' Auxiliary Pavilion and the cornerstone of the Beth Jacob Synagogue, the gift of I. Solomon, Denver, in memory of his son. During the last year the society has spent $65,000 and now has a balance of $10,000 in the treasury.

DELAWARE

Wilmington Appoints Vaccine Physicians.—The city council has reelected the following vaccine physicians: Drs. John McGrath, Harry G. Buckmaster, Wilbur E. Postles and Harvey B. Patton.

Quarantined Immigrants Revolt.—About 200 immigrants, detained fourteen days in quarantine in Lewes because of an outbreak of small-pox on the steamship *Verona*, became vexed at the non-arrival of the steamship *Taormina*, which was expected to arrive April 14 and take them to Philadelphia, overpowered the few guards and marched to the Lewes railway station. They were refused tickets and were driven back to quarantine by armed guards, assisted by sailors from the United States Revenue Cutter *Onondaga*.

GEORGIA

Personal.—Drs. Josephus J. P. Bowdoin, Adairsville; Fred V. Turk, Stilesboro, and George Will Battle, Cassville, have been appointed members of the board of health of Bartow County.——Dr. Philip H. Camas has been appointed medical inspector of the high school of Baxley.

Health Boards Organize.—The Association of State, County and Municipal Health Boards was organized at Rome, April 18, at a meeting of the Georgia Medical Association and the State Board of Health. Dr. James C. Bloomfield, Athens, was elected president; Dr. Olin H. Weaver, Macon, vice-president, and A. V. Wood, Brunswick, secretary.

State Society Meeting.—The Medical Association of Georgia held its annual meeting at Rome, April 19-21, under the presidency of Dr. Edward C. Davis, Atlanta. Augusta was selected as the next place of meeting, and the following officers were elected: president, Dr. William L. Fitts, Carrollton; vice-presidents, Drs. Robert M. Harbin, Rome, and T. E. Bradley, Cordele; secretary-treasurer, Dr. William C. Lyle, Augusta; delegate to the American Medical Association, Dr. William Doughty, Augusta, and alternate, Dr. Edgar G. Ballenger, Atlanta.

ILLINOIS

Asks New Hospital.—Several practitioners of Aurora have started a petition to Bishop Muldoon requesting that the Sisters of Mercy be allowed to erect a hospital on the west side, as the hospitals in Aurora and St. Charles are already overcrowded.

County Society Room Planned.—At a recent meeting of the Montgomery County Medical Society, it was proposed to have a room built on the east side of the Litchfield Hospital 20 by 26 feet to be used as a meeting place and clinic room for the society. The cost of the proposed addition is $2,000.

State Society Meeting.—The Illinois State Medical Society will hold its annual convention in Aurora, May 16-18. Dr. Herman A. Brennecke, chairman of the committee on accommodations, appreciates that accommodations at the hotels will be inadequate and is making early arrangements for accommodations in private houses. Those desiring accommodation should communicate with Dr. Brennecke.

Personal.—Dr. and Mrs. William M. Kaull, Princeton, have returned after a winter spent in Florida and the east.——Dr. William L. Gray has been elected president of the board of education of Champaign.——The office of Dr. James E. D. Silcox, Rio, was destroyed by fire, April 9, with a loss of $2,000, partially covered by insurance.——Dr. Edwin L. Winslow, Danville, has been reelected physician of Vermilion County.

Society Meetings.—At the meeting of Greene County Medical Society, held in Kane, March 10, resolutions were adopted respectfully requesting the legislature and governor to adopt such laws as will give to the state only high class medical schools, and also asking the legislature and governor to establish and maintain one educational standard and one medical examination, except in therapeutics, for all who are licensed to treat human disease, and endorsing the work done, and the standard of medical education adopted by the Council on Medical Education of the American Medical Association. Dr. Henry A. Chapin, White Hall, was elected delegate, and Dr. Henry W. Chapman, White Hall, alternate delegate to the state medical society.——At the annual meeting of the McLean County Medical Society, held in Bloomington, April 6, the following officers were elected: president, Dr. Robert A. Noble, Bloomington; vice-president, Dr. Ferd. C. McCormick, Normal; secretary-treasurer, Dr. Thomas D. Cantrell, Bloomington; censors, Drs. Edward L. Brown, John W. Dobson and Ralph D. Fox, all of Bloomington; delegate to the state society, Dr. Edwin P. Sloan, and alternate, Dr. Ernest B. Mammen, both of Bloomington.——At the annual meeting of Waukegan Physicians' Club, April 4, Dr. Fremont C. Knight was reelected president; Dr. William C. Bouton, vice-president, and Dr. Charles E. Daniels, secretary-treasurer.

Chicago

Bequest for Hospital.—The county judge at Kenosha has admitted to probate the will of the late Caroline Durkee, which devises the entire estate to St. Luke's Hospital, Chicago, and Racine College, Racine, Wis.

Personal.—Major Daniel W. Rogers, M. C., Ill., N. G., chief sanitary officer of the state, has been detailed for temporary duty at the maneuvers on the Mexican frontier.——Dr. and Mrs. Maurice L. Blatt sailed for Europe, April 27.

INDIANA

Health Officers to Meet.—Dr. John N. Hurty, Indianapolis, secretary of the State Board of Health, has issued summonses to all the county health commissioners in the state to attend the annual conference to be held at the Claypool Hotel, Indianapolis, May 9 and 10.

District Society Meeting.—The annual meeting of the Twelfth District Medical Society was held in Fort Wayne, April 12, and the following officers were elected: Dr. William F. Shumaker, Butler, president; Drs. Benjamin P. Weaver, Fort Wayne, and Lyman T. Rawles, Huntertown, vice-presidents; and Dr. Homer E. Glock, Fort Wayne, secretary-treasurer.

Personal.—Dr. Joseph Kentling, Smithville, while crossing the Monon tracks, was struck by a train but only slightly injured.——Dr. Philip E. Stockhardt, Elwood, has been adjudged of unsound mind and committed to the Eastern State Hospital, Richmond.——Dr. Lewis C. Griffith, Bowling Green, has been appointed health officer of Washington Township, vice Dr. T. Roy Cook, Bowling Green.——Dr. and Mrs. Thomas J. Bowles, Muncie, celebrated their golden wedding anniversary, April 14.

MARYLAND

Hospital Made Residuary Legatee.—By the will of the late Benjamin F. Chambers of Trenton, N. J., formerly of Cecil County, Union Hospital of Cecil County, Elkton, is made the residuary legatee and will receive about $60,000.

Decide on Jarrett Portrait.—At a meeting of the Baltimore County Medical Association, held in Towson, April 19, it was decided to have a portrait painted of Dr. James H. Jarrett, Towson, who graduated fifty-nine years ago, the portrait to be deposited with the Medical and Chirurgical Faculty of Maryland in Baltimore.

Annual Meeting of Society.—At the annual meeting of the Montgomery County Medical Society, April 20, the following officers were elected: President, Dr. James Dudley Morgan, Chevy Chase; vice-president, Dr. Frederick N. Henderson, Rockville; secretary-treasurer, Dr. John L. Lewis, Bethesda; censors, Drs. William T. Pratt, Potomac; Clayborne H. Mannar, Rockville; Vernon H. Dyson, Laytonsville, and delegate to the Medical and Chirurgical Faculty of Maryland, Dr. James E. Deets, Clarksburg.

State Sanatorium Report.—The fourth annual report of the Maryland Tuberculosis Sanatorium, founded in 1906, and located on the crest of the Blue Ridge Mountains, sixty-nine miles northwest of Baltimore, and established at a cost of $265,000, for white citizens in the incipient stage of tuberculosis, shows that during the year 574 patients ranging from seven to seventy-two years of age, were treated, the daily cost per capita being 95.3 cents. The beds were filled at all times, and there was a waiting list of from four to fifty. More than 500 patients have had to be refused annually. During the year 371 were discharged, 17 or 4.6 per cent. apparently cured; in 142 or 38.3 per cent., the progress of the disease was arrested; in 153 or 41.2 per cent. the condition of the patient improved; in 54 cases or 14.6 per cent., the condition of the patient remained unimproved; and 5 patients or 1.3 per cent. died. Of the patients, 102 remained less than ninety days, and 269 for a longer period. The after results in the case of 618 patients discharged since the opening of the institution in August, 1908, show that 36 are well, 271 are living and working; 173 are living and not working; 106 have died and the condition of 32 is unknown.

Baltimore

Personal.—Dr. Samuel C. Chew is suffering from a severe attack of influenza.——Dr. Jacob D. Norris, president of the board of police examiners, is seriously ill with heart disease.——Dr. Mary Sherwood has been elected president and Dr. Florence R. Sabin, corresponding secretary of the Just Government League.

Home for Physicians' Widows and Orphans.—At the second annual meeting of the board of managers of the Home for Widows and Orphans of Physicians, held April 18, the following officers were elected: president, Mrs. Eugene F. Cordell; vice-president, Mrs. Sophia Cooke Waters; recording secretary, Mrs. Augusta E. Fenton; corresponding secretary, Mrs. John G. Jeffers, and treasurer, Dr. Eugene F. Cordell.

MICHIGAN

Personal.—Dr. David J. Levy, Kalamazoo, has returned from Vienna.——Dr. Arthur R. Hayton, Shelby, suffered severe injuries of the face by an explosion of chemicals in his office recently.——Dr. Collins H. Johnston, Grand Rapids, has sailed for Europe.

State Board Nominations.—The governor sent the following nominations to the state senate, April 19, for places on the State Board of Registration in Medicine: Dr. Henry C. Maynard, Hartford, to succeed himself; Dr. Arthur M. Hume, Owosso, to succeed Dr. Flemming Carrow, Detroit; Dr. Bret Nottingham, Lansing, to succeed himself; Dr. Joseph A. Crowell, Iron Mountain, to succeed Dr. Theodore A. Felch, Ishpeming; and Dr. Austin W. Alvord, Battle Creek, to succeed himself.——Prof. Robert L. Dixon, Ann Arbor, has been nominated by the governor to succeed Dr. Frank W. Shumway, Lansing, as secretary of the State Board of Health.

Antituberculosis Work.—At the annual meeting of the Kalamazoo Antituberculosis Society, March 29, Dr. Herman Ostrander was elected president; Dr. John B. Jackson, secretary; and Dr. S. Rudolph Light, treasurer.——The Detroit Tuberculosis Sanatorium has received an anonymous gift of $5,000, which will provide for the perpetual endowment of one bed in the institution.——The Saginaw Antituberculosis Association has filed articles of incorporation.——Morgan Heights Sanatorium, the Marquette County Tuberculosis Hospital, situated about 7 miles west of Marquette on a high plateau, is practically completed and will be ready to receive patients in a few days.

Certified Milk Bill Passed.—After two years' effort, opposed by money dairymen who were selling milk which was not certified but which was claimed to be certified, the legislature has just passed a bill limiting the term certified milk to the high standard required by the committee appointed by the State Medical Society. This committee is composed of Drs. Collins H. Johnston, Grand Rapids; Marinus L. Holm, state bacteriologist, Lansing; Blanche N. Epler, Kalamazoo; Christopher G. Parnall, Jackson, and Thomas B. Cooley, Detroit. The bill was practically the same as the New Jersey law, except as to the method of selecting the commissioners who are now to be appointed by the local health boards if they have two physicians as members, otherwise by the state board. The bill "provides for the appointment and incorporation of medical milk commissions and the certification of milk produced under their supervision," and details the requirements.

MISSISSIPPI

Health Exhibit Campaign.—Dr. Waller S. Leathers, University, director of the public health and sanitation campaign of the State Board of Health, has received a letter from the Queen and Crescent System offering the board the use of two cars for the use of the health exhibit campaign throughout the state. Plans for the trip of the cars through Mississippi are now being formulated.

State Medical Society Meeting.—The annual meeting of the Mississippi State Medical Association was held in Jackson, April 11-13, under the presidency of Dr. John W. Young, Grenada, and the following officers were elected: president, Dr. Daniel J. Williams, Ellisville; vice-presidents, Drs. John T. Longino, Jonestown; Samuel E. Eason, New Albany, and John C. McNair, Fayette; secretary, Ewing F. Howard, Vicksburg; treasurer, Dr. Levi B. Sparkman, Cleveland; councilors, Drs. Sydney W. Johnston, Vicksburg; Charles M. Coker, Eden, and G. W. Wallace, Arbo. The association nominated the following five members as members of the State Board of Health to be appointed by the governor in 1912: Drs. John Darrington, Yazoo City; Giles S. Bryan, Amery; Elbert A. Cheek, Arcola; Theophilus E. Ross, Hattiesburg, and Inman W. Cooper, Newton. All of the nominees are members of the present state board.

NEW YORK

Personal.—Dr. Montgomery E. Leary has resigned as director of the Rochester Public Health Association after thirteen years' service. Dr. Leary will hereafter give his entire attention to his duties as superintendent of the Iola Sanitarium.——Dr. David H. MacKenzie, Millbrook, is reported to be seriously ill with disease of the gall-bladder in Sadlier Hospital, Poughkeepsie.

Hospital Gifts for Troy.—The Board of Directors of the Samaritan Hospital has received an offer from Miss Alida Van Schoonhoven of that city to erect and equip a memorial hospital.——George B. and Robert Cluett have also offered to erect and equip a new fireproof hospital complete. It is estimated that the two offers will involve the expenditure of more than $300,000.

Urges Restoration of Medical Library.—Albany County Medical Society, at its meeting, April 12, adopted a resolution calling the attention of the legislature to the great loss sustained in the destruction of the medical division of the New York State Library, when a section of the State Capitol was destroyed by fire recently, and asking that steps be taken to restore the library.

Approves Medical Experimentation.—The house of delegates of the Medical Society of the State of New York, on April 17, adopted a resolution declaring "that animal experimentation in this state is conducted in a proper and merciful manner, and that such experimentation is positively essential in medical progress; that unmerciful experimentation is not practiced in this state, and is prohibited by law," and opposing the bill which provides for a commission to investigate the practice of vivisection, on the ground that it is unnecessary and mischievous and calculated to hinder and cripple experimentation.

State Medical Society Meeting.—At the annual meeting of the Medical Society of the State of New York, held in Albany, April 18-20, the following officers were elected: president, Dr. Wendell C. Phillips, New York City; vice-presidents, Drs. Peter W. Van Peyma, Buffalo; William F. Campbell, Brooklyn, and Clifford R. Hervey, Oswego; chairman of the committee on scientific work, Dr. Louis Neumann, New York City; chairman of the committee on legislation, Dr. Elliott T. Bush, Horseheads; chairman of the committee on arrangement, Dr. William J. Nellis, Albany; chairman of the committee on public health, Dr. Joshua M. Van Cott, Brooklyn; secretary, Dr. Wisner R. Townsend, New York City (reelected); treasurer, Dr. Alexander Lambert, New York City; delegates to the American Medical Association, Drs. Algernon T. Bristow, Brooklyn; James W. Fleming, Brooklyn; Edward W. Mulligan, Rochester; Henry L. Elsner, Syracuse; Edgar A. Vanderveer, Albany, and Edward E. Cornwall, Brooklyn.

New York City

Mount Sinai Hospital Purchases Property.—This institution has purchased two flat buildings in East Ninety-Ninth Street for the site of the proposed pathologic building made possible by the donation of $200,000 by Adolph Lewisohn.

More Meningitis Comes From Greece.—The Greek steamship *Athinai* brought to this port three more cases of cerebrospinal meningitis, making a total of thirty-five cases brought here from Greek ports within two months. There have been eighty cases detained at Quarantine this year with a mortality of 35 per cent.

Preparing to Fight Poliomyelitis.—Several physicians have prophesied an outbreak of infantile paralysis with the advent of warm weather. The health board is preparing to grapple with the disease as it has not done before. Hitherto the law has provided only for the reporting of cases, but if the virulence of the disease seems to warrant the action, the board of health will take charge of it. Two cases have been reported in the Bronx and six in Brooklyn since March 1.

Personal.—Drs. Henry Clarke Coe and Samuel M. Brickner, who were operated on recently for appendicitis, are convalescent.——Dr. William L. Russell, superintendent of the Long Island State Hospital, and for a number of years medical inspector of the New York State Commission in Lunacy, has been elected by the board of governors of New York Hospitals superintendent of the Bloomingdale Hospital, White Plains, vice Dr. Samuel B. Lyon, who will retire July 1 after twenty-five years' service.

Buffalo

Personal.—Dr. Charles S. Meahl has been appointed sanitary expert to the department of health.——Dr. Earl P. Lothrop has returned after a winter in Florida.

City Hospital Site Selected.—The aldermen have voted that the city purchase the West Farm site containing 81 acres for the proposed city general hospital for $225,000. The site has 1,500 feet frontage on Delevan Avenue, and 2,800 feet on Grider Street.

Higher Requirements.—On April 10 the new pathologic and chemical laboratories of the University of Buffalo were inspected by the Erie County Medical Society. The regular meeting of the society was held at the medical school. At the suggestion of the faculty of the medical school, a resolution was passed, recommending that the Medical Society of the State of New York urge that one year of college work be required of medical students for entrance, and a fifth year in a hospital of all graduates.

NORTH DAKOTA

State Association Meeting.—The annual meeting of the North Dakota State Medical Association will be held in Fargo, May 9 and 10.

Personal.—Dr. Archibald L. McDonald, Grand Forks, professor of anatomy in the University of North Dakota College of Medicine, will, it is reported, sever his connection with the institution at the close of the present year and will devote his entire attention to private practice. He will still be a special lecturer on the medical faculty.——Dr. Roy W. Pense has been appointed health officer of Minot.——Dr. F. A. Bordwell, Marmath, was seriously injured in a runaway accident near that place, April 17.——Dr. William C. Eichler, Underwood, has gone to Europe.

PENNSYLVANIA

Personal.—Dr. Charles H. Mann, president of the Bridgeport Board of Health, was recently injured in an automobile accident.——Drs. W. F. Krick of Philadelphia, a graduate of University of Pennsylvania; John J. Sosnowoski, of Mahanoy City, Jefferson Medical College, and Ward J. Brinton, Philadelphia, Jefferson Medical College, have been elected resident physicians of St. Joseph's Hospital, Reading.

Sanatorium Report.—Out of a total of 3,649 cases of tuberculosis, treated at Mount Alto Sanatorium for eighteen months, those in the moderately advanced stage of the disease number 1,382, and in the far advanced stage, 1,803, according to the report just issued. During this period out of 636 moderately advanced cases, discharged from the institution, 134 had the disease arrested and 375 were much improved. In the far advanced cases, 67 out of 780 had been greatly improved with the disease arrested, and 387 showed marked general improvement.

Philadelphia

New Hospital Society.—The physicians connected with the Jewish Hospital, have recently formed a clinical society and elected the following officers: president, Dr. Max H. Bochroch; vice-president, Dr. Jay C. Knipe; secretary and treasurer, Dr. Nate Ginsburg, and recorder, Dr. David Kapp.

Campaign Against Flies.—The public health committee of the Civic Club together with the health authorities will begin a crusade against flies and other harmful insects. Drs. James J. Bradley, Jr., Collin Foulkrod, Elizabeth Snyder and Edith E. Eayre will lecture in the settlement houses throughout the city, and the authorities will require all foodstuffs, such as meat, vegetables and milk, be properly screened and that all butchers and grocers keep their wares from infection from flies.

Gastroenterologists Meet.—The fourteenth annual meeting of the American Gastroenterological Association was held in Philadelphia, April 19-20. The following officers were elected: president, Dr. Walter B. Cannon of Boston; vice-presidents, Drs. John A. Lichty, Pittsburg, and William G. Morgan, Washington, D. C.; secretary and treasurer, Dr. Franklin W. White, Boston, and members of the council, Drs. Samuel J. Meltzer, New York; Charles D. Aaron, Detroit, and Julius Friedenwald, Baltimore.

Personal.—Dr. Jacques Loeb, of the Rockefeller Institute for Medical Research, delivered the address at the annual conversational meeting of the Pathological Society, April 27. His subject was "Fertilizing Effects of the Extracts of Tissues, Blood and Sperm." After the address a reception was given for Dr. Loeb at the University Club.——Prof. Svante Arrhenius, Stockholm, Sweden, will deliver the third Weir Mitchell Lecture of the College of Physicians in Mitchell Hall on May 16. The subject will be "The Passage of Micro-organisms Through Interstellar Space: a Theory Bearing on the Origin of Life on a Planet."—Dr. Joseph S. Neff, director of public health and charities, has recovered and returned to his duties at city hall on April 18.——Professor Hugh Campbell Ross, director of research at the Royal Southern Hospital at Liverpool, and honorary clinical pathologist at the Royal Liverpool County Hospital for Children, will give a course of lectures during the coming month at Jefferson Medical College for the purpose of demonstrating new discoveries in the treatment of cancer.

SOUTH CAROLINA

County Association Meeting.—Edgefield County Medical Association held its annual meeting in Edgefield, March 29. Dr. John T. Hunter, Trenton, was elected president; Dr. George D. Walker, Johnston, vice-president, and Dr. John G. Edwards, Edgefield, secretary-treasurer.

Personal.—Dr. Charles F. Williams, Columbia, state health officer, has resigned, but the executive committee of the State Board has refused to consider the resignation.——Dr. John Cauzon Foster has been elected a member of the board of health and health officer of Lancaster.

State Society Meeting.—The South Carolina Medical Association held its sixty-third annual meeting in Charleston, April 18-20, under the presidency of Dr. James H. McIntosh, Columbia. The principal address was delivered by Drs. Alexander Lambert, New York City, and Judson Daland, Philadelphia. Columbia was selected as next place of meeting. The following officers were elected: president, Dr. J. Wilkinson Jervey, Greeneville; vice-presidents, Drs. Archibald E. Baker, Charleston; John H. Miller, Cross Hill, and Henry B. Lee, Summerville; secretary, Dr. Edgar A. Hines, Seneca (reelected); treasurer, Dr. Charles P. Aimar, Charleston (reelected); councilors, Drs. J. Taliaferro Taylor, Adams Run (reelected); Gottlob A. Neuffer, Abbeville, and Julius A. Faison, Bennettsville; and editor of the *Journal of the South Carolina Medical Association*, Dr. Julius C. Sosnowski, Charleston (reelected).

SOUTH DAKOTA

Personal.—Drs. Charles E. McCauley, Aberdeen, and William Lowe, Madison, have been appointed members of the State Board of Medical Examiners to succeed Drs. H. F. Bright, White Lake, and Alonzo A. Cotton, Vermilion.——G. G. Redfield, Rapid City, has been appointed a member of the State Board of Osteopathic Examiners, and Dr. Robert T. Dott, Salem, a member of the State Board of Health.——Dr. and Mrs. Frank I. Putnam, Sioux Falls, have returned from abroad.

District Society Meeting.—The Eighth (Yankton) District Medical Society held an interesting meeting at the State Health Laboratory, Vermilion, March 28, followed by a banquet furnished by the physicians of the city. The program included papers on "Infection and Immunity," by Dr. Harley E. French, Vermilion; "Present Status of Serum Therapy," by Dr. Philip R. Burkland, Vermilion; "Practical Use of Autogenous Vaccines," by Dr. Edward W. Meis, Sioux City, Ia.; "Practical Laboratory Methods in the Diagnosis and Treatment of Infectious Diseases," by Dr. Mortimer Herzberg, Vermilion; and "Hypodermic Medication in Specific Disease," by Dr. S. H. Richman, Yankton. The next meeting will be held in Pierre June 15-17.

TEXAS

Sanitary Code Prosecution.—The first prosecution under the new sanitary code law of the department of health is to be held at Waco. The alleged offender in the case is the registrar of vital statistics at Mart.

State Association Meeting.—The annual meeting of the State Medical Association of Texas will be held at Amarillo, May 9-11. One feature of the entertainment will be a barbecue and out-door feast at Palo Duro Canyon.

County Society Election.—At the annual meeting of Titus County Medical Society, held in Mount Pleasant, March 23, Dr. Albert A. Smith, Goolesboro, was elected president, and Dr. William H. Blythe, Mount Pleasant, secretary.

Tents for Tuberculosis Patients.—The board of health of Dallas has approved the plan of the local Red Cross for the erection of six tents on the city hospital grounds for the isolation and care of tuberculosis patients in the City Hospital, and the tents will be erected under the direction of city health officer, Dr. Thomas B. Fisher.

Northeast Texas Physicians Meet.—At the annual meeting of the Northeast Texas District Medical Association, held in Fort Worth, April 11 and 12, Dr. Joseph H. McCracken, Mineral Wells, was elected president; Dr. John H. McLean, Fort Worth, vice-president, and Dr. A. D. Patillo, Petrolia, secretary. The next meeting will be held at Mineral Wells.

Leprosarium.—It is announced that the state home for lepers provided for by an act of the thirty-first legislature will be established by Governor Colquitt. Dr. Manton M. Carrick has been appointed superintendent and a commission of three men, including the state health officer to be one, will be appointed immediately to locate the institution. An appropriation of $40,000 was made by the legislature for the purpose of establishing the institution and maintaining it until August 31.

UTAH

Resolutions Regarding Dr. Carnahan.—Weber County Medical Society, at its regular meeting, April 19, adopted resolutions setting forth the high and honorable work done by the late Dr. John D. Carnahan, Ogden, a member of the society, presenting a sketch of his life and deploring his death.

Amendment to Medical Practice Act.—Utah has just secured legislation providing important amendments to its medical practice act. Among other things, the new act provides for higher standards of preliminary education, revocation of licenses for unprofessional conduct and a better definition of the practice of medicine.

VERMONT

Drinking Cups Prohibited.—The first quarterly bulletin of the State Board of Health for the year contains a copy of the regulations adopted by the board, prohibiting the use of the common drinking cup in all public places, parks, fountains, school houses, factories, mills, workshops, libraries, public halls or other public buildings, railroad stations and railroad trains on and after May 1.

VIRGINIA

New Hospitals.—Drs. Robert C. Bryan and H. Stuart MacLean have approved plans for a hospital to be built at Grace and Monroe streets, Richmond, to cost about $60,000.——Dr. J. Shelton Horsley, Richmond, has under consideration plans for a private hospital to be erected at Pine and Grace streets.

Personal.—Dr. William A. Deas, Richmond, has resigned as physician to the Lee Camp Soldiers' Home.——Dr. George T. Myers, Norfolk, has been appointed medical assistant in the health department.——Dr. John J. Lloyd, Jr., Lynchburg, has succeeded Dr. W. E. Jennings as assistant resident physician at Catawba Sanatorium.——Dr. Clarence W. Cowper, Norfolk, appointed medical inspector of the health department, has resigned as alderman of that city.——Dr. Thomas F. Keen, Hamilton, announces his retirement from active practice.

WISCONSIN

Medical Press Board.—At a meeting of the Milwaukee County Medical Association, April 14, a board of censors, otherwise known as a press committee, was appointed, whose duty is to supervise, so far as possible, all articles appearing in the lay press relative to the medical profession or dealing with medical subjects.

Contagion and Eddyism.—The Milwaukee County Medical Society appointed a committee at a special meeting, April 16, "to investigate the attitude of the Christian Science church toward the practice of medicine with especial reference to the treatment of contagious diseases." It was reported that there were, on that day, fifty-three cases of scarlet fever in one ward of the city being treated by Eddyist healers.

Antituberculosis Society Meeting.—The new Wisconsin Antituberculosis Association held its meeting in Milwaukee, April 11, and elected officers. Dr. Harry Greenberg, Milwaukee, was elected chief of the medical staff. A fresh-air camp for tuberculous convalescents will be established on the Kern tract, the use of which has been given the society by the park board. Tents accommodating two patients each will be erected, and the camp will be known as the Social Workers' Tuberculosis Sanatorium.

Personal.—Dr. Clinton H. Lewis, Bayview, Milwaukee, sustained serious injuries of the head and back in a runaway accident, April 17.——Dr. Bernard C. Gudden was guest of honor at a banquet given by the Oshkosh Medical Club, April 14, in commemoration of the thirtieth anniversary of Dr. Gudden's entrance into practice of medicine in Oshkosh.——Dr. Richard J. Muenzner, Allenton, has been elected secretary of the American Medical Association of Vienna.——Dr. Charles R. Bardeen has been reelected president of the board of directors of the Madison General Hospital Association.——Dr. John M. Dodd has been elected mayor of Ashland.——Dr. James V. Canavan has been elected mayor of Appleton.

GENERAL NEWS

Confederate Surgeons to Meet.—The Association of Medical Officers of the Army and Navy of the Confederacy will hold its annual meeting at Little Rock, Ark., May 16-18, at the same time as the reunion of the United Confederate Veterans. Dr. Edwin D. Newton, Atlanta, Ga., is president, and Dr. A. A. Lyon, Nashville, Tenn., secretary of the association.

Therapeutic Program.—The twelfth annual meeting of the American Therapeutic Society will be held in Building "B," Harvard Medical School, Boston, May 11-13, under the presidency of Dr. Harvey W. Wiley, Washington, D. C. The subject of the presidential address will be "Bromato-Therapy," and the scientific program shows twenty-nine titles. The annual dinner will be given at the Hotel Vendome on the evening of May 12.

Travel Study Group.—Dr. Johannes Nietner, secretary of the permanent International Commission on Congresses of Hygiene and Demography, and secretary-general of the fourteenth congress, announces that a group of German physicians is planning a study tour in the United States in the summer of 1912 in connection with their visit to the coming congress, and that for the final arrangements, the group will send a representative to the United States in the autumn of this year.

Manila Physicians Meet.—The annual meeting of the Manila Medical Society was held in the Philippine General Hospital, January 9. The following officers were elected: president, Major Weston P. Chamberlain, M. C., U. S. Army; vice-president, Dr. Robert E. L. Newberne; editor, Dr. William E. Musgrave; acting editor, Dr. Vernon L. Andrews; secretary and associate editor, Dr. F. B. Bowman; treasurer and business manager, Dr. Harry D. Kneedler, and councilors, Drs. Musgrave and Andrews.

Alumni Meeting.—The annual dinner of the New England Alumni Association of the University of Vermont was held in Boston recently and was attended by about seventy-five alumni. Dr. Walter D. Williamson, Portland, Me., was toastmaster. The following alumni of the medical department were elected officers: president, Dr. Walter D. Williamson, Portland, Me.; vice-presidents, Drs. Frank W. Page, Boston, and Frank H. Clapp, North Grafton, Mass., and member of executive committee, Dr. C. Parker Holt, Cambridge, Mass.

Society of Tropical Medicine.—The eighth annual meeting of the American Society of Tropical Medicine will be held in Tulane University, New Orleans, May 18 and 19, under the presidency of Dr. William S. Thayer, Baltimore. The first scientific session will be devoted to papers on malaria, the afternoon session to leprosy and sprue. The morning session of the second day will be occupied by general discussion on amebiasis, and the afternoon to election of officers and papers on pellagra, yellow fever and miscellaneous subjects.

Alcohol and Drug Habits Studied.—The American Society for the Study of Alcohol and Other Narcotics held its fortieth annual meeting in Baltimore, April 19 and 20. The principal address was delivered by Dr. Winfield S. Hall, Chicago, on "Biological and Physiological Relations of Alcohol." The following officers were elected: president, Dr. Winfield S. Hall, Chicago; vice-president, Dr. Lewis D. Mason, Brooklyn; corresponding secretary and treasurer, Dr. Thomas D. Crothers, Hartford, Conn.; recording secretary, Dr. G. H. Benton, Doublinggap, Pa., and member of the executive committee, Dr. Thomas A. MacNicholl, New York City. Resolutions were adopted asking the government to use its influence to prevent the sale of opium in China.

LONDON LETTER

(From Our Regular Correspondent)

London, April 8, 1911.

A Public Health Museum

The National League for Physical Education and Improvement has proposed that the London memorial to the late King Edward, whose great interest in sanitary problems is well known, should take the form of a public health museum. In a recent conference of health-promoting institutions, a discussion on the need of coordination disclosed the existence of over eighty such national agencies in London and of a large number of local agencies in London and throughout the country. It was shown that these suffered much both in finance and work from overlapping, from separation of offices and staff, and from lack of coordination. The striking success of the tuberculosis exhibition opened in Dublin and then transferred to the Irish Village in the exhibition at London and to other places throughout the country, demonstrated the great interest taken by the public in sanitary questions. It is proposed to erect a popular museum which should accommodate a permanent collection and also furnish duplicate material for the equipment of traveling vans. It should be a model in constant and close relation with provincial museums to which it would probably give birth. It might also become a loan center for the distribution of replicas of its models and diagrams for circulation among schools and institutions. The building should also form a nucleus for the coordination of the various health-promoting institutions, both metropolitan and national. For this purpose, it should include the following: Two or three meeting halls of different sizes, ten or twelve committee rooms, central offices, a library and reading rooms, lecture rooms, workshop and draftsman's room. The cost of maintenance would be met, to some extent, by the rental of suites of offices, halls, committee rooms, especially by health-promoting conferences and institutions, and to some extent by small fees for courses of instruction. In the main, however, instruction must be given at a low cost, fees being charged only when they will guarantee greater interest in those who pay, and being reduced to such a level as will admit of the greatest possible use of the facilities provided. This would be sufficient grounds for appealing for subscriptions to trades unions, friendly societies, insurance companies and the general public. An appeal will be made for a memorial sum of $500,000 and a subscription of $25,000 a year as a minimum. The early coöperation of organizations of the working classes and of those working for the prevention of tuberculosis and alcoholism will be sought.

PARIS LETTER

(From Our Regular Correspondent)

Paris, April 14, 1911.

The Wassermann Reaction as a Means of Detecting Latent Syphilis

At a recent session of the Académie de médecine, Drs. Letulle and Bergeron read a paper based on the investigation of the Wassermann reaction in ninety patients affected with chronic diseases. There were thirty-nine positive reactions. This was to be expected among a large number of these where the patients were paraplegic and subjects of aortic lesions. Moreover, a positive reaction was obtained in subjects of chronic nephritis, non-tuberculous pulmonary diseases, cerebral or meningeal hemorrhages, etc. Among cases which came to autopsy (twelve) the existence of old or recent syphilitic lesions was ascertained.

The conclusion is that an almost absolute diagnostic value should be given to a positive Wassermann reaction; a negative reaction, however, does not prove that there is no syphilis.

Insufficiency of the Means Employed to Prevent a Drug from Dissolving in the Stomach

On April 7 Dr. Linossier of Vichy called the attention of the Association médicale des hôpitaux de Paris to a practical point of current therapeutics. To preserve a drug (pancreatin for example) which is soluble in gastric juice from contact with this liquid, as well as to avoid the irritating action of certain substances like potassium iodid on the stomach walls, it is customary to enclose these substances in an envelope which is not affected by the gastric juice; and it is supposed that the contents escape only when the envelope is digested by the pancreatic juice. These envelopes, which are usually made of gluten, keratin, or formalinized gelatin, are used to ascertain the strength of the pancreatic secretion. Now, while these envelopes resist the gastric juice, it is very easy to show that the soluble substances enclosed in them pass out by osmose from the time the capsule is swallowed, that is, very rapidly. On plunging commercial capsules of potassium iodid with keratinous or glutinous coating into gastric juice, or even into water, Dr. Linossier has seen reactions of iodin in the surrounding liquid appear in less than a minute. The use of such capsules to protect soluble substances from gastric juice is then altogether unsatisfactory. They may, however, protect an insoluble substance.

Prizes of the Society of Infant Hygiene

The Société d'hygiène de l'enfance has offered a prize for a paper on the following question: *Les cantines scolaires, leur utilité; que doivent-elles être?* (Public provision of lunches for school children: their utility; what ought they to be?). The manuscripts should be received before Dec. 31, 1911. They should be unpublished, written in French, German, English, Italian or Spanish. They should not be signed but each should bear a device or superscription reproduced on a sealed envelope containing the name and address of the author. The society reserves the right to draw from the best work materials for a pamphlet for propaganda and instruction. The papers should be addressed to the Président de la Société d'hygiène de l'enfance, 10, rue Saint-Antoine, Paris.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, April 7, 1911.

Personal

Prof. v. Eicken of Giessen has been appointed regular professor of otology, laryngology and rhinology. This is another instance, in a Prussian University, where a full professorship has been established to take the place of a special lectureship (*Extraordinariat*).

The Cremation Bill

As was to be expected and as I predicted, the bill for the permission of cremation was rejected by the committee of parliament, the vote being a tie. The eventual passage of the bill by a committee of the whole, in the house of delegates, is scarcely probable, owing to the lively objection of the center and conservatives, "the opposition."

Prolongation of Life

Professor Rahts of the imperial statistical office spoke March 24 before the society for insurance science on the prolongation of life, comparing the mortality of the German population with that of other civilized countries. Since 1871 the number of deaths in Germany has remained nearly constant, amounting to about 1.200.000 annually, although the population has risen from 41,000,000 to 65,000,000. The death-rate for 1871 was 30.6 per 1,000, that for 1909, only 18, a very marked reduction.

The estimation of the death-rate is fallacious, however, in comparing various cities of town and country. One must go back to the figures for the single age periods if he wishes to avoid mistakes in determining a relative death-rate. But this concerns only an ideal group of the population who have been subjected through their whole life to the mortality conditions that prevail in each decade. The average duration of life then shows how many years these groups of individuals have lived. Examination of the curves shows that the minimum and the maximum have not behaved in the same manner, but the minimum has sunk and the maximum risen, so that the mortality under 48 has become less, while that above 48 has grown larger. The typical duration of life in Germany is 71 years in men, 73 in women (in Norway 78 years), so that the saying of the psalmist, "The days of our years are three score years and ten," Psalm xc, still holds true. While this increase in the length of life is gratifying, it is in accord with that in other civilized countries, for in Sweden it has increased ten years, in Belgium and Holland 5, in England 3, in France 4, while only in Italy and Austria do the figures show only a trifling advance. If a comparison in percentages be made the figures for Germany are more favorable, showing an increase of 9.1 per cent. against 1.1 per cent in England. The reason for the slighter rise in Germany is the large infant mortality.

The average length of life is often taken as an index for the productive power of a people, but this is not quite correct because infants and the aged are included. Rahts has calculated the average for the productive period of life from 16 to 60 years and has shown that for this class the average length of life has increased one and three-fourths years from 1870 to 1900. As 1,200,000 enter their sixteenth year annually, this increase means an addition of 2,000,000 years of labor for the community, a gain that is largely due to the social legislation and the improvement in hygiene, so that these measures richly pay for the expense involved. Rahts then proceeds to consider the significance of the corrected figures and asserts that a population in vigorous growth gives different figures than a stationary population. The average duration of life is not sufficient to give a correct picture of the mortality rate, but it is necessary to have an estimate of the death liability. The vitality of a people reckoned from this figure shows how many are living for one death. Rahts reaches the conclusion that it has increased in every age class, rising rapidly in men and sinking again rapidly, while in women the curve is more gradual. This agrees with the results of observations by the medical school inspectors who have found that girls are more frail.

The curve of death liability in men follows a peculiar course: after a fall up to the thirteenth year there ensues a rise to the twenty-first, after which it remains stationary a few years and then rises again. As this peculiarity is found in France as well as in Germany, while in England the stationary period does not occur, it is probable that this stationary period is attributable to the salutary influence of enforced military service in France and Germany. If deaths from tuberculosis are excluded, the curve loses its peculiar character and becomes similar to that in women, so that it is possible also that the differing effect of tuberculosis on the two sexes is responsible.

The Census

According to the current data of the last census taken in 1910 the entire population of Germany was 64.896.881, an increase over the last census in 1905 of 4.255.603 (7.02 per cent.), which means a yearly increase for the German empire of 800,000. It is notable that there is a decrease in the excess of females in Germany. While in 1906 there were still 1,500,000 more women than men, in 1909 only 1,000,000 more women could be found and the census of 1910 shows an excess of females amounting to only 800,000.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, April 1, 1911.

Statistics About Practitioners in Austria

The official figures dealing with our profession are now accessible and their perusal affords a good insight into the prospects of the medical career in this country. The number of inhabitants at the end of 1910 was 28,000,000 in the Austrian part of the empire, which forms the subject of the official report. There were 13,202 licensed duly qualified medical men practicing, including about 1.250 military doctors who were compelled to do private practice also because there was no other doctor living in the district—which fact illustrates the paucity of doctors in some places. Since 1905 the population has increased by 4 per cent. and the number of practitioners by over 6 per cent. In the report the year 1887, when the present overproduction of doctors commenced, is taken as basis. The number of doctors has increased since that year by 76 per cent., but the population has increased only a little less than 30 per cent. At that time, the ratio of distribution of doctors was 1 for each 3.242 of the population. Now it is one doctor for 2.175. The highest increase was in the largest cities, while in the country there is at present still a decided scarcity of medical men. The increase of doctors is also well illustrated by the figures concerning university pursuits of students. In 1887 the proportion of medical students was 30 per cent. of all university students; in 1895 it was over 40 per cent. The output of doctors by graduation was 5,075 from 1887 till 1895; from 1896 to 1905 it was 7,225. At the same time, however, the number of doctors who settled down and were practicing had increased by 4,500 only, indicating, either that the annual mortality of doctors, which is computed at .18 per cent., is much higher than calculated or, what is more likely, that a large number of graduated doctors preferred to give up the fight for a practice and either emigrated or turned to another occupation.

Hand in hand with the absolute increase of doctors, who do not see their way to live outside of the great towns, specialization has been favored in a very high degree with us. There are, for instance, 475 specialists in Vienna, and 200 in Prague, or in Vienna 16 per cent. of the doctors, in Prague over 25 per cent. have become specialists. These towns, however, are also university towns, where specialists are very frequent for obvious reasons. A large number of doctors practice in health resorts where they have only a season practice. In Karlsbad there are 163, in Meran 76, in Baden 53, in Marienbad 69, in Bozen 37 and Abbazia 36 doctors who live there for only part of the year. The number of these part-time practitioners has increased within five years by 18 per cent. Quite different are the figures pertaining to the local and territorial distribution of doctors. While in certain cities the proportion is exceedingly high, in the country districts the scarcity is alarming. For instance, in Olmütz, a town of 60,000 inhabitants, there is one doctor for each 390 inhabitants. In Trieste we find one to 1.010, while Vienna has one to 610, and Prague one to 560. On the other side, in lower Austria (one of the most cultivated countries of the empire) the figure is one to 2,030, in Styria it is one to 3,075, while the lowest figures are in Galicia, one to 10,000 inhabitants. In these latter countries it is evident that the poverty of the population and the low standard of life deter an educated man from settling down, unless he comes from this stock. There is only one possibility of subsisting—appointments which will furnish a maintenance. The payments are not very high, 1,000-3,000 kronen ($200-$600) per annum. Nevertheless, there was a fairly large number of such appointments vacant for a period of longer than two years because no man was willing to accept the post. Altogether, about 60 per cent. of all doctors hold one or other appointment with the state, the government or the *Krankenkasse* (sick club); while the remainder are satisfied with a strictly private practice. The number of female practitioners in Austria is eighty; seven years ago it was only ten, and they have settled down in towns only. Three are practicing in health resorts, and sixteen have appointments with the sick clubs of the laborers (*Arbeiter Krankenkasse*) for the female members. Only thirty-two school doctors have been reported as such at the end of 1910.

In this country we have three large provident societies of doctors, membership being compulsory in none of them. The number of members is 1,080, 740 and 3,200 respectively, and they provide sick pay for their members, varying between $1 and $2 per day, as well as a sum equal to about one-half dollar per member in case of death, so that the widow or the dependents receive at once a few hundred dollars. Of course, there are besides other but smaller societies with similar aims.

The average age of the doctor obtaining an M.D. diploma in this country is 27½ years; the average expectation of life is 53 in the country, 55 in cities; which also illustrates the worse conditions prevailing in the country. It is also interesting to note that doctors are not very fertile, the average number of children of practitioners being two. The reasons will here too be found in the low standard of income of an average doctor.

Marriages

Frank L. Truitt, M.D., Indianapolis, to Miss Maide Zulieh, at Indianapolis, April 25.

Herbert A. Thomas, M.D., Lima, O., to Miss Annabel Alling of Warren, O., March 15.

Roy Whittier Porteus, M.D., Chicago, to Miss Edith S. Wells of Evanston, April 18.

Elmer Lee Henderson, M.D., Louisville, Ky., to Miss Laura B. Owen of Austin, Minn., at Springfield, Ky., April 4.

Jacolyn Van Vliet Manning, M.D., Manhattan, New York City, and Christian Sofian Ernest Spoerl of Wilkes-Barre, Pa., in New York City, March 22.

Deaths

Charles Stedman Bull, M.D., a prominent ophthalmologist of New York City, died in the Presbyterian Hospital in that city, April 17, from valvular heart disease, aged 66. He was graduated from the College of Physicians and Surgeons, New York City, in 1868, and then studied in Europe for ten years, devoting himself especially to ophthalmology, otology, and pathology. He was a member of the American Medical Association, American Ophthalmological Society (of which he was president from 1903 to 1907), New York Academy of Medicine, and New York Ophthalmological Society. He was assistant surgeon to the Manhattan Eye and Ear Hospital from 1871 to 1873, assistant surgeon and surgeon to the New York Eye and Ear Infirmary since 1871, a member of the visiting staff of Charity Hospital from 1875 to 1880, and consulting ophthalmic surgeon to the Presbyterian, St. Luke's and St. Mary's hospitals. Since 1898, Dr. Bull had been professor of ophthalmology in the Medical Department of Cornell University. He made many contributions to the literature of his specialty.

Edmond Robillard, M.D. Laval University, Montreal, 1847; Nestor of the medical profession of Canada; died at his home in Montreal, January 13, from cerebral hemorrhage, aged 86. in Montreal, January 13, from cerebral hemorrhage, aged 86. In 1859 he was elected one of the governors and examiners of the College of Physicians and Surgeons of Canada, and from 1868 to 1874, he was registrar of the college. Bishop's College, Lennoxville, Que., conferred on Dr. Robillard, in 1873, the *ad eundem* degree of doctor of medicine. The honorary degree of master of surgery was also conferred on him by the Medical Faculty of Victoria College, Coburg, Ont., in 1881. He was for many years a member of the Canadian Medical Association, in 1882 its treasurer, and a year later, he was elected vice-president. He was also chief inspector of lunatics for the Province of Quebec and one of the assessors of Bishop's College. From 1884 to 1900, Dr. Robillard lived in Paris returning to Montreal in the latter year.

James Bell, M.D. McGill University, Montreal, 1877; a famous surgeon of Canada; died in the Royal Victoria Hospital, Montreal, April 11, from pneumonia, aged 58. Dr. Bell was probably the best known surgeon of the Dominion, and a man of sterling worth. After his graduation, he became house surgeon of the Montreal General Hospital, was promoted to medical superintendent in 1881, was made assistant surgeon on the staff in 1885, and surgeon in the following year. On his appointment in 1894 as surgeon in chief to the Royal Victoria Hospital, he was elected consulting surgeon to the Montreal General Hospital. He was a member of the British Medical Association, Canadian Medical Association, American Surgical Association and American Association of Genito-Urinary Surgeons. In 1888, Dr. Bell was appointed associate professor of clinical surgery in his alma mater, was made assistant professor of surgery and clinical surgery two years later, and professor of clinical surgery in 1894.

Henry Lyman Shaw, M.D. Harvard Medical School, 1859; for many years a member of the American Medical Association; a member of the Massachusetts Medical Society, American Ophthalmological Society, American Otological Society, and American Association for the Advancement of Science; a district physician of Boston for five years; a pioneer oculist and aurist of Boston; from 1861 to 1864, assistant surgeon, and from that time until 1892 surgeon to the Massachusetts Charitable Eye and Ear Infirmary, and then a member of its consulting staff; died at his home in Boston, April 2, aged 73.

Richard Thomas Styll, M.D. Medical College of Virginia, Richmond, 1877; a member of the Medical Society of Virginia, and president of the Newport News Medical Society; physician in charge of the Richmond Small-Pox and Fever Hospital in 1881; and of the Pinel Hospital in 1885 and 1886; from 1887 to 1896, resident physician of the Hollins Institute, and from 1896 to 1899, first assistant at the Central State Hospital, Petersburg; died at his home in Newport News, April 1, from cerebral hemorrhage, aged 57.

Edward Patrick Stanley Hart, M.D. Long Island College Hospital, Brooklyn, 1897; a member of the American Medical Association; assistant visiting surgeon to St. Francis Hospital, Jersey City; surgeon to the North Jersey Street Railway Company and United Electric Company; captain and assistant surgeon N. G., N. J., assigned to the Second Battalion, Fourth Regiment; for a time connected with the health department; died at his home in Jersey City, April 10, from pneumonia, aged 38.

Robert Rae, M.D. New York University, New York City, 1858; a member of the Medical Society of the State of New York, and at one time president of the Wyoming County Medical Society; for several terms coroner of Wyoming County; assistant surgeon of the First New York Dragoons during the Civil War; a member of the local board of pension examining surgeons; died at his home in Portageville, April 1, from cirrhosis of the liver, aged 76.

James Robert Zearing, M.D. Rush Medical College, 1850; surgeon of the Fifty-Seventh Illinois Volunteer Infantry and later chief surgeon of the Fourth Division, Fifteenth Army Corps serving throughout the Civil War; said to have been the oldest alumnus of Rush Medical College; who had been blind for twenty-five years; died at his home in Chicago, April 16, from cerebral hemorrhage, aged 81.

Christopher Charlton Oliver, M.D. Atlanta (Ga.) Medical College, 1867; a member of the Medical Association of the State of Alabama; a Confederate veteran, and state senator in 1901; formerly surgeon general on the staff of the Fourth Brigade, Ala. Confederate Veterans; local surgeon to the Louisville and Nashville Railway; died at his home in Calera, March 22, aged 64.

John Jacob Koser, M.D. University of Pennsylvania, Philadelphia, 1881; a member of the American Medical Association; treasurer and once president of the Cumberland Valley Medical Association; local surgeon to the Philadelphia and Reading and Western Maryland Railways; chief burgess of Shippensburg, Pa.; died at his home, April 13, from angina pectoris, aged 53.

Richard W. Reasoner, M. D. Medical College of Ohio, Cincinnati, 1883; aged 50; formerly president of the board of health of Morrisonville, Ill.; for the last ten years a resident of Colorado Springs, Colo.; was shot and instantly killed in that city in an attempted holdup, April 14, in which, however, he mortally wounded his assailant.

William H. Clutter, M.D. Cincinnati College of Medicine and Surgery, 1868; a member of the American Medical Association; a veteran of the Civil War; superintendent of health of Oklahoma City and physician of Oklahoma County; a pioneer practitioner of Oklahoma; died at his home in Oklahoma City, April 12, aged 78.

Joel Gilbert Justin, M.D. University of Pennsylvania, Philadelphia, 1875; instructor in chemistry and professor of medical jurisprudence in Syracuse (N. Y.) University from 1886 to 1890; died at his home in Castile, N. Y., March 27, from bronchitis, after an invalidism oi eight years due to cerebral hemorrhage, aged 59.

William McMillan, M.D. Starling Medical College, Columbus, O.; assistant surgeon of the Ninth Ohio Volunteer Cavalry and surgeon of the Fifth Ohio Volunteer Cavalry throughout the Civil War; since 1879 an attorney; died at his home in Massillon, O., February 12, from senile debility, aged 77.

Eugene E. Whitaker, M.D. Long Island College Hospital, Brooklyn, 1881; for several years health officer, village trustee and school director of Newport, Vt.; once president of the State Homeopathic Medical Society; died in a hospital in Montreal, March 25, after a surgical operation, aged 62.

John Henry Sanborn, M.D. Berkshire Medical College, Pittsfield, Mass., 1852; for fifteen years city physician of Newport, R. I.; a veteran of the Civil War, and acting assistant surgeon, U. S. Army, for about twenty years thereafter; died at his home in Newport, April 2, from senile debility, aged 75.

Henry S. Wright, M.D. Atlanta (Ga.) Medical College, 1893; a member of the American Medical Association; at one time professor of obstetrics in the International Medical Missionary College, Atlanta; died in a sanitarium in that city, April 9, from cerebral hemorrhage, aged 53.

Adoniram Judson Clark, M.D. Keokuk (Ia.) Medical College, 1892; a member of the American Medical Association; for twenty-eight years a practitioner of Nebraska, and for several years coroner of Boone County; died at his home in Albion, April 11, from pneumonia, aged 59.

Adoniram Judson Wakefield, M.D. Harvard Medical School, 1855; a member of the Florida Medical Association; a surgeon of volunteers during the Civil War, and since that time a practitioner of Jacksonville; died in that city, March 28, from senile debility, aged 87.

Frank E. Kitzmiller, M.D. Fort Wayne (Ind.) College of Medicine, 1879; of Piqua, O.; a member of the American Medical Association; special small-pox expert for the State Board of Health; and health officer of Piqua for fifteen years; died at his home, March 27, aged 61.

John Robinson Hoskins, M.D. Jefferson Medical College, 1905; a member of the American Medical Association; died at his home in West Chester, Pa., April 6, from cerebral abscess following a suppurative mastoiditis, consequent on an attack of influenza, aged 30.

Henry Krollpfeiffer, M.D. College of Physicians and Surgeons, New York City, 1875; a member of the Medical Society of the State of New York; president of the New York Liederkranz for three terms; died in the German Hospital, New York City, April 12, aged 62.

Frederick Birdseye Baker, M.D. University of Maryland, Baltimore, 1888; a member of the American Medical Association; and of the staff of the Norwalk (Conn.) Hospital; died at his home in East Norwalk, April 18, from cerebral hemorrhage, aged 55.

Reuben Harmon, M.D. University of Wooster, Cleveland, 1881; Western Reserve University, Cleveland, 1882; of Onowa; formerly a member of the Iowa State Medical Society; died in Denver, Colo., January 12, from the effects of a fall down stairs, aged 64.

Henry St. Clair Ash, M.D. Pennsylvania Medical College, Gettysburg, 1850; of Philadelphia; a member of the Medical Society of the State of Pennsylvania; died in St. Joseph's Hospital, Philadelphia, April 6, from cerebral hemorrhage, aged 85.

Louis B. Craig, M.D. Missouri Medical College, St. Louis, 1879; formerly a member of the American Medical Association; a member of the Missouri State Medical Association; died at his home in Salem, April 9, from pneumonia, aged 58.

David Smith Williams, M.D. University of Nashville, Tenn., 1858; said to have been the oldest practitioner of Texarkana, Ark.; a surgeon in the Confederate service throughout the Civil War; died at his home, March 23, from influenza, aged 75.

Emory B. Johns, M.D. Chicago Homeopathic Medical College, 1886; of Lexington, Ky.; was found dead in a hotel in that city, April 6, from the effects of a drug believed to have been self-administered with suicidal intent, aged 66.

Joseph Alfred Beall, M.D. Hospital College of Medicine, Louisville, 1891; a member of the State Medical Association of Texas; local railway surgeon at Center Point; died at the home of his father in San Marcos, Dec. 11, 1910, aged 50.

Thomas Hamilton Gray, M.D. University of Michigan, Ann Arbor, 1871; a veteran of the Civil War; formerly a member of the Erie County (Pa.) Medical Society; died suddenly at his home in Erie, April 5, from rheumatism, aged 70.

William Covington Wall, M.D. Pennsylvania Medical College, Gettysburg, 186—; formerly a member of the DeSoto County (Miss.) Medical Society; died at his home in Hernando, July 2, 1910, from uremia, aged 73.

Hiram Harrison Miller, M. D. Medical College of Virginia, Richmond, 1861; a member of the Medical Society of Virginia, and a Confederate veteran; died at his home in Elkton, April 10, from cerebral hemorrhage, aged 73.

Charles A. O'Brien, M.D. St. Louis College of Physicians and Surgeons, 1897; of Fillmore, Ind.; formerly coroner of Putnam County; was found dead in Fillmore, April 7, from the effects of an overdose of chloral.

James Lewis Miller, M.D. Eclectic Medical Institute, Cincinnati, 1894; formerly of Providence, R. I.; a specialist on diseases of the eye, ear and throat; died at his home in Pendleton, Ore., Sept. 27, 1910.

George Gleason Sabin, M.D. University of Michigan, Ann Arbor, 1868; for thirty years a practitioner of Black River, N. Y.; a veteran of the Civil War; died at his home, March 28, from paralysis, aged 72.

Oliver Perry Piper, M.D. Jefferson Medical College, 1872; for fifteen years a practitioner of Schuylkill Haven, Pa.; and physician to the Schuylkill County Hospital; died in Harrisburg, March 17, aged 62.

Edward A. Flewellen, M.D. Jefferson Medical College, 1851; inspector of hospitals in the Confederate service during the Civil War; died at his home, The Rock, Ga., Dec. 9, 1910, from pneumonia, aged 93.

Telemachus N. Bennett, M.D. Kentucky School of Medicine, Louisville, 1893; for two terms deputy coroner of Marion County, Ind.; died at his home in Broad Ripple, April 12, from nephritis, aged 68.

Maria J. Cushing, M.D. New York Medical College and Hospital for Women; for many years a practitioner of Washington and New York City; died at her home in Lynn, Mass., April 9, aged 76.

Lucius A. Squires, M.D. Castleton (Vt.) Medical College, 1851; one of the oldest practitioners of Columbus County, Wis.; died at his home in Poynette, April 10, from paralysis, aged 86.

Edgar T. Walker, M.D. Tulane University, New Orleans, 1882; of Trinity, Tex.; local surgeon for the Missouri, Kansas and Texas Railway; died in San Angelo, Tex., March 31, aged 61.

William Munro Workman, M.D. Hahnemann Medical College, Chicago, 1883; a veteran of the Civil War; died at his home in Grand Junction, Ia., March 15, from heart disease, aged 68.

Rose DeL. Winters, M.D. Homeopathic Medical College of Missouri, St. Louis, 1900; of Kansas City, Mo.; died in Mercy Hospital, Clinton, Ia., February 16, from typhoid fever, aged 49.

Hugh L. Kimberlin, M.D. Kentucky School of Medicine, Louisville, 1852; a retired practitioner of Mitchell, Ind.; died at his home, Dec. 2, 1910, from chronic nephritis, aged 79.

Nathaniel P. Jelks, M.D. Bellevue Hospital Medical College, 1868; a member of the Medical Association of Georgia; died at his home in Hawkinsville, March 27, aged 65.

Howard Miller Taggart, M.D. University of Pennsylvania, Philadelphia, 1896; of Wilkes-Barre; died at a cottage on Wilkes-Barre Mountain, March 30, aged 44.

John Allen White, M.D. Tulane University, New Orleans, 1853; a Confederate veteran; died at his home in Huntsville, Tex., April 3, from senile debility, aged 81.

William D. Bell, M.D. Jefferson Medical College, 1855; a member of the Louisiana State Medical Society; died at his home in Lake Providence, April 9, aged 82.

John Perrie, M.D. Washington University, St. Louis, 1867; a Confederate veteran; of Mayview, Mo.; died in Eads, Colo., March 23, from peritonitis, aged 70.

Edmond James McLennan, M.D. Trinity Medical College, Toronto, 1899; died at his home in Medford, Okla., January 27, from heart disease, aged 46.

Alfred D. McMaster, M.D. Missouri Medical College, St. Louis, 1879; died at his home in Le Grand, Cal., January 26, from nephritis, aged 54.

Daniel Webster Camp, a practitioner of Wyalusing, Pa.; died at his home in that place, February 6, from valvular heart disease, aged 65.

Joseph W. Taylor, M.D. Memphis (Tenn.) Hospital Medical College, 1894; died at his home in Hickory Valley, Tenn., April 3, aged 38.

Joseph Fred Demers, M.D. Laval University, Quebec, 1894; died at his home in Levis, Que., Dec. 26, 1910, from typhoid fever, aged 39.

George Taylor, M.D. University of Louisville, Ky., 1910; died at his home in Kempton, Ill., April 1, from appendicitis, aged 23.

Elston Chamberlain, M.D. Rush Medical College, 1863; died at his home in Dallas, Tex., February 22, from pneumonia, aged 69.

Frank G. Osborne, M.D. University of Buffalo, N. Y., 1868; died suddenly at his home in East Aurora, N. Y., March 2, aged 66.

Allen V. Wright (years of practice, Tex.); died at his home in Corsicana, June 31, 1910, from nervous prostration, aged 71.

Diagnosis of Tuberculosis of the Breast.—This may give rise to much difficulty. The infection may remain localized to one portion of the breast, and give rise to a hard, painless mass. Eventually, softening occurs with the formation of subcutaneous abscess, and sinus formation of this may be delayed for some time.—H. M. Rigby, in the *Practitioner.*

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

PANTOPON REJECTED

Report of the Council on Pharmacy and Chemistry

A referee of the Council reported that Pantopon was not eligible for inclusion with New and Nonofficial Remedies and recommended that the reasons for its rejection be published. The Council voted to adopt this recommendation and in accordance with its regular procedure the facts were reported to the manufacturers before publication. The firm's reply having been received, the Council authorized publication of the report which appears below.

W. A. Puckner, Secretary.

PANTOPON

Under this name, the Hoffmann LaRoche Chemical Works submitted a pharmaceutical preparation of opium, consisting of a mixture of the hydrochlorids of the various opium alkaloids, as extracted directly from the drug, with more or less purification.

The Council holds that this name does not effectively suggest that the preparation is a mixture of opium alkaloids, as is required by the part of Rule 8 which reads:

> "In the case of pharmaceutical preparations or mixtures the trade name must be so framed as to indicate the most potent ingredients."

and further explains:

> "It is particularly important that actively poisonous or habit-forming drugs be not disguised under an innocently worded title."

The Council maintains that the name "Pantopon" does not sufficiently protect the public against the habit-forming and other dangers inherent in such mixtures. The manufacturers, on being informed of these objections, offered to substitute the name "Omopon." As this is open to the same objections, it could not be accepted by the Council. After much correspondence, the manufacturers refused to consider any other name which would more definitely suggest its composition.

The Council is therefore forced to reject the product and has ordered the publication of this report.

Comment: This is a case in which the rules of the Council are in conflict with the views of the manufacturers and the Council is bound in consistency to stand by its rules, which are framed to protect the public and the profession. Pantopon is not a definite chemical body, but a mixture of known substances—the several alkaloids naturally occurring in opium—and the Council's rules require that such a preparation should bear a name indicative of its composition. The name "Pantopon" although it might suggest opium to those well acquainted with Greek would not do so to all and it would be relatively easy for physicians to fall into the habit of using it indiscriminately without realizing fully the character of the preparation, and the preparation thus becomes a menace to the public.

As to the merits of the preparation itself, it is remarkable what a literature has been built about a simple mixture of the opium alkaloids. The preparation is claimed to be superior to opium because it is more readily soluble. This trifling advantage seems to have been sufficient, however, to justify the publication of a dozen or more pamphlets. But in reality, this preparation is nothing more, therapeutically, than a form of opium and, therefore, should be known to the physician as opium. The reports made of its action seem to indicate a lack of critical sifting of the evidence. Notwithstanding, both its source and the fact that experimental and clinical reports emphasize its close resemblance to opium and morphin, one author (H. Haymann, "Pantopon in der Psychiatrie," *Münch. med. Wchnschr.*, No. 43, 1910) remarks that a habit was not produced, inferring that something in the character of the preparation prevented the formation of such a habit.

The one thing to be kept in mind in considering the claims made in the literature for this preparation is that it represents opium and opium only and any statements of its superiority to opium must be read in the light of the well-known tendency of writers to exaggerate the virtues of proprietary substitutes for official substances.

PAPINE

A Disguised Morphin Solution

To the thinking physician it should be evident that a preparation containing morphin must possess not only all of the valuable properties of this drug, but also all of the objectionable ones. There are still some physicians, apparently, who give credence to the assertions of the manufacturers concerning a morphin preparation from which, it is claimed, all of the undesirable morphin effects have been removed. The following query from a correspondent illustrates this fact:

> "Will you inform me as to the contents of "Papine"? I have a case of chronic interstitial nephritis, and my consultant insists on giving this preparation. I asked him if he knew what drugs it contained and his answer was 'one-eighth of a grain of morphin with the objectionable parts of the drug removed.'"

The query was referred to the Association Laboratory, which submitted the following report:

For many years Papine has been advertised by its makers, Battle & Company, St. Louis, as an anodyne. In the circulars Papine is described in part as follows:

> "Papine represents in pharmaceutical form the purely anodyne principles of opium freed from the narcotic and tetanising constituents."
>
> "Papine is the anodyne or pain-relieving principle of opium, the narcotic and convulsive elements being eliminated. One fluid drachm is equal in anodyne power to one-eighth grain of morphin."
>
> "Through special methods of preparation, the anodyne and analgesic principles of *Papaver somniferum* are so extracted as to free them of the narcotic and convulsive elements that ever have been, and must ever continue to be serious objections to the use of opium and its common derivatives. . . . No demand is more regularly made on the physician than that for the relief of pain, and to be able to afford it promptly and completely, without the slightest deleterious action, is an advantage that cannot be overestimated."
>
> "Unlike most derivatives and preparations of opium, Papine neither nauseates nor constipates; nor does it inhibit the secretory functions of the body."
>
> "In conditions of extreme nervousness, especially in women, recourse to morphin is attended by the very real danger of the formation of a habit. Lastly, opium and its alkaloids must not be administered to persons whose kidneys are not in good working order on account of the risk of toxic accumulation."
>
> "No such restriction exists in respect of Papine, its action being exerted exclusively on the element pain; in other words, it is purely anodyne."
>
> "Papine does not nauseate, constipate nor create a habit."

From these statements the incautious physician might be led to infer that Papine is a preparation analogous or similar to the official tincture of deodorized opium. Formerly in the manufacture of the latter preparation, in addition to removal of the odorous substances, narcotin, then thought to be the principal convulsive alkaloid,[1] was also removed. By the process for the manufacture of this tincture, which is now official in the United States Pharmacopeia, most of the narcotine is found in the finished preparation. While it is a comparatively simple matter to remove the narcotin from opium and its preparations, thus eliminating most of the commonly reputed "convulsive elements,"[2] to remove the "narcotic elements" from opium would result in destroying the integrity of the product. The reasons for this are that morphin is the most powerfully narcotic substance found in opium, and it is present in the largest proportion of any of the alkaloidal constituents. Its removal from an opium preparation would, therefore, render that preparation practically valueless.

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[1] Narcotin is now known to possess very little physiologic effect.

[2] Of the opium alkaloids, laudanin and thebain possess the most powerfully tetanizing properties, but they are present in opium in too small quantities to produce any noticeable effect. Neither of these alkaloids is removed by the usual processes for "denarcotizing" opium.

From Papine, however, the morphin has not been removed, for *since the passage of the Food and Drugs Act* the label has to admit that Papine contains 1 grain of morphin in each ounce!

A specimen of Papine was examined[3] and found to be nothing more than a simple aqueous-alcoholic solution of morphin, containing glycerin. The preparation is flavored to imitate cherry and colored with cochineal. With the exception of morphin, neither narcotin, codein nor other opianic alkaloids were found, while meconic acid, a characteristic constituent of opium, was absent. Since Papine is claimed not to cause constipation, and as is well known, this condition is frequently produced by morphin, it seemed possible that Papine might contain laxative substances. On examination, however, neither cascara, rhubarb, phenolphthalein nor laxative salts were found.

While Battle & Co. have persistently exploited Papine as being an opium preparation having none of the objectionable qualities of opium, the analysis shows that the paradoxical claims made for it cannot be substantiated. In prescribing morphin there is an abundance of official preparations to choose from, and there certainly is no necessity or excuse for resorting to the much more expensive and in no way superior Papine.

Miscellany

Increase of Pay for Officers of the Public Health Service

Senator Owen has introduced the following bill, which appears on the Senate Calendar as S. 1182. It has been referred to the Committee on Public Health and National Quarantine:

A bill to promote the efficiency of the Public Health and Marine-Hospital Service.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the salary of the surgeon-general of the Public Health and Marine-Hospital Service shall be $6,000 per annum, and the salary of the assistant surgeon-general shall be $500 in addition to the pay and allowances of his grade; for the ten senior surgeons on the active list, $3,500; for surgeons, $3,000; for passed assistant surgeons, $2,400; for assistant surgeons, $2,000; and the longevity pay and allowances of the said commissioned medical officers shall be the same as now provided by law: *Provided,* That the retirement of the commissioned medical officers shall be the same as is now provided for medical officers of the Navy.

Another personnel bill has been introduced into the House of Representatives by Mr. Edwards. It appears on the House calendar as H. R. 5599, and is as follows:

A bill to promote the efficiency of the Public Health and Marine-Hospital Service.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That hereafter the salaries of the commissioned medical officers of the Public Health and Marine-Hospital Service of the United States shall be at the following rates per annum: surgeon-general, $6,000; assistant surgeon-general, $4,000; senior surgeon, in which grade there shall be ten in number on active duty, $3,500; surgeon, $3,000; passed assistant surgeon, $2,500; assistant surgeon $2,000; and the said officers, excepting the surgeon-general, shall receive an additional compensation of 10 per cent. of the annual salary as above set forth for each five years' service, but not to exceed in all 40 per cent.: *Provided,* That the total salary, including longevity increase, shall not exceed the following rates: assistant surgeon-general, $5,000; senior surgeon, $4,500; surgeon, $4,000.

When officers on active duty are not provided quarters, fuel and lights, they shall receive the same commutation therefor as now allowed medical officers of similar grades in the Navy: *Provided,* That officers while serving outside the boundaries of the continental United States shall receive an additional 10 per cent. of their salaries and increase while on such duty.

The allowance for baggage and personal effects to an officer in changing stations shall be fixed by the Secretary of the Treasury, not to exceed in any case 7,200 pounds.

Vacancies in the grade of senior surgeon shall be filled by promotion, after satisfactory examination, from the grade of surgeon and in the order of seniority of said grade; passed assistant surgeons shall be promoted to the grade of surgeon in the order of seniority at the expiration of twelve years' commissioned service and after satisfactory examination; assistant surgeons shall be promoted to the grade of passed assistant surgeon in order of seniority at the expiration of three years' commissioned service and after satisfactory examination.

Treatment of Gonorrhea.—N. E. Aronstam discusses the treatment of this disease as follows: The abortive plan of treatment is both painful and inefficient. To determine its value the microscope must be always consulted. There is no specific treatment for gonococcic urethritis and some of the much-lauded remedies are worthless, to say the least. Mechanical means, such as injections and irrigations, are apt to injure the urethral mucosa and cause extension of the gonorrheal process. The modern silver preparations, although efficacious and prompt in a number of cases in checking the purulent discharge, are not entirely devoid of danger, as complications are prone to develop in the course of such treatment. Rest is of paramount importance in the treatment of gonorrhea. Gonorrhea must always be regarded as a grave and far-reaching affection. The expectant plan of treatment, although not so prompt as the more rigid aggressive methods, is, however, devoid of all danger and the possibility of complications.—*Detroit Medical Journal.*

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[3] Details of Analysis: Papine is a dark purplish liquid having a cherry-like odor and a sweetish taste. The specimen examined had a specific gravity at $\frac{25° C.}{25° C.}$ of 1.0565.

Qualitative tests indicated the presence of morphin, ethyl alcohol, glycerin and cochineal. Small amounts of a chlorid and traces of a sulphate were present. Acetates, lactates and sugars were absent.

Opium Constituents.—From the claims made for the preparation by the manufacturer, it might possibly be inferred that Papine is similar to the official tincture of deodorized opium. Accordingly, tests were made for opianic alkaloids other than morphin and for meconic acid. A portion of the specimen was dealcoholized, diluted with water and shaken with ether. The solvent was washed with water and portions evaporated. The residue from one portion of the solvent was very small; it was taken up in a small quantity of diluted hydrochloric acid and the solution filtered. On the addition of bromin to this solution, no precipitation took place, and on subsequent boiling the solution did not become rose-red. This was taken to indicate the absence of narcotin in Papine. The portion of dealcoholized Papine which had been shaken with ether was made alkaline with ammonia water and the mixture shaken with ether. The solvent was washed with water and shaken with diluted hydrochloric acid. The acid solution was made alkaline with ammonia, shaken with chloroform and the solvent evaporated. Only a very slight residue remained. This was subjected to the usual tests for codein, but with negative results.

A portion of the dealcoholized Papine was slightly acidified with hydrochloric acid and shaken with ether. The washed solvent was evaporated, the residue taken up with water and the solution treated with a drop of diluted ferric chlorid test solution. A red color was not produced. A portion of dealcoholized Papine was treated with a slight excess of lead acetate test solution, the precipitate washed with water, suspended in water and hydrogen sulphid passed in. The precipitated lead sulphid was removed by infiltration, the filtrate evaporated to a small bulk and treated with ferric chlorid test solution. No red color was produced. These tests indicated the absence of meconic acid. No odor similar to opium was observed at any stage of the examination.

As a check an aqueous extract of opium was prepared and subjected to the tests above described. A positive result was obtained in each case.

Laxative Substances.—A portion of the dealcoholized Papine was acidified with hydrochloric acid and shaken with ether. The washed solvent gave no red coloration on addition of ammonia water (absence of emodin and phenolphthalein). A small portion of the material was ignited. Only a trace of ash was given (absence of Epsom salts, Glauber's salt, etc.) These tests were taken to indicate the absence of the more common laxative substances.

Cochineal.—A portion of the dealcoholized specimen was slightly acidified with acetic acid shaken with amyl-alcohol, the solvent washed with water and shaken with a 1 per cent. solution of uranium nitrate. A deep green color was produced at once.

Chlorid.—Chlorid was determined as follows: Fifty c.c. were dealcoholized, diluted with 200 c.c. water, 10 c.c. nitric acid added, chlorid precipitated with silver nitrate, the precipitate collected, washed, dried, heated and weighed in the usual way. The results were calculated to crystallized morphin hydrochlorid ($C_{17}H_{19}NO_3.HCl + 3H_2O$) and to the equivalent of this salt in crystallized morphin ($C_{17}H_{19}NO_3 + H_2O$). From 50 c.c. of the solution 0.487 gm. silver chlorid was obtained; from a duplicate of 50 c.c. of the solution 0.481 gm. silver chlorid was obtained; average, 0.484 gm. silver chlorid. This is equivalent to 0.0968 gm. silver chlorid from each 100 c.c. of solution, or the equivalent of 0.2536 gm. crystallized morphin hydrochlorid in each 100 c.c. This quantity is equivalent to about 1.15 grain morphin hydrochlorid in each fluid ounce, or about 0.93 grain of crystallized morphin in each fluid ounce.

Since the label states that Papine contains 1 grain of morphin in each ounce, the findings from the chlorin determinations were taken to indicate that the morphin is present in the preparation combined as hydrochlorid.

Correspondence

Prevention of Pulmonary Tuberculosis

To the Editor:—In The Journal, April 22, 1911, page 1195, among "points which must not be forgotten," I should have been much gratified if you had mentioned the great importance of wearing a perforated zinc inhaler with suitable inhaling fluids, the best of these being equal parts of creosote, alcohol and spirits of chloroform. By the continuous and proper use of this fluid much can be effected in the way of prevention of the disease, not to speak of its very great value as a curative measure. To-day it is sad to note how little is done beyond mere sanitary regulations and hygienic régime to arrest the disease and cure an immense number of sufferers from tuberculosis; and practically nothing else is done to shield an equally large number of people from contracting the disease. For many years I have advocated strongly and frequently the value and importance of continuous antiseptic inhalations in pulmonary tuberculosis as a curative measure. I am equally impressed with its urgency as a protective measure, and especially with a vast majority who cannot go to sanatoriums or get the comforts and surroundings which wealth alone gives.

Beverley Robinson, New York.

Hexamethylenamin in Pellagra

To the Editor:—In The Journal, Nov. 5, 1910, p. 1663, I reported a case of pellagra in which I treated the patient with hexamethylenamin. I stated results of the treatment, which were remarkable, although I had given the patient this treatment only a short time. The patient has continued to improve until she now feels perfectly well. By Christmas she had gained 40 pounds in weight, which she has held until the present time. When I began to treat her, I gave 45 grs. of hexamethylenamin every day for three weeks; then 30 grs. a day for one month. On account of the irritating effects on the bladder, I had to discontinue the drug only a few days during this time. During the winter and spring she has been taking 30 grs. a day for three days and missing three days. This is the only treatment she has taken since she has been under my care.

While one case proves nothing, yet the result in this case is so much better than any I have ever read of that I feel that I should report it. I hope that others, who have a number of cases, may try it.

B. B. Bagby, M.D., West Point, Va.

Overcrowding in the Medical Profession in the West

To the Editor:—It might not be out of place to utter a caution to medical men contemplating settlement in the West. On account of the heavy expense incident thereto, any physician contemplating removal to the West should, if possible, make a trip first and look into matters closely before deciding.

The entire western country is very much congested with physicians of all kinds, and many of them, after spending a year or two in any of the western cities, will find their savings gone in the high cost of living and extortionate rents.

It must be remembered that many medical students in the West are constantly preparing to enter the profession in sufficient numbers to meet the demands of the increasing population.

David H. Lewis, Salt Lake City.

The Round-Ligament Operation

To the Editor:—In a recent issue of The Journal (Feb. 18, 1911, p. 481) is an article by Dr. J. M. Baldy entitled "Operation for Retrodisplacement of the Uterus." I desire to point out that the procedure described is exactly that which was first published by me in The Journal (Oct. 5, 1901).

I am highly gratified that Dr. Baldy advocates the operation so strongly in his paper; but, though he refers to "Webster, who has for the same length of time performed an operation with exactly the same principles"—his description is of such a character as to be very liable to give readers the impression that the operation is Dr. Baldy's invention.

This is not the first paper by him in which there is danger of similar misunderstanding. In the *New York Medical Journal* (April 14, 1906, p. 741), the same operation was described without the slightest reference to my share in originating it. I now consider that it is time to point out what Dr. Baldy has really done and to correct some misrepresentations.

In his recent paper the following sentences occur: "The operation is not new. I first referred to it in a paper in 1902." These statements are incorrect.

The operation was originally described by me in The Journal, Oct. 5, 1901, its essential features consisting in perforation of the broad ligaments, seizing the round ligaments with forceps and drawing them double under the utero-ovarian ligaments, and stitching them to the back of the uterus.

In Dr. Baldy's first paper (*Am. Jour. Obst.*, May, 1902, p. 650), seven months later, he commends the principle of my operation, criticizes my method of doubling back the round ligaments and there describes his own procedure, which he regards as an improvement, viz., *dividing the round ligaments close to the uterus and drawing them through the broad ligaments attaching them to the posterior surface of the uterus.*

Here, then, in clear language is Dr. Baldy's first published account.

I may say, in passing, that I carried out this procedure in a few cases several years ago, but abandoned it as unnecessary. Moreover, there is more liability to intestinal adhesions in connection with it, as some raw edges are apt to be left exposed.

Four years later Dr. Baldy published an article in the *New York Medical Journal* (April 14, 1906, p. 741) of a somewhat amazing character. I quote his own account:

"The operation which I am in the habit of performing for backward displacements of the uterus, and which is frequently designated *by my name*, is one which obtains its result through the use of the round ligaments. The broad ligaments are perforated from their posterior surface by forceps which, on emerging on the anterior surface, are made to grasp the round ligaments, which are then drawn through to the posterior surface with the forceps. The round ligaments are brought together and sutured both together and to the uterus. One who has not seen the result (of this operation) can have no conception of its completeness." Here is evidence of a complete change in the author's practice.

The operation which he lauds so highly is the very one which was described by me in 1901 and which was discarded by him in 1902. He has described my procedure as his own and has not even mentioned my name in the entire paper.

Again in 1909 (*Ann. Gynec. and Pediat.*, May, 1909, pp. 142-146) he describes the operation without any reference to me.

It is not pleasant to me to carry a grievance into print but I cannot remain silent while another claims credit which is not his due. My operation has been described as Dr. Baldy's in a foreign work by Hartmann of Paris, and I consider it time to interfere lest further misrepresentations should appear in medical literature. Moreover, I desire to make it clear that Dr. Baldy, having acknowledged the importance of the principle introduced by me in the surgical treatment of retrodisplacements, criticized my method of operation and recommended another procedure of obtaining the same result. He then abandoned the latter and after four years redescribed my original operation, praising it highly but giving me no credit for it. This line has been followed by Dr. Baldy in other papers to which I have referred, until the impression has been created in various quarters that he is the originator of the procedure.

J. Clarence Webster, M.D., Chicago.

[This letter was referred to Dr. Baldy, who replies as follows:]

To the Editor:—A careful reading of Dr. Webster's letter will fail to elicit any false statement which he attributes to me. He makes a statement which is directly contrary to fact when he says that I have ever claimed priority, directly or indirectly. He quotes from two of my papers in which I give him full credit but, with apparent intention, he omits to say so, and he quotes an unimportant paper in which his name does not appear as proof of his claim that I pretend to priority. Dr. Webster seems to feel that the operation I described in 1902 is not the same as the one I am now doing. The operation which I described in 1902 consisted in "dividing the round ligaments close to the uterus, and drawing them through the broad ligaments attaching them to the posterior surface of the uterus." What I do now is to draw the round ligaments through the broad ligaments without cutting them, attaching them to each other, and, incidentally only, to the posterior surface of the uterus. Dr. Webster, so far as I can learn from those who have seen him operate, draws the round ligaments through the broad ligaments without cutting them, and attaches them to the posterior surface of the uterus. The principle of these three procedures is the same, and as Dr. Webster gives me credit for the first one, then I claim absolute credit for the second one, the one I am now doing and have done for some years. I have never seen it described by him nor has anyone who has seen him do the operation told me that he does it as I do it. The third method only is his; I claim the other two.

He brings the round ligaments through the broad ligaments, spreads them out over the posterior cornu of the uterus, and stitches them to the uterus, making the full support depend on the suture in the uterus. He does not bring the ends of the ligaments together posteriorly and stitch them together, as I do. Bringing the ends of the ligaments together and stitching them by my present method, makes the whole integrity of the operation depend on the juncture of the ligaments, and the stitch holding the ligament to the uterus is a mere incident, and could be left out.

The method he follows to-day is exactly like my original method, less the fact that I severed the round ligaments and he does not. The method I follow to-day is in no respect like his, except that I no longer sever the round ligaments, but bring them through double, as he does. In other words, his present method is as much like my original one as my present method is like his. If I have appropriated from him for this, so also has he appropriated from me. The truth is that he has modified his details, and I have modified mine. He has adopted as much of mine, as I have of his.

I reiterate most emphatically there is not an iota of difference in principle between what he has been doing for years and what I have been doing for the same length of time, the details of technic are unimportant in the issue, and I have as much right to them as he has, whether he has used them or not.

This brings me to the question of my right to have a hand in the development of this achievement. His first article appeared Oct. 5, 1901. My first paper was read before the Section of Gynecology, College of Physicians of Philadelphia, Feb. 20, 1902. This is an interval of more nearly four months than seven (apparently another deliberate misstatement of his); therefore our original papers were essentially produced at one and the same time, and it can hardly be doubted but that we had, both of us, been working at the subject for a long time beforehand, a thing which has occurred often with different men in different parts of the world.

As for my having withheld credit from him for his work, this is a misrepresentation which certainly seems to be a deliberate one. During all these years I have written exactly three papers of importance dealing directly with this operation. In each of these, I have given full credit to Dr. Webster.

In my original paper, in the *American Journal of Obstetrics and Diseases of Women and Children*, xlv, No. 5, 1902, I discuss in full, using his name, the merits and demerits of both procedures. I go even further in this: I held my paper up for a month after writing it in order to write Dr. Webster, and I added the final paragraph of the paper, giving him additional credit for the contents of his letter. If I take credit for that month, there was in reality only three months between the publications of our work.

My second important publication is found in *Surgery, Gynecology and Obstetrics*, Chicago, April, 1909, pp. 421-434. In this paper I state: "The mechanism is plain, but has never to my knowledge, been fully appreciated or fully pointed out even by Webster, who has, for the same length of time, performed an operation with exactly the same principles, but varying slightly in technic."

In my third important publication on this operation, in THE JOURNAL of the American Medical Association, Feb. 18, 1911, I repeat this statement.

In addition to all this, for years it has been my invariable custom in my lectures at the Philadelphia Polyclinic always to mention the name of Dr. J. Clarence Webster in connection with the operation and to give him full credit. Hundreds of men can readily bear witness to this fact. What has been his treatment of me in all these years? He has never once mentioned my name in connection with this procedure except to abuse me.

The sum total of his charge is that the operation I did originally is entirely different from the one he did. This I deny emphatically. The principle of each is precisely the same. He charges that I claim, and have claimed, priority to this principle, directly or indirectly. I have clearly shown that I do not, and never have claimed priority, but have always given him equal and due credit.

I, however, have, and do claim, that I evolved the principles of the operation at or about the same time as Dr. Webster, and I claim the right to go ahead, and develop that principle in all its details, irrespective of what rights he thinks he has in the premises.

J. M. BALDY, Philadelphia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

CAUSE OF CONVULSIONS IN INFANTS

To the Editor:—At a recent meeting of our county society the cause of convulsions in a breast-fed infant of six months was discussed. As etiologic factors the following were mentioned: gastro-intestinal disturbances, adherent clitoris or prepuce, worms, especially roundworms, etc. The question as to what were the common causes of convulsions in infants was discussed, especially the possibility of round-worms being an etiologic factor. What are the possibilities of *Ascaris lumbricoides* causing convulsions in infants, and how frequently are they found in breast-fed infants?

A. Z., Iola, Kan.

ANSWER:—Convulsions in infancy are of three kinds: (1) those due to organic changes in the brain, meninges or skull; (2) those due to epilepsy; (3) those due to tetany. Practically all the so-called reflex convulsions—the convulsions at the onset of acute infections, during the course of gastro-intestinal disturbances—are dependent essentially on a chronic hypersensitive condition of the central nervous system as manifested by electrical and mechanical reactions, and with a tendency toward convulsions, laryngismus stridulus and carpopedal spasms. The two commonest names for this group are spasmophilic diathesis and tetany. The tendency to convulsions is manifest before the actual convulsions occur (latent tetany), and by electric examination one can foretell in a large percentage of cases which infants will tend to have convulsions at the onset of an acute illness.

The cardinal symptoms of tetany are: 1. Erb's phenomenon: This is the response of the motor nerves to minute galvanic currents. Pathognomonic for tetany and most important especially in the latent cases, because it may be the only sign present, is the cathodal opening contraction with a current of less than 5 milliamperes. 2. Chvostek's sign: By tapping the facial nerve a contraction occurs in the muscles of the face supplied by that nerve. 3. In the more severe cases tapping the muscles will produce a contraction; this is best seen by tapping the extensors of the leg. 4. Trousseau's sign: By constriction of the upper left arm the hand will take on the obstetric position; the hand will be flexed at the wrist and the forearm flexed at the elbow.

Thus by electric examination one can determine whether a case belongs in Group 3 or in Group 1 or 2. Almost constantly associated with tetany are more or less marked evidences of rachitis, and it is supposed that both depend on a common error in the metabolism, especially of the calcium salts.

The question of roundworms causing convulsions during the first six months of life of a breast-fed infant is one that can be answered in the negative. Practically all breast-fed children are guarded against the possibility of infection with roundworms, that is, taking the worm larvæ in their food, or by playing on the ground getting the larvæ in their fingers and carrying them thence to their mouth. Recent experiments have shown that from the roundworm toxins can be obtained that act markedly in the gastro-intestinal tract and nervous system. The belief that convulsions occur as the result solely of worms is becoming rarer as the true causes of convulsions are becoming known.

JELLYFISH STINGS

To the Editor:—I have read with much interest your notes on jellyfish sting and am struck by the fact that, although apparently *Physalia* is sometimes a very active poisoning agent, as it is found in our latitude it seems to have lost most of its virulence. On three or four occasions in the last twenty years I have captured a *Physalia* off Newport, R. I., and, though always stung quite unpleasantly, I never found it necessary to resort to any treatment; nor did my father, who has an exceptionally tender skin.

Malcolm Storer, M.D., Boston.

To the Editor:—In connection with the article on sting of Portuguese man-of-war published in The Journal, April 22, I would refer you to the adventure of the celebrated Captain John Smith of Virginia with a sting-ray as given in Smith's own history of Virginia.

Jesse Ewell, M.D., Ruckersville, Va.

SLANDERING THE FLEA

To the Editor:—It is a curious coincidence that the leading German weekly, the *Deutsche med. Wochenschrift*, makes the same mistake that The Journal did (April 8, page 1073) in its abstract of Nicolle's work on typhus. [Corrected April 22, page 1236.]

The German *Wochenschrift* states in its abstract of Nicolle's work, April 6, page 657, that *Flöhe*, "fleas," are involved in the transmission of the disease. What can there be in Nicolle's article that hypnotizes reviewers into mistaking lice for fleas? It is to be hoped that the Flea family will not take revenge on the reviewers for this baseless calumny! At the same time, as the darkey said afterward when his minister had accused him of having stolen some chickens and he was able indignantly to deny the accusation, "If he had said ducks he would have got me."

S.

FILTER WANTED FOR CISTERN

To the Editor:—Please tell me how to construct or where to buy a cheap but effective filter for water running off a roof into a cistern. The water will be used for drinking purposes.

Paul D. Espey, Port William, Ohio.

The Public Service

Medical Department, U. S. Army

Changes for the week ended April 22, 1911.

Williamson, L. P., lieut., left Hachita, N. M., with Co. I, Signal Corps, en route to San Antonio, Texas.

Gosman, George H. R., major, orders directing him to proceed to the Philippine Islands for duty revoked.

Bernheim, J. R., D.S., left San Francisco on two months' leave of absence.

Ingalls, R. E., D. S., ordered to proceed from Fort Douglas, Utah, to Fort Huachuca, Ariz., for temporary duty.

Hewitt, John M., M.R.C., relieved from duty at U. S. military prison, Fort Leavenworth, Kan., and assigned to duty on the transport *Dix*, relieving First Lieutenant James B. Ferguson, Medical Reserve Corps.

Griflis, Frank C., M.R.C., relieved from duty at Fort D. A. Russell, Wyo., and ordered to Henry Barracks, Porto Rico, for duty, relieving First Lieutenant Thomas M. Foley, Medical Reserve Corps, who will proceed to New York City for further orders.

Porter, Ralph S., captain, relieved from duty at Army General Hospital, Fort Bayard, N. M., and ordered to Fort William H. Seward, Ala., for duty, relieving Captain Fred W. Palmer, Medical Corps, who will proceed to Seattle, Wash., for further orders.

McAlister, John A., Jr., D.S., will proceed to San Antonio, Texas, for duty with maneuver division.

Cutliffe, William O., M.R.C., relieved from treatment at Walter Reed General Hospital, Takoma Park, D. C., and will return to his station.

Hill, Eben C., lieut., ordered to Walter Reed General Hospital, Takoma Park, D C., for observation and treatment.

McAlister, John A., Jr., granted leave of absence for ten days.

Brownlee, C. Y., major, left Fort Des Moines, Iowa, with the 1st Squadron, 6th Cavalry, en route to Douglas, Ariz., for duty.

Wing, F. F., D.S., returned to Fort D. A. Russell, Wyo., for temporary duty.

Worthington, J. A., lieut., reports assignment to temporary duty at Fort Riley, Kan.

Austin, Thomas C., lieut., ordered to sail for duty in the Philippine Islands, about August 5, instead of June 5, 1911.

Medical Corps, U. S. Navy

Changes during the week ended April 22, 1911.

Robnett, A. H., P. A. surgeon, detached from the marine corps rifle range, Winthrop, Md., and ordered to temporary duty at the naval hospital, Boston, and to duty on board the *New Jersey* when placed in commission.

Woods, E. L., P. A. surgeon, detached from the naval hospital, Annapolis, Md., and ordered to duty with the United States legation guard, Peking, China.

Owens, W. D., P. A. surgeon, detached from duty with the United States legation guard, Peking, China, and ordered home to await orders.

Boyd, J. C., medical director, transferred to the retired list from June 1, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended April 19, 1911.

Stimpson, W. G., surgeon, granted seven days' leave of absence from April 18, 1911, under paragraph 189, Service Regulations.

Nydegger, J. A., surgeon, granted one month's leave of absence from March 24, 1911, on account of sickness.

Wickes, H. W., surgeon, granted seven days' leave of absence from April 22, 1911.

Bryan, W. M., asst. surgeon, directed to report to the chairman of board of medical officers at Washington, D. C., April 24, 1911, for examination to determine his fitness for promotion to the grade of passed assistant surgeon.

Krulish, E., asst. surgeon, directed to report to the chairman of board of medical officers at Washington, D. C., April 24, 1911, for examination to determine his fitness for promotion to the grade of passed assistant surgeon.

Jones, O. E., A. A. surgeon, granted thirty days' leave of absence from April 20, 1911.

Walker, W. S., A. A. surgeon, granted seven days' leave of absence from April 13, 1911.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

PROGRESS IN STATE LEGISLATURES

ALABAMA

The governor has vetoed the optometry bill which passed the legislature under a misunderstanding of its provisions. The Justice bill, to amend the state medical practice act, is still before the legislature.

ARKANSAS

The state board of health bill has passed the senate.

COLORADO

The Sharpley bill (S. 63), to amend the medical practice act, has passed the senate. The Hasty bill, to require physicians to report all cases of tuberculosis and landlords to report all tuberculous tenants to the health officials, has passed the house.

ILLINOIS

H. B. 493, to provide for the registration of births and deaths, has been referred to the committee on sanitary affairs. This bill is modeled largely after the vital statistics bill drafted by the committee on medical legislation of the American Medical Association. The occupational disease bill passed the house by a vote of 105 to 1. This bill was drafted by a special commission appointed by the governor to investigate conditions in manufacturing establishments where poisonous materials were used, and is intended to protect employees in occupations that subject them to illnesses and diseases incidental to their work. The optometry and osteopathic bills in the senate and house are still in committee.

INDIANA

The McCarty bill, to provide for medical inspection of school children, has passed the house.

IOWA

The osteopathic bill has been killed in the committee on judiciary. A bill introduced by Representative Miller, of Bremer County, to prohibit physicians and surgeons from entering into agreements regarding fees, was defeated in the house by a vote of 22 to 37. A bill to create a commission to investigate the causes of insanity, epilepsy, mental deficiency, delinquency and criminality has passed the house. A bill to provide for the sterilization of habitual criminals, imbeciles, idiots and feeble-minded persons confined in state institutions, has passed both houses.

MAINE

The osteopathic bill has been defeated by a small margin in the senate and by an overwhelming majority in the house. A bill designed to prevent physicians from carrying insurance against malpractice suits has also been defeated.

MICHIGAN

A chiropractic bill has failed to pass. A bill to amend the medical practice act has been withdrawn. A bill to require parties to a marriage contract to furnish a physician's certificate of good health before obtaining a license passed the house by a vote of 57 to 29. A bill which, according to the Bay City (Mich.) *Tribune*, is believed to emanate from the Antivivisection Society of New York, has been introduced; it provides that one-half hour every week be devoted in all the schools of the state to humane education. A bill to require local boards of health to report the effect of occupations on persons subject to tuberculosis has been signed by Governor Osborn. A bill to abolish the common drinking cups in all railroad cars except Pullmans, has passed the senate.

MINNESOTA

S. B. 787 to reduce the requirements for examination for physicians, has been withdrawn. A bill to require a license fee of $500 from Christian Scientists has been "definitely postponed."

MISSOURI

A bill authorizing the formation of districts for the prevention of tuberculosis has passed both houses of the legislature. It is understood that this bill has the personal endorsement of Governor Hadley. A commission appointed by the governor reports that there are between 6,000 and 7,000 cases of tuberculosis of the lungs in Missouri and that infection is transmitted through lack of proper care and precaution. The bill permits of the organization of districts throughout the state to avoid the further spread of the disease and to provide proper care and treatment for those already afflicted.

TENNESSEE

A vital statistics bill and a bill to amend the medical practice act have been introduced, also one providing for the medical inspection of school children. Another bill requires a health certificate as a condition for a marriage license. Through the efforts of the Tennessee Federation of Women's Clubs, a bill providing for the protection of the eyesight of new-born infants, has passed both houses of the legislature and has been signed by the governor. An amendment to the present excellent pure food and drug law, a sanitary hotel bill, an itinerant venders bill and a state hygienic laboratory bill have also been introduced.

NEW JERSEY

A bill to provide for the registration of trained nurses has been introduced, also a bill to amend the existing medical practice act.

NORTH CAROLINA

The legislature has adjourned after increasing the appropriation for public health from $8,000 to $22,000 and giving the state board of health an additional $5,000 to investigate the water-supply. A school for the feeble-minded has been established. A bill to permit the shipment of bodies from this state to other states for the purpose of anatomic work, has become a law. The legislature refused to appropriate $3,000 for free diphtheria antitoxin but appropriated $2,000 for the free treatment of hog cholera. A bill was passed allowing West Asheville to incorporate itself as a sanitary district and to vote a special tax by which to raise sufficient revenue for sanitary work, such work to be carried out by a commission under the direction of the county and state boards of health. It is hoped at the next session of the legislature to extend this privilege to all parts of the state so that any community county desiring may form a sanitary district to raise funds for public health work.

NORTH DAKOTA

H. B. 436 to require licenses of all hospitals and sanitariums and restricting major surgical operations, has been vetoed by the governor.

PENNSYLVANIA

A number of bills to amend the existing medical practice act have been introduced but none has as yet been passed. An antivivisection bill is in the house committee on public health and sanitation.

UTAH

Bills providing for reporting of contagious diseases by physicians and hotel and lodging-house keepers and reporting of inflammation of the eyes of new-born infants, have passed the house.

WISCONSIN

A bill to provide for medical inspection of school children is before the legislature and has been opposed by the Christian Science members of the National League of Medical Freedom.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
BOWLING GREEN, KENTUCKY

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—First Weekly Meeting

General Subject for the Month: Legal Medicine

SIGNS OF DEATH

SOMATIC DEATH, MOLECULAR DEATH

CESSATION OF RESPIRATION: Auscultation, mirror to mouth, dish of water on chest, etc. Time.

CESSATION OF CIRCULATION: Relation to respiration, tests. Eye changes. Changes in body temperature. Rigor mortis. Changes in skin.

RIGOR MORTIS AND PUTREFACTION: Rigor mortis, onset, duration, causes. Effect of disease, violence, age.

PUTREFACTION: Onset, effect of moisture and temperature, bacteria, air, earth, and cause of death. Adipocere. Mode of decomposition of structures and viscera. Determination of time of death.

CAUSES OF SUDDEN DEATH

SUDDEN DEATH DUE TO NATURAL CAUSES

HEART DISEASE: Cardiac thrombosis and embolism, myocarditis, rupture of heart, coronary disease, valvular lesions, aortic aneurysm.

BRAIN LESIONS: Hemorrhages, embolism, thrombosis, in epilepsy.

LESIONS OF RESPIRATORY ORGANS: Embolism, thrombosis, hemoptysis, pneumonia.

HEMORRHAGIC PANCREATITIS.

ECTOPIC PREGNANCY.

REFERENCE BOOKS FOR THE TENTH MONTH

Draper: Legal Medicine.
Emerson. Legal Medicine.
Taylor: Medical Jurisprudence.
Wharton and Stille: Medical Jurisprudence.
Reese: Medical Jurisprudence and Toxicology.
Whitthaus and Becker: Medical Jurisprudence.
Peterson and Haines: Legal Medicine and Toxicology.
Hamilton and Godkin: Legal Medicine.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

Am. Assn. Genito-Urinary Surgeons, New York, May 1-3.
American Dermatological Association, Boston, May 25-27.
American Gynecological Society, Atlantic City, May 23-25.
American Laryngological Association, Philadelphia, May 29-31.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Therapeutic Society, Boston, May 11-13.
Arizona Medical Association, Bisbee, May 2-5.
Arkansas Medical Society, Fort Smith, May 2-5.
Association of American Physicians, Atlantic City, May 9-10.
Connecticut State Medical Society, Hartford, May 24-25.
Florida Medical Association, Tallahassee, May 10.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Kansas Medical Society, Kansas City, May 3-5.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nebraska State Medical Association, Omaha, May 2.
New Hampshire Medical Society, Concord, May 11-12.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifth Annual Meeting, held at Albany, April 18-19, 1911

The President, Dr. Charles Stover, Amsterdam, in the Chair

PROCEEDINGS OF THE HOUSE OF DELEGATES

Dr. Charles Stover, Amsterdam: The Committee on Experimental Medicine is asking for the pecuniary support of this society in carrying on the work entrusted to it, and should receive it. The report of the Committee on Public Health is of more than ordinary interest in that it deals with the importance of establishing and maintaining county laboratories. The funds necessary for carrying to a conclusion the work that has been begun in relation to tuberculosis alone are so great that, inasmuch as the benefit to the public is correspondingly large, there is no reason why boards of health should not take on themselves the continuation of a great deal of the work that has been begun by private fortunes. This has already been done in some of the cities of the state where boards of health have taken over tuberculosis dispensaries originally started by branches of the state charities aid.

Report of the Committee on Experimental Medicine

The Committee on Experimental Medicine, in cooperation with the Committee on Legislation and with public-spirited men throughout the state, labored successfully to prevent the passage by the legislature of 1910 of two bills relating to experiments on living animals. One bill sought to impose restrictions, which were against the public welfare, on the performance of such experiments. A joint hearing before the judiciary committee of the senate and the assembly was held on Feb. 23, 1910. The other bill represented a new departure on the part of antivivisectionists in that it sought to establish a commission to inquire into the extent and nature of animal experimentation in this state. It was a real antivivisection measure thinly disguised. Hearings on this bill were held before the ways and means committee of the assembly and before the finance committee of the senate. The Committee on Experimental Medicine felt it to be its duty to combat the mistaken and unsound notions of their opponents relating to experimental medicine, and to oppose both bills, and its representatives appeared at the hearings and presented arguments to this effect before the legislative committees. Both bills died in committee. There is no doubt that again and again, with each succeeding year, this contest will be renewed; at least, so long as the funds provided for the purpose, and a willingness to regard experimental workers as unworthy of belief in the matter of their operative technic, continue. Every member of the profession should regard this controversy as a personal one, since the results affect all alike so far as the prevention and cure of disease are concerned.

Report of the Counsel

Mr. James Taylor Lewis, counsel for the society, reported on Medical Defense. Seventeen state societies have now adopted this feature, and the medical profession is fast coming to realize how important it is that its members should stand shoulder to shoulder in repelling vicious attacks on physicians, since there is no litigation more far-reaching in its importance, not only in its effect on the profession, but also by its indirect influence on the public health.

Report of the Committee on Public Health

While those colleagues who reside in large cities have every opportunity and facility in laboratory advantages, others in the smaller towns and villages do not, and the committee believes them to be entitled to every and any aid which can be given to them. These men stand in the front rank of earnest, honest, hard-working, self-sacrificing members of the medical profession, and they should not be denied these advantages simply because of their environment. Such laboratory facilities would not only enable county medical men to keep modern, but would exert a profound and lasting influence over the public at large. It is assumed that the thirty-eight counties in the state containing hospitals would be glad to furnish laboratory space for the *quid pro quo* of the paid resident pathologist and his assistant.

Report of Committee to Consider the Question of Increasing Interest in the Society

The fifty-eight county societies of the state represent at the present time a membership of about 7,000, and while there has been a steady growth each year, it is not large. If state, district branch, and county society meetings are improved, increased growth will necessarily follow. This committee offers the following suggestions for increasing interest in county societies:

1. Improve programs. Interest in the meeting depends largely on the attractiveness of the program.

2. Take up post-graduate course as recommended by American Medical Association. This systematizes the program.

3. Confer with state board of health for at least one meeting a year on public health matters. Cooperation with the health department is essential to the welfare of the community.

4. Have at least one speaker a year from a distance, obtained by conference with committee on scientific work of state society if necessary. It will be glad to suggest names of those willing to render such service.

5. Arrange for one or more clinical meetings a year. Select subjects and request all who have proper cases to bring them before the society. Then have a discussion, always with the understanding that discussion of the case shall not be held in the presence of the patient; otherwise, frequently patients cannot be shown for obvious reasons.

6. Arrange for demonstration by bacteriologists and pathologists, with specimens, lantern slides, etc.

7. Arrange for social part of meeting. Some light refreshments at the close of the meeting are an adjunct to fraternal intercourse.

8. See that meetings are held often enough to keep up interest. Once or twice a year is not enough. Invite every member of the profession in the county to at least one meeting a year, not necessarily inviting them all to the same meeting. In counties where men do not show a willingness to write papers either designate writers for different meetings or see that outsiders are invited. In other words, see that the meetings are made interesting. It should be the aim of every county society to secure a permanent home, a small library, with a supply of current journals, and the use of the larger libraries for reference books will greatly increase interest in the county organization.

9. Arrange the time of meeting to accommodate the largest number of members. When men come from long distances, an evening session is obviously the most inconvenient. An afternoon session will often appeal to a larger number of men when it permits them to reach their homes at a seasonable hour.

10. Select as officers men who are willing to work. Keep good men in office. Do not promote those who have shown that they will not attend to the duties assigned them. Efficiency is the only criterion of leadership. No physician should accept office unless he is prepared to give the position the attention that it deserves, and unless he is interested in the work.

11. In small societies do not unduly multiply offices—the secretary's and treasurer's duties can be best done by one man.

12. Make dues large enough to warrant conducting the society work in a proper manner.

13. Provide a committee on entertainment which shall welcome new or prospective members or guests at meetings. The officers of the society may be active or ex-officio members of such committee. Newly registered physicians should be visited by such committee or written to and asked to join the county society.

14. See that the meetings, programs of proceedings are published regularly and promptly in the state journal.

15. Have high ideals. Be liberal yet firm in the maintenance of a high ethical standard. Educate the public. Be a power for good in the community. Do not be ashamed of the county society or apologize for it. Make it better. Attend all meetings and see that others do the same. The county society is a conservator of patriotism and worthy citizenship.

Animal Experimentation

Dr. Carr, of New York City, offered the following resolutions:

Resolved, That the members of the House of Delegates do hereby declare that animal experimentation in this state is conducted in a proper and merciful manner, and that such experimentation is positively essential to medical progress; that unmerciful experimentation is not practiced in this state and is prohibited by law.

Resolved, That Senate Bill No. 310, calling for the investigation of vivisection in this state is therefore unnecessary and mischevious and calculated to hinder and interfere with vivisection, and correspondingly lessen the humane benefits derived therefrom.

Resolved, That we respectfully petition the legislature to express decided disapproval of all measures coming before it opposed to animal experimentation for the purpose of medical advancement; also all measures calculated to hinder or destroy the same.

These resolutions were adopted unanimously.

Membership in State and National Organizations

Dr. E. LeFevre, of New York, offered the following:

Whereas, The Board of Trustees of the American Medical Association has requested an expression of opinion on the subject of making in the future all members of state societies and county societies in affiliation with them *ipso facto* members of the American Medical Association, and in order that the board may make a satisfactory report to the House of Delegates of the national organization relating thereto, be it

Resolved, That the foregoing request of the Board of Trustees of the American Medical Association be referred to a committee of five, to be appointed by the president of this society for investigation as to the legality, expediency and advisability of the proposition, and to report to this House of Delegates at the next annual meeting.

On motion, the resolution was adopted.

The President appointed on this committee Drs. E. LeFevre, New York; S. B. Ward, Albany; W. W. Skinner, Geneva; J. C. MacEvitt, Brooklyn; and Wisner R. Townsend, New York.

Vaccination of School Children

Dr. D. S. Dougherty, of New York, offered the following resolution, which was adopted:

Whereas, There is a bill in the assembly known as Bill No. 611, designed to allow unvaccinated children to attend school on presentation of a physician's certificate that such pupil's or person's physical condition is such that vaccination will jeopardize his or her health, or on a written declaration from the parents or guardians of such pupils or persons to the effect that such parents or guardians are conscientiously opposed to vaccination; therefore, be it

Resolved, That this society protests against the passage of this act as inimical to the best interests of the state, and respectfully urges the legislature to withhold its approval of the measure.

Medical Education and Medical Practice Act

The following resolutions were adopted:

Resolved, That the Board of Regents of the University of the State of New York be requested to recommend such change in the medical practice act as will raise the requirements for securing the medical student's certificate to include, in addition to the standard high school course, one year in college, or its equivalent, embracing especially the following subjects: physics, chemistry (inorganic and qualitative analysis), and general biology.

Resolved, That the state society recommends to the Board of Regents that an investigation be conducted in order to ascertain the number of internships available in the hospitals of the state with a view to recommending a fifth year in hospital for the completion of the medical curriculum.

Registration of Midwives

Dr. Bernard Cohen, of Buffalo, offered the following resolution, which was referred to the council:

Whereas, In the larger cities in the State of New York nearly half of the births are attended by midwives, many of whom are wholly untrained for the responsible work which they assume, therefore, be it

Resolved, That the Erie County Medical Society favors the adoption of an educational standard similar in character to that which is now provided for trained nurses, and that it recommends the state medical society take such action as may lead to the establishment of a standard, the requirements of adequate examinations, with universal registration of all midwives practicing in this state.

Optometry

Dr. H. W. Wootton, of New York City, presented the following preambles and resolutions, which were referred to the council with power to carry out the recommendations:

Whereas, A law is now on the statute books creating a special class of practitioners known as optometrists, and

Whereas, This law gives to certain persons the right to adjust lenses to eyes with defects of vision and prohibits the use of drugs in determining the need for and the kind of lenses to be prescribed, and

Whereas, It is the opinion of the medical profession that a knowledge of the subjects taught in medical schools is absolutely essential for the proper and safe performance of the work this law gives opticians the legal right to do, and

Whereas, The entrusting of work so important to the hands of a class of people inadequately equipped, and who are denied the right to use the means necessary to do properly the work they are authorized to do, is a positive menace to the community; therefore, be it

Resolved, That it is the judgment of the Medical Society of the State of New York that the legislature made a serious mistake in enacting this law; that in the judgment of this society the legislature should be respectfully petitioned to repeal this iniquitous law; that in the judgment of this society Columbia University has taken a decided step backward in establishing a course in optometry in its extension teaching, advertising the same as an opportunity for men and women with only two years of high-school training to enter a "new profession."

Resolved, That Columbia University by creating this department and granting certificates of proficiency to students who fulfil its requirements not only discredits its own medical department but discriminates against its medical graduates, of whom is required a preliminary training far in excess of that required of the optometrist, which discrimination is especially intensified by the fact that the medical graduates who take up the practice of ophthalmology come in direct competition with graduates in optometry.

Resolved, That Columbia University by establishing this course in optometry has given support to a horde of incompetents who are constantly endeavoring to tear down the barriers created by the state for the protection of the public health, as is attested by the fact that the action of Columbia University in this particular is being advertised all over the United States by opticians seeking identical privileges elsewhere.

Resolved, That in view of the foregoing statements the medical society of this state respectfully urges Columbia University, in the City of New York, to abolish its course in optometry.

Officers Elected

The following officers were elected: President, Dr. Wendell C. Phillips, New York City; first vice-president, Dr. Peter W. Van Peyma, Buffalo; second vice-president, Dr. William F. Campbell, Brooklyn; third vice-president, Dr. C. R. Hervey, Oswego; secretary, Dr. Wisner R. Townsend, New York City, re-elected; treasurer, Dr. Alexander Lambert, New York City, re-elected; delegates to American Medical Association: Dr. A. T. Bristow, Brooklyn, Dr. J. W. Fleming, Brooklyn, Dr. Wesley T. Mulligen, Rochester, Dr. Henry L. Elsner, Syracuse, Dr. Edgar A. VanderVeer, Albany, and Dr. E. E. Cornwall, Brooklyn; alternates, Dr. S. W. S. Toms, Nyack, Dr. A. Walter Suiter, Herkimer, Dr. W. B. Handbidge, Ogdensburg, Dr. J. C. MacEvitt, Brooklyn, Dr. W. W. Strang, New York City, and Dr. Otto Pfaff, Oneida.

Albany was selected as the place for holding the next annual meeting, and the time April 16-17, 1912.

(To be continued)

TENNESSEE STATE MEDICAL ASSOCIATION

Seventy-Eighth Annual Meeting, held at Nashville, April 11-13, 1911

The President, Dr. John A. Witherspoon, in the Chair

The officers elected were named in The Journal, April 22, in the News Department.

Radium

Dr. G. P. Edwards, Nashville: In my experience, covering a period of nearly seven years, I have observed the action of radium in a great many different conditions and have gained confidence in its virtue. In thirty-eight cases of cancer of the lip, twelve of which were postoperative, there were thirty-one cures and six failures; one patient failed to report results. In seventy-six cases of cancer of the face, nine of which were postoperative, one patient failed to report, in one the radium failed, and seventy-four patients were cured. Eight recurrences yielded to treatment. In seventeen cases of cancer of the eyelids, nine involving the mucous margin, six the canthus, and two the skin, cures were effected. In eight cases of cancer of the breast there were three failures and five cures. In three cases of cancer of the nipple, there were one failure and two cures. In four cases of lupus vulgaris, all the patients were cured. Of seven patients with lupus erythematosus, six were cured. Of nine individuals with cancer involving the buccal spaces, gum, or mouth, six were cured. Three cases of cancer of the scalp terminated in recovery in all. Of two patients with cancer of the antrum, one recovered; of six with cancer in the nares, five recovered. In one case of cancer of the umbilicus a cure was effected, and also in thirteen cases of cancer of the neck. Six cases of cancer of the hand all resulted in cure. This report does not include patients now under treatment, nor does it include those cases in which the *x*-ray was used in conjunction with radium except when the radium was used subsequent to *x*-ray failure.

DISCUSSION

Dr. G. C. Savage, Nashville: I saw the case of malignant growth in the nasopharynx. The growth was removed, and it was one of the bloodiest operations I have ever seen. Radium treatment followed its removal, and the patient is now well at the end of eight or ten weeks. Another patient with sarcoma of the nasopharynx came under my observation, but was not operated on. Radium was used. There had been hemorrhage every day from the malignant growth, but under the use of radium by Dr. Edwards this patient is now fairly robust. There are no longer hemorrhages, and there is free use of the respiratory passages.

Significance and Surgical Treatment of Uterine Displacements

Dr. R. M. McCowan, Knoxville: In treatment of uterine displacements there are a few principles that appeal to me more strongly than others. These are: 1. The perineum must be looked on as the most important feature for consideration, for without perfect support here, anything one may do is futile. There are many operations that are suggested for repair of the perineum; I prefer the modified Tait. 2. Next in importance is the correction of the angle between the uterus and the vagina. This is accomplished by shortening the round ligaments, lifting the uterus forward and upward. When the anterior portion of the ligament is especially weak, I have found the modified Gilliam, Mayo and Fowler operation satisfactory. This consists in pulling the inguinal portion of the round ligaments through the outer border of the recti, and stitching them together on the anterior portion of the muscle. Another method which I have used for several years is one suggested first by S. M. Miller, of Knoxville. It consists in lifting the uterus upward and forward through an abdominal opening, until the round ligaments are brought into view; an incision is carried through the parietal covering along the long axis from the uterine end a variable distance toward the pelvic wall, in accordance with the relaxation present; the fibers of ligaments are then separated the length of the incision, and the halves, together with the attached peritoneal covering of broad ligaments, are drawn apart. The distal and proximal extremities are brought together by a suture passed through the tissues beneath the cuts from just beyond one extreme to the other. A single lateral suture on either side the central will close the incision in a transverse line and shorten the ligaments to the extent of the primary incision. In prolapse, the operation of selection is that suggested by Crile. It consists in tying off the ovarian arteries and in doing a supravaginal hysterectomy, leaving a long fan-tail leaf on either side of the body of the uterus; these are brought through the recti on each side and stitched together in the same manner as in the round ligament operation. The greatest difficulty in dealing with these cases is the fact that often there is an existing general visceroptosis. In anterior displacement, usually a complete dilatation of the cervix is all that is required with a pulling down and stretching of the ligaments, or a wedge-shaped portion of the cervix may be removed from the posterior portion, as has been suggested by Dudley.

DISCUSSION

Dr. R. Caldwell, Nashville: I have found as many retrodisplaced uteri in women who have not borne children as in child-bearing women, and yet so far as we could determine, in those women the perineum was normal. I am inclined to believe that if we can maintain the normal position of the uterus by means of the ligaments or guy-ropes, and maintain the proper angle, and bring the uterus forward, we will prevent retrodisplacements.

Dr. C. N. Cowden, Nashville: Not every woman with a backward displacement of the uterus should be subjected to operation, because women are not all of the same nervous temperament, and while a backward displacement in one patient will create enough nervous disturbance to warrant an operation, in other instances such an operation would not be required. We must individualize in these cases before we can ever apply the rule in a sensible way.

Traumatic Perforation of Abdominal Viscera

Dr. W. M. McCabe, Nashville: Within the last eighteen months I have had the following cases of injury to the abdominal viscera: One gunshot perforating wound, the patient dying. Eight gunshot perforating wounds with bullets, four of which required resection; seven of the patients recovered. There were two gunshot-wounds of the liver, one operated on, and one not operated on; both patients recovered; one penetrating gunshot-wound; three stab wounds of the stomach through the left interspaces; four stab wounds of small intestines; one stab wound of ascending and transverse colon; one stab wound of the spleen; three penetrating stab wounds. All patients with stab wounds recovered. I believe that as a rule the median abdominal incision is preferable in gunshot wounds, but occasionally vary this procedure. I do not hesitate to make a subsequent incision if it will facilitate matters and allow of more thorough and satisfactory examination. If resection is decided on, I clamp the gut, take out a triangle of mesentery, and control the hemorrhage. A Connell suture of linen is then inserted at the mesenteric border, and this suture is run continuously around the gut, going through all coats. This part of the anastomosis is completed by suturing the rent in the mesentery with the same thread. This suture is covered with a Czerny-Lembert suture in the peritoneum, and reinforced with catgut, if necessary. I am careful to make the suture approximate, but do not allow it to constrict. I now examine the work, invaginate the bowel through the anastomotic ring, and if the thumb and forefinger meet I am satisfied. If only perforations are to be dealt with, I put in a purse-string suture of linen, if it does not constrict the lumen too much, or suture with a through-and-through linen suture and cover with a Czerny-Lembert of catgut or linen. The perforations having been closed, I wash the intestines with saline solution and drop them back into the abdominal cavity. The peritoneal cavity is then sponged out with gauze sponges; I never flush the cavity with any kind of solution. I have sponged away pumpkin seeds, tomato skins, feces, and other matter, and have yet to regret that I did not flush the cavity. If there has been much soiling of the peritoneum, I insert a drain. I should be delighted if the drain could be dispensed with, but as yet I have not been sufficiently convinced that it is a useless procedure. I have learned, however, that all drains produce necrosis of the abdominal wall, and for this reason they should always be brought through a separate stab, thus allowing the abdominal incision to heal by first intention and preventing hernia and other complications. The patient is placed in bed in the Fowler position, the Murphy drip enema is given constantly, and all food and water is withheld for twenty-four hours. Purgatives are not given for at least five days. This treatment is not carried out unless I suspect that peritonitis is liable to occur. While I have done the end-to-end anastomosis with success, I believe the lateral method is safer and may use it hereafter.

DISCUSSION

Dr. W. D. Haggard, Nashville: The meeting of the Southern Surgical and Gynecological Association in this city in 1896 marked the first crystallization of the expression of immediate abdominal section for every penetrating abdominal wound. It was the sense of that body that immediate exploration should be the rule in all cases of gunshot and stab wounds of the abdominal viscera, and since then I think this has been the opinion of most surgeons, and also that if we should fail to do this and peritonitis should occur, and we are powerless to control it after eight hours has been permitted to elapse, we have been guilty of a grave error. I think, sometimes, that in the future this may assume a medicolegal aspect. I do not feel that we should shirk moral responsibility in these cases, to say nothing of surgical responsibility. As a matter of fact, we have two lives in our hands—the life of the victim, and the life of the assailant. Dr. McCabe has reported an unusual group of cases, with a satisfactory rate of mortality, and the lesson we ought to learn is to suspect every penetrating wound of the abdomen to be a perforating one, and never rest contented until we see inside the abdomen and repair thoroughly every wound after having gone over every inch of the viscera.

Dr. J. L. Crook, Jackson: One remarkable thing in cases of this character is the improved mortality within the last five years. The point made of using a stab wound for a drain is a good one, whether operating for perforation of the intestine or for other purposes. If we can make drainage through a separate incision, we can get a better result than by draining in some cases through the original wound.

Dr. J. A. Gaines, Nashville: One of our greatest authorities on duodenal ulcer, Moynihan, suggested that when there is perforation, especially when there are beans, lettuce, cabbage and things of that character in the abdominal cavity, another opening should be made and the abdomen flushed. I do not believe that we should make such an opening for the purpose of flushing out things of that character. Flushing should not be done; we should pick out these things, and clear out the foreign material as well as we can by mechanical applications, without flushing the abdomen, and using drainage in all cases of this character.

Dr. L. L. Sheddan, Knoxville: I have observed that stab wounds are simpler than gunshot-wounds. I have seen two patients die because in closing the perforation the peritoneum was not closed a sufficient distance around the margin of the wound. Again, paralysis is more likely to follow an injury from a gunshot-wound than from a knife of a stab wound. The author of the paper said that in injuries of the liver, the liver does not bleed very much. It has been my observation that it bleeds very profusely when injured.

Cancer of the Breast

Dr. H. M. Tigert, Nashville, advocated surgical treatment for the relief of this condition.

DISCUSSION

Dr. L. E. Burch, Nashville: According to the statistics of the United Kingdom, one woman out of every twelve in the year 1908 died of cancer, and in the State of New Jersey last year more people died from cancer than from tuberculosis. The only way to effect a radical cure of this condition is to make an early diagnosis and operate promptly. Every tumor of the breast in a woman above the age of 35 should be removed and examined.

Dr. B. Malone, Memphis: There is great diversity of opinion as to the etiology of cancer. In Rome practitioners have reverted to the Cohnheim embryonic theory of cancer. They are using an emulsion of embryos in the treatment of cancer in the experimental laboratories there, and while they are not making many claims, the results have been encouraging. Dr. W. J. Mayo, who saw some of this work while he was abroad, says that in his opinion it promises more than anything else in the way of a specific cure for this disease.

Dr. J. M. King, Nashville: Every tumor of the breast should be removed before *x*-ray treatment is resorted to. I do not think any one should apply the *x*-ray treatment to a tumor of the breast unless it has recurred.

Dr. E. T. Newell, Chattanooga: I have had two cases which showed that tumors of the breast occurring in women over 35 are not always malignant. One patient has gone five years since the removal of the tumor without recurrence, and the other three years without recurrence.

Dr. McPheeters Glasgow, Nashville: In tumors of the breast occurring in young people it is advisable to remove the breast at once, but in a woman over 50 it might be well to watch the case carefully before advising operation. Certainly, operation should not be advised on seeing the patient once or twice.

Dr. W. T. Black, Memphis: Early extirpation is the only remedy, and all tumors of the breast should be treated as malignant unless they are proved to be benign.

Dr. J. Overton, Nashville: I think that we should use Coley's fluid in cases of inoperable cancer, unless some serum of more pronounced value is brought to the attention of the profession in the meantime.

Dr. W. Litterer, Nashville: It is important to examine the axillary glands in cases of cancer from a prognostic standpoint.

Dr. C. A. Robertson, Nashville, spoke of metastases in cancer of the breast, and detailed a very interesting case which came under his observation within the past eighteen months.

Dr. W. H. Witt, Nashville: In two cases in my practice, the disease recurred after ten years in one, and in the other after seven years. These recurrences were metastatic in nature. One patient died two or three months following the recurrence.

Spina Bifida

Dr. B. B. Cates, Knoxville: I previously reported three cases of spina bifida operated on, with one death. Since publishing this report, I have operated on four other patients with one death, making a total of seven operations with two deaths. There were five males and two females. The ages varied at the time of operation from 28 days in the youngest to 26 years in the oldest. The situation of the tumors was in the cervical region once in a female, twice in males; once in the lumbar region in a male, once in the lumbosacral region in a male, once in the upper sacral region in a male, and once in the mid-sacral region in a male. One step in the technic of the operation concerns the closure of the spinal defect with osteoplastic grafts. In not one of my cases was there enough bone at hand to cover the opening, so I used the deep fascia, by dissecting enough from without inward to cover over the defect when turned over the middle line. This fascia is strong and dense enough to form a strong bridge. It is not necessary to overlap the flaps, simply stitching the edges together with fine catgut being all that is necessary. I think that I caused necrosis in one case by imbricating the flaps, thus cutting off the blood-supply.

DISCUSSION

Dr. J. L. Crook, Jackson: I have had two cases of spina bifida under observation. In one of these the child was so weak that I did not think it would survive an operation, hence I did not operate. The other child was 8 months old and had a meningocele in the lumbosacral region, on which I operated successfully.

Dr. B. Malone, Memphis: My experience also is limited to two cases. In one, there was a meningomyelocele, and the other was a pure meningocele. In meningomyelocele, in which the sac is composed of cord elements, the prognosis is unfavorable.

Dr. R. Caldwell, Nashville: Attention should be given to the association of spina bifida with hydrocephalus. When this is the case, very little can be expected from operation, as these patients become hydrocephalic and die from exhaustion and imbecility after a few years of life.

(*To be continued*)

Book Notices

Differential Diagnosis. Presented Through an Analysis of 383 Cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Boston. Cloth. Price, $5.50 net. Pp. 753, with 195 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Cabot proposes to study medicine from the point of view of the presenting symptom, by the case-history method. Cases are grouped according to the chief symptom, such as headache, lumbar, abdominal or epigastric pain, fevers, chills, coma, convulsions, cough, hematuria, jaundice, etc. Each section is prefaced by a statement of the possible causes of the symptom under discussion. Illustrative cases follow, in which the salient points in the history, examination and laboratory findings are given, the differential diagnosis discussed, and diagnosis made. Numerous plates showing the distribution of pain, physical findings, etc., accompany the case histories. Diagrams are given, showing graphically the relative frequency of the several diseases in which any one symptom may be the principal complaint. These are based on hospital records and at times may be misleading to the general practitioner who sees a less selected series of cases.

Cabot is no respecter of traditions and, as occasion presents, criticizes those which he believes are not founded on facts—e. g., the relation of backache and pelvic disease, tapeworm and abdominal pain, poor teeth and digestive disturbances. It is perhaps superfluous to conduct obsequies over "rheumatism" and "gastralgia," as they have been buried already by most of the profession. The importance of lead intoxication as a cause of many obscure symptom-complexes is rightly emphasized. The cases cited in illustration of abdominal and epigastric pain are particularly instructive.

In many instances the diagnosis is arrived at through an admirable course of reasoning. We may, however, question the advisability, even for teaching purposes, of arbitrarily placing difficulties in the way of diagnosis by the suppression of facts which are obvious on careful examination. A diagnosis made in spite of omissions deserves no special credit. We may also question certain diagnoses in that they are made on insufficient evidence, or the resources of diagnosis are not all utilized. Abdominal pain is frequently caused by constipation, but to dismiss a case with this unreserved diagnosis after a short period of observation may be dangerous, in view of the frequency with which carcinoma presents the same symptoms. It is, however, easier to criticize a diagnosis than to make one, and the general impression made by a case often has a weight which cannot be conveyed by verbal expression.

Typographic errors are few. Kernig's sign is repeatedly referred to as "Koenig's" sign.

The chief value of "Differential Diagnosis" lies not in the introduction of new facts, but rather in the demonstration to the student of the manner by which he may arrive at a reasonable diagnosis by careful observation and proper correlation of the facts obtained from the history, physical examination and laboratory findings. To the practitioner also, who would go beyond the mere treatment of symptoms, or learn of the difficulties surmounted by another, this book will prove of great interest and value.

Vaginal Celiotomy. By S. Wyllis Bandler, M.D., Fellow of the American Association of Obstetricians and Gynecologists. Cloth. Price, $5 net. Pp. 443, with 148 illustrations. Philadelphia: W. B. Saunders Co., 1911.

In this valuable work the author has very clearly stated the technic of vaginal operations and amplified them with comprehensive illustrations, so that the various surgical procedures are made perfectly clear. Even though the reader has had no personal experience with the vaginal route, he can hardly fail to see its advantages and the great field it offers in certain stated gynecologic operations. The history of anterior vaginal celiotomy is clearly outlined and beautifully illustrated and the possibilities and the indications are so accurately described that one is fully impressed with its value, while the comparative advantages of the vaginal over the abdominal route are succinctly expressed. The technic in anterior vaginal celiotomy is clearly outlined, and, although the author has fully impressed the reader with its difficulties, he encourages those who are not familiar with the route to become acquainted with it. The positive indications for conservative operations on the ovaries and tubes, retrodeviations of the uterus, and cystocele, are tersely given. Added to the subject of total uterine prolapse is the technic of the amputation of the cervix, which is an important evolution in the operative procedure for permanent correction of procidentia. The description of vaginal hysterectomy, myomectomy, vaginal Cesarean section, metreurynter incision, and minor vaginal Cesarean section, makes this volume a complete summary and the most comprehensive work in vaginal operations that has been published. It is invaluable to the gynecologist, the surgeon, and the obstetrician, as well as to every physician who desires to be intelligently informed on the late and advanced methods of gynecologic surgery.

Photographic Atlas of Radiography of the Mastoid Region and of the Nasal Accessory Sinuses. By Joseph C. Beck, M.D., Clinical Professor of Oto-Laryngology, College of Physicians and Surgeons, University of Illinois. Half Morocco. Price, $8. St. Louis: The Laryngoscope Co., 1911.

This loose-leaved atlas, so constructed as to permit changes to be made in the radiographs it contains, has been compiled by Dr. Beck with the cooperation of a radiologist and a photographer. To avoid marking the photographs which have been used, half-tones being unsatisfactory, the author follows the scheme of using an outline drawing to explain the radiograph after the manner of Killian's "Atlas on Face Reproduction." The importance of following the technic, which is fully outlined, is emphasized. Three positions are suggested: The postero-anterior position shows the frontal sinuses, ethmoids, orbits, and the antra and nasal cavities; the lateral position, the sphenoidal sinuses, the sella turcica and the depth of the frontal; the mastoid position is limited to use in studying the mastoid, the middle ear and the lateral sinus. These positions permit of the study of fractures and diseases of the bones and of foreign bodies, as well as the condition of the sinuses. The photographic methods that have given best results are explained. Eight stereogram illustrations are presented; four showing the positions described, three radiographs of a skull taken in the different positions, and one the difference between a stereoscopic and pseudoscopic image as shown in Dr. Kelly's atlas. Then follow twenty-five photographs, 19 cm. by 24 cm., from radiographs of the skull and of the head, showing the normal and certain abnormal conditions of the sinuses and some results of faulty technic.

The purpose of the atlas is to aid in the interpretation of radiographs of the head. To the degree that it is accepted as establishing a standard of technic, it will attain its object.

Serum and Vaccine Therapy. Bacterial Therapeutics and Prophylaxis Bacterial Diagnostic Agents. By R. Tanner Hewlett, M.D., F.R.C.P., D.P.H., Professor of General Pathology and Bacteriology, King's College, London. Second Edition. Cloth. Price, 7 shillings 6 pence net. Pp. 406. London: J. & A. Churchill, 7 Great Marlborough Street, 1910.

The first chapter of this book is taken up by an introductory consideration of the principles underlying immunity processes in general. The preparation and practical application of the various antitoxic and antimicrobic serums are then concisely described. The section of the book dealing with the principles of vaccine therapy, and giving practical directions for preparation and use, is especially valuable. Hewlett's views concerning direct transfusion are somewhat at variance with the prevailing American ideas and the subject is therefore dismissed with but slight consideration. The references to important literature on the different subjects constitute a valuable portion of the book.

Tuberculosis of Farm Animals. Bulletin 149, University of Illinois Agricultural Experiment Station. By Charles F. Briscoe and W. J. MacNeal. Urbana, Ill., February, 1911. Paper. Pp. 431.

This bulletin contains a splendid summary of the findings of experimenters and investigators in this and foreign countries concerning tuberculosis in farm animals, especially with reference to its transmission by means of the bovine form of the bacillus to human beings through the various channels. It also contains the results of the study and experiments at the University of Illinois Agricultural Experiment Station, together with an extensive bibliography relating to this line of work.

Medicolegal

Evidence Which Dead Body Cannot Be Made to Furnish

The Supreme Court of New York, Special Term, Erie County, holds, in the case of Danahy vs. Kellogg (126 N. Y. S. 444), that no right of exhumation, inspection, dissection, microscopic examination, and taking of culture is furnished in a civil action by the code provision in that state that a court of record has power to compel a party to make discovery of any article or property in his possession or under his control relating to the merits of the action or of the defense therein.

In this case was the first application of the kind ever made, so far as the court is aware. The action was brought by the administratrix of the estate of Matthew Danahy, deceased, to recover damages for his death, alleged to have been caused by injuries received in a collision with an automobile claimed to have been owned by the defendant. The accident occurred July 10, 1909, and the death of Danahy on November 20, 1910. The certificate of death signed and filed by the attending physician stated the cause to have been malignant endocarditis. The discovery and inspection of the body, with permission to take cultures and to have microscopic examinations made, it was alleged, would furnish the means of determining the exact cause of said disease.

The denial of the application was based squarely on the absence of any right or authority in the court to grant the inspection, etc., asked, notwithstanding the provision in the code above mentioned. In considering the latter, the court is sure that the legislature could not have had any intention to include the body of a dead person within the description of an "article" or "property," or have had in mind an application to exhume the remains of a deceased person for the purposes of the section. But, even though it authorizes an order for the production and inspection of a buried human body, the court finds nothing in the section which could possibly authorize its dissection, etc. If the article to be inspected were a piece of machinery, instead of a human body, the court, under the section relied on, would not be warranted, it thinks, in making an order permitting the machinery to be taken apart, and a part of it carried away for the purposes of further examination. Much less would the court be justified in permitting an autopsy on a human body.

There is, strictly speaking, no right of "property" in a dead body. A long line of judicial decisions appear to have established the general doctrine to that effect, although the law has been relaxed to the extent of giving the husband, widow, or next of kin the right of protecting the remains of the dead and saving them from desecration, which can be enforced by appropriate legal remedies.

Validity of City Ordinance Requiring Tuberculin Test

The Supreme Court of Wisconsin, in Adams vs. City of Milwaukee and others (129 N. W. R. 518), holds valid a city ordinance requiring the tuberculin test, and that there was no error in a judgment against enjoining the enforcement of the ordinance. It says that it is not necessary to support the ordinance to show that human pulmonary tuberculosis is caused by drinking the milk of cows afflicted with bovine tuberculosis. If the milk of such cows produces disease of any kind, or is harmful to health, this is a sufficient basis for police regulation of its sale and distribution in the city.

Attention was called to chapter 542, Laws of Wisconsin for 1909, and to the following statutes of other states, recognizing the efficiency of the tuberculin test: Indiana, chapter 181, Laws 1909; Delaware, chapter 122, Laws 1909; Maine, chapter 133, Laws 1909; Maryland, chapter 466, Laws 1910; Michigan, chapter 172, Laws 1909; Minnesota, chapter 392, Laws 1909; New York, pages 28, 29, vol. 1, Consol. Laws 1909; North Dakota, chapter 160, Laws 1909; Oregon, chapter 213, Laws 1909; South Carolina, chapter 131, Laws 1909; South Dakota, chapter 291, Laws 1909; Tennessee, chapter 475, Laws 1909; Vermont, No. 1, chapter 163, Laws 1908; Virginia, chapter 335, Laws 1910. The court was also referred to the cases of State vs. Nelson, 66 Minn. 166; Nelson vs. Minneapolis (Minn.), 127 N. W. R. 445, and New Orleans vs. Charouleau, 121 La. 890.

The evidence and findings in the present case, this legislation, and these decisions, go to show a widespread recognition of the danger of infection from bovine tuberculosis and of the efficacy of the tuberculin test. When there are conflicting scientific beliefs or theories in such matters it is for the city council to determine on what theory it will base its police regulations, and unless it is clearly and manifestly wrong it is not for the courts to interfere on the ground that the scientific theory on which the ordinance is based is incorrect or unsound.

Nor does the court consider that the ordinance is rendered void because it applies only to dealers in milk drawn from cows outside of the city, when there are other regulations covering the sale of milk drawn from cows kept within the city. There is a sufficient basis for such classification in the difference of facility for inspection and regulation.

Furthermore, the court thinks that a situation was disclosed in which it might be said that the common council had the right to decide that destruction of the milk was the only available or efficient penalty for the enforcement of the ordinance, and that such destruction was necessary, and the ordinance cannot be declared unreasonable in this particular. Then the plaintiff himself must by his own act expose his property to confiscation before this portion of the ordinance will affect him injuriously, and there is a distinction recognized in some cases between preexisting nuisances and those created by wilfully placing property in the forbidden place or condition after the enactment of an ordinance, and in defiance of it. Self-inflicted damage is not recoverable.

Who Accounted "Physicians Now Registered" Under Medical Practice Act

The Supreme Court of Missouri, Division No. 2, holds, in State vs. Carson (132 S. W. R. 587), that, as the defendant was concededly registered and licensed under the Missouri act of 1877, he came squarely within the exception to the act of 1901, as "a physician now registered," and that no subsequent act of the Missouri legislature has revoked the license given him under the act of 1877, so that it was error to require him to have been also licensed by the board of health.

The court says that, after the defendant was duly registered under the act of 1877, namely, in 1880, by filing a copy of a diploma, the legislature passed the act of 1883, which provided that it should not apply to those who had been practicing medicine five years in that state prior to the enactment of that law, but contained no provision as to prior registration. Then came the act of 1901, making it a misdemeanor for any person, "except physicians now registered," to practice medicine or surgery without a license from the State Board of Health. The trial court held that a physician registered under the act of 1874 was a registered physician within the meaning of the law of 1901, and a physician registered under the act of 1877, five years before the act of 1883 went into effect, would be registered within the purview of the law of 1901, but, inasmuch as the defendant was not registered until 1880, less than five years before 1883, he was not a registered physician within the meaning of the law of 1901, which last conclusion was erroneous.

The construction which the state sought to have given the act of 1901 would necessitate the court amending the statute so that it would read: "Any person, except physicians now registered and qualified to practice under the laws of 1883." The defendant was not prosecuted for a violation of the act of 1883 while it was in force. That act was, in turn, repealed by the act of 1901, and five years' practice no longer afforded protection. Thus if a physician had practiced five years before 1883, but was not registered, he would clearly fall under the condemnation of the act of 1901 because he was not registered. What effect then had the act of 1901 on the registration of the defendant's diploma and certificate in 1880? The diploma was registered under the law of 1877, and no subsequent act required or permitted it to be registered again. While it might or might not have protected him from prosecution during the life of the act of 1883, what was there to prevent the legislature repealing the act of 1883 as it did, and providing that his registration under the act of 1877 should protect him from prosecution and permit him to continue his practice? No act of the legislature had revoked the license the state had granted him in 1880, and no tribunal authorized to do it had done so. Even if it should be said that the act of 1883 impliedly rendered his registration ineffective, it cannot be doubted that the legislature could restore its efficacy by express provision as it did in 1901. This court is unable to see any substantial reason why a physician registered under the act of 1874 should be within the exception to the act of 1901, and one registered under the act of 1877 under the broad language of the exception of the act of 1901 does not also fall within the act of 1901.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

April 13

1 *An Analysis of Forty-Six Cases of Prostatectomy. L. Davis, Boston.
2 *Vaccines in Puerperal Sepsis: W. H. Watters and C. A. Eaton, Boston.
3 *Intrathoracic Insufflation Anesthesia: Apparatus and Cases. A. Ehrenfried, Boston.
4 Extirpation of the Tonsil by Enucleation: Partly Instrumental, Partly by the Use of the Finger. L. M. Freedman, Boston.

1. **Prostatectomy.**—A summary of the results obtained in the twenty-four cases of perineal prostatectomy reported by Davis, shows that two patients died; in neither case was death directly due to the operation. All the others left the hospital in good condition with obstruction relieved. In fifteen cases, the end-results have been excellent in every respect—all that could be expected or desired. In two other cases the result is marred only by the loss of sexual power. One patient has a persistent cystitis which is symptomatically controlled by regular treatment; otherwise he is well. In four cases the results are not so satisfactory. In one there is poor control of the bladder, so that the patient prefers to wear a urinal. In another there is, at times, under stress, lapse of control. Two patients have persistent perineal fistulæ; in one of these there is also some cystitis.

Of the twelve patients operated on by the upper route, two died. One patient, in whom the complication of closure of the bladder outlet during convalescence occurred, requiring a secondary operation, has not been traced since discharge. There is no reason why the final result should not have been satisfactory, however. In one case in which the suprapubic operation followed an unsuccessful partial perineal prostatectomy, by another surgeon, Davis says that the incontinence which followed unquestionably would not have occurred if the external sphincter had not been injured in the first operation. In the eight remaining cases the functional results were excellent. Two patients have died since leaving the hospital, one three months afterward of pneumonia, one four years later of new growth of bladder; in neither were there any symptoms on the part of the prostate. Six patients have recently reported themselves alive and well without urinary symptoms. Data as to amount of residual urine are unfortunately meager; several of the patients lived at considerable distances and were able to report only by letter. In six cases in which it was recorded, the highest amount was 1½ ounces in a man who previous to operation had lived a catheter life for fifteen years; in the other five cases it was less than 1 ounce. As to sexual power, data are still scantier. Two patients are known to have retained it; in one patient who underwent both operations it was lost.

2. **Vaccines in Puerperal Sepsis.**—Fifty cases are reported by Watters and Eaton. This includes all patients who have been treated, the good and the bad, the early and the late. Among this series are a few who received ante partum prophylactic injection on account of bacteriologic findings or unusual opportunities for possible puerperal infection. These all recovered. It is of further interest that certain others who likewise received prophylactic treatment showed pure cultures of streptococcus in the uterus post partum, but without any clinical symptoms of sepsis or other complication. This was never noted in other normal patients not so treated. Among the fifty cases reported, four patients died within twenty-four hours of the first treatment, being practically beyond any hope of recovery when vaccines were first requested. Three others were moribund when inoculations were begun. Here life was possibly prolonged two or three days. Apart from these, there are forty-three patients, two of whom died and forty-one recovered. Of the two who died, one was operated on for suspected pus tube, which was not found, the patient dying six days after; the other was subjected to blood transfusion, dying within a few hours.

The method of using the vaccine was to administer a polyvalent preparation immediately after the diagnosis seemed definite, as determined by bacteriologic tests and to repeat as necessary until the autogenous preparation was ready, about twenty-four hours later. The vaccines were prepared by the use of the minimum degree of moist heat, a method apparently followed by better results than when the earlier method was employed. Careful watch was made to ascertain any possible injurious effects or aggravation, but even in the worst cases none could be demonstrated. On the contrary, a number of patients who seemed to be almost without hope of recovery made very happy convalescences. No claim is made by the authors that the vaccines should replace other generally recognized methods. On the contrary, they insist that the vaccines should be used to assist all other methods that have proved to be of value. In the series reported a hot vaginal douche has usually been employed; very rarely, in only one or two cases, an intra-uterine douche. Curettage was not performed in any instance. The bowels have been maintained in an active condition and remedies have been used when indicated. The authors have strongly advised leaving the patient as free from manipulation or local treatment as possible, and believe that the results well bear out these instructions. Two facts are given in conclusion: One that no demonstrable harm has been often done to any person; the other, that patients have shown much improvement after the inoculations and have recovered when even the best clinicians have foretold a fatal termination.

3. **Intrathoracic Insufflation Anesthesia.**—The apparatus Ehrenfried uses consists of a Wolff bottle with three necks sitting within a copper water jacket, and a foot bellows. By means of cocks on the outside of a jacket, the stream of air from the bellows can be carried through the hot water, over the top of the ether (contained in the Wolff bottle), or through the ether when a particularly strong vapor is desired. Air and ether vapor may be mixed in any proportion. Connected with the delivery end of the apparatus is a safety valve and pressure regulator consisting of a bottle of mercury into which a tube is plunged. The depth of the tube in the mercury, which is adjustable, represents the maximum of pressure which is allowed within the apparatus; if for any reason, such as a spasm of the glottis, the pressure should rise, the valve "blows off" automatically and danger from interstitial emphysema is avoided. In his early experiences, Ehrenfried employed a dial manometer registering in millimeters of mercury, to record the pressure, but he has found that the pressure bottle answers as well for all practical purposes. The apparatus is provided with a device to prevent droplets of condensed ether being carried over into the larynx.

The air or mixture is supplied at a practically constant temperature of about 10 degrees above room temperature; if the operation is to last over half or three-quarters of an hour the contents of the water jacket should be replaced. The air supplied may be filtered and moistened. For an intratracheal tube he uses a French lisle catheter, 22 to 24 F., moistened in hot water to render it pliable, a new and sterile one being used for each case. Soft rubber tubes have the advantage of standing sterilization by boiling better, but they are less easy to introduce. The chief difficulty with this method of anesthesia so far has been the introduction of the tube. He now uses a simple introducer, a laryngeal forceps with sleeves attached for grasping the tube near its extremity, similar in principle to the introducer of Doyen. After considerable pains to produce the proper curve—working on frozen sections and cadavers—Ehrenfried has devised an instrument which can be guided into the larynx in a few seconds, with the mouth gag in place and the left forefinger on the epiglottis, without the necessity of using a head mirror or electric illumination, or changing the patient on the table to and from the Rose position, as is necessary with the direct laryngoscope. Ehrenfried has tried this apparatus successfully four times on human beings.

Medical Record, New York

April 8

5 *Posture as an Aid in Diagnosis and Treatment of Cardiac Affections and Dropsical Conditions of Various Origin. H. W. Berg, New York.
6 The Chemotherapy of Ehrlich, with Special Reference to the Trypanosome Infections. B. T. Terry, New York.
7 Death-Rates in the Japanese War. C. E. Woodruff, U. S. Army.
8 *A Case of Erythremia with Unusual Features. N. E. Brill, New York.
9 Psychoses of Child-Bearing. J. D. Morgan, Washington, D. C.
10 Acute Urethritis of Chemical Origin. W. J. Robinson, New York.
11 Removal of the Septal Floor in Submucous Operations. A. Kahn, New York.

April 15

12 Purpura. J. S. Thacher, New York.
13 *An Unusual Fracture of the Bodies of the Fourth, Fifth and Sixth Cervical Vertebræ, with Injury of the Spinal Cord. W. H. Swan, Colorado Springs, Colo., and C. A. Powers and H. T. Pershing, Denver.
14 Four Cases of Ureteral Calculus. H. D. Furniss, New York.
15 Metallic Foreign Bodies in the Tissues; a New Telephonic Searcher. W. S. Thomas, New York.
16 Embolism and Thrombosis of the Pulmonary Artery; Report of Three Cases. J. Funke, Atlanta, Ga.
17 *Sterilization of the Skin by a New Iodin Solution. E. McDonald, New York.
18 Case of Congenital Cystic Degeneration of the Kidney. H. B. Mills, Philadelphia.
19 Short Talks with My Students and Others, Being Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

5. **Posture as an Aid in Diagnosis of Cardiac Affections.**—It is for cases of extreme cardiac failure due to dilatation secondary to severe valvular disease or myocardial disease that Berg has found that a posture which is a combination of recumbency with vertical or semivertical position, forms a powerful adjuvant in the treatment. He has placed such patients in bed with the head of the bed raised, as in the Fowler position, but with the patient in what he calls the reversed Trendelenburg position. The patients lie on an inclined plane, body and legs extended, with the head and shoulders at the top and the feet at the bottom of the inclined plane. The posterior legs of the bed on which the patient lies are raised 4 to 24 inches from the floor, resting on chairs or wooden supports with a broad base and narrower top, shaped like truncated cones or pyramids, or by any other means that may occur to the physician or some ingenious relative. The full heignt of 24 inches should not be attained, however, at one stroke, but gradually, so that the patient may not get an annoying sense of insecurity from the unaccustomed attitude of lying on an inclined plane, down hill, as it were. At the foot of the bed the patient's feet should rest against a well-bolstered or padded wooden rest, which extends across the width of the bed. Well-padded boards, 15 to 18 inches wide, should bound the sides of the bed to prevent the patient slipping out during sleep.

The whole structure should be as firm as though the patient's bed were resting in the usual horizontal manner on the floor, in order to give the sense of security. The patient's head and shoulders should be supported by pillows and sometimes by a head rest. The body should lie recumbent on the bed in this inclined plane without any bend at the hips, so that the maximum downward effect of gravity on the liver and abdominal organs may be obtained. The upward pressure on the diaphragm is thus removed, the heart relieved by the increased space thus obtained, and the venous return in the portal veins, vena cava and pulmonary veins encouraged. Berg has seen patients suffering from cardiac failure as a result of dilatation complicating valvular disease and myocarditis, more especially when mitral regurgitation is an element of the valvular disease, immensely relieved of their dyspnea by this posture alone, even before other more direct therapeutic measures were applied.

8. **Erythremia.**—Brill's patient, in addition to an erythrocytosis of between 8,000,000 and 10,000,000 cells, a leukocytosis varying between 20,000 and 45,000 leukocytes, presented few features of a cyanosis, a much relatively diminished hemoglobin content, the color index being far below 1, showed marked signs of bone marrow involvement with a colossal spleen and a very large liver. The spleen was much larger than in other affections, excepting those found rarely in leukemia and more commonly in the Gaucher type of primary splenomegaly. But even in these affections Berg has never seen a larger spleen than this patient presented. From the clinical evidence, he says, one must conclude that this patient was suffering with the disease which has been variously called polycythemia with chronic cyanosis, splenomegaly, erythrocytosis, splenomegalic polycythemia, myelopathic polycythemia, erythremia, erythremia megalosplenica, Vequez's disease, Osler's disease.

13. **An Unusual Case of Fracture.**—The subject of this report was a man, aged 70, who had always been remarkably active physically and mentally. He had been for years harrassed by a gouty eczema and had been treated for arteriosclerosis some years before. About seven months prior to the injury to be described, after a hard day's ride and tramp in the mountains, he had acute dilatation of the heart, from which he suffered up to the time of his accident, though he persisted in long rides and unwarranted exercise. About noon, Oct. 27, 1906, while riding, his horse stumbled. He was thrown, evidently striking on his forehead. There was immediate and complete motor and sensory paralysis below the neck without loss of consciousness. There was involuntary evacuation of the bladder and bowels at the time of the accident and again after being put to bed. By the use of moderate doses of morphin, the patient passed a fairly comfortable night, requiring catheterization; priapism was present. There was no difficulty in swallowing.

During four or five weeks following the injury he was catheterized three times daily and had no irritability of the bladder. From that time up to the time of his death he was catheterized from four to ten times in twenty-four hours, the frequency varying without apparent physical cause. He was given hexamethylenamin continuously during the twenty-eight months of his illness, in daily doses of from 10 to 30 grains. There were apparently no harmful effects from it unless it had to do with the constantly low solids in his urine during the last twenty-four months of his life. He never regained control of his bladder, though after three months he could reinforce the flow and a few times voluntarily passed 1 or 2 ounces. There was often marked tympanites and digestive disturbance, but, for the most part, the bowels were easily moved daily by laxatives and enemata. Occasionally there were loose involuntary movements. There were a number of periods of great weakness and mental hebetude, which were relieved by free elimination by the bowels. There seemed, at times to be an element of mental fatigue in this depression. Sleep was always difficult, requiring constant use of hypnotics. At the end of nine weeks the patient was up daily, taken out in a wheel-chair, and very soon was lifted into his automobile and was taking long rides. During the following year he often drove for five or six hours a day, with no apparent fatigue, was taken to a number of social functions in his own and adjoining towns, and took keen, active interest in all affairs of life. Mentally he was extremely active, at times giving close application to business affairs for six or seven hours a day. He became able to write short notes (writing by whole arm movement); could, without effort, feed himself by means of a spoon or by taking food in his right hand, and was often taken to the dining table, and about his house and grounds in his wheel-chair. He could move his legs to a considerable degree (the right leg and arm much more than the left) but could never stand or sit alone, nor was he ever able materially to change his position in bed without help. The heart at times showed a systolic murmur of the apex, but from the time of his injury was entirely competent.

At the end of eighteen months he had become more sleepless and depressed. He then went to England, making the trip very comfortably. During his six months' stay there he had an attack of bronchitis and lost ground in all ways, coming home in November, 1908, considerably weaker physically and less active mentally than when he left. During the winter he drove in his automobile almost daily, up to two days before his death, when he became uremic, and died March 13, 1909, twenty-eight and one-half months after his injury. The points of general interest in this case seem to be: (1) The marked mental activity and endurance of the patient; (2) prolonged excessively low solid content in the urine; (3) prolonged use of hexamethylenamin without apparent harm; (4) relief from long standing eczema; (5) the acquiring of compensation in a weak heart by enforced rest; (6) avoidance of bedsores and cystitis. The bodies of the fourth, fifth and sixth vertebræ were moderately crushed together without buckling of the spine or encroachment of its canal.

17. **Skin Sterilization by Iodin.**—The mixture used by McDonald consists of iodin, 2 parts; carbon tetrachlorid, 98 parts.

New York Medical Journal

April 15

20 Causes and Treatment of Rectal Constipation and Obstipation. S. G. Gant, New York.
21 Symptomatology of Leprosy. H. Fox, New York.
22 Evidences that the School Nurse Pays. S. W. Newmayer, Philadelphia.
23 Anterior Polioencephalitis. I. D. Steinhardt, New York.
24 A Case of Syphilis Followed by Paresis. C. Pope, Louisville.
25 Etiology of the Functional Nervous Diseases. G. E. Price, Philadelphia.
26 *Duodenal Ulcer. J. M. Lynch, New York.
27 Importance of Nasal Breathing. A. E. Schmitt, New York.
28 Rôle of Acute Bronchitis, Exacerbations and Remissions in Pulmonary Tuberculosis. H. J. Hartz, Philadelphia.

26. **Duodenal Ulcer.**—In the case reported by Lynch the patient gave no history of any disturbance of digestion. Her pain was all referred to the region of the appendix, and the tenderness was confined to the same region. Later, Lynch elicited the fact that she suffered off and on from what she called indigestion; that she occasionally had pains coming on some four or five hours after eating; took something for relief, vomited and felt better after it.

Lancet-Clinic, Cincinnati

April 8

29 Research Work in Mechanical Therapeutics. R. K. Smith, Boston.
30 A Case of Vagus Heart-Block, and Its Relation to Vagotonie. L. H. Newburgh, Cincinnati.
31 Tonsillotomy or Tonsillectomy? F. W. Davis, Cincinnati.

April 15

32 *Pulmonary Tuberculosis and Syphilis. R. H. Babcock, Chicago.
33 Convergent Squint; Its Etiology and Necessity for Its Early Treatment. H. C. Parker, Indianapolis.
34 Pleural Effusions, Their Diagnosis and Treatment. E. B. Montgomery, Quincy, Ill.
35 Surgical Aspect of Salvarsan. D. C. Handley and C. T. Souther, Cincinnati.
36 The Doctor in the Millcreek Valley Forty Years Ago. F. H. Rowe, Cincinnati.

32. Abstracted in The Journal, Oct. 1, 1910, p. 1220.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

March

37 Multiple Cesarean Section with Results in Thirty-Nine Cases, Done at the New York Lying-In Hospital. R. McPherson, New York.
38 Cesarean Section; Twenty-Seven Cases Without Maternal Mortality. G. M. Boyd, Philadelphia.
39 Contusions of the Abdomen, Resulting in Injury to the Contained Viscera. F. H. Jackson, Houlton, Maine.
40 Uterine Perforation, Laceration of the Small Intestine, Resection, Hysterorrhaphy. S. Wiener, New York.
41 Fibroid Tumors Complicating Pregnancy, Labor and the Puerperium. J. T. Johnson, Washington, D. C.
42 The Pathologic Versus the Physiologic Era in the Surgical Treatment of Intra-Abdominal Infections. J. W. Kennedy, Philadelphia.
43 Simultaneous Occurrence of Adenocarcinoma and Sarcoma in the Same Uterus. A. T. Jones, Providence, R. I.
44 Choice of Delivery in Moderately Contracted Pelves. W. G. Dice, Toledo, Ohio.
45 Conservative Surgery of the Ovaries and Fallopian Tubes. H. S. Lott, Winston, N. C.
46 Fatal Mercurial Poisoning Due to Vaginal Introduction of Bichlorid Tablets. C. B. Schildecker, Pittsburg, Pa.
47 Clinical Considerations of Pelvic and Peritoneal Tuberculosis. C. S. Foster, Pittsburg, Pa.
48 Split Protein Feeding. G. F. Little, Brooklyn, N. Y.
49 Hysteria in Children. R. H. Dennett, New York.
50 Chronic Intestinal Indigestion in Children. T. J. Elterich, Pittsburg, Pa.

April

51 Intramural Abscess of the Uterus. C. C. Barrows, New York.
52 Puerperal Infection, Clinical Varieties and Treatment. J. A. Harrar, New York.
53 Chorioepithelioma. M. Caturani, New York.
54 *Hysteropexies. G. K. Dickinson, Jersey City, N. J.
55 *Four Cases of Eclampsia; Their Treatment. G. W. Kosmak, New York.
56 Treatment of Puerperal Septic Infection and Report of a Case of Septic Thrombophlebitis of Long Duration. W. E. Parke, Philadelphia.
57 Treatment of Acute Puerperal Sepsis. E. J. Ill, Newark, N. J.
58 *Abstraction of Calcium Salts from the Mother's Blood by the Fetus the Cause of Puerperal Eclampsia. J. G. Drennan, Arroenar, Staten Island, N. Y.
59 Epidemic Infantile Paralysis and Its Control by the State Authorities. B. Sachs, New York.
60 Contagiousness of Acute Poliomyelitis. I. Strauss, New York.
61 Infantile Paralysis—Epidemic and Pandemic. J. van V. Manning, Brooklyn, N. Y.
62 Treatment of Infantile Paralysis by Massage and Electricity. H. W. Frauenthal, New York.
63 Manifestations of the Acute Stage of Poliomyelitis in Children. LeG. Kerr, Brooklyn, N. Y.
64 Surgical Treatment of Anterior Poliomyelitis. D. D. Ashley, New York.

54. **Hysteropexies.**—The object of Dickinson's paper is to encourage a broader study of woman and her miseries, of the many conditions inducing and perpetuating the uterine syndrome, of the relation of uterine deviations to other lesions, and the necessity for selecting skilfully a proper operation, with other treatment added, which shall not only comfortably and permanently replace the organ, but relieve the woman of coexisting pathologic states.

55. **Eclampsia.**—The four cases presented by Kosmak are examples of the average run of eclamptic cases, except that two of them were especially severe. Notwithstanding this, the amount of albumin in the urine was not very great, although the quantity of the urine was restricted. It seems to Kosmak that the latter is a fairly safe guide in the prognosis. Emptying the uterus should, he says, constitute only one step of the treatment and should be carried out with the least possible danger to the mother. This means that the forcible methods of dilating the cervix which have been so largely employed in this class of cases should not be permitted, as we have other means to accomplish the same ends. Vaginal Cesarean section or that by the abdominal route, if no contra-indications are present, offers an excellent chance for rapidly relieving the uterus of its contents. There is no doubt whatever but that the former operation can be carried out rapidly and satisfactorily as regards the actual delivery of the child, but the suture of the wound in the cervix and also in the lower uterine segment is necessarily a difficult procedure as it is almost impossible in many cases to bring the upper portion of the wound down into the field of vision.

58. **Abstraction of Calcium Salts.**—Drennan is convinced that the abstraction of calcium salts from the mother by the fetus causes fatty infiltration of the liver cells of the former. This fatty infiltration causes disturbed liver function with the production of toxins from imperfect protein digestion. Circulation of toxins causes fatty degeneration of liver cells thereby increasing the inability of the liver to functionate, with resulting increased toxemia. She says that no chloroform should be administered as it produces fatty degeneration of liver cells. The prevention and treatment of this condition consists in a liberal calcium diet, lessened protein food and, if the patient is not seen until labor has commenced, rapid delivery to rid her of the fetus which is draining her of calcium salts. The hemorrhage attendant on delivery—and in these cases it is sometimes excessive, owing, no doubt, to lack of calcium salts in the blood—will rid the organism of much toxic substances and have a curative effect.

California State Journal of Medicine, San Francisco

April

65 *The Commitment of the Insane in the State of California. A. W. Hoisholt, Stockton.
66 The Municipal Refuse Disposal Problem, with Special Reference to Alameda County Conditions. C. G. Hyde, Berkeley.
67 Diseases of Domesticated Animals Affecting the Public Health in Alameda County. C. M. Haring, Berkeley.
68 Opportunities of the State Hygienic Laboratory. W. A. Sawyer, Berkeley.
69 *The Making of a Health Officer. W. C. Rucker, San Francisco.
70 The Obstetric Consultant. E. M. Wilder, Sacramento.
71 Treatment of Rodent Ulcer. D. Friedlander, San Francisco.
72 Osteoplastic Operations in Pathologic Bone Cavities. D. D. Crowley, Oakland.
73 A Case of Aneurysm of the Abdominal Aorta, with Operation and Introduction of Wire. J. H. O'Connor, San Francisco.

65. **Commitment of the Insane in California.**—The evils connected with the apprehension, detention and commitment of the alleged insane, and their transfer to state institutions are summed up by Hoisholt as follows: (1) They, as sick people, are not understandingly looked after by the police or constables at the time of their arrest. (2) They are still, in some quarters, kept in insanitary places of detention (jails), in which they are given little if any medical attention, and which places are now and then infested with vermin. They are not kept clean while there, nor as a rule furnished with clean clothes when they leave. (3) They are not given as thorough an examination prior to and at the time of their commitment in court as many of the cases require, the special qualifications of the examiners in lunacy being much below par, a matter, however, which time and proper teaching of psychiatry in the medical schools can rectify. (4) They are escorted by men who are accustomed to take care of criminals, but unqualified as nurses to look after this particular class of sick people, and who are doing this in a very uneconomical way.

69. **The Making of a Health Officer.**—Rucker suggests that if a state is blessed with an unusually efficient and progressive board of health, what would be more natural than for that board to offer instruction gratis to all health officers within the state? The cost would not be great and would include printing, postage and a few books of reference to be loaned to those taking the work. As an experiment, a course in public water-supplies might first be offered, and if this proved a success, the scope of the work might be extended. It is believed that such an opportunity would be welcomed, and in offering it no reflections would be cast on the ability of those who, against great odds and an insufficient remuneration, are fighting the public's sanitary battles. A few lectures on hygiene and the occasional opportunities for self improvement afforded by the meetings of the health officers' association and a few scattering articles in the medical journals, cannot be compared with a regular course of study mapped out by men of the experience and learning of an efficient state board. It is admitted that the correspondence method of instruction is not ideal, but it is believed that it would serve to close the present hiatus until better means can be afforded.

Journal of the Arkansas Medical Society, Little Rock

March

74 Surgical Tuberculosis. W. A. Snodgrass, Little Rock.
75 Treatment of Pelvic Cellulitis in the Female. R. C. Dorr, Batesville.
76 Treatment of Fractures of the Long Bones. H. H. Smiley, Texarkana.
77 A Limited Experience in Treatment of Uncinariasis. A. E. Cox, Helena.
78 The Country Physician's Alimentation. C. S. Allen, Harmony.

Texas State Journal of Medicine, Fort Worth

April

79 Uncommon Forms of Acid Intoxication. A. E. Austin, Galveston.
80 Chronic Pancreatitis, Its Diagnosis and Treatment. J. T. Moore, Houston.
81 Two Cases of Septic Emboli Following Acute Mastoiditis. W. D. Jones, Dallas.
82 Surgical Eye Cases. V. H. Hulen, Houston.
83 *The Open-Air Treatment of Postoperative Nausea and Vomiting from Chloroform and Ether. F. L. Barnes, Trinity.

83. **Open-Air Treatment of Nausea.**—Barnes believes that the very best treatment for chloroform and ether nausea and vomiting is plenty of fresh air; that it is not only essential that fresh air should be supplied in a large volume, but that it should be kept moving, in order that the nauseating odors of the exhalations may be removed rapidly. His observation has this history: A great many negroes for whom there are no hospital accommodations, come to his associate and himself for operations. Originally they had an operating room and beds in connection with their office, but it soon became such a nuisance to have this class of patients continually around the office that they hit on the expedient of having them carried immediately from the operating room to their boarding places. Out of a great many cases handled in this manner, they have never had a single mishap, or a single bad symptom follow the practice. They have never known one of these patients to vomit after being carried into the open air, and they are almost never nauseated. The distances from the operating room to the places to which these patients have been conveyed have varied from ¼ of a mile to 2½ miles.

Immediately on the completion of the operation, the patient is placed on a cot, wrapped in blankets, with the face always exposed to the open air, and external heat appied. The cot is then placed in a wagon or hack and driven slowly to the boarding place. If the patient is awake and nauseated when the hack arrives at its destination, they direct that the cot be not carried into the house until the nausea passes off; they also direct that as few attendants as possible be about the patient. They have frequently observed that when they have been a little slow in getting patients out of the operating room, and the latter become nauseated as a result, they will immediately become quiet and drop into a peaceful sleep as soon as they are carried into the open air and started on their journey. It is the practice of the authors to prepare patients for operation by giving a large dose of castor oil or Epsom salts the night before, and an enema of warm salt solution on the morning of the operation; they also generally administer a hypodermic of morphin, ¼ grain, and atropin 1/150 grain, one hour and a half before the operation. A very light supper of soup or broth is allowed the night before, but no breakfast on the morning of the operation.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

March

84 Atypical Onset of Typhoid. McC. Tompkins, Richmond, Va.
85 Preventive Medicine. H. B. Hiatt, Asheboro, N. C.
86 Mental Hygiene in Children. P. V. Anderson, Morgantown, N. C.
87 Some Cases Treated with Salvarsan. L. T. Price, Richmond, Va.

Western Medical Review, Omaha, Neb.

April

88 Suggestions for Municipal Measures of Prevention of Invasions of Infectious Diseases. J. M. Banister, U. S. Army.
89 Dyspepsia from a Surgical Standpoint. G. Haslam, Fremont, Neb.
90 Apocynum in Spinal Meningitis. A. O. Peterson, Omaha, Neb.
91 After-Treatment of Appendicitis and Appendiceal Abscess. P. A. Sundbury, Holdrege, Neb.

St. Louis Medical Review

March

92 A Gouty State and its Mimicry. D. W. C. Hood, London, Eng.
93 Where the Physician Must Stand. R. Peter, Chicago.
94 Puerperal Fever. R. J. Smith, Logan, Utah.
95 Tuberculosis; Its Nature, Causes and Prevention. J. B. Huber, New York.
96 Complications of Ileocolitis. A. A. Robinson, Ogden, Utah.
97 Treatment of Varicocele. N. N. Wood, Chicago.
98 Evolution and Science in Medicine. J. L. Wolfe, Cedar Falls, Iowa.
99 The Menopause. M. Hale, Hot Springs, Ark.

Interstate Medical Journal, St. Louis

April

100 *Treatment of Malaria. F. S. Meara, New York.
101 Differential Diagnosis and Treatment of Some of the Common Diseases of the Upper Abdominal Quadrant. W. W. Grant, Denver, Colo.
102 *Unexpected Experiences in Lobar Pneumonia. C. G. Stockton, Buffalo, N. Y.
103 Symptomatology of Congenital Pyloric Stricture in Infants. C. G. Cumston, Boston.
104 *A Safe Guide for the Administration of Tuberculin. O. H. Benker, St. Louis.

100. **Treatment of Malaria.**—Speaking of the use of quinin in malaria, Meara says that there is no question that this drug were better given in solution and, indeed, when the condition of the stomach leads to a suspicion of impairment of function and hydrochloric acid may not be secreted, the solution should be used. The drug is freely soluble in any dilute acid, hydrochloric, sulphuric, phosphoric or tartaric. A minim to the grain is enough. The objection to this method is the intensely bitter taste. Effort may be made to disguise it. One way is to dissolve the dose in a few grains of citric acid (gr. x), in a little lemon juice, add to it water in which a pinch of bicarbonate of soda has been dissolved and take while effervescing. In the tertian or quartan fever of a non-pernicious type, Meara says, the daily dose of quinin to begin with should be gr. xv to gr. xx. In the estivo-autumnal form gr. xxx. In the first mentioned forms, Meara prefers to give, if the patient is seen before the paroxysm, gr. xv of quinin sulphate; if seen during the decline of the fever, the same dose. From

that time on he gives gr. xx, divided into four doses in the twenty-four hours (the dose at the decline of the fever forming a part of it), until the succeeding paroxysm is aborted, then diminishing the dose gr. ii every two days until the dose is reduced to gr. vi a day, for three or four weeks. In the estivo-autumnal forms, he gives the large dose gr. xxx to begin with, and after aborting the paroxysms, reduces to gr. xx or gr. xvii and proceeds in the same way as above. In the pernicious infections, quinin must be used hypodermically or intravenously according to the urgency.

The best salt for hypodermic use, in Meara's opinion, is the acid hydrochlorate, which dissolves in less than its own weight in water. He makes up a solution as follows:

℞	gm. or c.c.		
Hydrochlorate of quinin	5	or	gr. lxxv
Distilled water	10		ʒijss

Use 15 minims as a dose, which will contain 7½ gr. of quinin.

The amount needed in the twenty-four hours is about 24 grains, given in divided doses in this way. In the severe but less urgent forms, if given by the mouth, the amount should run up to 30 or 40 grains a day. In most urgent cases, it may be deemed advisable to put the drug into a vein. This may be done in physiologic salt solution. For example:

℞	gm. or c.c.			
Hydrochlorate of quinin	1			gr. xv
Sodium chlorid	0	075	or	gr. i
Water	10			ʒijss

Inject all at once into the basilic vein made prominent by a ligature above. Other veins, if more accessible, may be chosen.

102. **Lobar Pneumonia.**—Briefly, the cases reported by Stockton are: (1) Typical lobar pneumonia; marked leucopenia without grave depression; rise of blood-count with defervescence; (2) typical lobar pneumonia and convalescence; three weeks later the patient returned with hyperemia of the lung, fever and serious pharyngitis; abscess, pure pneumococcus culture; (3) pneumonia; acute arthritis; pneumococcus and staphylococcus recovered from blood, staphylococcus vaccine, recovery; (4) chronic valvular disease of the heart, lost compensation, acute arthritis, lobar pneumonia, septicemia, septic endocarditis, pericarditis, hemiplegia; (5) alcoholic, pneumonia, slight involvement, delirium, severe trauma, acute, general pulmonary edema; (6) sudden invasion, high temperature, pulse and respiration, thoracic pain, termination by crisis, physical signs of localized edema.

104. **Tuberculin Administration.** — Benker endorses the method which was advocated and used for a number of years by Sahli.

Alabama Medical Journal, Birmingham

March

105 Early Diagnosis of Cancer of the Stomach. U. J. W. Peters, Birmingham.
106 Nervous Symptoms of Arteriosclerosis and the Removal of the State Causing Them. T. A Williams, Washington, D. C.
107 Three Cases of Pellagra Treated with Salvarsan. C. M. Nice, J. S. McLester and G. Torrance, Birmingham.

Bulletin of the Johns Hopkins Hospital, Baltimore

April

108 Intermittent Fever in Influenza Simulating Malarial Fever. Grave Malarial Fever With Few Parasites in the Peripheral Circulation. Dangers of the Intravenous Injection of Quinin. W. S. Thayer, Baltimore.
109 The Preparation of Antitoxin. E. J. Banzhaf, New York.
110 *Clinical Value of the Determination of the Catalytic Activity of the Blood. M. C. Winternitz, Baltimore.
111 Distoma Pulmonale in Wisconsin. H. Hanson, Milwaukee, Wis.
112 *Blood Platelets and Megalokaryocytes in Hodgkin's Disease. C. H. Bunting, Madison, Wis.
113 Primary General Peritonitis with Isolation of the *Bacillus Lactis Aerogenes* in Pure Culture from the Peritoneal Exudate. J. W. Churchman, Baltimore.
114 Submucous Resection of the Nasal Septum. S. Rosenheim, Baltimore.
115 *Growth of Embryonic Chick Tissues in Artificial Media, Agar and Bouillon. M. R. Lewis and W. H. Lewis, Baltimore.

110. **The Catalytic Activity of the Blood.**—In his studies of the catalytic activity of the blood in disease, Winternitz followed fifteen cases of typhoid throughout the illness. During the early days of the illness there was no change in the catalytic activity of the blood, but toward the third week there was a gradual fall accompanying the anemia. During convalescence the activity became normal together with the red blood-count. Twelve cases of diseases of the respiratory tract, including lobar pneumonia, tuberculosis and empyema were examined. There was a slight decline in the catalytic activity of the blood during the course of lobar pneumonia. The relation of this decline to the crisis and the salt metabolism of this disease has not yet been determined by Winternitz. In other diseases of the respiratory tract there was no noteworthy variation in the power of the blood to split hydrogen peroxid, except when the disease was accompanied by a severe anemia. In four out of five cases of acute peritonitis examined, there was a characteristic rise in the catalytic activity of the blood. In one a reading had been made before the peritonitis had occurred, while in the other three the increased activity was confirmed by the decline to normal, following operation. In two cases of suspected peritonitis with high fever and leukocytosis, the catalytic activity of the blood was normal, and in these cases the peritoneum was found clean at operation. Diabetes mellitus and catarrhal jaundice exerted no influence on the catalytic activity of the blood. In diseases of the thyroid, both hypothyreosis and hyperthyreosis, the catalytic activity of a single patient's blood was not constant from day to day. In hyperthyreosis the activity tended to increase, while in hypothyreosis the activity assumed a level lower than normal. Winternitz suggests that this may be of significance in interpreting the condition of the thyroid where the signs and symptoms are atypical.* In renal, cardiac and cardiorenal cases (twenty-four cases were examined), despite the presence of a marked nephritis, provided there were no symptoms of renal insufficiency (uremial), there was no marked change in the catalytic activity of the blood. In cases of chronic nephritis, accompanied by indefinite symptoms of renal insufficiency the catalytic activity of the blood was irregular from day to day, and tended to assume a level lower than normal. In acute mercurial nephritis there was a fall in the catalytic activity of the blood. With uremic coma there was a marked fall in the catalytic activity of the blood which was permanent if the coma ended fatally, but which recovered when the coma disappeared.

With retention of urine due to obstruction of the lower urinary tract, there was a marked decline in the catalytic activity of the blood. This decline, Winternitz says, may persist for some time, but should the obstruction be removed, the catalase will again rise. Even in severe cardiac disease there is no significant change in the catalytic activity of the blood. In some cases it is high. This may be normal for these individuals, as it will be remembered some individuals have a high activity. In no single case was the activity sufficiently decreased after many readings had been made to suggest renal insufficiency. In three cases of cardiorenal disease, in which the clinical findings suggested a renal insufficiency, the catalytic activity of the blood was normal. At autopsy only a chronic passive congestion of the kidneys, the result of a decompensated heart, was found. In two cases of cerebral hemorrhage the catalytic activity of the blood was high. Whether this is an increase over normal is not known, but it is clear that the high reading would differentiate apoplectic coma from uremic coma.

112. **Blood Platelets in Hodgkin's Disease.**—The findings presented by Bunting would seem to indicate that in Hodgkin's disease there is a special activity of the platelet-producing elements resulting in the production of large numbers of platelets and in the emigration of megalokaryocytes in large numbers from the bone marrow. In the lung capillaries these latter are stripped of their protoplasm, which appears in the peripheral blood-stream in the form of the masses and pseudopodia described. What part this increased platelet production plays in the disease, Bunting is unable to say. There is in the findings a suggestion that the toxin of the disease acts as sharply on the megalokaryocytes as on the lymphoid elements, leading eventually to their necrosis.

115. **Growth of Embryonic Chick Tissues.**—Very wonderful growths from the various organs of embryo chicks of various ages have been obtained by the Lewises. The blood of adult

chickens was used. Not only were growths obtained in hanging drops, but much more extensive ones were obtained in Petri dishes, the diameter of these growths sometimes exceeding one centimeter. There was great similarity in the growths from pieces of liver, intestine, heart, brain, kidney, adrenal, muscle, stomach, thyroid, retina, cornea, etc., of chick embryos from 10 to 21 days old. Radiating strands, migrating cells, membrane formations and vesicles or loop-like places seem to be common to all. The spleen, however, usually sends off migrating cells alone for some time after the culture is made, and only later do the radiating cells appear, if they appear at all. The general similarity of the growths from the various organs leads the authors to the conclusion that the growing tissues are only such as are common to the various organs, namely, connective tissues of various kinds and endothelium of the blood-vessels. They have been able to trace, in some fixed and stained specimens, the endothelium from the blood-vessels of the original piece out into the new growth where the cells of the endothelial radiations closely resemble the cells of the other radiations found there. Recently, they succeeded in cultivating small pieces of embryonic chicks in a nutrient agar both in hanging drops and Petri dishes. The growths have, as a rule, not been so extensive as those in the plasma, but otherwise resemble them. Some specimens show radiations, others membranes and reticular formations with migration of cells. Mitotic figures are found in the stained preparations. The cells often show long irregular processes and move outward from the old piece. The following medium (Ringer) has so far given the best result with chick tissue:

Sodium chlorid	.9	......10 c.c.
Potassium chlorid	.042	
Calcium chlorid	.025	
Sodium bicarbonate	.02	
Water	100.	
Agar	.25	
Bouillon		2 c.c.
Sodium chlorid		.0675 gm.

Into a hanging drop of this medium they transplanted two small pieces from the liver of a 9-day chick embryo. Within twenty-four hours cells began to radiate and migrate from the smaller piece into the surrounding medium. In forty-eight hours the growth had exceeded that of the control in plasma and was as extensive as any growth observed in plasma from such a small piece, less than 0.5 mm. in diameter. The entire growth at the end of forty-eight hours was four times the diameter of the original piece and could readily be seen with the unaided eye.

Proctologist, St. Louis

March

116 Rectal and Perirectal Fistulæ. F: C. Wallis, London, Eng.
117 Hypogastric *versus* Iliac Colotomy. F. S. Edwards, London, Eng.
118 Clinical Aspects and Importance of Sigmoid Diverticula. W. H. M. Telling, Leeds, Eng.
119 Chronic Infective Ulceration of the Rectum. H. G. Anderson, London.
120 Submucous Anal Fistula. H. Cripps, London.
121 Treatment of Cancer of the Rectum. H. Drummond, Newcastle-on-Tyne, Eng.

Journal of the Tennessee State Medical Association, Nashville

April

122 *A Supposed Case of Ascites; Echinococcus Cysts? E. M. Beasley, Coal Creek.
123 Tumors of the Urinary Bladder. E. M. Sanders, Nashville.
124 Iritis. R. S. Doak, Nashville.
125 Adenoids. C. B. Wylie, Chattanooga.

122. **Ascites.**—Twenty-one years ago, Beasley's patient, a miner, was kicked by a mule in the right side, over the liver. This gave trouble for some time. Afterward his abdomen began to enlarge, but never gave him any great amount of trouble until January, 1909, when he was unable to go into the mines for six or eight weeks. In August, he was considerably emaciated, complained of some pain over the liver, though no tenderness on pressure. The abdomen was so distended that it was impossible to tell whether the liver was enlarged or not. Diagnosis was ascites caused by cirrhosis of the liver. Beasley gave various hydragogue cathartics and diuretics without any effect. Repeated attempts to aspirate proved futile. Finally operation was advised. On opening the abdomen, the incision filled up with a cheesy mass which soon passed out. After this ½ gallon or more of fluid of an amber color escaped. The incision was then enlarged, when cysts of various sizes from a small marble to a croquet ball, together with a large number of collapsed cysts, began to roll out. It was necessary to rupture a great many of the cysts in order to remove them. The abdominal cavity was completely filled with these cysts. Some of those that were collapsed showed that it had been some time since they ruptured. These cysts had no attachment to anything, but were packed in the abdominal cavity until there appeared no room for more. The small intestines were pressed up against the diaphragm. The peritoneum and all the abdominal organs had a yellow anemic appearance. Their walls were considerably thickened, and had a rough granular feel. The patient died thirty-six hours after operation. Beasley's final diagnosis is echinococcus cysts of the peritoneal cavity.

Journal of Ophthalmology and Oto-Laryngology, Chicago

March

126 Metastatic Gonorrheal Conjunctivitis. W. R. Murray, Minneapolis.
127 Relationship of Rhinology and Orthodontia. A. J. Hill, Canton, Ohio.

Medical Herald, St. Joseph, Mo.

April

128 One Year's Experience in a Neurologic Hospital. J. Collins, New York.
129 *Colica Mucosa. E. H. Thrailkill, Kansas City, Mo.
130 Medical Expert Opinion Evidence, and the Proposed Law Thereon—Medical Expert Opinion is Hard Earned Property. C. H. Hughes, St. Louis.

129. **Colica Mucosa.**—The following classification of these cases is made by Thrailkill. (1) Those due to a motor and sensory neurosis he designates colica mucosa simplex; (2) those due to extra-colonic conditions, causing an interference with the movement of the fecal discharges, he designates colica mucosa reflexa; (3) those due to an extension of an inflammatory process from the rectum or appendix, or when due to the retention of hardened fecal masses, foreign bodies or of the prolonged use of drastic cathartics, causing an inflammatory condition, he designates mucous colitis.

Dominion Medical Journal, Toronto

April

131 Untoward Results of Delayed Operations and of Incomplete Operations. A. Primrose, Toronto.
132 Forecasts of Medical Practice in the Future. T. D. Crothers, Hartford, Conn.

Woman's Medical Journal, Cincinnati

April

133 Arterial Ligation for Irremovable Cancer of the Pelvic Organs. W. S. Bainbridge, New York.
134 *Functional Periodicity in Women and Some of the Modifying Factors. C. Mosher, Palo Alto, Cal.

134. **Functional Periodicity in Women.**—Mosher defines menstruation as a periodic flow of blood from the uterus of a woman, occurring at fairly definite intervals (reckoned from the first day of the onset of the flow to the first day of the next onset) in the same individual, but the intervals varying in different individuals, this function being unattended with pain or incapacity due to it as such. Mosher says that if we can divorce our minds from all preconceived notions in regard to this function, be they derived from individual experience, sex tradition or accepted teachings, and consider it as we do the other periodic functions, this definition will not seem unreasonable. In the first place, she continues, it must be admitted that there is no reason for treating this function differently from the other periodic functions, such as sleep, digestion, defecation and urination, which likewise have their departures from the normal. In the second place, the observers of menstrual disturbances do not by any means agree as to the numbers affected or the degree of the infirmity. Moreover, the various bodies of statistics giving the percentage of women suffering at the menstrual period have all been based on single statements from women examined. Mosher is convinced that many of the so-called dysmenorrheas are not dysmenorrheas at all, but coincident functional disturbances in other organs. It is highly suggestive that the symptoms coincident with low blood-pressure usually are slight, in busy, active women, as in men. When the attention is of necessity directed to so obvious a process as the menstrual flow, untrained women,

especially if without absorbing occupation, naturally refer their lessened sense of well-being and diminished sense of efficiency, which may accompany the lowered general blood-pressure occurring near or at the menstrual flow, to the function of menstruation.

In a group of average women, Mosher has produced a marked improvement at the menstrual period by using so simple a measure as deep breathing. All constricting dress having been removed, the women, in the recumbent position and with knees flexed to relax the abdominal muscles, have done deep breathing once or twice a day during the menstrual period, with the result that all pelvic sensations, depressions and minor symptoms usually included in the term dysmenorrhea have disappeared. In a number of cases also the period has been shortened more nearly to conform to the period of principal flow. These experiments, Mosher thinks, tend to emphasize still further that the upright position, the force of gravitation and constricting dress are conjoined factors in hindering the circulation of the blood from the pelvis to the heart, and are therefore important factors also in producing dysmenorrhea. Since in women of the uncivilized races we find the minimum of flow with no disability and perfect functioning, there can be no danger in gradually lessening by such physiologic methods the period of prolonged pelvic congestion.

American Journal of Surgery, New York

April

135 Duodenal Ulcer. R. T. Morris, New York.
136 Eleven Successful Operations for Fractured Femur. J. B. Walker, New York.
137 Deformities of the Nasal Septum and Their Correction. C. G. Crane, Brooklyn, N. Y.
138 Surgery of the Thyroid. J. E. Jennings, Brooklyn, N. Y.
139 Local Anesthesia. A. E. Hertzler, Kansas City, Mo.
140 Bismuth Paste in Mastoid Surgery. C. J. Imperatori, New York.
141 Cholelithiasis and Cancer of the Gall-Bladder Involving the Abdominal Wall. W. H. Luckett, New York.
142 A Case of Supernumerary Spleen. A. W. Blain, Detroit, Mich.

Journal of Abnormal Psychology, Boston

April-May

143 Psychotherapy and Re-Education. J. E. Donley, Providence, R. I.
144 Influence of Dreams on Waking Life. E. Jones, Toronto.
145 *Detection of a Case of Simulation of Insanity by Association Tests. E. W. Katzen-Ellenbogen, Boston.
146 The Psychopathology of Hysteria. I. H. Coriat, Boston.

145. **Detection of a Case of Simulation of Insanity.**—In the case reported by Katzen-Ellenbogen, the association test proved very satisfactory. In his general discussion of the subject the author points out that psychology, even in its present adolescent state, can be of assistance in problems of practical life, although it would be entirely wrong to contend that by the association test the truth of a person's statement could be positively determined. Indeed, if the association test were to be used for this purpose, he should prefer to refrain from the use of it altogether. He believes, however, that by skilful application to certain cases, the association test may prove a very valuable addition to many tests in criminal investigating work, as has been lately shown by the Bertillon methods, etc., and be of great assistance in many instances for clearing away doubts as to the truthfulness of witnesses.

In the case under review Katzen-Ellenbogen worked with a man wholly unprepared and incapable of understanding the purpose of the investigation, ignoring the facts that a hesitation, the change of word in the reproduction, were the very instances which would most convincingly tell against him. Considering even the circumstance of his knowing these facts, of his even being a psychologist quite skilful in psychologic technic, he would be equally unable to control the form of his answers and the time of associations, even to a fraction of a second. The attempt to control his answers or prepare them beforehand would incriminate him more than anything else. In this same way a refusal to cooperate might be equally harmful as a result. This argument in favor of the association test is rather directed to the sceptical students of law, as the psychologists themselves are more inclined toward an optimistic than a pessimistic view of the success of these tests. The criminal himself would hardly object to this form of investigation, as it would rather impress him with the fact of his having been cleverly overtricked; to the very end both he and the examiner are able to remain on friendly terms, as it happened in the case reviewed.

Albany Medical Annals

April

147 What Is Psychotherapy? N. A. Pashayan, Schenectady, N. Y.
148 Surgical Treatment of Goiter. E. MacD. Stanton, Schenectady, N. Y.
149 Carcinoma of the Stomach, Gall-Bladder, Pancreas and Ducts. W. P. Faust, Schenectady, N. Y.
150 Mucous Disease. C. F. Clowe, Schenectady, N. Y.
151 Differential Diagnosis of Early Carcinoma of the Stomach and Benign Subacidities. J. Meyers, Albany, N. Y.

Archives of Ophthalmology, New Rochelle, N. Y.

March

152 A Useful Addition to the Test Chart. E. F. Snydacker, Chicago.
153 Two Cases of Interstitial Keratitis of Sympathetic or Syphilitic Aspect. J. Santos-Fernandez, Havana, Cuba.
154 Optic Atrophy from Traumatic Asphyxia. F. J. Parker, New York.
155 Early Changes Occasioned by the Invasion of the Eye by the Cysticercus. G. Cirincione, Palermo, Italy.
156 Traumatic Enophthalmus. A. Birch-Hirschfeld, Leipsic, and Meltzer, Wedel.
157 Influence of the Accommodation on the Ocular Tension in Vertebrates. C. Hess.
158 Comparative Studies of Miosis Due to Light and to Convergence, and of the Action of Atropin and Eserin on the Iris and Ciliary Muscle, with Remarks Concerning the Form of the Pupil. F. Kanngieser, Marsburg.
159 Extent of the Pupillo-Motor Area of the Retina. F. Best, Dresden.
160 A New Method of Examination for Double Images. W. Hess, Zürich.

Buffalo Medical Journal

April

161 Recent Views Concerning Treatment of Cancer, Based on its Nature. R. Park, Buffalo.
162 The Midwife. P. W. Van Peyma, Buffalo.
163 Double Inguinal Strangulated Hernia in a Cryptorchid. L. G. Hanley, Buffalo.

Journal of Cutaneous Diseases, New York

April

164 Pellagra in Ohio. W. T. Corlett and O. T. Schultz, Cleveland.
165 A Fatal Case of Bullous Dermatitis. S. Pollitzer, New York.
166 Problems in Metabolism Occurring in Patients with Certain Diseases of the Skin. L. D. Bulkley, New York.
167 Prurigo, and the Papule with the Urticarial Basis. O. H. Holder, New York.

St. Paul Medical Journal

April

168 Christian Science. J. Knott, Dublin, Ireland.
169 Antituberculosis Work in Minnesota. C. Easton, St. Paul.

Louisville Monthly Journal of Medicine and Surgery

April

170 A Dozen Obstetrical Don'ts. J. G. Cecil, Louisville.
171 Ethmoiditis. S. G. Dabney, Louisville.
172 Cancer of the Stomach with Gastrectomy. C. G. Lucas, Louisville.
173 The LaForce Adenotome. S. G. Dabney, Louisville.

Mississippi Medical Monthly, Vicksburg

April

174 The Puerperium. L. C. Feemster, Nettleton.
175 An Untilled Field in Eye Work. E. C. Ellett, Memphis, Tenn.
176 The County Society. A. J. Newman, Acona.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

March 25

1 Indigestion. G. Rankin.
2 Hour-Glass Contraction of the Stomach. R. P. Rowlands.
3 *Acute Dilatation of the Stomach; Gastrotomy; Recovery. G. G. Farquhar.
4 *Treatment of Appendiceal Abscess with Pure Phenol and Iodoform. A. E. Maylard.
5 A Case of Idiopathic Dilatation of the Colon. W. Leggett.
6 *Experiments on Cold-Chamber Treatment. J. G. Thomson and R. Ross.
7 *An Analysis of 326 Cases of Asiatic Cholera. H. Stevens.
8 The After-History of Thirty Cases of Movable Kidney Treated by Operation. A. R. Short.
9 The "Cardio-Splanchnic Phenomenon" of Abrams. W. Gordon.

3. **Dilatation of the Stomach.**—Nearly all the recorded cases of acute dilatation are alike in obscurity of cause and fatality of termination. Farquhar cites a case in which one cause was not only clear, but removable, and the result was uninterrupted recovery. A young woman, aged 23, was advised

by a "wise woman" to eat figs in order to burst a small abscess in the axilla. She ate nearly a pound of dried Turkey figs at 11 a. m., Dec. 24, 1910. Two hours later, ineffectual retching set in with abdominal pain, which continued with increasing severity all day and the following night. The bowels moved slightly in the evening. The girl had several alarming attacks of breathlessness in the night. Farquhar was summoned at 9 a. m. the next day. The abdomen was not distended, and moved slightly with respiration. There was a general slight increase of resistance and a diffuse tenderness, most noticeable between the umbilicus and the left anterior superior spine. The pain had come on gradually and was now severe, especially in the epigastrium, but also in the left iliac region. The pulse was 84 and the temperature normal. After examination she sat up with a sudden cry and gasped for breath; the pupils dilated fully, and showed momentarily a slight red reflex. For about ten minutes she looked as if she might fall back dead. When she regained her breath, a little brandy and water was given and she began to retch, but only a little fig pulp came up. As this seemed too thick to flow through a stomach tube, none was passed lest it should provoke another attack of dyspnea. One hour later, a slightly distended dull area could be made out below and to the left of the umbilicus. An enema of soap and water was ordered and hot applications to relieve the pain, but no morphin was given at this stage.

Twenty-nine hours after the onset of pain and vomiting, the abdomen was opened. A large swelling like an ovarian cyst presented in the wound. It was tympanitic above but dull below, and was found to fill the whole of the front of the abdomen. It was recognized as an enormously distended stomach, the greater curvature being hidden below the pubis, and the lesser curvature appearing like a vertical chink between the inflated halves of the organ. The dilatation seemed to extend to the second stage of the duodenum. An area of the stomach was drawn forward and packed off with gauze from the peritoneal cavity. A small incision was made to allow gas to escape. Fluid containing fig juice and emitting a strong vinous odor, flowed freely for a time, and then masses of half-masticated figs were removed with a scoop. The pylorus and the first part of the duodenum were found to be dilated sufficiently to admit three fingers. When all the contents had been removed, the stomach contracted gradually till the greater curvature was just below the umbilicus. The wound in the stomach was closed in three layers, and the abdominal wall brought together in the usual way without drainage. Recovery was uneventful and complete.

4. **Treatment of Appendiceal Abscess.**—The striking inhibitive effects of phenol when used for external conditions led Maylard to venture on its employment in cases of appendiceal abscess in which the extreme offensiveness of the discharge and the necrotic processes in the appendix suggest conditions not altogether unlike those met with in traumatic gangrene. The abscess cavity is freely wiped with a small gauze swab soaked in pure phenol. An effort is made to reach every part of the cavity. A dry swab is then introduced to soak up any of the remaining acid, and immediately thereafter any amount, up to a half a teaspoonful, of iodoform is put into the cavity, and with a blunt instrument smeared over its walls. A rubber drainage tube about a quarter of an inch in diameter is conducted to the lowest part of the cavity, and on one side of the tube a narrow strip of iodoform gauze is packed in zigzag fashion, just sufficient to fill the cavity; this, with the tube, is conducted out of the abdomen about the center of the wound. The after-treatment is as follows: On the second day after the operation, the iodoform gauze packing is partially removed; on the third day it is completely removed; and, however fetid may have been the pus at the time of operating, the plug will be found to be perfectly "sweet." On the fifth or sixth day the drainage tube is taken away, and on the tenth day the stitches are removed. At the end of four weeks the patient is allowed up.

In sixteen out of the twenty-seven cases cited by Maylard, the abscess was reached by the ordinary "gridiron" incision, neither muscle nor aponeurosis being divided across the direction of the fibers. In twenty-five cases out of the twenty-seven, the appendix was sought for and removed. In one of the remaining two it was only partially removed, as a portion had disappeared, while in the other it could not be found. Every patient recovered, and in none were there any subsequent complications, such as subdiaphragmatic abscess, pylephlebitis, pneumonia or other conditions suggestive of septic absorption or local accumulations of pus. The pulse and temperature usually fell within twenty-four hours. The subsequent results of operation were traced in twenty-five out of the twenty-seven cases, and nineteen of these twenty-five patients were seen and examined. With the exception of the twenty-seventh patient, who had only been operated on a month previously, the interval between operation and report ranged from three months to four and three-quarter years. An examination of these results shows: 1. When the "gridiron" incision was employed, in ten out of fourteen cases there was some bulging of the cicatrix, mostly slight and in almost every instance at the place where the drainage tube and gauze packing emerged. 2. When the internal oblique and transversalis muscles were cut across by extending the incision upward, three out of six cases showed bulging, the protrusion being in one case at the seat of exit of the drainage tube, and in the other two at the lower part of the cicatrix. 3. When the internal oblique and transversalis muscles were cut across by extending the incision downward and inward, the three cases so treated showed bulging. Maylard is convinced that, when proper precautions are taken to protect the general peritoneal cavity, this method of operating admits of every abscess being opened and every appendix sought for and removed with perfect safety. This method prevents any subsequent septic complications, such as subdiaphragmatic abscess, pylephlebitis, pneumonia, thrombosis and other septic manifestations connected either with the wound locally or with deeper and more distant parts. As drainage is considered advisable in every instance, the probabilities are in favor of a weakened cicatrix at the seat of exit of the tube and gauze, with, later, hernial protrusion; but, provided the incision is of the "gridiron" variety, with no cross division of muscle or aponeurotic fibers, and neither the tube too large nor the packing excessive, the bulging may be only slight.

6. A similar article by these authors was abstracted in THE JOURNAL, Sept. 10, 1910, p. 973.

7. **Asiatic Cholera.**—Of 326 cases of cholera occurring in the Funchal epidemic treated in the Isolation Hospital, Funchal, Madeira, in roughly 75 per cent. there was an acute onset; in many it was fulminating. In the remaining 25 per cent. the onset was gradual. The duration of symptoms in those individuals who recovered was from three to ten days. In only 5 per cent. of the cases were cramps in the legs and abdomen absent. After acute symptoms had passed off, about 3 per cent of the patients went into a condition resembling typhoid, with tympanites, slight secondary diarrhea, headache and temperature above 101 F. for more than a week. Some of these gave the Widal reaction in the stronger dilutions, but they all recovered within a fortnight. About 10 per cent. of the patients were chronic alcoholics, and this class of the community seemed especially prone to take the disease. Of the female patients fully 10 per cent. were lactating, which seems a high percentage. There were also five pregnant women among the patients. Of these, four aborted, two between the second and third month and two between the sixth and seventh month; two died, but without any puerperal complications. Among the 326 patients, there were thirty infants under 3 years of age and forty-two persons over 60. The epidemic, comprising about 1,700 cases for the whole island of Madeira, has been disseminated entirely by food and actual contact, and not by means of water supply. It was stamped out by rigid isolation or segregation of all "contacts." Systematic examination of the feces was carried out in the case of all convalescents, all inmates of the "contacts" segregation block, and all hospital employees. Of the 206 convalescents, twenty carried the vibrio in the feces for more than a fortnight after the disappearance of the active symptoms. Out of about 350 inmates of the "contacts" block, only six actually developed the disease, but many who never showed symptoms were found to carry the vibrio in the feces for more than three weeks after being in contact with a patient

Lancet, London

April 1

10 Ankylostoma Infection. A. E. Boycott.
11 *Diagnosis of Gall-Stones. J. Sherren.
12 Congenital Abnormality of the Heart; a Case of Cor Trilocular Biatriatum. J. I. Robertson.
13 *Slight General Enlargement of the Thyroid as Found in School Children. C. W. Hutt.
14 The Fading of Anilin-Stained Microscopic Preparations. A. C. Coles.
15 Extensive Blistering Occurring in an Infant; Diagnosis of Scurvy. S. Bott.
16 *Experiments on Inhibition of Tumor Growth in Rats and Mice, with a Suggestion for an Empirical Treatment in Man. A. S. Grünbaum.

11. **Diagnosis of Gall-Stones.**—Of forty-three patients suffering from gall-stones and operated on by Sherren during the past two years, twenty-six had had indigestion, for which they had been under medical care for long periods; one patient after being treated for gastric ulcer was sent to the hospital on the occurrence of her first attack of colic as a case of perforated gastric ulcer. Another patient had had gastroenterostomy performed without relief; at operation, Sherren removed 140 small stones from the gall-bladder and one from the common bile-duct. Of these twenty-six patients, twenty had had attacks of biliary colic after periods of indigestion ranging from five months to forty years; in the majority of the cases the history of indigestion was of over five years' duration. The special points in the dyspepsia due to biliary calculi Sherren believes are these: its association with flatulent distention; the frequency with which the patient is awakened at night; the pain is not relieved by taking food, and if associated with vomiting this may not relieve it, but vomiting is unusual. Abdominal examination in these cases may settle the diagnosis; for example, in two of the cases in which Sherren operated, before the onset of colic a distended gall-bladder was distinctly palpable. Tenderness under the right lower ribs is usually present and Murphy's sign may be elicited. Occasionally no physical signs exist. A large proportion of all cases of duodenal ulcer give symptoms enabling a certain diagnosis to be made, the most important being hunger pain relieved by taking food and waking the patient in the early hours of the morning. In these cases the ulcer is in the first part of the duodenum. These symptoms are never produced by gall-stones. There are cases, however, in which the symptoms of gall-stones are mimicked closely by those due to an ulcer in the second part of the duodenum. Cases of this nature are, however, unusual. Among the forty-six cases of chronic duodenal ulcer that Sherren has operated on before perforation has taken place, the symptoms in three simulated those due to gall-stones, and in these the ulcers were situated in the second portion of the duodenum.

13. **Enlargement of Thyroid.**—Hutt calls attention to the fact that slight general enlargement of the thyroid is fairly common in some districts. The number of cases investigated, unfortunately, does not warrant any very definite conclusions.

16. **Inhibition of Tumor Growths.**—On the assumption that some kind of protective substance might be formed in animals affected with epithelioma, the authors injected the serum of a mare having epithelioma of the vulva into some cases of cancer, more especially one of uterine cancer. A violent reaction followed each injection (which was made locally), and the case was modified from an inoperable to an operable condition. Both operation and further treatment were refused, and when the patient returned later, renewed treatment with the serum from another mare failed to reproduce the former effect. Later experiments showed that in rats, regression of inoculated growths may follow the injection of epitheliomatous horse serum and also of simple horse serum, and that this regression occurs in the greater proportion of treated than of untreated rats. Another quite different series of experiments revealed the curious and interesting fact that it was not possible simultaneously to produce immunity against cobra venom and to retain susceptibility to new growth inoculation in mice and rats, nor, conversely, after successful inoculation with tumor, to produce immunity to cobra venom. If the tumor were already present, and continued to enlarge, the animal succumbed to a few ordinarily sublethal doses of cobra venom. On the other hand, in those animals in which immunity could be established, growths which had already reached a size of 1 cm. in diameter would regress.

The inference from this series of experiments was that if the treatment caused the regression, such regression must be due to some antibody or antibodies formed as the result of this active immunization. If this were so, passive immunization with antivenom serum should produce similar effects. Therefore, a series of animals with well-grown tumors was treated with antivenom serum. Regression took place only when the growths had not exceeded about 1.5 cm. in diameter. The authors feel that the results of these experiments warrant the extension of the treatment to human beings, and at the same time show that quite inoperable cases are not fair subjects for such trial, for it seems not unlikely that similar limitation to that seen in rats will exist in the case of man. Three human patients have already received treatment by combined passive and active immunization, but since the mass of tumor was large in each case and was not excised, they were not fair cases for the purpose, although they showed that the treatment in itself was harmless. It is not possible to state whether any lasting effect was produced on the growths, since the patients left the hospital too soon for the formation of a definite opinion.

Annals of Tropical Medicine and Parasitology, Liverpool

March

17 Pathology of Lesions of the Cornea and Skin in Animal Experimentally Infected with T. Rhodesiense. W. Yorke.
18 A Case of Sleeping Sickness Studied by Precise Enumerative Methods. R. Ross and D. Thomson.
19 Trypanosoma Gambiense and Trypanosoma Rhodesiense in Rats, Guinea-Pigs and Rabbits; Periodic Variations Disclosed. H. B. Fantham and J. G. Thomson.
20 Life-History of Trypanosoma Gambiense and Trypanosoma Rhodesiense as Seen in Rats and Guinea-Pigs. H. B. Fantham.
21 Experiments on the Treatment of Animals Infected with Trypanosomes by Means of Atoxyl, Vaccines, Cold, Roentgen-Rays and Leukocytic Extract; Enumerative Methods Employed. R. Ross and J. G. Thomson.
22 Auto-Agglutination of Red Blood Cells in Trypanosomiasis. W. Yorke.
23 A New Genus of Culcinæ from the Amazon Region. R. Newstead and H. F. Carter.

Australasian Medical Gazette, Sydney

February

24 The Work of the Southern District (Australia) Medical Association. H. Stoker.
25 Local Features in Occurrence of Eye Disease. C. G. MacLeod.
26 Endemic Hematuria or Iliawarra Red-Water in Bovines and Its Possible Ocurrence in Man. J. B. Cleland.
27 Open Ethyl Chlorid Anesthesia for Minor Operations. R. W. Hornabrook.
28 Pathogeny of Ulcerating Granuloma. C. L. Strangman.
29 *Pneumonia Due to a Gram-Negative Diplococcus. A. S. Vallack.
30 Biologic Properties of the Cholera Vibrio and Other Vibriones. B. Bradley.

29. **Pneumonia Due to a Gram-Negative Diplococcus.**—About thirty cases of pneumonia due to this coccus have come under Vallack's notice, and the features of the disease have been so characteristic that there is little difficulty in differentiating it from pneumococcus pneumonia. In cases of pneumonia due to the pneumococcus, as a rule, only one member of the household is attacked. In the case of pneumonia due to the Gram-negative coccus, other members of the household are attacked by the same germ. The onset of ordinary pneumonia occurs with the greatest suddenness. With the other coccus the onset is not sudden; the patient is ill for several days with catarrh of the upper respiratory tract before the pneumonia supervenes. The temperature of ordinary acute pneumonia is perhaps more characteristic than that of any other disease. In the other disease the rise is more gradual, reaching high-water mark about the third day. The fall is by lysis, and it may take from two to six days or more to accomplish. The toxins of this germ are not nearly so depressing to the heart as those of the pneumococcus. A fair amount of pain may be present, but Vallack has not seen in any case the agonizing pain which may be present in pneumococcus pneumonia. A remarkable difference in the two affections is seen in the comparative absence of distress in this disease. A patient with one whole base consolidated will lie in bed with comparative comfort. The sputum is much more scanty as a rule than in the pneumococcus disease, and may be entirely absent even when considerable consolidation is present. When present it

is of a rusty color and contains numbers of encapsulated diplococci. These are often in large groups comprising fifty or more. They are decolorized by Gram's method. The physical signs of a fully developed case are similar to those of ordinary pneumonia. The stage of suppressed breath-sounds, however, which is common to both diseases, often lasts a good deal longer in this disease than in that due to the pneumococcus. One may find places where the breathing is still suppressed several days after the onset of the disease, while in other places tubular breathing is present. The disease is much less fatal than pneumococcus pneumonia, chiefly owing to the effects of the latter on the heart. Vallack emphasizes that this disease is infectious, and patients should not be admitted to the wards with other patients. Occasionally a patch of this pneumonia takes some time to clear up, giving rise to a suspicion of tuberculosis.

Australian Medical Journal, Melbourne

February

31 Hydatid Disease of the Lung. F. D. Bird.
32 Diagnosis and Treatment of Pulmonary Hydatids. G. T. Howard.
33 Pulmonary Hydatids. D. M. Morton.
34 Prognosis and Treatment of Hydatid of Lung. J. Cooke.
35 A Case of Mediastinal Hydatids. M. L. Williams.
36 The Work of an Army Medical Corps in the Time of War. C. H. W. Hardy.

Practitioner, London

April

37 Hodgkin's Disease, from the Surgical Point of View. Sir F. Eve.
38 Hodgkin's Disease and Intermittent Pyrexia. F. de H. Hall.
39 Aspects of Lymphadenoma (Hodgkin's Disease). H. D. Rolleston.
40 *Low Blood-Pressure. W. Edgecombe.
41 A Case of Splenic Abscess; Operation; Recovery. G. N. Pitt and C. H. Fagge.
42 Obesity. L. Williams.
43 Septic Infection of the Intracranial Sinuses. W. Taylor.
44 Treatment of Progressive Descent of the Uterus. E. Scott-Carmichael.
45 Radiographic Demonstration of Lane's Ileal Kink. A. C. Jordan.
46 A Case of Acute Phlegmon of the Pharynx. J. Harper.
47 Immediate Treatment of Retention of Urine in the Male. W. Edmond.
48 Three Cases of Peroneal Paralysis. W. B. Jack.

40. **Low Blood-Pressure.**—Individuals presenting low blood-pressure, Edgecombe says, are subjects with poor circulation, cold hands and feet, and liable to chilblains. He has encountered several examples in which the systolic blood-pressure rarely rose above 95 mm. Hg. By means of baths, massage and exercise, a temporary rise may be effected, during the maintenance of which the objective and subjective signs of defective circulation improve manifestly; but it is difficult to effect an enduring rise in the general level of blood-pressure in these cases, for they are prone, on cessation of treatment, to relapse to their former state. In cases of pure neurasthenia, having as their prominent characteristic, profound fatigue either somatic or psychical, or both, the blood-pressure is also low. A woman had a systolic pressure of only 85 mm. sitting, and 80 recumbent; she was subject to most violent headaches and had been dosed freely and for long periods with the usual headache remedies. A rise in tension of the circulation temporarily afforded relief to the pain. Whether the low blood-pressure in these cases of neurasthenia is the cause or the effect of the extreme fatigue, Edgecombe says is not easy to say. The probable sequence of events is a lowering of blood-pressure by toxic or other causes, and it is the extreme feebleness of the circulation that gives rise to the subjective sensation of intense fatigue. Certain it is that a rise in blood-pressure is an almost invariable accompaniment of improvement. In marked contrast to these is the irritable type of neurasthenic—the "neurotic" individual, who is frequently not a true neurasthenic, but a psychasthenic or a hypochondriac. In these cases the pulse is usually quick and irritable, and the blood-pressure subject to great variation, but generally above the normal and sometimes markedly so. Tobacco raises the blood-pressure and yet heavy smokers frequently have subnormal pressure. In cases of dilated heart, with or without valvular disease, the pressure will sometimes be found low, and a rise in pressure is one of the indications of the progress of the case toward recovery.

Edgecombe has seen many examples of the so-called gouty or rheumatic manifestations—lumbago, sciatica, neuritis—which showed a blood-pressure somewhat below normal. Many of these patients have a subnormal acidity of the urine, and are liable almost constantly to a copious deposit of phosphates; and this leads to, or is accompanied by, a state of nervous depression, which is a very real thing to those who suffer from it. The origin of the diminished acidity is digestive, and the nervous depression is due to reflex disturbance from irritation of the sensitive nerve mechanism of the bladder and urethra by the phosphatic urine. It is remarkable how rapidly the blood-pressure will rise and the symptoms disappear if the urine is rendered acid and the phosphates kept in solution. The clinical symptom phosphaturia, in whatever condition it may occur, is usually accompanied by a low blood-pressure, probably for the reason given above. Subacute cases of rheumatoid arthritis in young subjects frequently have a blood-pressure below normal, which rises as the condition improves. Exercise, carefully graduated, improves the tone of the heart and vessels and raises the pressure, while altitude and baths have a marked effect in the same direction.

Annales des Maladies des Org. Génito-Urinaires, Paris

March, XXIX, No. 5, pp. 385-480

49 *Polycystic Disease of the Kidney. (Les reins polykystiques.) Pousson.
50 Segregation of the Urine in the Female Bladder. (Un instrument qui rend exacte l'application du séparateur de Luys chez la femme.) D. Taddei.

49. **Polycystic Kidney.**—Pousson reports good results from operative treatment of polycystic degeneration of the kidney in three typical cases and fair results in forty-two others. The operations do not cure completely, he remarks, but they combat the accidents and complications which increase the gravity of the condition and threaten life. The indications for operation are compression of neighboring organs, pain, hematuria, uremia, oliguria, anuria or suppuration. Nephrotomy is the preferable operation. One patient, a carpenter, is in comparatively good health to-day after nephrotomy early in 1908; he had long suffered from gall-stones. The left kidney was in advanced cystic degeneration. During the three years since the nephrotomy the man has been free from all pain and has worked constantly. In another case, the nephrotomy was done for oliguria, headache, cramps and other symptoms of mild nephritis. Pousson ascribes the affection to some inflammatory process, possibly traceable to some acute infectious disease or alcohol or lead poisoning, the gouty tendency or malaria. The assumption of a causal inflammatory process harmonizes further with the clinical course of the polycystic affection. Nephrectomy should be reserved for the tuberculous cases.

Archives Générales de Chirurgie, Paris

February, V, No. 2, pp. 121-240

51 *Cancer of the Kidney in Two Little Girls. R. Buccheri.
52 Favorable Significance for Prognosis of Early Meteorism After Trauma of the Abdomen. D. G. Zesas.
53 *Sigmoiditis and Infection of the Internal Genitalia in Women. J. Poulain. Commenced in No. 1.

51. **Cancer of the Kidney.**—The cancers were a sarcoma and an epithelioma, both inoperable; the patients were 2 years and 7 months and 3 years old respectively. There was no history of traumatism, and the children were otherwise apparently normal.

53. **Sigmoiditis and Infection of Internal Genitalia in Women.**—Poulain warns that disease of the genital apparatus is very liable to spread to the sigmoid flexure. The microbes find their way by the peritoneum and induce production of adhesions which may cause serious trouble later. On the other hand, inflammation in the sigmoid region as a result of constipation may involve the genitalia and may cause misleading symptoms on the part of the ovaries or Fallopian tubes. These facts explain the predominance of left salpingitis. Whenever the adnexa are presenting symptoms of inflammation, the pains being most pronounced on the left side, he advocates hot intestinal enemas rather than vaginal injections, as, while they have practically the same therapeutic action, they permit

energetic disinfection of the sigmoid flexure. He insists that this should be done systematically before attempting to operate in case of salpingitis or for ovarian cyst. etc. These conclusions are based on nineteen cases. including six from his own experience reported in detail with summaries of the others.

Bulletin de l'Académie de Médecine, Paris

March 14, LXXV, No. 11, pp. 351-385

54 Three Cases of Abscess in the Brain Consecutive to Abscess in the Liver. Contaud and Peyrot.
55 New Name for Malta Fever. (Sur le nom de Mélitococcie à donner à la fièvre de Malte.) R. Blanchard, Chauffard. Benjamin and F. Widal.
56 Case of Laboratory Infection with Malta Fever. F. Widal.
57 Apparatus for Mixed Anesthesia. (Méthode des mélanges titrés pour l'anesthésie chloroformique.) P. Reynier.
58 Amblyopia with Strabismus; Disuse Its Cause and Exercise Its Cure. (De l'amblyopie strabique.) Lagrange.

Bulletins de la Société de Pédiatrie, Paris

February, XIII, No. 2, pp. 65-107

59 *Infant Feeding. (La ration alimentaire du nourrisson.) J. Comby.
60 *Idem. (Hypoalimentation du nourrisson et insuffisance qualitative de la secrétion mammaire de la nourrice.) E. Gaujoux.
61 Idem. (Les nourrissons hypoalimentés, leurs vomissements, leur réalimentation.) J. Lemaire.
62 Technic for Repair of Cleft Palate. (Division congénitale du voile du palais.) V. Veau.
63 *Persisting Thymus and Mediastinal Adenitis. (Hypertrophie du thymus et adénites médiastinales.) V. Veau.
64 *Sterilization of Abscess Cavities. (Lavage des poches d'abcès froids et chauds.) Ombrédanne.
65 Emotional Jaundice in Children. (L'ictère émotif chez l'enfant. Observation d'un cas suivi d'une petite épidémie familiale d'ictère infectieux.) P. Merklen.

59. **Infant Feeding.**—Comby emphasizes the importance of studying individual conditions, but his general rule is 100 gm. of good milk to the kilogram of weight when the infant is strong and well. This amount represents only 75 calories per kilogram, that is 34 calories per pound of weight, and this is not sufficient for weakly infants or the very young. These need 95 or even 100 calories per kilogram, which would require 120, 130 or 150 gm. of milk.

60. **Id.**—Gaujoux makes a point of analyzing the breast milk when a child is not thriving and states that a woman can increase the amount of milk from one-sixth to one-third by drinking fluids but the nourishing value of the milk is reduced in proportion. He warns further that infants fed artificially may not be getting the proper amount of nourishment as the mothers dilute the milk as directed, not realizing that the milkman has previously watered it.

63. **The Thymus and Glandular Disease in the Chest.**—Veau has removed the thymus in nine cases for disturbances in breathing for which the enlarged thymus was supposed to be responsible. But in two cases, notwithstanding the signs of thymic obstruction and difficulty in breathing and swallowing, attacks of suffocation and dulness over the manubrium, the thymus was found quite small. The whole trouble was an infected gland behind the sternum which Veau easily removed, the operation being followed by complete functional success. Removal of glands above the bifurcation of the trachea, behind the brachiocephalic vein, was very easy by this route which permitted also draining of the upper mediastinum. In these cases of supposed enlargement of the thymus an acute pulmonary affection had preceded the disturbances. In future, he says, he will look for mediastinal adenopathy instead of ascribing the subglottic stenosis exclusively to the thymus in such cases. Another sign that might have been instructive, if heeded, was that the difficulty in breathing seemed to be predominantly below the diaphragm; there was only a little above the clavicle and none above the sternum. The organs in the mediastinum were adherent from the preceding inflammation, so that there was no movement when the chest was opened. These adhesions explain the discordance between the diaphragmatic and cervical difficulty in breathing and this lack of agreement between them should suggest. Veau declares, infection of glands rather than enlargement of the thymus.

64. **Lavage of Abscesses.**—Ombrédanne gives an illustrated description of a puncture device connected with three jars and a bulb with which it is possible to aspirate the contents of an abscess, rinse it out and follow this with a disinfectant, all without changing the cannula. The apparatus can be used also for treating a suppurating gland in the neck, but for this he supplements it by drawing silk through the abscess to make an aseptic seton. The needle can be inserted in the silk and a quart of cleansing fluid sent through the lesion, followed by an iodin solution. The lesion is thus healed with merely two minute incisions, one above and one below.

Lyon Médical, Lyons

March 12, CXVI, No. 11, pp. 449-512

66 Serotherapy of Typhoid. A. Rodet., Commenced in No. 10
67 Technic for Induced Pneumothorax in Treatment of Pulmonary Tuberculosis. P. Courmont.

March 19, No. 12, pp. 513-552

68 Difficulty in Estimating Extent of Injury in Industrial Accidents Involving the Eye. E. Grand-Clement.

Presse Médicale, Paris

March 18, XIX, No. 22, pp. 209-220

69 *Cultivation of Tissues in Vitro. A. Carrel and M. T. Burrows (New York).
70 *Total Resection of Superficial Idiopathic Varices on the Legs. P. Alglave.
71 Spasm of Esophagus. (Ce que doit être actuellement la conception des spasmes de l'oesophage.) Guisez.

March 22, No. 23, pp. 221-228

72 Laws Regulating the Balance in the Cardiovascular System. A. Martinet.
73 Instrumental Re-Education of the Ear. (La rééducation de l'oreille chez les sourds et sourds-muets par l'emploi d'un appareil microphonique.) E. Lalme.

69. **Growth of Tissue in Vitro.**—Carrel and Burrows here review their work in this line, which is already familiar to the readers of The Journal. Some of their most recent communications on the subject were published in The Journal, Jan. 7, 1911, and in the *Journal of Experimental Medicine*, March, 1911.

70. **Resection of Superficial Varices.**—Alglave summarizes his experience with total resection of superficial idiopathic varices in seventy-five cases. This operation restores working capacity and seems to be equally beneficial for the painful and complicated cases and for the less serious. The incision runs from ankle to groin, on the inner aspect of the leg, and the author advocates the operation in every case in which the varices begin to prove painful or annoying. There is no need to wait, he asserts, for subsidence of the phlebitis; but in this case he always ligates under local anesthesia the terminal segment of the internal saphena before operating on it, to avoid danger of embolism. In his cases the temperature dropped at once after resection of the inflamed veins, showing that the trouble was limited to the vein. In varicose ulcer, he resects a lozenge-shaped flap of skin with the segment of the vein, with Thiersch flaps in the rare cases in which there were no signs of healing after ten or twelve days.

Revue de Médecine, Paris

March, XXXI, No. 3, pp. 177-264

74 Elimination of Uric Acid in Connection with the Diet. (Excrétion urique et alimentation.) M. Labbé and L. Furet.
75 *Nystagmus and Myoclonia. (Le nystagmus-myoclonic. II.) E. Lenoble and E. Aubineau.

75. **Nystagmus and Myoclonia.**—Lenoble and Aubineau give the details of thirty-eight additional cases of the peculiar myoclonia to which they called attention in 1905 as an affection comparatively common in western France and frequently of a familial type. The constancy and the fixity of the nystagmus render it the most striking of the group of symptoms. In the majority of cases the patients lead an active life with no other evidence of physical or mental degeneracy. The affection is congenital; in the few cases in which it was not noticed until after an intercurrent febrile affection, it had probably existed in a latent form. It belongs in the scale of myoclonias ranging from isolated nystagmus, through the nystagmus-myoclonia to Friedreich's paramyoclonus, Morvan's fibrillary chorea and Gilles de la Tourette's maladie des tics. All are manifestations of a special and obscure morbid condition resulting from a biologic degeneracy.

Archiv für Kinderheilkunde, Stuttgart

LV, Nos. 3-4, pp. 161-320. Last indexed February 18, p. 545

76 *Acidity of Urine in Infants. O. Lade.
77 Primary Suppurative Parotitis in Infants. A. Bretschneider.

78 Normal Bactericidal Properties of Intestinal Juice. (Zur Frage von der Verminderung der bactericiden Kraft des Dünndarms unter Einwirkung einiger innerer und äusserer Agentien.) P. S. Medowikow.
79 *Test Breakfast for Study of Stomach Functioning in Children. (Untersuchung der Magenfunctionen der Kinder mittels Probefrühstuck.) F. Seiler.
80 Premature Dentition. (Frühzeitige Zahnung.) H. Rosenhaupt.
81 *Case of Winckel's Disease. F. Brandenberg.

76. **Acidity of the Urine in Infants.**—Lade discusses what is meant by "acidity" of the urine, the preferable technics for estimating it, the sources for the acidity and its causes, and the variations in acidity under diverse influences. He further reviews extensive clinical experiences and tests of various forms of infant feeding in respect to their influence on the acidity of the urine.

79. **Test Breakfast in Estimation of Stomach Functioning in Children.**—Seiler has applied Sahli's flour soup method (*Mehlsuppemethode*) to a number of children and has found it as instructive as in adults. The children like it, and he reports the findings in a number of healthy children and in others with various diseases, from a few months to 12 years and older. The details are given for forty-one children examined, including three with gastritis, five with secretory and five with motor anomalies. The findings are like those in corresponding conditions in adults, and exact differentiation is equally important for both children and adults, he declares, to permit proper treatment.

81. **Winckel's Disease.**—Brandenberg has been able to find in the literature about fifty cases of this disease. It is characterized by cyanosis, bloody urine, hemorrhage and icterus. Most of the cases appeared in epidemic form in Germany or Russia in new-born infants, only a few of whom survived. He reports a case personally observed, with necropsy. An infectious factor seems evident. Baginsky asserts that simple jaundice, acute fatty degeneration or Buhl's disease, and Winckel's disease are probably only varying degrees of the same process. The jaundice is evidently the result of the hemolysis.

Berliner klinische Wochenschrift

March 20, XLVIII, No. 12, pp. 509-556

82 Salvarsan in Syphilis. (Ueber die bisherigen Erfolge der Syphilisbehandlung mit Salvarsan und die Aussicht auf Dauerheilung.) M. v. Zeissl.
83 *Salvarsan in Inherited Syphilis in Infants. (Salvarsanbehandlung bei Säuglingen.) A. Döblin.
84 *Resection of the Stomach. (Zur Magenresection.) Pochhammer.
85 *Acute Gastric Atony. (Zur Lehre von der akuten Magenatonie.) A. Schlesinger.
86 *Two Cases of Acromegaly from Fright. (Akromegalie infolge von Schreck.) P. K. Pel.
87 History of Theories in Regard to Urinary Calculi. (Historiches zur Kenntnis der Entstehung von Harnsteinen.) E. Schepelmann.
88 Temperature Crises in Tabes Dorsalis. W. Stange and S. Brustein.

83. **Dangers of Salvarsan for Syphilitic Infants.**—Döblin gave salvarsan to six infants and reports that no benefit in the general condition of the child was observed in any instance, the children did not lose their pallor and did not increase in weight thereafter; one strong child died from salvarsan poisoning, although the dose was only 0.03 gm. In another case the infant gained 300 gm. in five days, which he regards as a sign of toxic action of the drug, like the herpes zoster sometimes observed in adults. Four of the infants died, including two in good condition before the injection; this was made subcutaneous or intramuscular in each case and there was little local reaction at the spot. The necropsy findings suggested, he reports, acute arsenic poisoning: acute paralysis of the central nervous system, coma, severe injury of the intestines with diarrhea, drop of the blood-pressure and total paralysis of the contractile elements of the mesenteric capillaries, the so-called splanchnic paralysis. The edema in the mesenteric and subcutaneous fat tissue was evidently the result of arsenic paralysis of the capillaries. The experiences related indicate, he thinks, that 0.03 gm. may be regarded as the fatal dose for infants under the age of 3 months. Even this amount does not ward off recurrence, and as improvement in the manifestations of the syphilis may be observed, as in one of his cases, even with so small an amount as 0.025 gm., it seems reasonable to accept for infants under 3 months from 0.01 to 0.02 gm. as the tolerated dosage, that is 0.005 per kilogram of body weight.

84. **Operative Treatment of Stomach Disease.**—Pochhammer comments on the constantly improving end-results of surgical treatment of non-malignant stomach affections, especially ulcers and their sequels, but adds that most surgeons now regard a cancer of the stomach as already inoperable when so advanced as to be diagnosed with certainty. He insists that while the ignorance and indolence of patients are largely responsible for the delay in seeking surgical aid, a not inconsiderable share of this responsibility should be laid at the door of the so-called stomach specialists. This, he declares, will have to be proclaimed openly and loudly. These stomach specialists are the ones to whom the victims of gastric affections apply, assuming that some special help may be obtained from them after the family physician, consulted in the first place, has come to the end of his resources. In fact it may be the family physician who advises consulting the stomach specialist. And then several weeks or months of possibly precious time are wasted with all kinds of examinations, tests, lavages and dietetic courses. A tumor is not yet positively palpable; the diagnosis of "chronic gastritis" has a tranquilizing effect at first until suddenly the tragedy begins anew and with increased violence as the symptoms show that the obstruction to the emptying of the stomach has increased, but the stomach rinsings may be continued even then for a short time. By this time, the patient is losing strength rapidly; then the case is regarded as ripe for operative measures; the apparently benign stenosis requires operative intervention, and this discloses carcinoma with extensive metastases. This history is taken from life, Pochhammer declares. It demonstrates the enormous responsibility that rests on the shoulders of the stomach specialists when they attempt to differentiate benign stomach affections which have been causing symptoms for some time from malignant growths. Surgeons, he adds, even when they hold the growth in their hands, may be unable to state positively whether it is benign or malignant. The only means of differentiation is by histologic examination, and the stomach specialists are least of all in a position to do this. He protests specifically against Boas' recent assertion that in practice the time need not be regarded as wasted when a stomach specialist applies symptomatic preliminary treatment to a gastric cancer before it is positively recognized as such. Boas bases this assertion on the premise that only the slowly developing gastric cancers are amenable to operative measures; those which develop rapidly are inevitably fatal, whether an operation is attempted or not. To this Pochhammer replies that while this assumption may tranquilize the stomach specialists it might have disastrous consequences if it were accepted generally by physicians who have not yet fully lost their reverence for authority. There is no physician, he continues, who would not regard it as trifling with a human life, when consulted on account of a dubious tumor in the breast, if he should wait for a long period of observation to watch the further development of the growth instead of insisting on its prompt excision and histologic examination. Gastric affections should be managed on the same principles. Every stomach affection which is not of a transient nature and for which no satisfactory explanation can be found, should suggest the possibility of cancer. And surgeons should reiterate constantly the necessity not only for an early diagnosis but for an early operation. He reports nine cases during the last year and a half with operative treatment. One of the patients was a woman of 34 with extensive carcinoma of the stomach. She had had recurring gastric symptoms for ten years; the cancer had evidently developed in an old ulcer. She has gained 11 pounds during the four months since operation. In another case the first symptoms had been observed four months before the operation, and the tumor required resection of the stomach and of the middle third of the transverse colon. The patient is now in good condition having gained 40 pounds in weight since. The colon stumps were united by lateral anastomosis, which seems, he thinks, to hold better than other technics.

85. **Acute Atony of the Stomach.**—Schlesinger reports an instructive case of acute atony of the stomach developing in consequence of the sudden sliding down of the viscera as the much debilitated patient got up the seventh day after an operation for retrodisplacement of the uterus. The symptoms subsided under repeated lavage of the stomach, the pelvis being kept raised. The special feature of the case, however, was the feculent vomiting; he regards this as proof that there could not have been occlusion of the upper bowel and, consequently, that the acute dilatation of the stomach could not have been secondary to an arteriomesenteric occlusion which some accept as the primary phenomenon in acute postoperative dilatation of the stomach. It is the first case on record, he says, in which acute atony of the stomach was unaccompanied by occlusion of the upper bowel. The case further shows, he declares, the beneficial action of raising the pelvis to remedy conditions, instead of the ventral decubitus which some have advocated for this purpose. With the pelvis raised it is much easier to rinse out the stomach; the stomach sinks down into its normal place and the small intestine follows it, thus relieving the traction on the mesentery. In another case, the pelvis was raised high for twenty-four hours, the patient being kept thus on the operating table for twenty-four hours, the stomach being rinsed out every hour at first and then at longer intervals. He thinks that anything less than these measures would have failed to save this patient. It is not enough to raise the pelvis occasionally for a time; it must be kept raised or the traction on the nerves and mesentery returns again. He never found it necessary to turn the patient on the side. An important adjuvant measure is to supply plenty of water by the rectum or by saline infusion. Large amounts of water accumulate in the stomach and are evacuated by the lavage, and it is of supreme importance to restore fluids to the body in some other way. Application of electricity to the stomach may also prove useful. In conclusion, Schlesinger reports experiments on dogs to induce acute atony of the stomach.

86. **Acromegaly from Fright.**—A fire in the home or gas explosion was the cause of the fright in the two cases reported. One patient was a housemaid, about 21 years old; the other was a woman of 31, six months pregnant. Menstruation was arrested at once in the case of the younger woman and there was no sign of the menses for several months, then only for two or three months; since then there has been complete amenorrhea. Menstruation did not return after the childbirth in the other case. The other symptoms of the acromegaly developed more gradually but the typical picture has persisted to date, four and sixteen years respectively after the fright.

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CII, Nos. 1-2, pp. 1-216. Last indexed March 18, p. 856

89 Tissue Changes Cause of Lessened Resistance to Infections in Diabetes Mellitus. (Ursache der verminderten Resistenz des Diabetikers gegen Infektionen.) E. Handmann.
90 Metabolism During Catatonic and Paralytic Stupor. Eighteen Cases. (Zur Kenntnis der Stoffwechselverlangsamung.) E. Grafe.
91 Clinical and Anatomic Study of Syphilitic Cardiovascular Disease. (Syphilitische Herz- und Gefässkrankheiten.) H. C. Jacobaeus.
92 *Apparatus for Passive "Hill-Climbing" During a Bed-Rest Cure for Heart Disease. (Ruhekuren für Herzkranke in Verbindung mit passiven Bewegungen.) T. Büdingen.
93 Isolated Agraphia in Case of Brain Tumor. E. Forster.
94 Oxygen Ions in Stomach Content. (Die Sauersstoffion-Konzentration im Mageninhalt.) J. Christiansen.
95 Experimental Research on Action of Epinephrin in Kidney Disease and in Health. (Blutdrucksteigernde Wirkung des Suprarenins bei gesunden und nierenkranken Tieren.) B. Scholz.
96 Anemia-Inducing Action of Bacterial Hemolysins. L. Fejes.
97 Metabolism of Matter and Energy in Fever. (Stoff- und Kraftwechsel im Fieber.) H. Senator and E. Grafe.
98 Heart Block from Primary Heart Tumor in Five-Year-Old Boy. (Herzblock, bedingt durch primären Herztumor.) H. Armstrong and J. G. Mönckeberg.
99 *Traumatic and Renal Diabetes. (Einige ätiologisch bemerkenswerte Diabetesformen.) W. Weiland.
100 Determination of Viscosity of the Blood. (Zur Technik der Viskositätsbestimmung.) G. Kagan.
101 Ring-Bodies in the Blood in Anemia. K. E. Russow.

92. **Passive Exercise in Heart Disease.**—Büdingen has been protesting for years against the application to actual heart disease of Oertel's method of exercise treatment for the obese with weak heart muscle. On the contrary, he insists, patients with heart disease should be guarded against the slightest extra demands on their hearts and should be kept in bed during periods of extra weakness on the part of the heart. At the same time it is important for them to exercise without the effort of voluntary movements. Exercising the legs is the best means in such cases to divert the blood from the heart, to improve the peripheral circulation and to stimulate the vital processes generally. He has been trying to contrive an apparatus which would exercise the patient without the slightest active participation on his part, and the apparatus as perfected after nearly two years' experiments is here described and illustrated. The patient lies on the back, the legs fitting into shallow troughs which are lifted in turn by the automatically working apparatus stationed at the foot of the bed and run by an electric motor, the patient being able to start and stop it at will by a touch to the chain in his hand. The movements imparted to the limbs are those of walking or hill climbing, and the patient can thus obtain the benefits of the active exercise without the least strain on his heart. Büdingen has the exercise applied two or three times a day for thirty or twenty minutes each time. The benefit in severe heart disease is surprising, even with ruptured compensation; the venous engorgement and edema subside, the liver returns to normal size and the signs of cardiac insufficiency rapidly retrogress. The apparatus has also rendered good service, he states, in cases of intermittent limping, of gout of the ankle, threatening diabetic gangrene and tabetic ataxia of the legs. Among the cases reported in which the passive exercises proved of special benefit is that of a physician of 47 who, before the age of 22, had had four attacks of febrile articular rheumatism which had left aortic insufficiency. Recurring endocarditis with fever nearly every day was kept under comparative control for a year by the bed rest and passive exercise, alcohol rubs and small doses of heart tonics. In other cases cited, the bed rest cure finally restored patients with mitral insufficiency to comparative health so that they could climb hills. Bed rest alone is not beneficial in cases of cardiac insufficiency with high blood-pressure, with or without kidney disease, but when the bed rest is supplemented by the vigorous passive exercise, conditions are improved as if by magic. It breaks up the vicious circle formed when the patient actively exercises while it gives the advantages of active exercise. In a particularly severe case described, the oliguria and dropsy had continued to increase notwithstanding that the patient had lain in bed for two months. Then the exercising apparatus was brought into use and in two more months the dropsy had drained away in the diuresis that followed the exercising and the general health was remarkably improved.

99. **Traumatic and Renal Diabetes.**—Weiland reports a case in which a wooden pail fell from a height of over 25 feet on the head of a man digging a well. He was unconscious for half an hour but the wound healed without further disturbances. A week after the accident, however, great lassitude, intolerable thirst, polyuria and pruritus developed and after another week the urine contained 4.7 per cent. of sugar. A year later the symptoms still persisted, with 1.7 per cent. sugar in the urine. The patient had been previously healthy, and came of a healthy family with no tendency to obesity or alcoholism. The progressive course of the diabetes in this case confirms the general assumption in regard to the comparatively rapid course of true traumatic diabetes. Weiland is inclined to regard the nervous shock of the accident as more of a causal factor than any pathologic changes at the site of the injury. He describes further three additional cases of renal diabetes, that is, persisting elimination of sugar in the urine without any apparent disturbance in the carbohydrate metabolism. The proportion of sugar in the blood was within normal range. The glycosuria was a casual discovery and the kidneys and other organs were apparently functioning normally. The special feature of the three cases was the lack of hyperglycemia and the absence of the usual subjective disturbances of diabetes, and of polyuria. The patients' weight persisted about the same throughout. It is possible that the diabetes in these cases may have existed long before its clinical discovery. He believes that some disturbance in the kidney parenchyma is probably responsible for this renal form of

diabetes, the injury of the parenchyma escaping detection by our present methods of examination. Theoretically this renal diabetes may be classed with alkaptonuria and cystinuria, an anomaly not threatening the vital functions. He adds in conclusion that it is better to refrain from excess in the articles of food liable to enhance the tendency to the anomaly. At the same time such patients should not be depressed with too stringent dietetic restrictions.

Deutsche medizinische Wochenschrift, Berlin

March 23, XXXVII, No. 12, pp. 529-576

102 *Leukemia. (Behandlung der Leukämie.) M. Sternberg.
103 *Tumors in the Lungs and Pleura. (Zur Klinik der Lungen- und Pleurageschwülste.) A. Fraenkel.
104 *Treatment of Pancreatic Cysts. (Zur Behandlung der Pankreaszysten und -pseudozysten.) W. Körte.
105 Roentgen-Ray Primary Erythema. A. Brauer.
106 *Cystoscopy in Diagnosis of Pregnancy Pyelitis. (Bedeutung der Zystoskopie für die Diagnose und Behandlung der Schwangerschaftspyelitis.) A. Calmann.
107 *Findings in Fundus of the Eye in Inherited Syphilis. (Augenhintergrundsbefunde bei hereditärer Syphilis.) A. Japha.
108 Hemorrhagic Septic Infection of New-Born Infants. (Fall von Buhlscher Krankheit.) G. Röthler.
109 Technic for Intravenous Injection of Salvarsan. (In welcher Konzentration sollen wir die ClNa-Lösung zu unseren intravenösen Salvarsaninjektionen benutzen?) T. v. Marschalko.
110 Idem. (Zur Technik der intravenösen Injektion des Salvarsans.) D. A. Stapler.
111 *Acute Thyroiditis Following Potassium Iodid Treatment. (Thyreoiditis acuta nach Gebrauch von Jodkali.) J. Sellei.

102. **Leukemia.**—Sternberg reviews the typical syndrome and discusses the treatment, emphasizing the importance of Roentgen-ray treatment and keeping the patient under constant supervision, so as to institute another course at the first signs of exacerbations. By this means it is possible to keep the patient in good condition with fair earning capacity for years. One of his patients was thus able to work at his trade of cabinet-maker for two years after comparative retrogression of the myeloid leukemia, dying then of ulcerative endocarditis. In another case a woman of 35 had been treated for weeks without benefit for symptoms suggesting influenza. A second physician was called and he found the spleen enlarged and diagnosed typhoid fever. The patient was anemic, feeble, with irregular fever, bronchitis, enlarged spleen and 450,000 small lymphocytes per c.mm. Roentgen-ray treatment was then applied and by the end of six weeks, the lymphocytes had dropped to 31,000 and the patient was able to take long walks, and this improvement has persisted to date, although the blood is not normal, the hemoglobin declining from 35 to 20 per cent. He is inclined to explain the action of the radiotherapy as partly direct, on the blood-producing organs, and partly indirect, by mediation of substances generated which have an inhibiting action on the production of leukocytes in parts of the blood-producing apparatus not exposed directly to the rays. In some conditions the rays have an opposite effect, that is, they may induce an affection of the blood and lymph-producing organs. Sternberg knows of four physicians who had worked considerably with Roentgen-rays who have died from leukemia or pseudoleukemia and lymphosarcoma. This coincidence must be more than merely casual; they all date from the days when Roentgenologists were less careful about protecting themselves than at present. Sternberg commends Roentgen exposures as the first measure in leukemia; for this institutional treatment is generally necessary, and hydrotherapy can be applied at the same time. During a pause in the radiotherapy or possibly with it, in case the affection is more of the neoplasm order, a course of arsenic may be useful, but he warns against arsenic poisoning, especially herpes, eczema and paralysis as manifestations of arsenic intoxication. The herpes may run into gangrene if the Roentgen exposures are kept up. In one case an eczema of the lips resisted all treatment until the arsenic was suspended, when it subsided at once. In a case of sarcomatosis with leukemic blood findings, the tumors subsided temporarily under large doses of arsenic but the arm became paralyzed and permanent paresis and tremor followed. It is his impression that arsenic is more liable to cause symptoms of intoxication when the lymph and blood-producing apparatus is diseased. He states that organotherapy and salvarsan have no action in leukemia. The main point in treatment is to commence it at the proper time and keep watch of the blood findings in case the leukocyte count is increasing, and suspend the exposures when the blood shows signs of a crisis or when myeloblasts appear in large numbers.

103. **Tumors in the Lungs and Pleura.**—Fraenkel reports three cases of pleural endothelioma leading to diffuse indurations. They all developed rapidly with extensive effusion, intensely hemorrhagic and accumulating again in a few days, and with intense pains, evidently due to traction from and the compressing action of the fibrous bands. In a fourth case the trouble was diagnosed during life as a carcinomatous pleurisy, the diagnosis being confirmed by necropsy. The patients were men between 37 and 48 and a woman of 66. Death followed in from one to two months after the first symptoms of trouble in the pleura.

104. **Treatment of Pancreatic Cysts.**—Körte reports six cases of inflammatory pseudocysts in which Gussenbauer's method of suturing to the skin and draining was successfully applied. In all of these cases the pancreatitis had several times induced symptoms suggesting gall-stone colic. The inflammatory or hemorrhagic effusion is not absorbed and benefit can be anticipated only from its prompt removal as soon as diagnosed. The trouble is in reality an encapsulated effusion or pseudocyst, and probably the cases of recovery reported from this technic have been in cases of this class. When the trouble is a true multilobular cystadenoma, this technic is not sufficient. It was applied twice in a case reported in detail, with only temporary benefit. Then the cystadenoma was radically removed and prompt recovery followed.

106. **Cystoscopy in Diagnosis of Pregnancy Pyelitis.**—Calmann reports four cases which confirm the importance of cystoscopy not only for early diagnosis of the pyelitis but in excluding appendicitis and cholecystitis, in locating the seat of the trouble and in permitting local treatment. In the first case, the patient had been treated for weeks for pregnancy disturbances and cystitis without avail; then cystoscopy disclosed slight hyperemia at the mouth of the right ureter and its catheterization evacuated pus and permitted local irrigation with 200 c.c. of a 1 to 2,000 solution of silver nitrate. All symptoms subsided at once. The same benefit was derived in the second case; the pyelitis developed here during the third month. In another case a chronic nephritis was left after the pyelitis which was in an advanced stage when local treatment was instituted. The macerated fetus was expelled three days after the local treatment; if this had been applied earlier, the death of the fetus might have been prevented as well as the development of the nephritis. It was a question in this case whether to interrupt the pregnancy or treat the kidney pelvis and he decided for the latter as briefer and milder. In two of the four cases the pyelitis was bilateral; in all the turn for the better that followed the disinfection of the pelvis was unmistakable, but a complete cure was not realized at once in any instance, the pus and bacteria persisting to a slight degree until a few weeks after delivery. It is possible that repetition of the procedure might cure completely. He does not advise this direct sterilization of the kidney pelvis as a routine procedure, but only when other measures have failed. It did not prove necessary in five other recent cases of pregnancy pyelitis in his experience.

107. **Eye Findings in Congenital Syphilis.**—Japha has made a practice of having the fundus of the eye examined in every infant showing a tendency to nervous disturbances, at the policlinic in his charge. Among 1,350 ophthalmic patients, in 1909, there were twenty cases of abnormal retina in infants with inherited syphilis, thus in 1.5 per cent. He found further that fully 66 per cent. of infants with inherited syphilis present anomalies in the fundus. Sometimes, with the Wassermann reaction, they are the only signs of the disease and they explain in many cases the convulsions, restlessness and constant crying of the infants. The findings in the fundus are generally bilateral but not always equally severe in both eyes. By this systematic examination, the optic neuritis is detected in its early stage, before it has reached the advanced phase. A peculiar rolling of the eyes, blinking or squint sometimes attracted attention to the eyes, or photophobia and twisting

the head to one side and trembling of the eyelids. The prognosis of the eye disturbance is favorable if treatment is promptly instituted; rapid improvement followed in nearly every instance after a course of mercurial treatment. For this he preferred internal administration of from 0.005 to 0.01 gm. of mercury protoiodid twice a day in two or three fifty-day courses. Recurrence was never observed although a number of the children were kept under supervision for years. Hirschberg, however, has observed recurrence at the ages of 13, 14 and 22. He only found one case of retinal changes from inherited syphilis in 1.000 ophthalmic patients. Among the typical cases reported by Japha is that of an infant whose only trouble was that it cried a great deal, especially at night. At the age of 3 months the eyes were examined and an areolar chorioiditis was discovered. As soon as antisyphilitic treatment was started the child ceased crying.

111. **Thyroiditis Following Iodid Treatment.**—Sellei reported in 1902 a case in which inflammation and swelling developed in a previously sound thyroid after the patients had taken 2 spoonfuls of a 5 per cent. solution of potassium iodid. The acute thyroiditis was accompanied by high fever. He here reports a similar case, the acute thyroiditis developing after the first spoonful and becoming more intense after 2 more spoonfuls. The iodid had been given in this case after a course of mercury. The thyroiditis subsided completely in a week. It was evidently a manifestation of iodism, the picture including palpitations and a pulse running up to 120. He is inclined to explain the symptoms as a manifestation of anaphylaxis.

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March, LXXIII, No. 3, pp. 259-390

112 *Experimental Research on Action of Products of Decomposing Urine. (Versuche über experimentellen Spasmus nutans und über die Einwirkung von Harnzersetzungsprodukten auf junge Hunde.) R. W. Raudnitz.
113 Regulation of Heat in Infants. (Die Thermoregulation des gesunden und ernährungsgestörten Säuglings.) P. Heim and M. K. John.
114 Blood-Pressure in Children. (Blutdruck im Kindersalter.) V. Salle.
115 Anaerobic Intestinal Bacteria, Especially Those of Butyric Acid Fermentation. F. Passini.
116 Differential Bactericidal Properties of Leukocytes in Respect to Streptococci. (Ueber Unterschiede zwischen septischen und Scharlach-Streptokokken auf Grund bakterizider Reagensglasversuche mit Leukozyten.) F. Schleissner and W. Spät.
117 *Anatomic Findings in Stomach of Infant Five Months After Cure of Stenosis of the Pylorus. J. Simon.
118 Two Cases of Congenital External Hydrocephalus. Z. v. Bokay.

112. **Experimental Research on Injurious Influence of Products of Decomposition of Urine.**—Raudnitz has been studying on animals brought up in the dark the development of a clonic spasm of the sternomastoid muscles when they are exposed to the light, the result being a sort of nodding spasm associated with nystagmus. He has also studied the influence of the products of decomposing urine, his attention being attracted to this line of research by a peculiar intense fragility of the bones observed in two children of a family that lived in a room adjoining the general urinal for a large factory, one wall of the room being constantly damp with decomposing urine. It proved impossible to induce in puppies any tendency to osteomalacia or rachitis even when kept for eight months in the fumes of their own decomposing urine.

117. **State of Infant's Stomach Six Months After Cure of Stenosis.**—The disturbances from stenosis of the pylorus in the case described had never been very severe, and they subsided completely under flaxseed poultices renewed every two hours. There was an inherited neuropathic taint, but after subsidence of the symptoms of stenosis the child thrived normally for six months but then died on the second day of an attack of pneumonia. The stomach was compared with the stomach of a normal child; the findings were extreme hypertrophy by excessive development of the musculature of the pylorus and stomach walls. The assumption of a primary hypertrophy of the stomach walls explains the anatomic, clinical and therapeutic data in these cases of stenosis of the pylorus in infants. The hypertrophy induces secondarily reflex spasmodic contracture of the musculature and thus entails the clinical picture.

Medizinische Klinik, Berlin

March 26, VII, No. 13, pp. 479-518 and Supplement

119 Staphylococcus-Extract Salve and Varnish: An Attempt to Induce Local Immunity. (Ueber einen Versuch, die lokale Immunität für die Praxis brauchbar zu machen.) A. v. Wassermann.
120 *Early Diagnosis of Pulmonary Tuberculosis. (Welche Bedeutung haben die neueren Untersuchungsmethoden zur Frühdiagnose der Lungentuberkulose für den praktischen Arzt?) E. Schwalm.
121 Salvarsan in Malaria. (Beeinflussung der Chininfestigkeit durch Salvarsan bei Malaria.) G. B. Bilfinger.
122 Is Acute Appendicitis Due to Inflammation or Obstruction? (Beruht der akute schwere Appendizitisanfall auf Entzündung oder mehr ileusartigen Vorgängen?) Sorge.
123 *Persistent Hiccup. (Fall von heftigem Singultus.) F. Kanngiesser.
124 Dietetic and Physical Measures in Treatment of Kidney Disease. (Nierenkrankheiten.) J. Hurter.
125 *Irritation of Optic Nerve by Salvarsan. (Zur Kasuistik der Salvarsantherapie.) A. Jansen.

120. **Early Diagnosis of Tuberculosis.**—Schwalm discusses whether the newer methods of diagnosis are of much assistance to the general practitioner, his conclusion being that the clinical examination of the patient is still as always the main reliance, and that the tuberculin test should not be applied except when there is some indication of incipient pulmonary tuberculosis and it is impossible to determine the facts in any other way. If the tuberculin test is applied, it should be by subcutaneous injection for adults and by the cutaneous method for children. The subcutaneous test should not be applied, he says, outside of an institution as close supervision of the patient is indispensable for its proper estimation; if the temperature is taken by the laity the findings are unreliable. He warns further to be on the watch for the pseudoreaction liable to occur in nervous patients; the only means to exclude it is by a control injection of water alone.

123. **Persisting Hiccup.**—In the case reported by Kanngiesser, the distressing hiccup came on during an attack of influenza in an elderly man. No benefit was derived from a subcutaneous injection of 0.001 gm. of atropin sulphate, which has been recommended lately for this purpose; in half an hour the patient's mouth became parched and he felt a burning in the nose but the hiccup was unmodified. After waiting for an hour and a quarter after the injection, the patient was then given in separate glasses a solution of 5 gm. citric acid and of 5 gm. sodium bicarbonate, hoping by the distention of the stomach from the effervescing fluids to act on the diaphragm from below. The procedure was a complete success, the hiccup ceasing at once. The patient was awakened in the night, however, by recurrence of the hiccup and repetition of this measure then failed to relieve, as did also the next day rhythmic traction of the tongue and holding the breath. He was then given a little sodium bicarbonate in water, and the hiccup ceased at once for a few hours, but returned then and persisted until the patient took some warm oatmeal gruel. This arrested the hiccup and had the same effect the next day when the hiccup returned, after which there was no further trouble. Kanngiesser appeals to other physicians to learn if they know of any better measures to arrest persisting hiccup.

125. **Irritation of Optic Nerve Under Salvarsan.**—Jansen states that several days after an intravenous injection of 0.4 gm. of salvarsan, the patient happened casually to mention that, commencing four hours after the injection, everything seemed to waver before his eyes for three hours. Jansen believes that if it were enquired for, this sign of irritation of the optic nerve (*heftiges Flimmern*) might be found frequent after injection of this drug.

Münchener medizinische Wochenschrift

March 21, LVIII, No. 12, pp. 609-664

126 *Cholelithiasis. (Allgemeine Grundsätze für die Diagnostik, Indikationsstellung und Therapie des Gallensteinleidens.) H. Kehr.
127 *Heart and Kidney Disturbances with Chronic Constipation. (Herzmuskelinsuffizienz bei chronischer Koprostase nebst Bemerkungen über die bei letzterer auftretende Albuminurie und Zylindrurie.) W. Ebstein.
128 *Diagnostic Inflation of the Stomach. (Zur Technik der Magenaufblähung.) F. Bardachzi.
129 Traumatic Myopathy. (Muskeldystrophie und Myotonie nach Unfall.) W. Brasch.
130 *Eosinophil Diarrhea in Infants. (Zur Kenntnis eosinophiler Darmkrisen im Säuglingsalter.) L. Langstein.

131 Copper Isolated from Urine and Perspiration of a Worker on Brass. (Isolierung von Kupfer aus Harn und Schweiss eines Messingarbeiters.) E. H. Goodman.
132 Splenic Anemia in Inherited Syphilis and Its Cure Under Salvarsan. W. Schmidt.
133 Technic for Salvarsan Treatment. A. Hauptmann.
134 Typical Coasting Fracture. (Eine typische Rodelverletzung.) Bertram.
135 Improved Technic for Color Ring Tests of Fluids. Schnitter.
136 Paratyphoid Infection. F. Rolly. Commenced in No. 11.

126. **Gall-Stones.**—Kehr comments on the fact that no drugs or medical measures are able to act on the gall-stones themselves; all other measures but direct removal act merely on the conditions resulting from the presence of the stones, especially the inflammation. All that is possible is to keep the stones latent and answer the patient's four questions: "Have I gall-stones?" "Can you feel them?" "Must I have an operation?" and "Is the operation dangerous?" Only in exceptional cases, he continues, is it possible to state positively the presence of gall-stones. Even with his 1,668 gall-stone operations he still makes mistakes in diagnosis of cancer of the gall-bladder, especially when it is associated with empyema. With chronic empyema the temperature may be persistently within normal range in 50 per cent. of the cases. The history is of peculiar importance for the diagnosis of chronic empyema of the gall-bladder and chronic obstruction of the common bile duct, and he makes a point of writing it out and reading it over carefully two or three times to weigh it in all its bearings. A diagnosis based on the history is liable to be more correct than one based on the actual findings at the moment. In the written history we can follow the gall-bladder affection from simple serous cholecystitis to the obstruction of the cystic duct and the accumulation of pus in the gall-bladder, the passage of the stone into the common bile duct or its final perforation into the bowel, and we can trace the various stages of the affection by the presence or lack of jaundice and fever, swelling of the liver and pains. The localization of the pain is frequently misleading. In one case the only tender point was under the left costal arch, suggesting ulcer in the lesser curvature of the stomach, but the trouble was the result of numerous stones in the common bile duct. A high placed appendix may simulate cholecystitis. He states that he has been able to palpate the stones only in two or three out of his total 4,000 patients. Operative treatment is required more for the infectious process and to forestall its spread to other organs than to remove the stones themselves. This infection threatens the liver and pancreas and must be combated by removal of the focus in time, while it is still circumscribed. This is the main aim of treatment, and no time should be wasted with drugs and waters to which the power to dissolve or expel the stones is ascribed. Such measures should be left to quacks, and internists should cooperate with surgeons to check and cure the acute and chronic inflammation. This is best realized by moist heat, purgatives, restriction of the diet and repose, the cholelithiasis having a spontaneous tendency to return to a latent condition so that in 80 per cent. of all cases the colics finally subside spontaneously. The quack claims this 80 per cent. as his "cures," while the physician knows that Nature has wrought the cure and that it often is only a deceptive lull. The only radical cure is by removal of the infectious focus. Among Kehr's other reflections on gall-stone disease is the statement that when there is reason to suspect cancer in the gall-bladder, it is already too late for a radical cure; the patient is doomed. Only when in an operation for gall-stones, traces of incipient cancer are casually encountered, is the patient completely cured of the malignant disease. The loss of the gall-bladder causes no appreciable disturbances, and a new formation of gall-stones in the biliary ducts after cholecystectomy is so rare as to be negligible. Done in time, he reiterates, a gall-stone operation is practically free from danger.

127. **Chronic Constipation in Relation to Heart and Kidney Symptoms.**—Ebstein discusses the albuminuria and tube-casts liable to be found in the urine with chronic constipation or persisting coprostasis, and states that before attempting to estimate the prognosis of the kidney affection in such cases the intestinal functions should be regulated. The pathologic urine may be the result of toxic action from poisons generated in the intestines. The same statement applies to heart disturbances. When the heart is found enlarged or displaced, before assuming the presence of organic disease, conditions should be investigated to exclude displacement of the heart from the pushing up of the diaphragm from below. By removing the causes of this pushing up of the diaphragm—among which chronic constipation takes the first place—the symptoms on the part of the heart, even including those of cardiac insufficiency, may retrogress entirely. He recently reported subsidence of symptoms of exophthalmic goiter in four cases under treatment of chronic constipation by means of large enemas of oil. His report was summarized in The Journal, February 11, page 467.

128. **Diagnostic Inflation of the Stomach.**—Bardachzi reports from the medical clinic at Prague, in charge of Pribram, that inflation of the stomach with an effervescing mixture or with air alone has been systematically practiced there for years. In one case, however, the ingestion of the effervescing mixture was followed by severe hemorrhage from the stomach, and in another case by severe symptoms on the part of the heart from the pushing up of the diaphragm. Both patients were women in the fifties, and the alarming symptoms soon subsided. Behrend was less fortunate, Bardachzi remarks, as he lost three patients from this cause, the sudden distention inducing perforation of a gastric ulcer in two and of a carcinoma at the cardia in the third patient. For this reason Pribram has abandoned this method except in special cases, and prefers to distend the stomach with air alone. He interposes a glass jar with two mouths between the stomach tube and the tube with the double rubber bulb. If the patient retches during the inflation the vomitus collects in the interposed jar; this method of distention seems to be much less dangerous than with the effervescing mixture, while it permits graduated dosage. In the two mishaps Bardachzi reports, less than a teaspoonful of sodium bicarbonate and half a teaspoonful of tartaric acid were used for the test, each being dissolved in half a glass of water.

130. **Eosinophil Diarrhea in Infants.**—Langstein called attention in 1908 to the passage of mucus and pus by the bowels, occurring suddenly, the mass containing large amounts of eosinophil cells. In a case described here he noticed this sudden eosinophil intestinal crisis, as he calls it, as the first sign of the exudative diathesis; it was speedily followed by facial eczema. The mucopurulent stool in the infant, only a month old, would generally be considered a sign of severe intestinal derangement, but he regarded it as merely the expression of the diathesis and not of an alimentary disturbance in the ordinary sense. Consequently, he made no change in the diet except restricting the amount a little, and the further development of the child confirmed the correctness of these views. The intestinal crisis in these cases may be regarded as similar to what Strümpell calls intestinal asthma in infants; it is not accompanied by a rise in temperature or drop in weight—symptoms scarcely ever absent when it is a question of alimentary or infectious injury.

Wiener klinische Wochenschrift, Vienna

March 23, XXIV, No. 12, pp. 411-442

137 Cholesterinemia in Physiologic Pregnancy. (Biologische Studien über die weibliche Keimdrüse.) J. Neumann, E. Hermann and S. Fränkel.
138 Thymus Not Involved in Blood Production. J. Löw.
139 Technic for Determining Presence of Tubercle Bacilli in the Urine. (Versuche einer Vereinfachung des Tuberkelbazillennachweises im Harn.) R. Bachrach and F. Necker.
140 *Epidemic Endocarditis? (Kann die Endocarditis acuta epidemisch auftreten, und herrscht gegenwärtig eine solche Epidemie in Wien?) M. Herz.

140. **Epidemic Endocarditis.**—Herz states that he has seen so many cases of acute endocarditis at Vienna in the last few months that he asks whether it is possible for this disease to occur in epidemic form. The patients were all between the ages of 6 and 18 and the clinical course was alike in all, beginning with moderate fever without angina or joint symptoms; only later there were pains in one or both ankles in a few cases. Multiple articular rheumatism did not develop in any case, but in the second week there was tachycardia, accompanied later by palpitations, pains in the apex region,

rapid breathing and cyanosis. The myocardium behaved well, seldom showing much dilatation. Another symptom was a tormenting dry cough, especially at night, sometimes brought on by eating and often followed by vomiting.

Zeitschrift für Urologie, Berlin

March, V, No. 3, pp. 161-240

141 The Prostatic Secretion. (Das Prostatasekret.) C. Posner.
142 Idem. (Zur Kenntnis der Natur der Prostatakörner.) P. Fürbringer.
143 Bacteria of Normal Male Urethra. (Beitrag zur Gonokokkendiagnostik.) A. v. Wahl.
144 Advantages of "Stiff Silk Catheter" with Hypertrophied Prostate. (Ueber "steife Seidenkatheter," zum Gebrauch bei Prostatavergrösserung.) O. Heyse.
145 Chancroid in the Fossa Navicularis. (Ulcus molle fossae navicularis urethrae.) Tschumakow.

Zentralblatt für Chirurgie, Leipsic

March 25, XXXVIII, No. 12. pp. 417-456

146 *Exposure of Nasopharynx by Slitting the Lower Jaw and Separating the Soft from the Hard Palate. (Freilegung des Nasenrachenraumes durch mediane Spaltung des Unterkiefers und Ablösung des weichen Gaumens vom harten.) A. Krogius.
147 Prevention and Treatment of Mediastinal Emphysema. M. Tiegel.

146. **Exposure of Nasopharynx.**—Krogius worked out on the cadaver several years ago the technic he describes with an illustration. and has been commending it for the clinic but only recently had opportunity to apply it himself on two patients. They bore the operation well and the further course was gratifying, while the operation itself was accompanied with remarkably slight loss of blood. It was done for removal of a fibroma in the nasopharynx in both instances. He applied part of the technic in a previous case two years ago but found an inoperable tumor in the pituitary body and the patient died the next day with pulmonary edema. The main features of the technic are the median incision of the lower jaw, enabling the two halves to be turned back on each side, the tongue being drawn down over the cleft. The soft palate is then separated from the hard palate by an incision curving across nearly to the teeth on each side. This permits the soft palate to be drawn down on the tongue quite out of the way, giving ample access to the nasopharynx through the gap thus left.

Zentralblatt für Gynäkologie, Leipsic

March 25, XXXVIII, No. 12, pp. 417-456

148 *Anteflexion of the Uterus as Cause of Development of Myomas. (Zur Aetiologie und Prophylaxe der Uterusmyome.) D. v. Ott.
149 High and Low Epidural Anesthesia. (Hohe und tiefe extradurale Anästhesien.) H. Schlimpert.

148. **Anteflexion of Uterus in Origin of Myomas.**—Ott has had opportunity to watch over the later fate of large numbers of women with symptoms indicating anteflexion of the uterus. This experience has demonstrated beyond question, he states, that the venous engorgement and other interference with the circulation in an anteflexed uterus invite the development of myomas which are almost certain to follow. He declares, therefore, that anteflexion should no longer be regarded as a comparatively harmless anomaly which it is unnecessary to correct unless it is causing severe symptoms. It should be corrected without delay by medical or other measures, above all when changes in the parenchyma are already installed. Measures to regulate the circulation in the region, especially gynecologic massage, and measures to render conception possible, such as excision of the cervix, are the most important. In over a third of his patients treated with excision of the portio vaginalis on account of anteflexion, the women, long sterile, bore one or more children. The fibrous bands fastening the cervix in front have to be separated. and it is important, he says, to take the sutures at right angles to the line of the incision so that the row of sutures is sagittal to the cervix. A pregnancy transforms conditions and is the chief aim sought in treatment of anteflexion, and this transformation abolishes the conditions which unmolested lead to myomatous degeneration later. Ott thinks that it is absurd to seek for an explanation for the development of tumors which will apply to all; it is also absurd to reject a working hypothesis because it does not explain all kinds of conditions.

Riforma Medica, Naples

March 20, XXVII, No. 12, pp. 309-336

150 Psychic Disturbances of Gynecologic Origin. (Turbe psichiche d'origine ginecologica.) L. M. Bossi and L. Strofeni
151 Improved Technic for Making Microscopic Sections. (Un mezzo semplicissimo per attaccare automaticamente le sezione microscopiche contemporaneamente al taglio.) G. Pollaci.

Nordiskt Medicinskt Arkiv, Stockholm

XLIII, Internal Medicine No. 3. Last indexed January 7, p. 84

152 Leukocytosis During Digestion and the Influence of Sleep and the Waking State on the Leukocyte Content of the Blood. (Bidrag till frågan om förekomsten af en digestionsleukocytos och till kännedomen om sömnens och det vakna tillståndets inverkan på blodets leukocythalt.) W. Wernstedt.
153 Case of So-Called Pseudoleukemic Anemia in Children. K. O. af Klercker.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

The Destruction of Fleas by Exposure to the Sun. By Captain J. Cunningham, M.D., I.M.S., Offg. Assistant to the Director, Bombay Bacteriologic Laboratory. Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Issued under the Authority of the Government of India by the Sanitary Commissioner with the Government of India. (New Series.) No. 40. Paper. Price, 8 annas. Pp. 27. Calcutta: Supt. Government Printing, India, 1911.

The Experimental Chemotherapy of Spirilloses (Syphilis, Relapsing Fever, Spirillosis of Fowls, Frambesia). By Paul Ehrlich and S. Hata. With Contributions by H. J. Nichols, New York; J. Iversen, St. Petersburg; Bitter, Cairo; and Dreyer, Cairo. Translated by A. Newbold, and Revised by Robert W. Felkin, M.D., F.R.S.E., Late Lecturer on Tropical Diseases, Edinburgh Medical School. Cloth. Price, $4. Pp. 181, with illustrations. New York: Rebman Co.

The Effects of a Number of Derivatives of Choline and Analogous Compounds on the Blood-Pressure. By Reid Hunt and R. de M. Taveau. Hyg. Lab. Bull. 73, U. S. P. H. and M.-H. S., Treasury Department, March, 1911. Paper. Pp. 135. Washington: Government Printing Office, 1911

Reports of the Meetings of the New England Branch of the American Urological Association for the Winter, 1909-1910. Paper. Pp. 37, with illustrations. Dr. Francis S. Watson, President, Boston. Dr. Richard F. O'Neil, Secretary, Boston. Boston: W. M. Leonard, 1911.

Criminal Man According to the Classification of Cesare Lombroso. Briefly Summarized by His Daughter, Gina Lombroso Ferrero. With an Introduction by Cesare Lombroso. Cloth. Price, $2. Pp. 322, with 39 illustrations. New York: G. P. Putnam's Sons, 1911.

Twenty-First Annual Report of the Visiting Nurse Association of Chicago. Incorporated November, 1890. For the Year Ending Dec. 31, 1910. Paper. Pp. 45. Office, Room 1408 Unity Building, 79 Dearborn Street. Mrs. H. K. Tenney, Secretary, Winnetka, Ill.

Ninth Annual Report of the Director of the Bureau of Science [Manila] to the Honorable, the Secretary of the Interior. By Paul C. Freer, Director of the Bureau of Science. For the Year Ending Aug. 1, 1910. Paper. Pp. 70. Manila, 1911.

A Radiographic Atlas of the Pathologic Changes of Bones and Joints. By Amédée Granger, M.D., Lecturer on Radiology and Electro-physics, New Orleans Polyclinic. Cloth. Price, $6. Pp. 207, with illustrations. New York: A. L. Chatterton Co.

Medical Diagnosis. By W. Mitchell Stevens, M.D., M.R.C.P., Fellow of University College, London. Cloth. Price, 25 shillings net. Pp. 1571, with 177 illustrations. London: H. K. Lewis, 136, Gower St., 1910.

Die Massenverhältnisse des Herzens unter Pathologischen Zuständen. Pathologisch-Anatomische Untersuchungen. Von Sofus Widerøe. Paper. Pp. 143, with illustrations. Christiania: Jacob Dybwad, 1911.

Eighth Annual Report of the Bureau of Science [Manila] to the Honorable, the Secretary of the Interior. By Richard P. Strong. For the Year Ending Aug. 1, 1909. Paper. Pp. 62. Manila, 1910.

Style Book. A Compilation of Rules Governing Executive, Congressional and Departmental Printing...Including the Congressional Record. Cloth. Pp. 150. Washington: Government Printing Office, 1911.

Thirty-Fifth Annual Report of the Managers and Officers of the New Jersey State Hospital at Morris Plains. For the Year ending Oct. 31, 1910. Paper. Pp. 50. Henry W. Buxton, Secretary.

Report of the Milk Commission of Philadelphia to the Hon. John E. Reyburn, Mayor of the City of Philadelphia. Feb. 15, 1911. Paper. Pp. 125.

Correct Orthography of Geographic Names. Revised to January, 1911. Cloth. Pp. 168. Washington: Government Printing Office, 1911.

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ROBERT KOCH THE FATHER OF MODERN TUBERCULOSIS SCIENCE*

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Koch's brilliant career as father of modern tuberculosis science began, of course, on that memorable evening of March 24, 1882, when he gave to the world the result of his painstaking work. It was the usual monthly meeting of the Physiologic Society of Berlin, but it was perhaps the largest gathering which that body ever had. Koch's paper was announced under the title, "The Etiology of Tuberculosis." Taking into consideration what Koch had given to science before along the same lines (I refer to the discovery of the spores of the anthrax bacillus and his concomitant bacteriologic studies), the hearers were, of course, expectant and looked for great things in store for them. It was characteristic of Koch's modesty and true scientific spirit that he had preferred to refrain from talking about his researches in tuberculosis until he could conclusively prove his thesis to the satisfaction of everyone and show absolutely accurate results. To students of bacteriology it must be recalled that Koch was the first to seek the production of a solid medium for the purpose of getting pure cultures, and it was only after he was in possession of such a medium that he attempted to isolate the germ found in tuberculous tissue.

It is of historical interest that on the evening of March 24, 1882, after Koch had finished reading his paper, there was no applause nor any enthusiastic manifestation of approval and for the first time in the history of that society, a paper, though listened to with the most profound and respectful silence, was not discussed. The facts presented by that master of bacteriologic science were too convincing for discussion. The audience looked expectantly to that most honored member and veteran debater, the father of cellular pathology, the immortal Rudolph Virchow, but he too remained silent. He felt that another great master in medicine had arisen and that the evidences of Koch's conclusions did not permit any doubt or dispute. The original communication announcing the discovery of the tubercle bacillus as the prime and only cause of tuberculosis appeared in the *Berliner klinische Wochenschrift* of 1882 (No. 15, p. 221). It is a masterpiece of scientific demonstration.

It may be interesting to some to know that access to an exact reproduction of this paper[1] can be obtained. The editors of the periodical referred to very justly stated that a more fitting memorial could not be printed at the time of Koch's death than that important paper which gave rise to all our modern tuberculosis research work, and at the same time gave to its author a well-deserved recognition and world-wide reputation.

In his paper Koch did not fail to pay tribute to the works of Villemin, Cohnheim, Salomonsen, Baumgarten and Tappeiner, who had given us conclusive proof that tuberculosis was a transmissible disease, but through Koch, and Koch alone, we have come to know the actual factor of infection and direct cause of all tuberculous diseases. It is he who showed us the presence of the germ in the pulmonary secretions and involved tissues, and also, to a minor degree, in other secretions of man and beast afflicted with tuberculosis. It is because of this knowledge that the new science which we might call modern prophylaxis of tuberculosis was created.

And now, after a lapse of nearly thirty years since the memorable discovery, we can statistically prove, beyond the shadow of a doubt, that, thanks to the rational, practical yet simple methods of prophylaxis which soon followed the discovery of the bacillus of tuberculosis by Robert Koch, the mortality from tuberculosis has been on a steady decrease in nearly all civilized countries.

When we consider that the present morbidity and mortality from tuberculosis in the countries which have adopted rigorous antituberculosis measures is in some instances two-thirds, and in some even one-half, what it formerly was, we must also admit that the material wealth which is the gain of thousands of communities, because Koch lived and labored, is beyond human calculation. Our sociologists and economists have estimated the value of a single human life as an economic asset of $5,000 to a community. Thus the figures in material gain to the world at large for which this one man is responsible must stagger our imagination. But we as physicians do not look on a life as representing a merely financial asset to the community. We come into too close contact with human suffering and sorrow for that. We rather emphasize the value of the discovery of our great Koch by the number of fathers, mothers, wives, husbands and children who were saved from an untimely death. We think of the tears and sorrow, of the anxiety and worry spared to untold numbers; we appreciate the joys and happiness which were preserved to thousands because the great white plague did not enter their homes. All this preservation of human joy and happiness has been brought about because of one single discovery of Koch, and the resulting indication of how to prevent disease.

But this phase of our medical science, which is truly preventive medicine, is not the only one whereby we as physicians and the world at large have been benefited by Koch's discovery. The presence of the bacillus in the sputum gives in doubtful cases a well-nigh irrefutable evidence of tuberculous infection of the respiratory tract. In the discovery of tuberculin Koch has given us another adjuvant of great value in the diagnosis of tuberculosis diseases in man and animal.

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*Address delivered on the Koch-Memorial Evening, March 27, before the Laennec Society for the Study of Tuberculosis, of Johns Hopkins Medical School and Hospital, Baltimore.

[1] Ztschr. f. Tuberk., July, 1910, xvi, No. 2.

A word regarding tuberculin as a therapeutic product. It is now generally conceded that when in 1890 Koch announced to the world the discovery of tuberculin as a means of curing tuberculosis, he did it against his better judgment, for he felt that he had not experimented with it long enough. The year 1890 was indeed an unhappy one in Koch's brilliant career. The powerful product used in far too large doses, by inexperienced men, indiscriminately in early and late cases, was followed by disastrous results. But time has justified Koch's original claim, and to-day his tuberculin in the hands of careful clinicians has certainly proved to be, in certain cases of tuberculosis, a valuable therapeutic adjuvant.

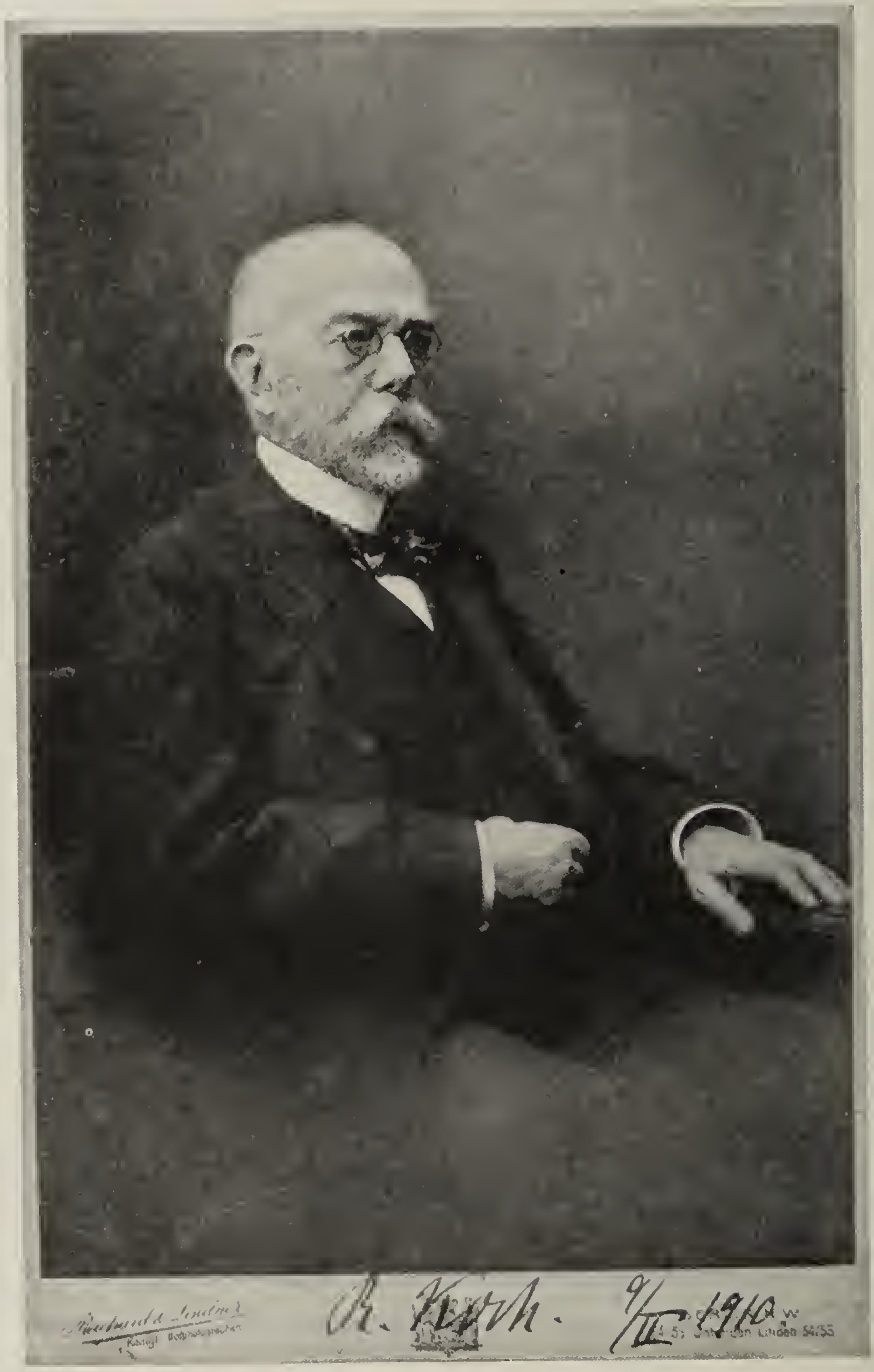
Koch did not limit his researches to the bacteriologic causes of tuberculosis or to the discovery of tuberculin, and it may be a surprise to many to learn what a deep interest he took in the sociologic aspect of tuberculosis. He studied all sides of the question — municipal control, popular education, the housing problem, etc. More than once did he express to me personally his approval of Professor Biggs' work in New York relating to the municipal control of tuberculosis, and he also referred to it in his celebrated London address in 1901. In regard to this communication made before the British Congress, justice requires us to say that Koch's conclusions as to the rarity of the transmission of bovine tuberculosis to human beings were too sweeping, this having been borne out by subsequent investigations. But had it not been for Koch's London address, much scientific work which has now cleared up the controversy would not have been done.

Koch's last contribution to the *Zeitschrift für Hygiene und Infektionskrankheiten* showed his deep interest in the sociologic aspect of tuberculosis. The article was entitled "The Epidemiology of Tuberculosis." In it he very justly ascribes the still very great prevalence of tuberculosis in certain sections of Europe to the unfortunate housing conditions and particularly to the overcrowded sleeping quarters of the masses. He also came to the conclusion that, where institutional care had been most readily available, the morbidity and mortality from tuberculosis has been reduced to the greatest extent, and *vice versa*.

Koch believed in popular education, and I have received many a kindly word from him to encourage me in my humble labors in that direction. In his last letter to me, a few months before his death, he wrote:

> Popular works on tuberculosis are destined to play an important part in the enlightenment of the people, and the American people seem to be particularly susceptible to such education.

I hope we may deserve this gracious compliment paid to the American people by the great Koch.


R. Koch. 9/II 1910.

And now, in conclusion, a few words on the personal side of this great man. On the evening of April 11, 1908, Koch was the guest of the German Medical Society of New York. It was indeed a distinguished gathering. Professor Karl Beck, as the president of the society, was the toastmaster of the evening. Your own distinguished teacher, Professor Welch, being one of Koch's first pupils, welcomed the great scientist to our shores, and spoke in eloquent words of the achievements of his master. Equal praises were bestowed on Koch by the Nestor of the New York and the entire American medical profession, Prof. Abraham Jacobi. Andrew Carnegie, the philanthropist, who had given 500,000 marks for the Koch Institute in Berlin, praised Koch as a hero of civilization and peace, far greater than a hero in war, and concluded by saying:

> Every age has its ideals, and the servants and saviors of mankind are our present-day ideals, for I firmly believe that service to mankind is the highest service to God.

And what did the great Koch reply to all this praise and eulogy? His answer was of so inspiring and modest a character that I believe it to be worth while to reproduce it in the original words which will be found below. I will also translate it into English as exactly as possible:

> When I now consider the honor you have conferred upon me here this evening, when I consider all that has been said and done in my praise, there arises in my mind a doubt as to whether I am really entitled to such distinction. Some of the kind things which have been said of me I believe I may accept with a clear conscience, but I have done nothing else than what you are doing every day. I have worked as hard as I could and have fulfilled my duty and obligations. If the success really

was greater than is usually the case, the reason for it is to be found in the fact that in my wanderings through the medical field I came on regions where gold was still lying by the wayside. Fortune is necessary to be able to distinguish gold from the base metals, but that is no great merit. I am glad to see Mr. Carnegie here, whose generous gift to the Koch Foundation in Berlin made everywhere such a deep impression. I would wish to thank Mr. Carnegie with all my heart. The foundation which is to bear my name is, I hope, destined to show great results in the field of tuberculosis research. While special hospitals and sanatoriums for the treatment of tuberculosis are of local importance in the combat against tuberculosis, the Koch Institute or Foundation is destined to study the underlying causes and as yet unsolved problems of the disease and thus will benefit mankind at large.[2]

Koch had a remarkable genius for research work, yet his aim was always eminently practical and his sympathies genuine and real. By hard work and diligent application he revealed the hidden mysteries of disease.

Koch was not privileged to see the foundation for further tuberculosis research work, bearing his name, completed. He died May 27, surrounded by devoted pupils and friends. By indubitable right he now takes his place with the immortals and his name will be handed down through generations to come as one who has lived and labored for the good of mankind.

In accordance with Koch's last request, his funeral was of the simplest kind, and as an enthusiastic sanitarian he had directed his body to be cremated. His dmirers and pupils gathered the ashes of the beloved aster and enshrined them in a mausoleum located in he Institut für Infektionskrankheiten in Berlin, of which Koch had been director for many years.

I venture to say that for generations to come, all physicians, and likewise the many men and women outside f the profession who are interested in scientific or preventive medicine will, on visiting Berlin, deem it a pious luty to make a pilgrimage to this last resting-place of he ashes of Robert Koch.

A CLINICAL STUDY OF SPOROTRICHOSIS

WITH A REPORT OF FOUR CASES

J. M. SUTTON, M.D.

HALSTEAD, KAN.

During the past few months several articles dealing ith sporotrichosis in man have appeared in the Amerian literature.[1] Evidently the disease is not so rare as as supposed. Practically all these cases have been seen n farmers and stockmen. The disease seems fairly prevlent in rural districts, and if it is to be successfully reated the nature of the infection must be recognized.

It is possible that cases of sporotrichosis have been diagnosed as tuberculous lymphangitis.[2] Unfortunately, the infection is usually treated surgically and the patient undergoes weeks or months of needless suffering.

As previous writers have pointed out, a traumatic lesion of the arm, hand or forearm which proves resistant to ordinary surgical treatment and is accompanied by the development of one or more sharply defined, painless, cutaneous or subcutaneous abscesses along the course of the lymphatics should always arouse suspicion, especially if the inflammatory manifestations of a coccic infection are absent.

It is well to remember (as occurred in one of the following cases) a concurrent infection of the ordinary pus germs may develop as a result of repeated surgical procedure and thus mask the typical symptoms of the primary trouble.

The organism consists of a branching, septate, coarse mycelium, from which ovoid bodies develop by budding, either from lateral or terminal filaments or from the sides of the threads. These ovoid bodies are spores (Fig. 3, Case 1).

Lutz and Splendorie[3] report the presence of this fungus in the mucous membrane of the mouth of healthy rats; they ascribe the occurrence of cutaneous sporotrichosis of rats to infection from bites. Rather extensive experiments have shown rats and mice to be most susceptible; cats, dogs and rabbits negative; guinea-pigs susceptible, but less so than rats and mice. Intraperitoneal injection in guinea-pigs failed to produce the disease, while in the case of rats the organism was recovered from the circulating blood as well as from different tissues of the body. They found the growth to be very scanty and slow, forty-eight to seventy-two hours elapsing before a few colonies were seen. They cultivated the fungi on all ordinary media both acid and alkaline in reaction. The optimum temperature was found to be 28 C., though a much slower growth still occurred at 37 C. Growth was not inhibited by the addition of 2 per cent. tartaric acid and this substance was added to obtain a pure culture. The addition of grape-sugar to the media produced a more luxuriant growth. His, in his late work, notes the fact that Norris and Larkin found difficulty in growing the streptothrix until they tried fresh sterile kidney tissue of rabbits.

Trimble and Shaw report a case of sporotrichal infection and mention the fact that when cultivated artificially the surface of the growth becomes wrinkled, turning brown to black with age.

In all of the following cases, which came under my observation during the past year, diagnosis was verified by microscopic examination:

CASE 1.—H. G. J., laborer, aged 52, medium height, robust, personal history good, had never suffered any serious illness; physical examination was otherwise negative. About six weeks previous to consultation, while tearing down an old barn the patient received a puncture wound in the palm of left hand from a small nail which penetrated deeply. The injury gave little trouble and was not regarded seriously. Healing was prompt. Three weeks later a nodule developed on dorsum of hand opposite site of puncture. This nodule was 1.5 cm. in diameter, 0.5 cm. elevated, slightly oval in shape, subcutaneous and sharply circumscribed; dark red in color. On palpation fluctuation was evident. No inflammation of the surrounding tissue was present and no areola of inflammation. During the following week successive reddened papules developed (Figs. 1 and 2), twenty-four in number, varying in size from a pea to a lima bean. The recent lesions high up on the arm were hard, sharply circumscribed and the skin covering them was normal in color and texture. Older lesions, near the site of infection, were soft, boggy on palpation, the skin dark red, smooth and eventually breaking down and sloughing away. The entire absence of any evidence of cellulitis or lymphangitis between adjacent nodules was very striking. Under aseptic precautions some of the pus was aspirated with a hypodermic syringe and cultures made on Loeffler's mixture.

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[2] "Wenn ich alles zusammenfasse, was hier zu meinem Lobe ethan und gesagt worden ist, und die grosse Auszeichnung, die Sie ir zu Theil werden liessen, in Betracht ziehe, dann entsteht in mir in Bedenken, ob ich auch wirklich berechtigt bin, mich so feiern zu issen. Manches von dem was mir Rühmliches nachgesagt wird, ann ich, wie ich glaube, mit gutem Gewissen akzeptieren. Aber ich abe nichts anderes gethan, als was Sie jeden Tag thun, nämlich ich abe gearbeitet was ich konnte, und meine Pflicht und Schuldigkeit ethan. Wenn etwas mehr dabei herausgekommen ist, so liegt das aran, dass ich auf meinen Wanderungen durch das medizinische ebiet auf Strecken stiess, wo das Gold noch auf dem Wege lag. s gehört allerdings Glück dazu, das Gold von dem Unedlen scheiden können; das ist aber kein besonderes Verdienst. Es freut mich sonders Herrn Carnegie hier zu sehen, dessen hochherzige Spende ir Koch-Stiftung allenthalben einen tiefen Eindruck gemacht hat. h möchte Herrn Carnegie meinen bescheidenen aber herzlichen und armen Dank aussprechen. Die meinen Namen tragende Stiftung t berufen, grosse Resultate auf dem Gebiete der Erforschung der uberkulose zu zeitigen. Während die Gründung von Krankeniusern und Sanatorien in der Bekämpfung der Tuberkulose von kaler Bedeutung sind, soll die Koch-Stiftung uns ermöglichen, in as Wesen der Krankheit tief einzudringen, um so Vortheile zu haffen, die der ganzen Menschheit zu Gute kommen."

[1] Sutton: THE JOURNAL A. M. A., Sept. 17, 1910, p. 1000; ec. 24, 1910, p. 2213; Hyde and Davis: Jour. Cutan. Dis., 1910, xviii, 321; Pusey: Ibid., 352; Stelwagon: Diseases of Skin, 1910, d. 6, p. 1119.

[2] Quain: Tubercular Lymphangitis, St. Paul Med. Jour., August, 1904.

[3] Lutz and Splendorie: Centralbl. f. Bakteriol., 1908.

The striking features of the case were, the absence of constitutional disturbance and impairment of function, notwithstanding the extensive involvement, the absence of adenitis and the definite limitation of the lesions.

The softened tumors were incised, cauterized with phenol, 90 per cent., and the arm put up in moist dressings. Internally, potassium iodid with iron and arsenic was prescribed. The infection yielded slowly, four weeks elapsing before the patient was discharged. The growth of the culture was slow, several days elapsing before the colonies were visible. Smears stained with alkaline methylene-blue showed a coarse, branching figure (Fig. 3).

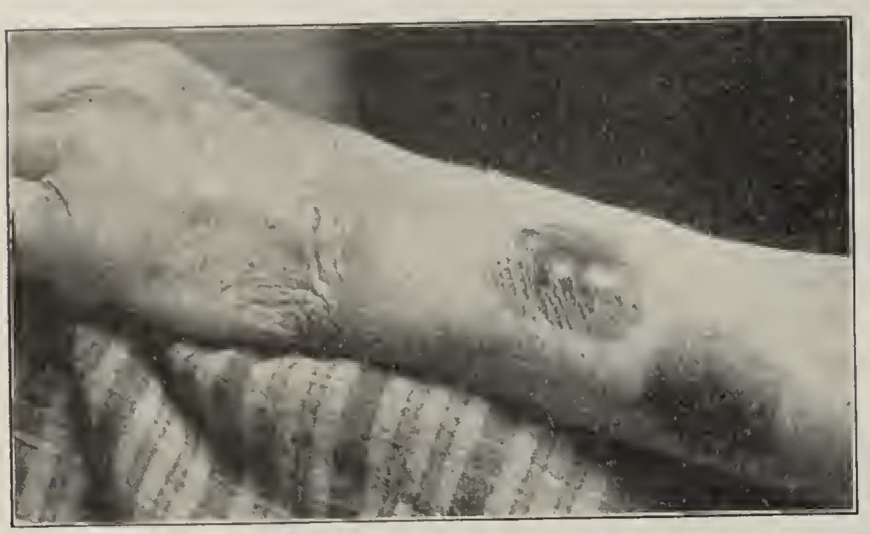

Fig. 1.—Lesion on forearm and hand, Case 1.

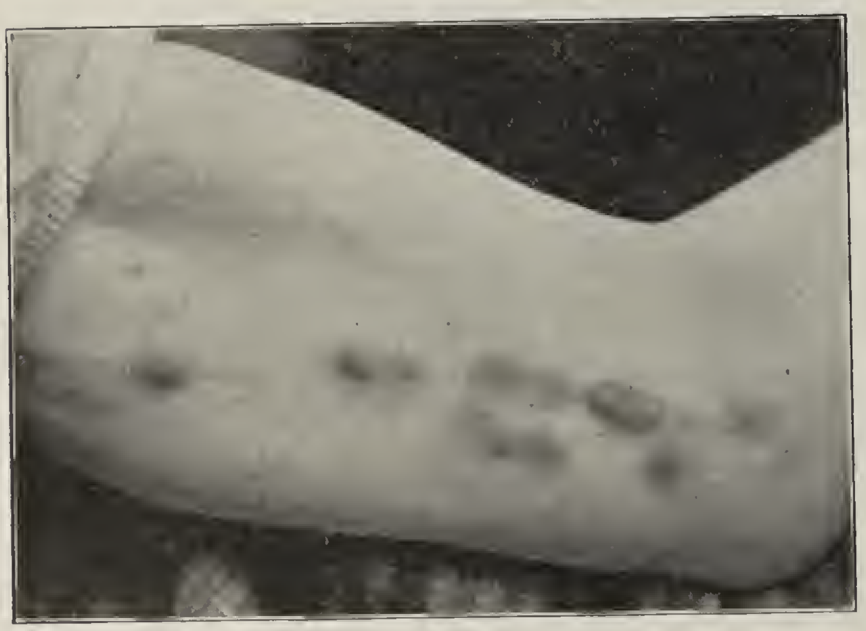

Fig. 2.—Lesions on arm, Case 1.

Case 2.—J. T., aged 40, farmer; family history negative, about August 1, cut the index finger of the right hand on a disk harrow; the injury was slight but the cut refused to heal. Two weeks later the finger showed signs of infection. The patient was treating a cow with an infection following dehorning, and thought the finger became infected from this source. The digit was swollen, and exuberant granulations appeared in the wound, which was covered with a thick, dark-colored pus. In the course of two months, more than fifty small, sharply circumscribed, characteristic cutaneous tumors appeared on the hand, forearm and upper arm (Fig. 4). Of these, nineteen softened, broke down and were lanced, discharging a dirty, brown-colored pus. Later there was enlargement and tenderness of the axillary glands, evidently from an intercurrent infection by the ordinary pus germs. This case showed systemic reaction—rise of temperature, malaise and headache—but as these untoward symptoms developed during the later stages of the disease, one would conclude that the sporotrichal infection was not responsible. This case was seen by the courtesy of a colleague.

Case 3.—J. J. K., aged 36, farmer, history good, early in October received a slight cut on the second phalanx of the thumb. The wound healed readily. Two weeks later the scar became inflamed and the dorsum of the hand showed nodular enlargement. The scar of the original lesion became red, broke down and granulations appeared; the patient complained that the wound itched severely. As in other cases, there were no constitutional symptoms. The wound was opened and drained of a small quantity of pus and the patient was placed on appropriate treatment. Recovery was prompt.

Case 4.—The patient, G. N., was a farmer, aged 28; family history excellent. This case is interesting in that no injury was received, the port of entry being a small pimple which was opened with a pin. I was called to see this patient the early part of April. Examination revealed seven small tumors on the upper right arm, inner aspect, the first being about 0.3 cm. in diameter and covered with granulations. There was a tough brownish pus exuding; no axillary involvement; the trouble was limited to the superficial lymphatics. The patient had no rise of temperature and was going about his work as usual. The other papules were arranged in a chain along the biceptal groove. The primary lesion was lanced and cleaned out thoroughly. Recovery was rather slow. The first and second nodules were lanced, some scarring resulting. The cicatrices are soft, not sensitive, and there is no muscular involvement. Inspection would lead to a diagnosis of superficial burn as cause of scars.

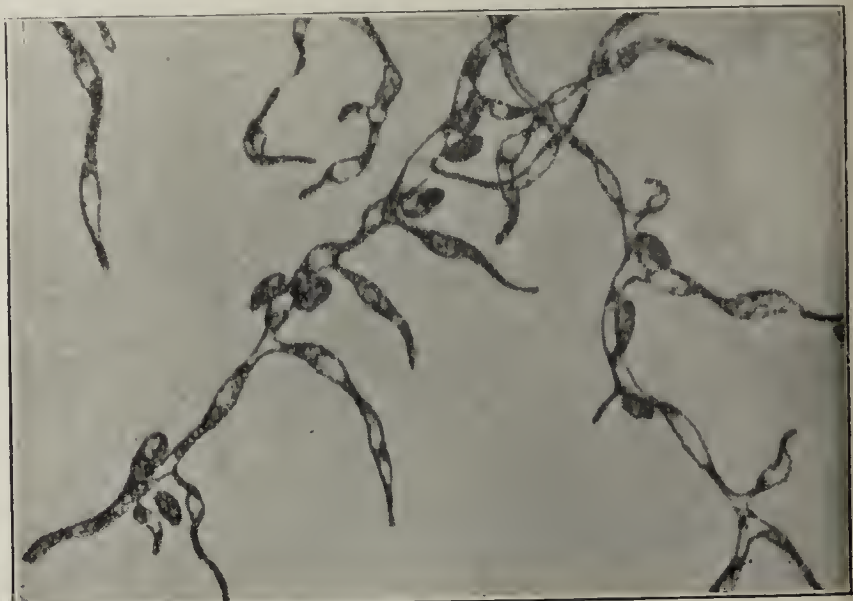

Fig. 3.—The organism from Case 1, a branching, septate coarse mycelium, from which ovoid bodies (spores) develop by budding, either from lateral or terminal filaments, or from the sides of the threads.

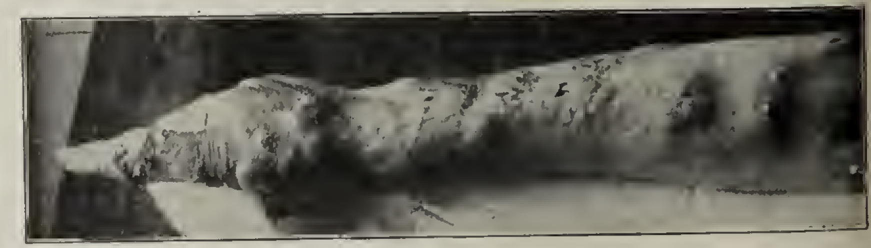

Fig. 4.—Lesions of sporotrichosis, Case 2, which started on index-finger.

Personal Hygiene the Foundation for National Health.—But after all has been said as to the importance of public and semi-public hygiene, I cannot but believe that personal hygiene is the most important of the three, writes Dr. Irving Fisher, in the New York *Christian Advocate*. It is personal hygiene, in fact, which gives the motive and stimulus to the individual citizen to maintain and develop semi-public and public hygiene. It is only as each realizes the importance of his own health, or at any rate that of his family, that he can be led to appreciate the importance of the public health.

A NEW METHOD FOR ELICITING THE EXTENSOR TOE REFLEX

TOM BENTLEY THROCKMORTON, B.Sc., M.D.
CHARITON, IOWA

The extensor plantar reflex, to which Babinski first called attention in 1898,[1] and which bears his name, is considered by neurologists as being the most important reflex at their command by which to differentiate between functional and organic nerve lesions. Babinski has shown that normally when the sole of the foot is stimulated by drawing some foreign object across its surface, plantar flexion of the toes follows; whereas, in organic diseases of the nervous system, particularly in spinal cord diseases accompanied by spastic symptoms, instead of a plantar flexion of the toes, an extension of the digits occurs which is most noticeable in the great toe and which acts more slowly than does the normal flexion. While the true pathology of this phenomenon is unknown, save that it indicates an irritation somewhere along the course of the motor leg fibers of the corticospinal element of the central nervous system, it is always considered pathologic except in infants, in whom the pyramidal tracts have not been developed, and in those cases of spinomuscular lesion[2] in which the plantar flexor muscles alone are involved.

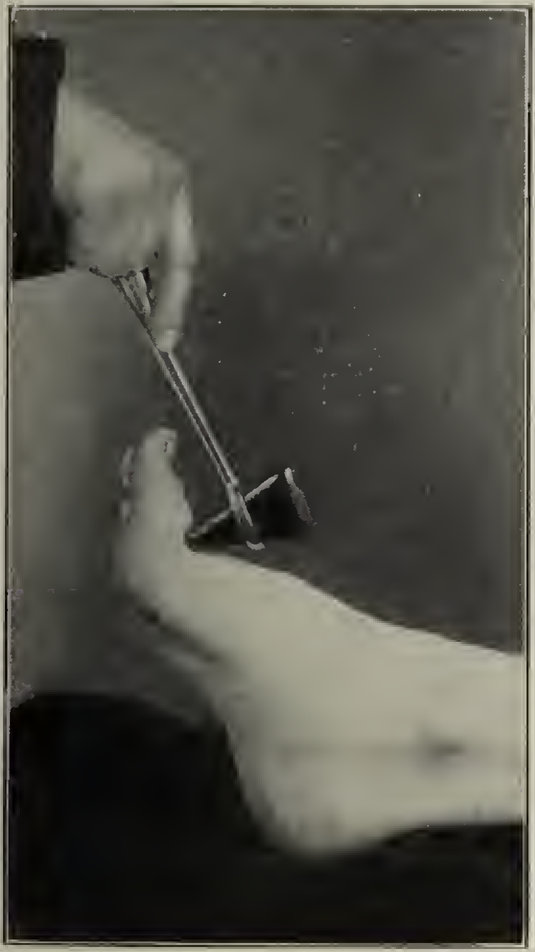

Fig. 1.—The manner of eliciting the toe reflex by percussion.

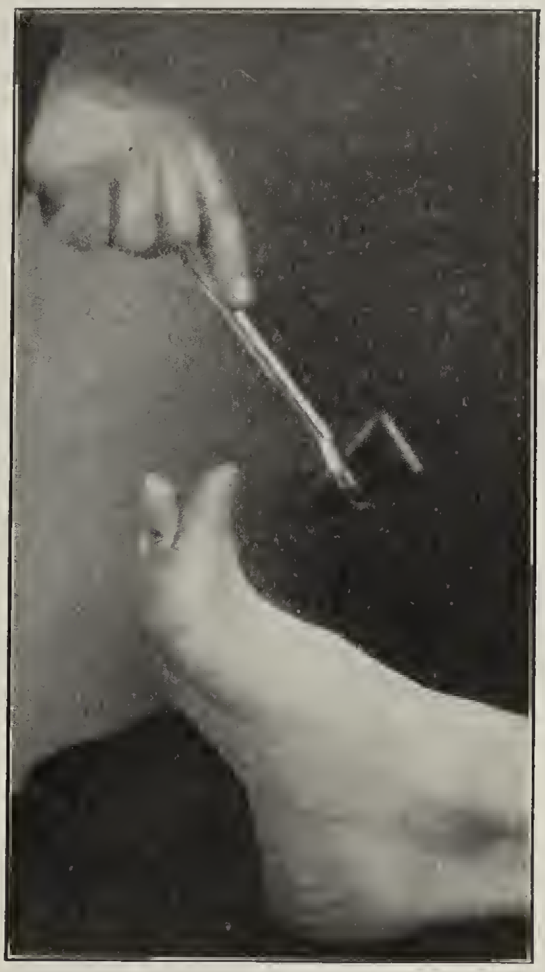

Fig. 2.—The extension of the toe in response to percussion.

The Gordon[3] paradoxic flexor reflex and the Oppenheim reflex produce practically the same phenomenon but in a different manner, the former being evidenced by pressing deeply through the calf muscles on to the deep flexor muscles beneath, the latter by firm stroking with some hard object just behind the postero-internal border of the tibia from above downwards. Neither of the reflexes just mentioned is as constant as the extensor plantar reflex, but they are sometimes present when the Babinski phenomenon cannot be elicited.

While resident physician in the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases I found that the extensor toe reflex could also be obtained in a manner different from any of the above mentioned ways. In every case in which the Babinski sign was present percussion at the base of the great toe would produce extension of this member, accompanied sometimes by extension of the remaining digits. The reflex is best obtained in the following manner: The muscles of the leg should be in a relaxed condition and the toes in a passive state. The skin overlying the upper surface of the first metatarso-phalangeal articulation is struck with the pointed end of a percussion hammer just to the inner side of the tendon of the extensor longus hallucis muscle. The force of the blow required will vary in different individuals, some requiring but a few light taps to produce extension of the toe, while others may require several fairly sharp blows before extension occurs. In all the cases observed I have found that the more marked the Babinski sign the less percussion force it required to produce extension. If the blow be too light a mere transient extension of the great toe alone ensues, but if the force used be excessive and the spastic symptoms are pronounced, not only is there liable to be extreme extension of the member with dorsal flexion of the remaining toes, but the ankle is usually dorsiflexed and in some instances the spasm may be so great as to cause slight flexion of the knee. Sometimes extension of the great toe will occur when the skin about the inner aspect of the first metatarso-phalangeal joint is struck, but I have not found this means so efficacious as when the method above described is used.

Many normal subjects have been examined, and also individuals suffering with various nervous disorders, as neurasthenia, hysteria, epilepsy, Parkinson's disease, chorea, myospasm, etc., but in none could the extensor toe reflex be obtained by the percussion method, and in them, it is needless to say, the Babinski sign was absent. In those cases in which the paradoxic flexor reflex could be obtained, but in which the Babinski phenomenon was absent, I was unable to elicit extension of the great toe by my method.

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[1] Oppenheim: Diseases of the Nervous System, Ed. 2, p. 65.

[2] Stewart, Purves: Diagnosis of Nervous Diseases, Ed. 2, p. 302.

[3] Gordon, Alfred: Am. Med., 1904, viii, 971; The Diagnostic Value of the Paradoxic Reflex, THE JOURNAL A. M. A., March 18, 1911, p. 805.

In conclusion I will state that I believe that the possibility of producing the extensor toe reflex by percussing the skin merely shows that the Babinski, Oppenheim, and perhaps to some degree the Gordon phenomena are all true skin reflexes, and that the extension of the toe probably results from the effects of the sensory impulse acting reflexly in some manner on the irritated leg fibers in the upper motor segment.

I wish to thank Dr. F. X. Dercum of Philadelphia for the privilege of examining cases under his service in the wards of the Jefferson Medical College Hospital, and also for the suggestion of putting these findings on record. I am also indebted to Dr. George E. Price of Philadelphia for similar courtesies extended me, and for many personal favors.

116 South Grand Street.

A CASE OF SPOROTRICHOSIS IN MAN

HARRY J. HARKER, M.D.
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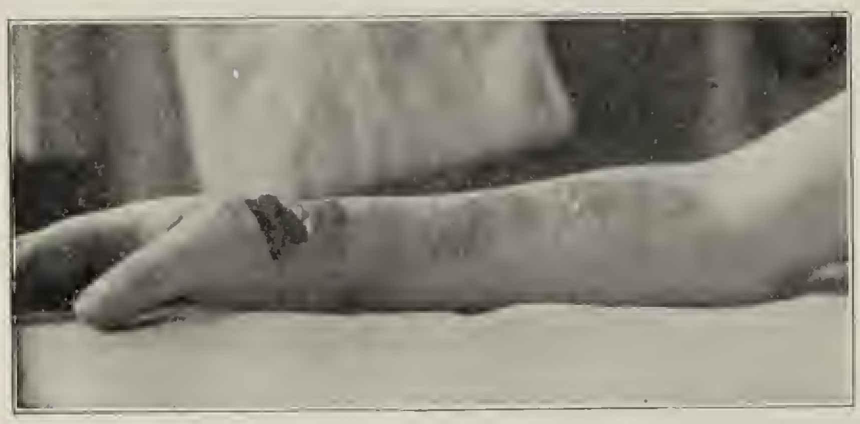
The excessive prevalence of sporotrichosis in America, and particularly in the middle West, has recently been brought to the attention of the medical profession by Sutton.[1] Although isolated examples of the disease had previously been reported by Schenck,[2] Hektoen and Perkins,[3] Trimble,[4] Hyde and Davis,[5] and others, it was not generally realized that the malady was a fairly common one in the Mississippi Valley.



Sporotrichosis with development of multiple, painless abscesses in the arm of a boy aged 5.

Unfortunately the nature of the infecting agent is not always readily recognized, and the patient is subjected to much pain, and even danger, from needless surgical procedures. When the peculiar symptomatology of the disorder is borne in mind, a mistake in diagnosis is not liable to occur. As has been pointed out, "A traumatic lesion of the arm, forearm or leg which proves resistant to ordinary surgical treatment, and is accompanied by the development of one or more sharply circumscribed, painless, cutaneous or subcutaneous abscesses along the course of a limb, should always arouse suspicion, especially if the inflammatory manifestations characteristic of a streptococcic cellulitis are absent."

The following typical example of sporotrichosis in man has recently been under my care:

The patient, C. B., is a farmer's son, aged 5, a native and resident of Kansas. The cutaneous history of the family is negative. The lesion developed from a small scratch on the back of the right hand. Under home treatment for three weeks the ulcer developed, oblong in shape, with raised edges, about 1 inch long by 1½ inches across. Abscesses began to form on the forearm during the fourth week, extending up to within 2 inches of the axilla. The first physician consulted made a diagnosis of chronic or indolent ulcer, due to an attack of typhoid fever some six months previously, and the ulcer and abscesses were treated by incision and antiseptics. The diagnosis was confirmed by a second physician, who dressed the arm every other day for four weeks and recommended amputation at the end of that time.

The photograph was taken February 4, when I first saw the patient, ten weeks after the appearance of the lesion. A diagnosis of sporotrichosis was made from the clinical appearance of the ulcer and the sharply circumscribed subcutaneous abscesses, being painless and with no glandular enlargement. No microscopic examination was made. The patient was put on 3 gm. potassium iodid daily and the wounds dressed with a 10 per cent. oily solution of iodin. The ulcer began to heal at once, the lesions disappearing entirely in four weeks.

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[1] The Journal A. M. A., Sept. 17, 1910, p. 1000; Dec. 24, 1910, p. 2213; Boston Med. and Surg. Jour., 1911, clxiv, 179.

[2] Bull. Jonns Hopkins Hosp., 1898, p. 286.

[3] Jour. Exper. Med., v, 77.

[4] Jour. Kansas Med. Soc., September, 1909.

[5] Jour. Cutan. Dis., July, 1910, p. 321.

ADMINISTRATION OF GENERAL ANESTHETICS WITH SPECIAL REFERENCE TO ETHER AND CHLOROFORM *

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CHICAGO

CORONERS AND DEATHS DURING ANESTHESIA

The following is posted in a conspicuous place in a certain London hospital:

The addresses of the anesthetists are as follows..........
The address of the coroner's officer is.....................

This sign is rather startling and naturally suggests that deaths under anesthesia are not uncommon and that an effort is made to determine the cause. It is unquestionably true that the majority of deaths which occur during operations on patients not moribund are due to the anesthetic. Deaths due to operative procedure occur after the patient leaves the operating room. No statistics are quite so unreliable as those dealing with anesthetic deaths. Every death under anesthesia should be recorded as such on the death certificate and the accident reported to the coroner. This does not mean that the coroner should in every case hold an inquest. Indeed he should not do so, if, on inquiry he is satisfied that the anesthetic was administered by a responsible person, with due care and skill.

LEGAL STATUS OF SURGEON AND ANESTHETIST

The legal responsibility as regards surgeon and anesthetizer is difficult to define. It would seem reasonable that the surgeon should be held responsible only in selecting or allowing an incompetent person to anesthetize the patient, and further, if he should attempt to direct the anesthetic while operating, as it is clearly impossible for him to attend simultaneously to two branches, each requiring so much attention. The position of anesthetist, involving as it does risk to life, should not be relegated to one who is unable to assume full responsibility.

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* Read before the Chicago Medical Society, Feb. 22, 1911.

CAUSES AND PREVENTION OF DEATHS DUE TO ANESTHESIA

Deaths from anesthetics are said to be on the increase both in this country and abroad. The fact cannot be gainsaid that chloroform occasionally proves fatal in the hands of the most careful and expert anesthetists. A fruitful source of deaths is the administration of anesthetics by untrained administrators and by those who have had a fair training, but are careless, poor observers, or are overconfident in the safety of the drug they are using. At present we have no absolutely safe anesthetic, and as this is an age of activity along research lines new anesthetic agents or combinations are suggested and tried. Questionable methods of producing anesthesia are responsible for a large number of deaths. Then, too, surgeons are frequently at fault in insisting on a deeper narcosis than is safe, particularly when an inexperienced individual is acting as anesthetist.

The remedy for these evils must be education. Both didactic and practical instruction in the use of anesthetics should be made an obligatory part of the medical curriculum. The didactic instruction should consist of a description of the various drugs used for anesthesia, their action, and methods of administration, preparation of the patient, selection of the anesthetic, after effects and their treatment and how to avoid and deal with anesthetic accidents. The practical instruction should consist in the administration of anesthetics under competent guidance.

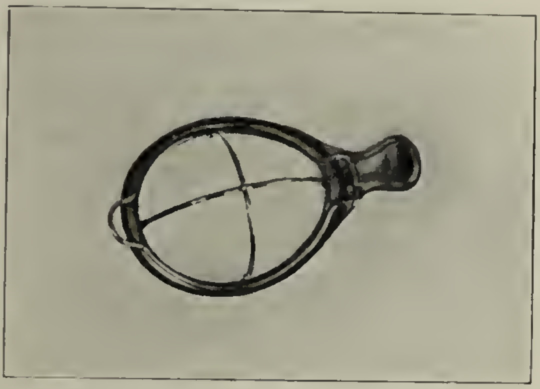
Fig. 1.—Schimmelbusch anesthesia mask.

Every hospital in which operations are performed should have on its staff a paid anesthetist, who should be given complete charge of the administration of anesthetics. It should be his duty to visit operating-rooms during operations and instruct, make suggestions to or correct interns in their anesthetic work, and see that they do not perpetuate the evil practices handed down by their predecessors. He should administer all anesthetics requiring special skill. In the latter instance he should receive extra remuneration from all except charity patients.

Unfortunately most anesthetists receive their meager nstruction from surgeons, during the operations, and t is a notorious fact that the majority of surgeons are poor anesthetists. From the fact that a man operates hundreds of times a year it does not follow that he is proficient in the art of producing and maintaining anesthesia any more than from the fact that a professional anesthetist glances occasionally at the field of operation t follows that he should become proficient in the art of urgery.

COMPARATIVE SAFETY OF CHLOROFORM AND ETHER

Unprejudiced investigations have placed the comparative safety of chloroform and ether on a firmer basis and t is now quite generally conceded that the limitations of chloroform have been markedly increased while those of ether have been decreased. Clinical results and careful research work conclusively show, not only that death during chloroform administration is much more frequent than when ether is used, but that evil after-effects are quite as common and much more serious. Experimentally it has been found that about 70 per cent. of animals anesthetized with chloroform show liver changes varying from fatty degeneration to necrosis. The degree of destruction seems to bear some relationship to the length of the narcosis, and especially to repeated anesthetizations. The changes usually begin in the center of the lobule and may extend till all the liver cells become more or less affected.

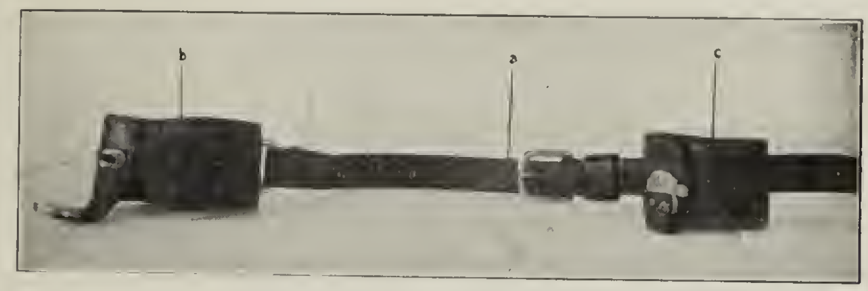

Fig. 2.—Restraint straps for use in anesthesia: a, central strap showing adjustment buckle; b, cuff opened showing clasp fastener; c, cuff closed.

In the human subject the symptoms of late poisoning develop two or three days after the narcosis, in patients who have shown no evil effect from the operative procedures. Death occurs in four or five days. Autopsy reveals small hemorrhagic foci in the gastro-intestinal tract, mesentery, omentum, pleura, pericardium. Kidney epithelium is swollen, contains fat droplets or is necrotic, no inflammatory changes being present. The most marked change, however, is found in the liver. The lobules are decreased in size, the parenchyma cells may be completely destroyed through fatty degeneration or necrosis, but no evidence of acute or chronic inflammation or change in the bile-ducts is present. Persons in good general physical condition are quite as apt to succumb to the poisonous effects of chloroform as the debilitated. The majority of reported deaths occurred before middle life. As the question of safety is of paramount importance and should dominate all others in the selection of an anesthetic, no one is justified in using chloroform except for definite reasons, or under peculiar circumstances. It should be remembered that the more chronic a lesion is the less important it is as a contraindication to the use of ether.

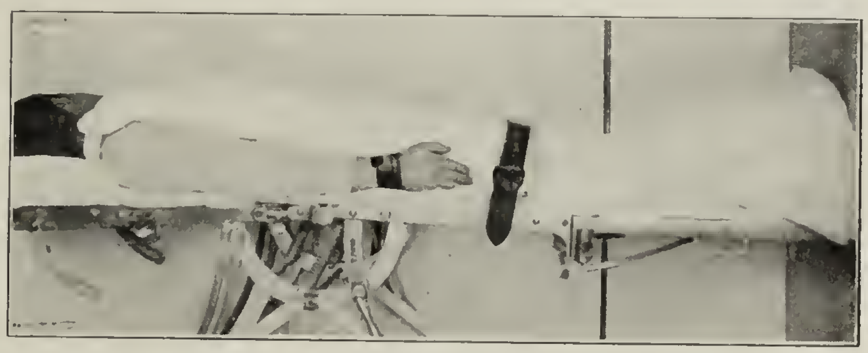
Fig. 3.—Patient in position for operation with restraint straps adjusted, including a simple canvas surcingle about the knees.

NURSES AS ANESTHETISTS

Nurses when properly trained make very good anesthetizers and frequently their technic becomes quite perfect. But they work at very great disadvantage. Because of their lack of medical training, they are unable to weigh physical findings, and not being familiar with operative procedures, they are unable to decide which anesthetic is the safest in a particular case, or which will produce for the surgeon the best operative conditions. Consequently the question resolves itself into one anesthetic in all classes of cases and no hope of advancement or research work can be expected.

It may be urged that surgeons prefer selecting the anesthetic, which is generally true because there are so few anesthetists capable of taking the full responsibility of the anesthetic end, as the surgeon does the surgical end. This is not the case where medically qualified professional anesthetists are employed who are never slave to any one anesthetic, but select in a logical manner the agent best suited to the case in hand.

SHALL THE ANESTHETIZER OBSERVE THE OPERATION?

It has been stated that the anesthetizer should never look at the operative field, but should keep his eye riveted on the patient's face. This is a serious mistake, for unless one keeps in touch with the operator, he cannot interpret changes in the circulation and respiration which are directly due to operative procedures. Neither can he tell the degree of narcosis indicated for the operation in hand throughout, or at different periods, and the patients are kept either too profoundly asleep or move or show some sign of too light an anesthesia at a most inopportune moment. I do not mean that every step of the operation should be watched, but an occasional glance at the operative field will keep one posted.

REFLEXES AND INHIBITIONS

Reflexes and respiratory inhibitions are of great importance and should be understood by operators and anesthetists. The region supplied by the superior laryngeal nerve appears to be especially endowed with inhibitory impulses, as is frequently demonstrated in operations about the larynx and pharynx. Swabbing out the throat during anesthesia is occasionally followed by a suspension of respiration. This inhibition, it is true, usually passes off quickly, but it causes consternation, and artificial respiration, with all its attendant commotion, may be instituted before the patient is again breathing in a regular manner. If the patient's head is turned to the side, any mucus which could be reached with a swab will flow out at the angle of the mouth. Modified respiration, due to peripheral impulses, is well demonstrated in exploratory laparotomies, as the examining hand passes from one region to another. Increased, but noiseless, respiration is immediately produced on contact with the peritoneum. Manipulation about the diaphragm causes noisy expiration, while manipulation about the pelvis, sigmoid, rectum and anus causes a prolonged inspiration. Perhaps no reflex action causes the impatient surgeon so much annoyance as the almost explosive expiration caused by manipulations of the intestine, in an effort to replace it in the abdominal cavity. Surgeons usually attribute the difficulty to imperfect narcosis, but if they will cease manipulations for a few moments until the reflex action disappears, they will experience no trouble in returning the bowel through the incision.

OPEN METHOD OF ETHERIZATION

In 1898, I reported to this society a new method of etherization which I had employed in a thousand administrations while in the service of Dr. A. J. Ochsner. Four or five years preceding my observations, Dr. Lawrence H. Prince, the originator of the method, had used it in two series of cases of 500 each. In his published articles may be found a description of the technic employed. The superiority of the method is evidenced by its steady growth in popularity, not only in this country, but also abroad. I have used this "open" method of etherization, as Dr. Prince suggested, with one or two unimportant modifications in over 15,000 anesthetizations. I feel, as I did at the end of my first trial thousand, that when properly used it is in all respects ideal. At the time Dr. Prince demonstrated the possibility of giving ether similarly to chloroform, the only mask on the market was the Esmarch. At present there are so many styles that it is difficult for an inexperienced anesthetizer to select one. I prefer the Schimmelbusch (Fig. 1). The weight is about right to make it easily kept on the face, the shape is good and it is sufficiently large to cover the mouth and nose without being cumbersome or complicated, as is, for instance, the mask suggested by Ferguson. Having no handle or nose-piece it can be used with the patient in any position on the table, or for any operation about the nose or face, except mouth or jaw operations.

I cover the mask with two layers of stockinet—medium quality—and this is all that should be used or is necessary except in cases of alcoholics. With the latter class of patients, it is usually necessary to place three or four layers of gauze over the stockinet, which should be removed as soon as the individual passes the stage of excitement. Placing ten, fifteen or twenty layers of gauze over the stockinet is not only unnecessary, but it approaches the old "closed" method, except that the ether is dropped on the outside to evaporate, while the patient reinhales his own breath from within, instead of the ether being poured inside of the cone and the patient allowed to breathe it and his carbon dioxid as was the case with the old method of etherization. Dr. Prince advocated allowing as much air with the ether as was consistent with anesthetization, thereby reducing the immediate and after ill effects of the drug. It goes without saying that the more gauze one has over the mask the less air the patient receives and the more carbon dioxid he inhales.

RESTRAINT STRAPS

I desire to call your attention to a very humane and simple, but efficient, device used in insane asylums for restraining patients. We have found it an almost invaluable addition to our anesthetic armamentarium. The strap consists of a central piece of leather provided with a buckle, which allows the strap to be adjusted to the width of the individual's hip. At either end of the strap are attached cuffs with clasp fasteners. The cuff, like the central strap, can be adjusted to fit different sized wrists. The patient lies on the central strap with the hands placed at his sides, with the cuffs about his wrists. This is a comfortable position for the patient; the hands are out of the way of the operator; and it is impossible for them to fall off the table causing a possible pressure-paralysis. It is also impossible during the stage of excitement for the patient to use his hands. Furthermore, if a change of position for operative purposes, or if artificial respiration, should become necessary, the hands can be loosened almost instantaneously.

In addition to this strap we use an ordinary surcingle. This should be placed rather snugly just above the knees. If placed below the knees the patient will be able to work the limbs from under it. With these two restraint straps one person can manage the worst alcoholic during the stage of excitement with absolutely no danger of his getting off the table.

DRUGGING BEFORE GENERAL ANESTHESIA

I wish to protest against the routine giving of drugs before ether and chloroform anesthesia. In selected cases it may be of advantage, but the system can eliminate one poison much more easily than it can three or four at the same time. The use of morphin with atropin or with hyoscin (scopolamin) in combination with ether or chloroform is absolutely detrimental in many instances. It is a well-known therapeutic fact that one drug may augment the action of another, and this is especially so in an ether or chloroform-morphin combination. Consequently, an overdose is more easily administered. The excessive action may be undesirable or dangerous. A number of instances have been reported, in which alarming respiratory depressions, or even deaths have been attributed to this method. In cases of any untoward accident, there is not only the volatile and quickly removable drug, but also the non-volatile and comparatively permanent one to be eliminated. Many former advocates have abandoned the method because of deaths reported by competent anesthetizers, which were due to the more permanent drug, although small doses were given.

Not the least of the objectionable features of drugging before general anesthesia is the masking of the most valuable of all guides in anesthesia, namely, the pupillary reaction. With a single drug, as ether, or chloroform, one can interpret every change in respiration and circulation, meet and combat it; not so when several drugs are acting and one has no way of knowing which is the guilty one. Because less chloroform or ether is required when combined with morphin and atropin or scopolamin, the combination has been recommended in mouth operations, but that advantage is more than offset by the disadvantages of the patient's remaining asleep after the operation is completed. Morphin allays the reflex excitability of the air passages, thus retarding coughing and favoring the retention of aspirated blood or vomitus in the trachea or bronchi, which predisposes to pneumonia. Many people are unable to take morphin without distress or vomiting, and in such individuals the disagreeable after-effects of ether or chloroform would be aggravated. If the lovers of atropin will keep the patient's head turned to the side, troublesome mucus will escape at the angle of the mouth or remain in the cheek where it can be wiped out. This position also prevents the tongue from falling back and obstructing respiration. Occasionally, mucus collects in the bronchi, in which case the patient should be allowed to awaken sufficiently to cough. Mucus acts as a foreign substance and causes reflex coughing, although the patient may still be fairly well anesthetized. They very quickly become narcotized again. The much-lauded quieting effect of combination anesthesia, making the patient come to the operating-room in a tranquil frame of mind, is of little moment compared with the disadvantages of the method. The practice is a reversion to the old time "shot-gun prescription," and should be placed on the shelf with the "tried and found wanting." Occasionally at the end of long, difficult operations on debilitated patients, a stimulant may be indicated. Strychnin has given me the best satisfaction of any drug. It acts in an ideal manner on respiration and circulation in a remarkably short time. However, most patients respond nicely to warm saline solutions given per rectum, especially if there has been much hemorrhage. This has the added advantage of supplying fluid, thereby relieving thirst.

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FAMILY PERNICIOUS ANEMIA

THREE FATAL CASES OF PRIMARY ANEMIA (TWO BROTHERS AND ONE SISTER) AND TWO OF SECONDARY ANEMIA (TWO SISTERS) IN MEMBERS OF ONE FAMILY; FATAL PRIMARY ANEMIA IN A PATERNAL COUSIN; A FIFTH CASE OF FATAL PRIMARY ANEMIA IN A PATERNAL UNCLE.

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The title of this paper well defines an interesting series of cases that have come under my personal observation. I have nothing to add to the existing theories of the causation of true pernicious anemia. That the immediate active factor is some hemolysin, is probably uncontradicted, but the mystery of the ultimate cause is still unsolved. William Hunter has emphasized the important rôle played by septic conditions of the mouth and tongue. Grawitz records four cases based on his view of the intestinal origin of the disease. It is further stated (Edwards) that such conditions as "pregnancy and the puerperium, syphilis, poor hygiene, infectious diseases—as typhoid and malaria"—are causative. But the astonishing and absolute increase in the incidence of the disease would seem to warrant a belief that these must be considered rather as bearing an associated than an etiologic relation to primary anemia. On the other hand, intestinal parasitism may with justice be viewed as the only known demonstrable cause. Unfortunately, even this series, here reported, of five cases in one family, permits of no deductions as to etiology.

Pernicious anemia is no longer to be considered of infrequent occurrence, and, unless a particular instance of the disease present unusual features, its detailed history would hardly be warranted. The noteworthy feature of the report here given is that—as far as I can ascertain—medical annals contain no similar observation. A careful search has revealed but a single instance bearing on heredity in pernicious anemia; this statement[1] quotes "an observation of Klein's, who saw a brother and sister succumb to progressive pernicious anemia." Another published report by Sinkler and Eschner[2] of "three cases of pernicious anemia in one family," may be disregarded because no evidence is adduced warranting their deductions; in fact, but one case of genuine pernicious anemia is admissible, and their report has been quite generally discredited as not justifying the claim made. The single previously recorded instance, therefore, of two cases—a brother and sister—in one family, lends added interest to my observation, which, briefly summarized, is as follows:

Three fatal cases of primary anemia (two brothers and one sister) and two of secondary anemia (two sisters) in members of one family; primary anemia in a paternal cousin; a fifth case of fatal primary anemia in a paternal uncle.

Family History.—The mother of the patients here spoken of as Patients 1, 2 and 3 is 78 years old, and is well. Their father died about fifteen years ago, at the age of 52, after an illness of about two years' duration. The cause of his death was variously stated by the family as Bright's disease, liver disease, and "complications." He was not dropsical. The surviving brothers and sisters, after witnessing the gradual development of the fatal anemia in one brother and one sister, have expressed the belief that their father may have died of a similar train of symptoms. This is merely a conjecture on their part and of no value as evidence. A brother of the father of my patients died after the death of my patient (Case 2) of what was recognized as pernicious anemia. (See below, Case 7.)

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[1] Nothnagel's Encyclopedia of Practical Medicine, Volume on Diseases of the Blood, p. 233.

[2] Sinkler and Eschner: Am. Jour. Med. Sc., 1896, p. 287.

The course of this family scourge can best be developed as we follow the histories in brief of the individual members, five brothers and sisters, all of whom have at various times been under my observation, and of two members of collateral branches of the family.

Case 1.—Primary anemia. *Summary.*—Male, aged 35; several remissions during a period of one year; typical blood-findings; lowest red blood-count 650.000, hemoglobin 20 per cent. Died with symptoms of an acute terminal infection—probably endocarditis.

History.—This patient's personal history prior to the fall of 1899 is unimportant. In the summer of 1899 he submitted to an examination for life insurance, and on a very carefully executed test was granted the policy applied for. It is possible that a degree of pallor existed even at this time; but the man was a blond and the pallor may not have been sufficiently striking to warrant a suspicion of its pathologic character. The anemia increased in intensity and was attended with great weakness. He improved markedly in the fall, but suffered a second relapse in December of that year. He was under the care of a competent physician at this time, and the diagnosis "pernicious anemia" was made. I was later informed that during the period of severe illness in this first summer his blood had been reduced to 20 per cent hemoglobin, and 1,500,000 erythrocyte count, but that in the fall the hemoglobin had again mounted to 80 per cent. Feb. 23, 1900, he consulted me. He then complained of feeling very weak, and of having had what he termed an attack of "grip." The history gave evidence of similar previous attacks. This periodic disability consisted of weakness, pain and soreness in the limbs, slight elevation of temperature, and gastric uneasiness.

Examinations.—At this time he looked quite fleshy and his face was round and full, this fleshy but flabby appearance persisting to the end. The skin and the conjunctival and oral mucous surfaces exhibited great pallor. No hemorrhages were noted. Hemoglobin 45 per cent, erythrocytes 1,880.000: color index 1.2. There was no history of malaria or of any other infectious disease, and no evidence of endocarditis or gastric disease. Hemic (?) murmurs were present. The blood picture was at this time quite convincing of an anemia of the pernicious type. Micro-macro-poikilocytes were present to a moderate degree; few nucleated red corpuscles were found. After a lapse of one week I was again consulted. The patient had been having another attack of what he termed "grip": his knees, ankles and wrists were somewhat stiff and lame, though not swollen or tender; his temperature had reached 105 F. the previous day, and was now 103 F. The conjunctivæ were very yellow, the skin of a similar tint. The spleen was enlarged, liver normal in size and not tender, a systolic heart murmur, heard loudest at third left interspace, was present; lungs were normal. A venous hum was very prominent. The urine contained a trace of albumin, but no organic sediment. Three days later the patient developed a cough, and a little frothy, blood-streaked mucus was expectorated. Labial herpes was present. Crepitation was found at right base posteriorly, but no bronchial breathing or dulness; respirations 30 per minute; epistaxis. Blood examined at this time revealed numerous normoblasts and megaloblasts, marked poikilocytosis; erythrocytes 1,175.000; hemoglobin 32 per cent; color-index 1.36. All pulmonary signs and symptoms disappeared in a few days and the temperature dropped to 100 F. The general condition seemed improved, though the blood-picture was disappointing; erythrocytes, 635,000; hemoglobin, 28 per cent; color index, 1.97. Though no white blood-count was made, the smears showed quite conclusively that a leukocytosis existed. Differential count: polymorphonuclears 68, mononuclears (large and small) 27, myelocytes 5. (In pernicious anemia there is usually a reduction in the number of leukocytes, the lymphocytes being relatively increased. The findings in this case are due to the complicating infection.)

Course of Disease.—Under careful medication with arsenic, iron and strychnin the blood picture changed to: erythrocytes, 1,220,000; hemoglobin, 32 per cent; color index, 1.31. There now developed considerable abdominal distention and quite acute epigastric sensitiveness. Peritonitis was suspected, and the suspicion verified the next day when all previous signs had become much accentuated, and abdominal fluid detected. All symptoms became intensified, and death resulted three days later, in a condition of profound asthenia.

Necropsy.—Permission to perform an autopsy was granted, but, to my keen regret, with the provision that it be done as long after embalming as possible, and just before burial, so that the appearance of the deceased be restored to as nearly a perfect condition as the embalmer's art could make it. I found, forty-eight hours after death, that the process had been so skilfully done as to make a proper recognition of conditions as they had existed ante mortem quite impossible. Pulmonary adhesions were found at the right apex anteriorly; no signs of consolidation or infarction. The heart was so filled with formalinized blood, and the valves so brittle and hard and clotty, that their examination led to no conclusion. The heart muscle was pale. In the abdomen there was serous fluid, and the intestines were covered with a fibrinous exudate; the liver was enlarged and covered with exudate; kidneys large and white; spleen twice normal size; no intestinal ulcers discoverable. The bone-marrow was red and soft and contained numerous multinucleated megaloblasts (gigantoblasts), identical with those found in the circulating blood. All the abdominal organs—including the pancreas—were so matted together and hardened by impregnation with formaldehyd solution that it was impossible to get more than a superficial idea of the pathologic conditions that existed. The exact nature of the intercurrent infection that terminated this case of pernicious anemia can be but conjecturally made, and it is possible only to surmise the diagnosis from the clinical symptoms. The probability of its having been a terminal endocarditis is apparent.

Should it be at all necessary to defend the stand that this was primarily a case of pernicious anemia, and not primarily an infectious endocarditis, I would emphasize these facts: the absence of any heart murmurs in the summer of 1899; the remissions in the disease during the latter half of that year; the patient's general appearance; the blood-findings made by competent observers; my own blood examinations showing a very high color-index; the numerous nucleated red corpuscles, and especially the large number of megaloblasts; the condition of the bone-marrow. The relative increase in polymorphonucleated leukocytes was due to the terminal infection.

Case 2.—Primary anemia. *Summary.*—Mrs. J., aged 45, sister of Patient 1. Three remissions; typical blood-findings; erythrocytes 520,000, hemoglobin 15 per cent.

History.—I first made this patient's acquaintance at her brother's bedside. She was fleshy, of rosy complexion, was feeling and looking well. The only noticeable feature was a slight and fairly constant tremor of the head. I was called professionally in consultation in July, 1902, two years and four months after her brother's death. In the patient's personal history there was nothing noteworthy. For a period of about five months previously she had been in poor health and had complained of considerable weakness. Pallor had existed to a prominent degree, though this had fluctuated in intensity. Two months previously the patient had gained in health, but the improvement was very evanescent, and she soon relapsed into her former state of ill health. She had now been in bed six weeks. There was a daily rise of evening temperature to 100 F. She complained of no pain, but of slight gastric distress and occasional headaches. Sight was good.

Examination.—The face had a pasty appearance, skin pale and yellowish (not icteric), conjunctival and buccal mucous membranes very pale. No petechiæ were noted. There was some puffiness about the eyelids—a probable result of the long-continued use of arsenic. There had been slight edema over the tibiæ, though this did not now exist. Neither the long bones nor the sternum were sensitive to touch. Soft systolic murmurs were heard over all valves, and jugular venous hum was prominent. The spleen was enlarged upward; abdomen otherwise negative; urine pale, sp. gr. 1,008; albumin in small amount, but not more than could be accounted for by the presence of bladder-cells and pus. No casts. Blood examination: erythrocytes, 1,500,000; hemoglobin, 40 per cent.; color-index, 1.3; micro-macro- and poikilocytes; few normoblasts. Polymorphonuclears, 80; lymphocytes, 20. A diagnosis of pernicious anemia was made, but only reluctantly concurred in by the physician in charge. The patient herself feared that her condition might be similar to that which had proved fatal in her brother's case.

Course of Disease.—Arsenic was given. I saw the patient again three weeks later, and found her much improved. The blood examination registered a red count of 2,450,000, hemoglobin 65 per cent., color-index 1.2. Her general appearance was better and she was more hopeful. Four months later she was attending to her Christmas purchases, was the picture of perfect health, felt well and strong; her cheeks were so rosy that one might well have doubted the correctness of the diagnosis and the ominous prognosis previously made, were one unmindful of the remissions so characteristic of this disease. In the following February I was again called to see the patient. She was greatly prostrated and the characteristic yellow-hued pallor was prominent. The mucous surfaces were blanched, conjunctivæ icteric, lids puffy. Her stomach was rebellious. She had no pain, her sight was dim, hearing dull, the abdomen sensitive. Venous murmurs were present. The urine was as previously noted. Blood examination showed 520,000 red corpuscles, but it was so watery that the hemoglobin (approximately 15 to 20 per cent.) could not be readily estimated. Irregularity of red corpuscles was very marked; nucleated red cells, normoblasts and megaloblasts (few of the latter) present. Temperature 101 F., pulse weak and of low tension. The stool was examined for possible parasites, but with negative results. All symptoms became more severe, and the patient died in coma one week later. No autopsy.

The existence of these two fatal cases of anemia, considered to have been more than a mere coincidence, roused this family to a state of great apprehension lest other members become similarly attacked. So when about two years later a third sister developed marked pallor, and after four years a fourth also showed unmistakable evidence of anemia, their fears seemed well grounded. In both of these patients, however, evidence favored anemia of the secondary type (associated with melancholia in one, and in the other with menorrhagia), and they are now and have remained in good health.

While the occurrence of the two cases above detailed was not without interest and, because of the unusualness of the facts, may have deserved reporting, I was loath to place them on record at the time because of the suspicious development of secondary anemia in the two other sisters, it being well established that secondary anemia may eventuate in the primary form. I was wholly unprepared, then, for the blow that came from another and wholly unexpected quarter. A brother, the only member of the family with whom I had had a long acquaintance, next fell victim to the disease.

CASE 3.—Primary anemia. *Summary.*—Male, aged 42. Aplastic form of pernicious anemia. Blood-findings less severe than in Cases 1 and 2. Spastic-paralytic nervous type (system sclerosis of spinal cord).

Of the three cases this one presents the most interesting (because atypical) form of the disease. Whereas Cases 1 and 2 were quite characteristic in their symptoms, development, course, and blood-findings, of the type in which the disease usually manifests itself, and therefore afforded no diagnostic difficulty, this one presented some problems. The blood-findings of the usual form of pernicious anemia are—within certain limitations—rather characteristic, but the less common and so-called "aplastic" type of the disease offers difficulties of proper classification. The aplastic type, as described by Ehrlich, is characterized by the reduced red blood-count and hemoglobin, but the evidence of cellular regeneration, the nucleated red cells, is absent; in other words, the bone-marrow is aplastic. Therefore, in the absence of the natural reparative process, the rapidly fatal issue of these cases is to be foreseen (80 per cent. of the patients die within three months. Edwards).

History.—In addition to representing the aplastic type, this patient also developed in most marked form the spinal sclerotic nervous symptoms occasionally encountered in pernicious anemia. I had had many years' previous acquaintance with this patient, though no professional relations. He consulted me in March, 1909, complaining of a host of nervous disturbances which he referred to an injury (he was struck on the head and badly beaten by a burglar) sustained one year previously. Syphilis was denied. He had apparently recovered completely from the injuries and their temporary effects, and was well until about November, 1908. At this time he first experienced cramp-like sensations, and numbness and paresthesias in hands, legs, feet and on the abdomen; complained of failing memory and physical weakness, of great fatigue, and of loss of sexual power; no pains in arms and legs. He called attention to his anemic condition. There was much mental depression and loss of ambition.

Examination.—Tactile sense was found normal, but some incoordination of upper and lower extremities was present. Buttoning coat and trousers was accomplished with much difficulty. Knee-jerks were active, ankle-clonus absent, cremaster and abdomen reflexes normal; no Babinski. Gait was of the spastic-paretic type, with ataxic incoordination; the legs were held rather rigid and yet were flung about quite uncontrollably, resembling the reeling of an intoxicated person, and requiring support—at first of a cane, and later that of two persons. Pupils were small and reacted sluggishly to light and accommodation. In general the symptoms resembled a spastic paraplegia, with marked incoordination, greatly overshadowing in prominence and intensity the underlying primary anemia itself.[3]

Course of Disease.—I ventured the diagnosis of primary anemia at this time, although this opinion was refused by the family and rejected by another physician. The patient seemed to improve somewhat during the summer; some of his nervous symptoms were less noticeable, others became more pronounced, and the anemia was less prominent. He returned under observation in August with decidedly accentuated nervous disturbances: the mental and physical symptoms had advanced with great rapidity, a fear lest he were syphilitic overcame him, and delusions of persecution became prominent. He saw imaginary foes on mischief intent, lurking on all sides and dogging his footsteps. He became suspicious of food lest it be poisoned, and fought taking drugs for the same reason. Several maniacal outbursts were noted later, and once the nurse described an attack she thought was a convulsion. (This was probably an epileptic seizure.) The incoordination increased and the paresis became paralysis; he became bedridden, refused food, and suffered urinary incontinence and great constipation. The development of bed-sores was unavoidable, and thus, greatly emaciated, and in a condition of asthenia, he died, seven months after having come under my observation.

The blood examination, on his first visit in March, was as follows: red corpuscles, 1,500,000; hemoglobin, 55 per cent.; color-index, 1.7; poikilocytes present but of small degree; no nucleated red cells; heart, lungs and kidneys were normal and remained so throughout the disease. The various erythrocyte counts ranged from 1,500,000 to 3,000,000, the hemoglobin estimate from 45 per cent. to 60 per cent.; color-index always above normal: 1 to 1.7. The pallor of skin and mucous surfaces noted at his first visit became less evident during the early period of general improvement (there was one brief remission with betterment of symptoms and blood-findings), but later were markedly intensified. The peculiar lemon-yellow skin-tint was present, but not of striking intensity.

The blood-findings were characteristic of the aplastic type of the disease: reduction in red cell count and hemoglobin, retention of the high ratio of color to number of cells, and a striking absence of evidence of regeneration. In the many specimens searched, but a small number of nucleated red cells could be found.

It would be idle to speculate on the reason for the apparent staying of the progress of the anemia. The blood-picture, though fluctuating within narrow limits, did not undergo material change after the nervous manifestations became pronounced. This was strikingly illustrated in the repeated examinations made while the patient was bedridden, and during the many weeks of pronounced nervous disturbances, mental and physical. Death was traceable, not so much to the underlying pernicious anemia, as to the adynamia of the pronounced spinal sclerosis that developed in connection with and consequent on the anemia.

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[3] Sclerosis of the posterior and lateral columns has been found in these nervous cases, and three groups are distinguished: (a) those in which the nerve symptoms appear late in the course of a case of obvious pernicious anemia; (b) those in which there are no nerve symptoms (except peripheral paresthesia) during life, but obvious sclerotic changes in the cord post mortem; (c) those in which the cord symptoms precede and overshadow the manifestations of anemia. This most interesting group of cases has been studied especially by James J. Putnam of Boston, Modern Clinical Medicine, p. 313.

The diagnosis of primary pernicious anemia cannot, I believe, be questioned in the three cases cited, and naturally, much alarm is felt lest there be a tendency to the development of the illness in other members of the family. Of the three remaining sisters, one is now, and has been, in perfect health; two have suffered, during the past six years, from recurring attacks of anemia of the secondary type.

Case 4.—Secondary anemia. The patient was first seen in October, 1904, after the death of Patients 1 and 2. She was then 46 years old. She had had numerous attacks of severe anemia, due to menorrhagia and metrorrhagia, but had always "made blood" rapidly. During my early acquaintance (two years) with this patient her pale and corpse-like complexion was very striking. Any severe loss by menstrual flow brought on an intense, bloodless hue. At one time examination showed a red count of 1,200,000, with 25 per cent. hemoglobin, with microscopic characteristics not those of primary anemia. Improvement ensued: red count increased to 3,550,000, hemoglobin to 50 per cent. After 1906 this patient's improvement seemed quite firmly established, and she appeared to enjoy perfect health. A daughter, an only child, had been chlorotic, but was, at the time of this report, in good health.

Case 5.—Secondary anemia. Sister of Patients 1 to 4. The patient consulted me in 1908. She was suffering from melancholia, was pallid, but well nourished. Examination showed a red count of 3,700,000; hemoglobin, 45 per cent.; blood of the secondary anemia type. Her appearance suggested the possibility of less favorable blood-findings. Marked general improvement set in during one month's observation, and she has since remained in perfect health, mental and physical.

Case 6.—Primary anemia. *Summary.*—Mrs. G. C., aged 34. Cousin on paternal side of Patients 1 to 5. Two remissions. Lowest erythrocyte count 300,000. Death due to terminal infection—probably endocarditis.

History.—The father of this patient died of arteriosclerosis at the age of 65; the mother of gastric cancer, aged 50. There are two healthy children, 12 and 5 years of age respectively. This patient was first seen in March, 1910. Until May of the previous year she had always been in good health. At this time she had a severe bronchitis, and with it there existed a mild degree of anemia. She recovered good health and vigor during the following summer, which was spent in the country. She continued well during the winter, but in spring the cough returned, and with it weakness and pallor. Because of the recurring cough she consulted a throat specialist who disregarded entirely the pronounced and rapidly increasing anemia, great weakness and dyspnea, and instituted local treatments for a period of three weeks.

Examination.—On her first visit to me at this time there was no escape from a ready recognition of the seriousness of the illness: her lemon-hued pallor was extreme, the weakness pronounced, and every exertion was attended with dyspnea. She suffered from an irritating cough. At the left base crackling râles were found, without evidence of consolidation. The heart sounds were normal at the apex, and accentuated at the base. Albumin and hyaline casts were present. Abdominal examination was negative. Pupils, reflexes and tactile sensation were normal. A hasty blood examination gave the following result: hemoglobin, 30 per cent.; reds, 1,850,000; marked poikilocytosis; no erythroblasts.

Course of Disease.—One week later jaundice was noted, liver normal, spleen two finger-breadths below costal margin, evening temperature rise to 100 F., pulse 100 to 110. The patient was growing steadily weaker and paler, and suffered from diarrheic stools. A differential leukocyte count made at this time resulted as follows: polynuclears, 63; large mononuclears, 7; small mononuclears, 18; transitionals, 6; eosinophils, 3; myelocytes, 3. A diagnosis of primary pernicious anemia was concurred in by an observer of large experience. All symptoms advanced progressively and quickly, and ten days later the following notation was made: heart dilated, presystolic and systolic murmurs at apex, precordial systolic thrill, liver enlarged and tender, spleen three finger-breadths below costal margin (larger than previously noted); jaundice, stupor and delirium; red corpuscles, 625,000; white, 13,000. Numerous examinations were made during the three weeks' period of observation, the erythrocytes at one time shortly before death recording as low as 300,000, with hemoglobin approximately 20 per cent., though accuracy was hardly possible. Normoblasts were present in small number. poikilocytosis very pronounced. The terminal infection in this patient closely resembled that reported in Case 1.

Case 7.—Brother of father of Patients 1 to 5; also paternal uncle of Patient 6. This patient did not come under my personal observation, but I have every reason to feel satisfied that the diagnosis of pernicious anemia made in his case is substantiated by the facts as related to me by a competent observer. Blood examinations showed conditions characteristic of the disease.

There has thus been sketched a family scourge that, so far as I have been able to ascertain, is unique in the annals of medical literature. It will be noted that all these cases have developed on the paternal side. I have no explanation to offer, can find absolutely no foundation for even speculative conjecture as to the transmissibility of a hemolytic substance. Patients 1, 2, 3 and 6 were married and had individual households; their consorts have remained uninfluenced, and their children, numbering five, are in perfect health. No parasites were found in Cases 2, 3 and 6 (stool of Patient 1 was not examined).

There can be no question that pernicious anemia is on the increase. The disease was considered one of comparative rarity a decade ago, and its greater frequency cannot entirely be due to its more frequent and ready recognition. Possibly the observation I have here made may suggest research in other channels. Certainly there can be no suspicion that coincidence could, by any mere chance, have played a curious prank in the development of these fatal cases of essential anemia.

I would summarize in the following deductions the study of this series of cases:

1. The clinical history and blood-findings permit of no doubt that five of these patients (two brothers and one sister, a paternal cousin, and a paternal uncle) suffered from primary pernicious anemia.
2. The weight of evidence which the two cases of secondary anemia add is not to be wholly ignored, because anemia of the secondary type has frequently been known to be a precursor of the primary form.
3. Hunter's theory, so strongly defended by him, that septic conditions in the mouth—stomatitis, glossitis, etc.—are the etiologic factors in this disease, sheds no light on this series of family anemias. (No such mouth condition existed in any of the cases.)
4. The possibility, as here shown, of its being a family disease, and the knowledge that the disease is on the increase—not only relative, but absolute—suggest an as yet unrecognized source of hemolysis that is showing increased general activity, and is uninfluenced by environment or station.

141 Wisconsin Street.

Excretion of Hexamethylenamin into the Eye.—Experiments show that urotropin (hexamethylenamin) is excreted into the anterior chamber of the eye in about three hours after ingestion, reaches its maximum excretion in about seven hours, and is excreted in great quantities after repeated paracentesis. The excretion of urotropin into the anterior chamber of the eye is remarkably increased by the use of a mydriatic locally. Urotropin in the aqueous humor in the concentration in which it occurs in the anterior chamber does not inhibit the growth of virulent organisms in the test tube.—H. S. Gradle, in *Ophthalmic Record.*

WHAT SHOULD BE THE ATTITUDE OF THE STATE TOWARD THE PRACTICE OF MEDICINE?

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As a result of the efforts of physicians, every state has enacted so-called medical practice acts, the ostensible purpose of which is to protect the people against ignorance and incompetence on the part of those who treat the sick. The majority of these medical practice acts were passed, or, at least revised—some of them more than once—during the past ten years, which is not only an indication of the unusual activity in these matters, but also means that the whole subject is in a very unsettled and unsatisfactory condition.

Before discussing the principle underlying these medical practice acts I wish to state that I firmly believe that they were passed with the sole purpose of protecting the health of the people, and that the thousands of physicians who labored earnestly and honestly for the passage of these bills were actuated only by the purest and most unselfish motives; yet I never could make myself believe that the principle underlying them is right. I believe that, with one or two exceptions, these medical practice acts are fundamentally wrong in principle. I do not mean to convey the idea that they are illegal or unconstitutional; it would be the height of folly for me to express such an opinion in the face of numerous supreme court decisions, including five by the Supreme Court of the United States, that the acts are constitutional. But the mere fact that a law is constitutional is no evidence that it is right.

For a law to be right it must fulfil other demands than those expressed in or denied by constitutions. It must have inherent that which makes for the betterment of the people and this betterment, when possible, should be of a lasting or even progressive nature rather than some apparent or temporary good.

RESTRICTIVE PRINCIPLE

The present medical practice acts are all based on the restrictive principle. The central idea is to restrict the practice of medicine by licensing those who are permitted to engage in it, no person to be given a license who does not possess certain qualifications. Were such an act justly and honestly administered, so that the license to practice carried with it the evidence of the possession by the holder thereof of the high qualifications mentioned, then it would seem that the people would receive that degree of protection against ignorance and incompetence on the part of the physician which it is the intention and purpose of the act to give. But, notwithstanding the fact that the restrictive principle or licensing plan is in operation in practically every state in the Union, the intent of the law—i. e., the protection of the people—has never been realized. The reasons are not difficult to discern.

In the first place, while practically all medical practice acts are based on the restrictive principle, it will be found on reading them that not one holds strictly to the principle. While the profession has been able to convince the people that, for their own protection, it was necessary to license the physician, it could not make the people believe that it was necessary for them to surrender the right to think and the right to seek health by whatsoever route they saw fit, even though that route was thought by some to be unsound and unsafe. As a result we find the statutes of many states encumbered with acts prohibiting the practice of medicine by anyone except a duly qualified and licensed physician and at the same time containing so many exemptions as to rob the acts of all their power for good.

Is it possible to conceive of a more farcical monstrosity in the shape of a medical practice act than that found in the Code of Massachusetts which exempts osteopaths, pharmacists, clairvoyants, persons practicing hypnotism, magnetic healing, mind-cure, massage, Christian science or the cosmopathic method of healing? Such an act provides that the honest, educated physician must possess all kinds of qualifications, which have taken him years to acquire, and then be examined and licensed before he can practice, while any fake, fad, or fraud may be practiced by anybody without restriction. Scientific knowledge and an honest endeavor are dangerous and must be restrained by license!

Twenty-five states, or a little more than one-half, exempt from the provisions of the law some of the following: Medical students practicing under licensed physicians, interns in hospitals, dentists, pharmacists, oculists, chiropodists, midwives, clairvoyants, hypnotists, magnetic healers, masseurs, osteopaths, sellers of patent or proprietary medicines, persons practicing Christian Science, Swedish movement, mind cure, cosmopathic method, any drugless method of healing or any method not using poisonous drugs. Have any of the present-day fads or fakes escaped recognition? Yes, chiropractic and faith-healing, but they are already knocking at the door, as bills exempting them have just been introduced in Nebraska, the District of Columbia, Minnesota, Iowa and Oklahoma, and similar ones undoubtedly will soon be bobbing up all over the country, for those interested in securing such legislation work with a system worthy of a better purpose.

Another reason why the restrictive or licensing plan has failed to accomplish its purpose is found in the interpretation which many judges and courts have given the acts. The point which the courts usually have been called on to decide is whether a certain method of treating the sick constitutes the practice of medicine. It hardly seems possible that a body of educated, intelligent persons accustomed to interpret the meaning of words as applied to the concrete facts of life would confuse a single means to an end with all that is involved in the concept, practice of medicine, yet we frequently find courts defining the practice of medicine to be the giving of drugs, than which there is nothing more absurd or ridiculous, as such a definition is held to mean that a person who is diagnosing and treating the ailments of human beings is not practicing medicine unless he is giving drugs.

An excellent illustration of the inconsistency of courts in their interpretation of what constitutes the practice of medicine is found in the decisions regarding osteopathy. No person who is at all familiar with the facts will deny for a minute that the osteopath is treating human beings afflicted with all kinds of ailments, yet in fifteen states we find that either by statutory enactment or by decision of the courts the osteopath is held to be a practitioner of medicine, while in twenty states, by decision of courts of equal jurisdiction, he is declared not to be a practitioner of medicine. How can we explain such diametrically opposite opinions of so many equally high courts in so many different states in the Union? It is not contended for a moment that any of the eminent jurists composing the several courts which have passed on this question were influenced by anything except their best judgment in the matter, but an analysis of the law and of the decisions in the various states shows this curious psychologic fact. In those states in which the law makes some provision for osteopathy most of the decisions have been that the osteopath is practicing medicine, while almost all of the court decisions to the effect that osteopathy is not the practice of medicine have been in those states which make no provision in the law for osteopathy. As a result, the effect of these contradictory decisions is practically the same, inasmuch as it makes it possible for the osteopath to practice in either case.

Can it be possible that the eminent jurists who have decided in so many states that the osteopath is not practicing medicine, and is therefore exempt from the provisions of the medical practice acts, were influenced in their decisions, consciously or unconsciously, by that higher moral law, which says that no person shall be deprived of the right to think and to act as his mind dictates, provided he do no harm? Let us at least hope that such was the case.

Notwithstanding the constant watchful efforts of the profession, osteopathy has gained recognition by one means or another in a large majority of the states in the Union, as has also Christian Science, "optometry" and many other fads, and we may be sure that any other pathy or ism which has a sufficient following will gain recognition in the same way. It may be that this is but a pessimistic view of the subject, but I am satisfied that anyone who has watched the development of, and the changes which have taken place in, the various medical practice acts, and has seen anything of the manner in which the said acts are enforced, must be convinced that they fail to accomplish that for which they were enacted.

It must be admitted, then, that the restrictive or licensing plan of regulating the practice of medicine is a failure, because there are too many exemptions, because too many isms and pathies have gained recognition, and because there have been too many adverse decisions by judges and courts; hence it does not protect the people against ignorance and incompetence as was the intention.

ANOTHER POINT OF VIEW

Let us now disregard the question of the success or failure of the restrictive plan and consider the subject from an entirely different viewpoint.

If it were possible to enact a law which prohibited any one from practicing medicine who has not been licensed so to do, and which prohibited the licensing of any one who was not shown by an examination that he is qualified, would it be a good plan? I believe not, for I think such a law fundamentally wrong in principle. To say that no person shall treat the sick except those licensed by the state on a qualification basis, is but another way of the state saying to the individual: "You may employ no person or no means to relieve yourself of your sufferings and your afflictions except those designated by the state." Can you see any great difference in principle between this dictum and one of not many years ago to the effect that one must believe certain things and worship in accordance with a definite custom?

Has the state the moral right to deprive the individual of the liberty of thought and action in the one case any more than in the other? I believe that it has not, and therein lies the fundamental defect in the principle underlying the restrictive plan of regulating the practice of medicine. It deprives the individual of the liberty of thought and action to his own detriment, and without compensating good to the state.

By this I do not wish to be understood as saying that there should be no difference in the attitude which the state should assume toward the individual's religious beliefs and toward his care of his health. On the contrary, I think there should be a most marked difference. In the one case we are dealing with a spiritual or an immaterial belief which affects only the individual himself, while in the other we are dealing with the material physical health of the individual, which concerns not only himself, but frequently those who are dependent on him, as well as all those who may come in contact with him.

Furthermore, a large percentage of those who are unable to earn a livelihood by reason of temporary or permanent ill health become a charge either directly or indirectly on the public and, therefore, it is not simply a product of the fancy, but a stern reality, that places the health of the people as the greatest asset of the state and ill health or disease as a positive liability which must be met. These facts then, concerning which much more might be said, place on the state an imperative duty to conserve and safeguard the health of the people. In attempting to carry out this duty we find that the state has enacted certain laws which, on analysis, indicate that the legislators who framed them were either unfamiliar with, or else disregarded, the principles and laws of sociology and psychology, and this too frequently is found to be the case. The attention of legislators is directed to the existence of an evil and pressure is brought to bear on them to correct it. A law is passed which often leads to greater evils than the one which it attempts to correct. As an illustration of this point attention may be directed to some of the medical practice acts already cited.

The evils of quackery, fraud, charlatanism, etc., in the treatment of the sick are called to the attention of the legislators. A law is at once passed to do away with the evil by licensing physicians to practice medicine and prohibiting from practicing all those who are not licensed. This law at the same time gives legal recognition to all forms of quackery and charlatanism, the very evils which it was intended to correct, by specifically exempting them from the provisions of the act.

Take another instance. A state passes a rigid restrictive measure which deprives the individual of the liberty of thought and says to him, "You may employ only a person of a certain class to treat you if you are ill." In other words, the state presumes to do the thinking for the individual, which is not only detrimental to an enlightened and progressive mind, but leads to that state of opposition on the part of the people shown by the inability to convict offenders, even in the fact of established guilt, and thus creates a contempt for the law which is destructive of good government.

In this connection permit me to quote from an editorial in the February, 1911, number of the *California State Journal of Medicine* on the enforcement of the California law:

> "It is almost impossible to obtain a verdict, no matter how conclusive the evidence may be, for practicing without a license if the case is tried in a police court. In San Francisco recently a number of such cases were tried and a verdict of acquittal given when the evidence was absolutely conclusive."

And yet California prides herself on her medical practice acts. Such a law also undoubtedly leads some judges so to interpret it as to quite nullify its effect. These are all greater evils from a sociologic standpoint than the ones sought to be corrected.

The law in a matter of this kind should not be dictatorial to the extent of depriving the individual of the right to think for himself, for when the state assumes to do the thinking for the people progress in that direction is at an end. In framing laws of this nature legislators should constantly bear in mind, not only the evils which are to be remedied, but also the fact that the people as a whole are progressively advancing in an evolutionary sense toward higher levels. The law, therefore, when possible, should attempt to aid rather than hinder this progressive evolutionary development of the people.

It is not contended that the laws can all be made to meet the contingencies of future progress without change, but what I claim is that the laws as expressed by the people should be based on the natural laws of evolution as found exemplified in the individual and in society.

THE CORRECT ATTITUDE

With these facts in mind, what then should be the attitude of the state toward the practice of medicine in its broadest sense?

It will be admitted, I think, by all that the preservation of the health of those who are well and the proper care and treatment of those who are ill and afflicted is a work of the utmost importance and one which should be encouraged and fostered in every legitimate way possible. From this standpoint, then, there can be no reason why those who are qualified should be hampered or restricted in the work in any way whatsoever.

Granting that the licensing of physicians is not a revenue measure, the only sound reasons why the state should interfere in the matter are, first, to guard the individual against fraud, ignorance and incompetence on the part of the physician; and second, to protect the people against the sick individual. The first reason, then, is guidance of the people, the second, protection of the people. These two duties, guidance and protection, however, are separate and distinct functions.

It will be granted that all phenomena in Nature follow definite fixed laws and that these laws apply to animate as well as to inanimate matter. This means that the phenomena of life as manifested in health and disease are all the result of natural laws. From this it becomes self-evident that any person who makes a business of treating the sick in any manner whatsoever should have as thorough a knowledge as possible of those laws which govern the living in health and disease.

It is a well-recognized fact that these laws are abstruse and obscure and so numerous that it requires years of close, hard study for one to become familiar with them; and in order that one may keep abreast with the rapid progress of knowledge it is necessary for one to devote his entire time and energies to the subject. This makes it impossible for those engaged in other vocations in life to hope ever to become familiar enough with most of these laws to make use of them without counsel and advice, and, unfortunately, practically every person at one time or another must seek the advice of some one trained and skilled in this branch of knowledge.

These are the facts which place on the state the imperative duty of guiding him who is in search of such advice to one who is qualified to give it. This the state should do through a suitable board of competent men, whose duty it should be to inquire carefully into the qualifications of all those who may properly come before it; and it should have the power to designate in some unmistakable manner those who are found to possess the necessary qualifications. This designation, be it qualified physician, certified physician or what not, should be used by the person receiving it on his card, his sign, in his office or wherever desired, so that all who may wish to consult him may know at a glance that he is a person qualified to treat the sick.

Of course it should be made unlawful under heavy penalty for any person not authorized to do so to apply to himself in any way whatsoever the term of qualification, or any similar term, with the intent to deceive. Furthermore, in order to make it impossible for anyone to err unknowingly in the matter, every other person who attempts to treat or advise the sick or ailing in any manner whatsoever should be compelled to announce on his own card and in his office or place of business, in a conspicuous manner, the fact that he or she is not a qualified physician. In this manner the state fulfils perfectly its duty of guiding the individual, for it makes it impossible for any person who is seeking a qualified advisor on matters of health unknowingly to go astray. By this method it will be seen that all the perplexing questions of isms and pathies are wiped out at once, as it permits anyone to practice in any way one chooses and it likewise permits any person who thinks that his ailments can be relieved only by the prayers of a Christian Scientist or the rubbings of an osteopath or masseur, to act according to the dictates of his conscience.

Were I to stop here it might be said on first thought that the method would permit all kinds of quackery and charlatanism to run riot throughout the land; but it will be remembered that the duties of the state in this connection were said to be two, namely, guidance and protection, and protection must supplement guidance. Protection of the people in health matters falls under the general supervision of the department of health and under those laws which govern the individual's responsibility to other individuals and to society as a whole.

None but qualified physicians should be eligible to any medical position in the public health service or in any public or charitable institution under the control of the state or any of its municipalities. As all contagious diseases are a menace to the public and as most of them should be reported to the proper health officers, no unqualified person should be permitted to assume the medical care of such cases.

All parents, guardians and institutions having minors under their care or control should be obliged to furnish them, in case they are sick or injured and require it, with qualified medical attention.

No death certificate should be accepted by the authorities unless signed by a qualified physician, etc. In this manner the state will be able to carry out its duty of protection. It protects the people in general and those individuals in particular who rightly come under its jurisdiction, yet it does not deprive the adult of the right to think and to act for himself so long as he thereby does no harm to others.

In conclusion, permit me to say that I believe the restrictive or licensing plan of regulating the practice of medicine is fundamentally wrong in principle, in that it makes the state dictatorial in a matter of personal rights, which is best left to the thinking individual. It makes conviction of offenders by a jury at times impossible, even in the face of established guilt, because the law is against the conscience of the people. For the same reason, perhaps, it leads judges and courts practically to nullify the law by the interpretations which they give to its provisions. It is evident that the restrictive plan has not the unqualified approval of legislators, otherwise we would not find the law so frequently emasculated by the numerous exemptions found therein.

The law is constantly bombarded by all kinds of pathies, such as osteopathy, optometry, chiropractic, etc., and with increasing success, which shows that the people believe (and justly too) that they have the right to try anything they want to obtain relief from their ailments. On the other hand, the plan but very briefly outlined here is free from all of these objections. It protects the individual in search of a qualified physician by making it impossible for him unknowingly to go astray. It protects the people and all dependents against ignorance and incompetence, so far as it is possible for the law to act; and last, but not least, it is in perfect accord with the evolutionary development of the individual and of society.

100 State Street.

THE SUBSEQUENT HEALTH OF CHILDREN WHO DRANK MILK CONTAINING TUBERCLE BACILLI *

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Three years have passed since I undertook an investigation of the milk sold in New York City, to determine primarily to what extent the ordinary milk sold in cans, which forms the major part of the milk-supply of the city, was contaminated by tubercle bacilli. This study included also an inquiry into the types of these bacilli, whether bovine or human, and a preliminary investigation into the welfare of the children who were so unfortunate as to drink this milk in its raw state. This report was read[1] in 1908, and was afterward published in The Journal.[2] It showed that of the 107 specimens of milk tested on guinea-pigs, 16 per cent. contained virulent tubercle bacilli. Details of the report will be found in the original paper. In order to elucidate what follows, however, it seems necessary to review briefly some of the facts as to the method pursued in the investigation. To obtain the specimens I accompanied the municipal milk inspector on his regular tour, and asked the dealer in each store (they were situated mainly in the tenement-house district) whether he had small children, and whether the children drank the milk in the raw state. Unless he told me that this was the case, I did not take a sample for the test. Of the samples which were found to contain tubercle bacilli, ten were from dealers whose children had been exposed in this way to infection. There were eighteen children in all; nine of these were 2 years of age or under, and one 5 years of age. The preliminary study of the health of these children was not conclusive, and the data are summarized in Table 1. This table shows that the health of the children did not seem to have suffered from their exposure, except possibly in one instance, in which a cervical adenitis had developed. In this case, however, no search for tubercle bacilli was made when the gland was incised, and accordingly the nature of the infection was doubtful. The child was poorly nourished and gave a positive tuberculin reaction, as did several of the other children.

Since 1907-1908, a period of over three years, I have continued to supervise the health of these eighteen children; visiting them in their homes about every three months and watching carefully for the development of any sign of tuberculosis. This has been attended with some difficulty, as the people of the tenements in New York move frequently, and seem by habit to leave no address. Sixteen children, however, have been closely followed, one for two years, and only one was completely lost sight of. I realize that the number of children on whose condition I can report is not large, and that a period of more than three years might be of advantage in judging of the development of tuberculous infection; but I make this report now as I may be unable to follow these cases any longer, and as I believe that the results are of interest from several points of view.

I may add that the only similar report has been a recent one from the Imperial Health Commission of Germany,[3] which investigated the health of 151 children who drank raw milk coming from cows with tuberculosis of the udder. Two of these children between the ages of 1 and 2 years developed cervical gland tuberculosis, from which a bovine type of bacillus was cultivated. Some other children showed signs suspicious of tuberculosis. The two tuberculous children drank the infected milk for long periods, but, except for the glandular infection, were in good health one and one-half and two years later, respectively.

This report is open to one criticism, which cannot be made in regard to the investigation which I report. Tubercle bacilli were not demonstrated in the milk. A clinical diagnosis of tuberculosis of the udder of the cow was considered the equivalent of finding tubercle bacilli in the milk. Now although this is generally the case, nevertheless it has been found that the milk from cows with tuberculosis of the udder does not at all times contain tubercle bacilli; and, in the second place, udder tuberculosis is frequently confounded with non-specific infections. It is therefore quite possible that some of these children did not drink milk containing tubercle bacilli.

Of the seventeen cases which I have followed, in only one has tuberculosis developed. The other children present the picture of the average tenement-house child, most of them poorly nourished, undeveloped, but free from any active tuberculosis. Four have passed through an attack of measles, one has had scarlet fever, two have suffered from pneumonia without inducing tuberculosis. The child who did develop tuberculosis was 2 years of age when she was given the milk containing tubercle bacilli. This milk was of very poor quality, for milk from the same source was repeatedly found by me to contain virulent tubercle bacilli. In Table 1 this child is described as being poorly nourished, having had cervical adenitis 4 months previously, showing a positive von Pirquet reaction, but with a family history negative as regards tuberculosis. I was out of the city when the cervical adenitis developed and the gland was incised, and accordingly missed the opportunity of obtaining some of the pus or tissue for bacteriologic study. Last winter, however, a cervical gland enlarged near the site of incision of the former gland, and in due course showed fluctuation and was incised. This time I obtained some of the pus, which showed no tubercle bacilli in smear preparations, even with the aid of the alkalin sodium hypochlorite ("antiformin") method, but produced tuberculosis in both guinea-pigs into which it was

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* From the Research Laboratory, Board of Health, New York City.

[1] Tr. Sixth Internat. Cong. Tuberc., iv, Part 2.

[2] The Incidence of Tubercle Bacilli in New York City Milk, with a Study of Its Effects on a Series of Children, The Journal A. M. A., March 27, 1909, p. 1011

[3] Kossel, H.: Deutsch. med. Wchnschr., 1910, No. 8, p. 345.

inoculated. Without going into detail as to the method of isolating and differentiating tubercle bacilli, for such description is no longer necessary, I may state that the strain proved to be typically bovine, as judged by its cultural characteristics and virulence for rabbits.

There is no means of knowing whether this infection was due solely to drinking in tubercle bacilli on this particular day, or whether this child had been exposed similarly on previous days. We may be certain, however, that infection did not result from a subsequent milk exposure, as the parents were warned of the danger, and henceforth boiled the milk for the children. In this connection it should be noted that it is by no means inconsequential whether a definite amount of tubercle bacilli is ingested in one dose or in repeated doses. The chance of infection is less when the bacilli are taken in at one occasion than when approximately the same number is ingested in divided doses. I was able to demonstrate this fact conclusively by a simple experiment on guinea-pigs. It had been ascertained that 2 mg. of a certain bovine culture of tubercle bacilli did not produce tuberculosis in guinea-pigs when given to them suspended in milk. Of ten pigs which had received this amount, none developed tuberculosis. The animals were fed by means of a medicine-dropper, and the suspension was so calculated that each pig received about ten drops of milk. In a second series, ten pigs, weighing between 250 and 350 gm., were now given less than 2 mg. (which may be called the subinfectious dose of this culture), but instead of being fed to them at one time, this amount was divided into ten, twenty, thirty, and thirty-five doses, given on as many days. Two of the pigs died prematurely; the other eight were killed after three months and were examined carefully for tuberculosis (Table 2). From the table it will be seen that several of the animals developed tuberculosis. In other words, a quantity of tubercle bacilli which may be insufficient to cause infection when given at one time, may have this power when given frequently in small amounts. Repeated exposure to infection at short intervals tends to lower an animal's resistance; a law which probably applies to other bacteria besides tubercle bacilli.

TABLE 1.—DATA CONCERNING CHILDREN WHO DRANK MILK CONTAINING TUBERCLE BACILLI

Milk Dealer.	No. of Children.	Age, Years.	Conjunctival Test.	Condition One Year Later.
A	2	1	—	Healthy.
		3	—	Healthy.
B	1	1 1/2	—	Healthy.
C	2	2	—	Poorly nourished.
		4	—	Healthy.
W	3	5/12	0	Healthy.
		2 1/2	—	
		5	+	Poorly nourished. Physical exam. and family history doubtful.
E	1	1/2	—	
B	1	2	+	Poorly nourished. Cervical adenitis incised four months ago. Von Pirquet positive. Family history negative.
G	3	3	—	Healthy.
		5	—	Healthy.
		9	+	Healthy. Family history negative.
B	1	5/6	0	Healthy.
B	2	1 1/2	—	Poorly nourished.
		3 1/2	+	Healthy. Physical exam. and family history negative.
O	2	2	—	Healthy.
		4	—	Healthy.
	18		4	

+ = positive reaction.
— = no reaction.
0 = no test.

TABLE 2.—TABLE OF GUINEA-PIGS FED WITH TUBERCLE BACILLI IN DIVIDED DOSES

Experiment	No. of Feedings	Amount of Culture, mg.*		Total Dose, mg.	Result
1	10	0.1	=	1.0	Negative.
2	10	0.1	=	1.0	Negative.
3	25	0.05	=	1.25	Negative.
4	25	0.05	=	1.25	Tb.
5	30	0.05	=	1.50	?
6	30	0.05	=	1.50	Tb.
7	30	0.05	=	1.50	Tb.
8	35	0.05	=	1.75	Tb.

* Ten guinea-pigs, used as a control experiment, received 2 mg. of this culture in one dose, and failed to develop tuberculosis.

This same phenomenon may well have played a part in the infection of the child who developed tuberculous adenitis. The milk which she drank was found to contain tubercle bacilli oftener than any other which I examined, and it is probable that she consumed tubercle bacilli on many occasions, and that the summation of exposures resulted in infection.

From a clinical point of view there are some points in this case worthy of passing mention: The bovine bacilli remained latent in the cervical glands for two years and caused merely a slight enlargement; the tonsils were not markedly hypertrophied, nor were adenoids present; and, finally, the general condition of the child decidedly improved during the course of the past year and the cutaneous tuberculin reaction became much more pronounced.

Without exaggerating the importance of the bovine bacillus in the etiology of tuberculous lesions, I feel that we must acknowledge that its rôle is not insignificant in childhood. The case of milk infection which I report is not of great interest as an isolated instance of infection by this type of bacillus. Since the report of the British Tuberculosis Commission and the more recent report of Park and Krumwiede[4] showing the frequent occurrence of bovine infection among children, it is unnecessary to adduce further evidence as to the incidence of this type of tuberculous infection. It was rather my purpose to show by means of a definite case that, although a group of children can frequently, without apparent harm, drink milk containing tubercle bacilli, nevertheless such milk can be shown at times to incite infection.

I cannot close without some words as to the means of safeguarding the children against infection by the bovine tubercle bacillus. I feel that I can repeat what I wrote in my previous paper: "Milk not coming from tuberculin-tested cows should be pasteurized or brought to a boil." In substance this is the position recently taken by the New York City Board of Health as regards milk for infants. I should like to add to what I said previously that I believe some care should be taken also in regard to butter, which, it is needless to say, is frequently permeated with virulent tubercle bacilli. Butter is fed without concern to almost all children over one year of age. It is a strange anomaly that we should fear the tubercle bacillus in milk, but urge our children to take butter, which has been found so often to harbor the same bacillus. I believe that there is danger in feeding butter to young children, and cannot see why those who demand milk from tuberculin-tested cows do not make the same demand for the butter for the children. It should also be made possible to purchase a certified or a pasteurized butter; that is to say, a safe butter. It is not necessary for me to pursue this subject further. I wish merely to call attention to the matter, at the same time adding that the idea is not quixotic, but has been carried out in Denmark and other countries for many years. The dealers in certified milk frequently have some of their produce left unsold, which, with profit, could be made into small prints of "certified butter."

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[4] Park, William H., and Krumwiede, C.: The Relative Importance of the Bovine and Human Types of Tubercle Bacilli in the Different Forms of Human Tuberculosis, Jour. Med. Research, 1910, xxiii, 185.

This subject seems to me to be timely for the consideration of the certified-milk committees which have been so efficient throughout the United States.

SUMMARY

Of eighteen children who drank milk in which tubercle bacilli were demonstrated, all but one remained free from active tuberculosis during a period of supervision of three years; this one developed tuberculosis of the cervical glands, from which a bacillus of the bovine type was cultivated.

From animal experiments we can conclude that the chance of infection through milk depends not only on the number of bacilli ingested, but also on the frequency of exposure to small infections. For a quantity of bacilli which was insufficient to produce tuberculosis in guinea-pigs when given in one dose, suspended in milk, was able to incite tuberculosis when fed in twenty-five to thirty doses on as many days.

Tubercle bacilli in milk are a menace to the health of young children. Tubercle bacilli in butter are likewise a menace; therefore, a safe butter, whether pasteurized or certified, should be provided for their use.

154 West Seventy-Second Street.

THE SURGICAL RELATIONSHIP BETWEEN UTERINE FIBROIDS AND LOSS OF CARDIAC COMPENSATION *

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Since Hofmeier, in 1885, first called attention to the presence of heart lesions associated with fibroids there has been some little interest shown, as evidenced by the careful study by a few writers of individual and collected cases and reports thereof. From a careful study of the literature and a thorough analysis of personal cases I am forced to conclude that there is a definite relation between fibromyomata and the associated condition of lost cardiac compensation. The term "lost cardiac compensation" is rather indefinite, and in the beginning I wish to explain my acceptance of the term as meaning, the symptoms resulting from a loss of normal cardiovascular tone; whether this be due to morbid, organic or functional changes matters not a bit, for even in a severe anemia we have present all the signs, both subjective and objective, of lost cardiac compensation, and functional heart lesions do often give rise to just as many distressing symptoms as those found associated with organic changes.

Up to this time all that has been written on this interesting subject gives evidence on one side of the question, namely, that there are often associated with fibromyomata the symptoms of cardiovascular changes. I propose to discuss another side of the question, namely, that the eradication of the uterine fibroids not only benefits the patient locally, but in some cases results in a more or less complete dissipation of the cardiovascular symptoms. A few brief reports of cases will clearly show my meaning.

REPORT OF CASES

Case 1.—*Patient.*—Mrs. S., aged 35, mother of one child 4 years old, suffered with retroversion. I performed a round-ligament suspension operation on her in March, 1907. The uterus at that time was normal in size. Six months later she consulted me for extreme shortness of breath and swelling of the ankles. The uterus at this time was normal in size and position. The dyspnea continued for the next three months and became so distressing that the patient had to stop her work in a cotton factory.

Examination.—Physical examination showed cyanosis of lips and finger-nails, swelling of the ankles, a weak, rapid pulse of the mitral type, a weak apex beat and a distinct murmur over the mitral area. About this time the menstrual periods became prolonged, with excessive flow, and in the next two months became as frequent as every two weeks. None of the usual remedies gave any relief and I concluded that the metrorrhagia was a result of lost cardiac compensation and the coincident passive congestion. As a matter of precaution, I decided to make a pelvic examination and, to my surprise, found two subperitoneal fibroids about the size of walnuts and also a small submucous fibroid. The cardiac symptoms were steadily growing worse and, being unable to lie down, the patient slept propped on pillows or in a chair.

Operation.—The metrorrhagia continued and the demands to stop it became so urgent that an operation was decided on as a choice between two evils. Ether was used and until its powerful stimulating effects began to tell on the heart and vessels the anesthetist had to keep the patient's head and shoulders well elevated on pillows. I hurriedly did a supravaginal hysterectomy, and when the patient was returned to bed her heart action and respiration were so good that I advised placing her flat on her back with no pillow under the shoulders.

Postoperative History.—Recovery from the anesthetic was normal and from that time on the patient had no trouble in retaining the recumbent posture, whereas for two months past she had suffered intensely from dyspnea. The pulse slowed considerably; all the ankle swelling and shortness of breath disappeared completely and at the end of six weeks the patient was able to resume her work. The murmur over the mitral area still persisted, but the symptoms of lost cardiac compensation were completely dissipated and at the time of making this report this patient was doing daily work and was in very good health.

Up to this time I had been totally ignorant of any relation between uterine fibroids and associated cardiovascular symptoms, and it is easy to imagine my astonishment at the results obtained in this case. I then began to study my gynecologic cases with the result that, in the succeeding three years, four more cases of similar type fell into my care. One of the patients was a very intelligent white woman, 43 years old, who had a fibroid the size of a grapefruit, growing symmetrically from the fundus. In this instance there was no hemorrhage, and a rapid, excitable pulse and dyspnea were the only cardiac signs. Removal of the growth resulted in a complete relief of all symptoms.

The next two cases were in colored women, one 40 years old, the other 30, both of whom had no hemorrhages, but there was present a cardiac murmur, rapid feeble pulse and dyspnea, which became distressing on the slightest exertion. These patients found relief of all cardiovascular symptoms in a period of four to six weeks after removal of the fibroids.

My fifth case was the most interesting of all. .

Case 5.—*Patient.*—D. T., colored, aged 35, was brought to me by her physician, who said she was suffering from a large ovarian cyst.

Examination.—I found a typical hepatic facies, extreme shortness of breath, which did not permit the patient to assume the recumbent posture for even a few minutes; a very small pulse, beating 130 times per minute; heart-sounds so weak that I could not be sure of the presence of murmurs; limbs swollen to threefold their normal size and an immensely distended abdomen which rested on the patient's thighs. Palpation, percussion and vaginal examination disclosed nothing but fluid and I reluctantly had to discredit the physician's diagnosis of ovarian cyst, and expressed the opinion that the whole condition was one of lost cardiac compensation. The physician then said that he had most assuredly felt some hard tumors in the pelvis about three years back and had not seen the patient since until a few days previously. We then decided to tap the abdominal cavity, and after the slow withdrawal of 14 gallons of ascitic fluid a number of subperitoneal fibroids, all confluent and about the size of small apples, were easily palpable. The patient went into collapse at the finish of the tapping and I thought would surely die, but she managed to pull herself together.

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*Chairman's Address before the Section on Gynecology, at the meeting of Tri-State Medical Association at Raleigh, N. C., Feb. 22, 1911

Operation.—I then decided to try to stimulate her heart to better work before attempting an operation, and waited four days, during which time there was considerable reaccumulation of ascitic fluid. This patient had not slept lying flat for three months and at the operation the anesthesia was well established before we were able to place her flat on the operating table. Under ether her pulse picked up tremendously and after a supravaginal hysterectomy she was placed in bed in the recumbent position.

Postoperative History.—Reaction was normal, but during the first three days the patient's head and shoulders were kept in a partially elevated position to facilitate easy respiration. After this time she had no trouble in breathing. Her convalescence was eventful, in that the swelling of the limbs entirely disappeared and though there was a slight reaccumulation of ascitic fluid during the first week, there was a total absence at the end of a month and the patient left the hospital with a comparatively good heart action. A communication from the patient's physician one year later informed me that she still maintained her cardiac compensation.

I do not make any claim to originality in reporting these cases, but the results obtained are facts which I think worthy of recording. Too little attention has been paid to the presence of cardiovascular symptoms associated with fibromyomata, and though the cases reported are few in number yet they furnish sufficient evidence to show a definite relation between fibroids and disturbed heart action, and further, that an ablation of the new growths has a decidedly beneficial effect on the symptoms of lost cardiac compensation.

There is sufficient evidence recorded to prove that there are both functional and organic cardiovascular changes associated with fibromyomata, but very little evidence to prove that these changes are due directly to the new growth. The cases herein recorded would lend support to the latter hypothesis.

PREVIOUS LITERATURE ON THE SUBJECT

Following Hofmeier's exposition, the next article of moment on this subject came from Fenwick[1] in 1888, in which he recorded twenty-two cases of large cystic tumors, each patient showing on post-mortem examination fatty degeneration of the myocardium. Fenwick thought that the cardiovascular symptoms and organic changes were due to obstruction of the circulation. Later data would discredit this theory.

In 1898 Strassman and Lehman[2] reported a series of seventy-one cases of fibromyomata in which 48.8 per cent. of the patients had definite symptoms of cardiovascular disease. The signs were both objective and subjective and the observations in each case were made by a careful internist. These authors record one very important fact, namely, that in many of the cases the fibroids were very small. To this fact I shall refer later. In 1904 Fleck[3] reported 325 cases of uterine fibroids in 34.6 per cent. of which there were heart changes giving definite symptoms. In eleven of these cases post-mortem examination showed fatty degeneration and infiltration, and brown atrophy in seven.

The year 1905 brought forth several excellent articles by Noble, Winter, Baldy and Boldt, the last two authors handling the subject in a very fair and careful manner. Winter[4] reported 266 cases of fibromyomata, in 30 per cent. of which there were murmurs and definite heart symptoms. Dilatation and hypertrophy were found in 6 per cent. and organic valvular disease in 1 per cent. Boldt[5] records seventy-nine cases of uterine fibroids, in thirty-seven of which there were cardiovascular disturbances. Baldy[6] records 366 cases, in which series there were thirteen sudden deaths. These he attributed to the associated cardiac degenerations. The two latter writers review the subject from the standpoint of the gravity of cardiovascular changes associated with fibromyomata and give evidence to establish the fact that the cardiac disturbances are often of so serious a nature as to produce sudden death immediately or some time after operation. Webster[7] reports 210 cases with cardiovascular symptoms in 25 per cent. Since the recognition of my first case in the summer of 1907 I have had a series of fifty-five cases of uterine fibroids, in five of which there were definite signs, both objective and subjective, of cardiovascular disturbances.

With these recorded facts before us, our interest would naturally turn to the cause of them; and it is here that much is still left for the pathologist, internist and surgeon to explain. Winter believes that all the symptoms of lost cardiac compensation are due entirely to anemia and that little degeneration of the myocardium and no permanent heart lesions are present. This anemia he ascribes to the hemorrhage and coincident malnutrition accompanying fibromyomata and supports this theory by saying that hemorrhage occurs in two-thirds of all cases. The relation of anemia, kidney insufficiency and cardiac weakness is well known, but statistics will not support the anemia hypothesis. The bulk of authorities record hemorrhage in about one-third of all cases and in Fleck's series 133 patients had no hemorrhage, yet heart symptoms were present in 34.6 per cent. In the five cases reported by me, hemorrhage was present in only one and it is a well-recognized fact that in carcinoma of the uterus hemorrhage and malnutrition are present in about 90 per cent. of the cases; yet these signs produce no such symptoms as those found associated with fibromyomata. Brasin called attention to this fact as early as 1893.

Strassman and Lehman think that the cardiac symptoms are due to the myocardial and vessel changes. This would hardly hold true except in well-advanced cases, because the cardiac symptoms were more or less completely dissipated in my cases after removal of the fibroids, which would have been most improbable if definite organic lesions were present. Veit believes the cardiac symptoms are reflex through the nervous system, and in 1900 he called attention to the frequency of asthmatic attacks in young women with small tumors and thought this asthma was due to fibroids.

Percepied[8] calls attention to dyspnea of utero-ovarian origin and cites a number of instances which he considers reflex from the genital organs; 40 per cent. of his patients suffering with asthma developed attacks near the menstrual period, and this would lend support to the ovarian theory. From a careful study of Percepied's cases the greater evidence would support an hysterical basis of explanation, rather than that the dyspnea was due to some internal secretion from the ovary. Fenwick's theory of obstruction to the circulation is worthless because Veit, Fleck, Strassman and Lehman, Fehling, Hennig and others report cardiac symptoms associated with small growths, and in my cases only one patient had a growth large enough to produce any circulatory obstruction. On the other hand, Fenwick's cases would point to the ovary.

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[1] Lancet, London, 1888, i, 1015.
[2] Arch. f. Gynäk., 1898, lvi, 503.
[3] Arch. f. Gynäk., 1904, lxxi, 258.
[4] Ztschr. f. Geburtsh. u. Gynäk., 1905, lv, 109.
[5] New York Med. Jour., 1905, lxxxii, 887.
[6] Am. Jour. Obst., 1905, lii, 370.
[7] Am. Med., ix, 401.
[8] Ann. Soc. méd-chir. de Liége, 1910, xlix, 126.

I am disposed to believe that the cardiac symptoms are due to the products of uterine growth on the heart-muscle or heart-ganglia—some internal secretion directly the product of uterine hyperplasia.

This is supported by the following facts:

1. Hemorrhage, as a causative factor, was present in only one of five cases.

2. In Case 1, there is conclusive evidence that the cardiac symptoms developed before there were any signs referable to the uterine growth, this being still small when discovered. Both Veit and Strassman and Lehman cite cases in which cardiac symptoms developed before any signs referable to the pelvis, and this fact alone would discredit the idea of the causative factor being a nervous reflex or organic changes in the heart and vessels; on the other hand, it would lend color to the probable presence of some product of uterine growth acting on the cardiovascular system.

3. Removal of the fibromyomata resulted in a more or less complete relief of all cardiac symptoms; partial relief came too quickly to have resulted from any regeneration of organic changes.

Carl Hennig[9] records two cases of cardiovascular disturbance in which the patients were cured by the removal of associated fibromyomata, and one case in which the patient was relieved after the menopause when the fibroid decreased in size.

Fehling[10] says that in the presence of fibroids, the first symptoms of cardiovascular disturbance should be an indication for operation: and it is interesting to record here a case reported by Carl Wettergreen[11] of Basedow's disease and a submucous myoma beginning at the same time. Removal of the myoma dissipated the exophthalmos and tachycardia.

CONCLUSIONS

1. In a large percentage of cases of uterine fibroids there are present symptoms of cardiovascular disturbance.

2. The size of the growth has no relation to the severity of the cardiac disturbance; symptoms have been apparent while the growth was still small.

3. In some cases of lost cardiac compensation associated with fibromyomata, the symptoms are materially benefited by removal of the growths.

4. In some cases the cardiac disturbances are of so severe a type as to result in sudden death following operation.

5. The first signs of cardiovascular disturbance associated with uterine fibroids should be an indication for immediate operation, and the watchwords in these cases should be: (a) rapid surgical technic; (b) careful hemostasis; (c) as little handling of the viscera as possible, and (d) the greatest caution against overtaxing the heart during postoperative treatment.

300 Freemason Street.

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[9] Ztschr. f. Geburtsh. u. Gynäk., xxix.
[10] Centralbl. f. Gynak., 1904, xi.
[11] Abstr. in Centralbl. f. Gynäk., 1890, p. 180.

AN IMPROVED DIFFERENTIAL ELASTIC TISSUE STAIN

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Three years ago I described[1] a new method for staining elastic tissue that had given me more satisfactory results than any of those usually employed. More extended experience with this method has shown that the best results are to be obtained only when the staining fluid is freshly prepared. Not only is this a source of inconvenience, but it entails considerable expense, owing to the large amount of hematoxylin required. After much experimentation, in which it seemed to me I tried every conceivable modification, including the substitution of almost all the metals for iron, I finally devised, about a year ago, the method here described.

This method has the advantages over the previous one, that the staining fluid is made up from stock solutions, that about one-ninth as much hematoxylin is required, and that when carefully carried out, precipitates may be avoided and differentiation of the sections is not necessary. The latter advantage I have found especially great in staining serial celloidin sections prepared in the manner described by me elsewhere.[2] The staining fluid may also be used in my method for staining myelin sheaths,[1] if double the amount of ferric chlorid solution is added, and the sections are allowed to stain six hours or longer.[3]

A stock solution is prepared as follows:

Hematoxylin crystals (Grübler)	0.15 gm.
Absolute alcohol	25 c.c.
Dissolve by aid of heat, then add 5 per cent. aqueous solution of ammonium hydrate	1 drop
Allow to stand five minutes (longer does no harm), then add Lugol's solution (iodin, 2; potassium iodid, 4; water, 100)	22 c.c.

Filter, and allow to stand twenty-four hours (in corked bottle), after which the solution works well for three months. Solutions one year old stain elastic tissue well, but slightly discolor connective tissue.

For use, add to each cubic centimeter required of the above stock solution, one drop of a 7 per cent. stock solution of ferric chlorid in absolute alcohol. Sections are carried from alcohol into the staining fluid, where they remain one to three hours. In the case of Zenker's fixation, sections may be allowed to remain in the fluid over night, but will then certainly require differentiation. The staining receptacle should be covered to prevent evaporation. For celloidin sections, 2 c.c. of the staining fluid are ordinarily sufficient, and a small bottle makes a convenient receptacle.

Wash sections in water a minute or two, examine under the microscope, and if thought desirable, differentiate for a few seconds in a 1 per cent. aqueous solution of ferric chlorid, roughly prepared from the above alcoholic solution.

Wash in water. Counterstain in a 0.2 per cent. solution of water-soluble eosin in 80 per cent. alcohol.

Alcohol, oil, balsam.

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[1] Some New Staining Methods of Wide Applicability, The Journal A. M. A., March 14, 1908, p. 876.
[2] See Note on Technic in paper on Obstruction of the Central Retinal Vein, Archives of Ophthalmology, 1907, xxxvi, 32.
[3] I have recently found that the myelin sheath method is further improved by differentiating the sections for one to two hours in a 10 per cent. aqueous solution of phosphomolybdic acid, instead of in the ferric chlorid solution previously recommended.

By this method elastic tissue is stained black, while connective tissue, fibroglia, myoglia, neuroglia, myelin, and fibrin, take the eosin stain. Nuclei take the hematoxylin stain with an intensity depending on the duration of the staining. Fixation in Zenker's fluid is preferred, but other fixatives give good results. Mercurial precipitates if removable are removed by the staining fluid.

To prevent precipitates it is important to avoid the addition of water to the staining fluid. The measuring graduate and the staining receptacle even if dry, should be washed out with a little alcohol previous to use. It is also necessary to have a nice adjustment of the proportion of ferric chlorid. If too little ferric chlorid is added, the elastic tissue will fail to stain; too much produces precipitates and overstaining. It is possible that different samples of hematoxylin may require a slightly different proportion of ferric chlorid, but this may easily be determined by trial. For ordinary purposes, however, none of these precautions is necessary, since precipitates may be readily removed in the differentiating process.

THE PARTHENOGENETIC DEVELOPMENT OF OVA IN THE MAMMALIAN OVARY AND THE ORIGIN OF OVARIAN TERATOMATA AND CHORIO-EPITHELIOMATA *

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Some years ago, I described[1] peculiar structures that are found in the ovaries of guinea-pigs, and expressed the opinion that they originated in ovarian follicles. Soon after I had published my observations, certain considerations suggested to me that these structures owe their origin to parthenogenetically developing ova.

Inasmuch as at that time I had not yet seen early stages of the structures referred to, I was unable to regard this hypothesis as sufficiently well founded to warrant publication. I continued my investigations in this direction, however, and recently I succeeded in finding in two animals the desired early stages. They must be interpreted as embryos developing parthenogenetically within the ovary of the guinea-pig. We see in each case a chorionic vesicle with trophoblast, and plasmodia and syncytia penetrating into the neighboring tissue. There is also a structure present which is probably to be interpreted as the neural tube.

Aberrant blastomeres cannot be seen in the ovaries of guinea-pigs and, inasmuch as the embryonic structures, described in my former communication, are relatively frequent, occurring in approximately 10 per cent. of all guinea-pigs below the age of six months, and, furthermore, inasmuch as they are situated in the cortex of the ovaries at a place where follicles lie normally and are found within follicle-like cavities, they can be derived only from ova developing parthenogenetically. Fertilization through spermatozoa can be excluded, inasmuch as the history of some of these animals is known to us and precludes such an interpretation. It is very probable that the parthenogenetic development sets in soon after ovulation, the altered conditions in the ovaries at that time (variations in blood-pressure, in intrafollicular pressure, changes in oxygen supply) supplying the necessary stimulus. This interpretation agrees well with my former observations[2] concerning the parallelism existing between the first segmentations taking place in ova within the ovary and certain stages of atresia of follicles. At the time of ovulation an almost general degeneration of the Graafian follicles sets in as I have shown[3] recently. It is also of interest to note that frequently the changes described in this communication are multiple, several ova undergoing parthenogenetic development in the same ovary.

It may be concluded, therefore, that in at least 10 per cent. of all guinea-pigs parthenogenetic development of ova within the ovary starts at some period of the life of the animal. The later stages of these developing embryos bear some resemblance to chorio-epitheliomata. During ovulation, these structures are occasionally injured by hemorrhages and they are ultimately invaded and supplanted by the neighboring connective tissue.

These observations demonstrate that chorio-epitheliomata and teratoid tumors that are found in the ovaries are not derived from misplaced blastomeres, as Bonnet and Marchand believed, but that the older view is correct according to which at least the teratoid tumors of the ovary are derived from parthenogenetically developed ova, an opinion which I, also, expressed on previous occasions.

A RARE MANIFESTATION OF EMPYEMA NECESSITATIS *

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A. H., aged 16 months, female, whose family history and past personal history were negative, on Dec. 15, 1910, developed a "cold" which was associated with a stubborn cough, chilliness, and vomiting. On the following day there was added marked dyspnea, anorexia and all the physical signs of a lobar pneumonia involving the entire right side, anteriorly and posteriorly. The temperature was 103 F., the respirations 60 and the pulse 170. December 17, the left lung became similarly involved with the exception of that portion underlying the last three ribs posteriorly. In the early morning of December 18, the child suddenly developed alarming symptoms of collapse, with marked cyanosis, exaggerated dyspnea, rapid running pulse and prostration. The patient was in a moribund condition. Physical examination revealed a marked dilatation of the heart. After several hours of continuous stimulation by mouth, skin and rectum, in which large doses of strychnin, strophanthin, and nitroglycerin were employed, the cardiac condition was restored.

The patient ran a typical course of a very severe type of pneumonia, until on December 29, when an apparently slow lysis was interrupted by a rising of the pulse, respiration and temperature. The respiration reached a maximum of 110, the pulse 180, and the temperature 104.5 F. Physical examination revealed complete flatness over the entire right chest posteriorly, with absence of breath sounds and tactile fremitus. There was marked Skodaic resonance from the fourth to the seventh rib, and from the right sternal margin to the mammary line anteriorly. Exploratory puncture in the seventh interspace, midaxillary line, December 29, brought the expected pus. Microscopic examination of this pus showed the presence chiefly of streptococci, with, also, numerous pneumococci and staphylococci. We were dealing, therefore, with a streptococcic pneumonia. Repeated aspirations demonstrated

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* From the Department of Pathology, The Barnard Free Skin and Cancer Hospital, St. Louis.

[1] Archiv. f. mikros. Anat., lxv, 1905.

[2] Progressive Changes in the Ova in Mammalian Ovaries, Jour. Med. Research, 1901, i.

[3] Jour. Morphology, 1911, xxii, No. 1.

* Reported before the York County Medical Society, Feb. 2, 1911.

the existence of saccular collections of pus. January 2, the patient suddenly developed a most violent attack of coughing, which could in no manner be checked, and which alarmed the attending nurses. At 10 a. m., she "expectorated" about one-half ounce of pus, during one of these coughing spells, and the diagnosis of rupture of the empyema into the bronchi was at once made. Sedatives were administered in many forms and the cough was somewhat checked. The patient was somewhat nauseated. At 11:20, a gush of four ounces of pus from the mouth followed an attack of cough, and at 12:05, one-half pint of pus was forced through the mouth with a similar attack. At 1.10, two more ounces of pus were expectorated. Thus in a space of three hours, about one pint of pus was expectorated. With careful stimulation the patient improved. January 3, with parental consent, the patient was anesthetized by Dr. Treible, with ether, nitrous oxid and oxygen, given conjointly, and one inch of the seventh rib, in the midaxillary line, was resected. After breaking numerous bands of adhesions which divided the pleural cavity into many pockets, over one quart of pus was liberated. Tube drainage was inserted, followed by the injection of bismuth paste (Beck) and the use of gauze drainage. The patient made an uninterrupted recovery, and is now in Florida enjoying good health.

Generally speaking, the term "empyema necessitatis" refers to an empyema in which pus can make a spontaneous escape (Dorland). Some authors limit the term to the condition in which the pus makes its escape through the chest wall. Empyema may rupture into the esophagus; into the bronchi; through the chest wall; through the diaphragm into the peritoneal cavity; into the pericardium, etc. This spontaneous rupture is a very rare manifestation of empyema complicating pneumonia, especially in an empyema of short duration.

Kerley reports one somewhat similar case of rupture into the bronchi, in a well-nourished boy of three years. Holt states that of nineteen cases of empyema in children, reports of which were collected by Schmidt, "in which a spontaneous discharge of pus occurred either externally or through a bronchus, there were seventeen deaths and two recoveries."

Therapeutics

CAFFEIN

Description.—*Caffeina*, genitive *caffeinæ* (methyltheobromin, or trimethylxanthin) is an alkaloid obtained from the dried seeds of coffee (*Caffea arabica*), and from the dried leaves of tea. When it is obtained from the latter source the alkaloid is called *thein*. Caffein, though the most important constituent of coffee, is a feeble basic principle, and occurs not only in *Caffea arabica* and *Thea sinensis* (or *chinensis*), but also is found in other plants as gaurana, theobroma, cola nut, and maté. Coffee, named from Coffee, a province of Narea, in Africa, grows on a medium sized tree, which is native of Arabia and parts of Africa, but grows in all tropical countries. Coffee was first introduced into Europe in 1554, and into England in 1640.

Tea is a native of Asia, but grows in other warm climates. Green tea leaves are purer than the black, as they are more carefully collected and dried, the black being dried in heaps.

Coffee may be adulterated with various seeds or beans made of clay or kaolin, while tea may be colored artificially.

Caffein was discovered by Runge in coffee in 1820. Thein was discovered by Oudry in tea in 1827. Caffein and thein are identical, and can be obtained from infusions of coffee or tea by chemical reaction. Caffein (trimethylxanthin) can be prepared synthetically from xanthin.

There are various varieties of coffee, the most important of which in the order of their purity are: first, Mocha; second, Java; third, Rio; fourth, Liberian: but all can be injured by too much heat in roasting. Good coffee yields about 1 per cent. of caffein, while maté or Paraguay tea and Chinese tea yield a little more. Cola nuts yield 2 per cent. of caffein, and gaurana 5 per cent. Much of the caffein in the shops is made from the sweepings of tea warehouses, or from tea which is so damaged as to be unfit for a beverage. The volatile oil or empyreumatic oils of coffee have, in hot decoctions, some aromatic action. A cup of coffee may contain a half teaspoonful of such oils.

Caffein occurs as white, long, flexible, silvery-appearing crystals, generally in masses, odorless, not deliquescent, bitter, and soluble in considerable water or alcohol. The dose of caffein is from 0.05 to 0.10 gram (or from 1 to 2½ grains), but it is best used in the form of the citrated caffein.

Local Action.—There is no external action from caffein, though cold strong infusions of tea are mildly sedative to mucous membranes, perhaps due to the gentle astringent action of the tannic acid contained in the tea. Strong solutions of tea or coffee are mildly irritant to the stomach.

Systemic Action.—Caffein as such is rapidly absorbed, having no local action. As a strong decoction of black coffee it may act as a stomachic or bitter tonic, and may, therefore, stimulate the outpour of the gastric juice. Coffee is stimulant to peristalsis by its aromatics, and therefore increases the secretion of the mucous membrane of the intestines and slightly stimulates the bile secretion, hence coffee is a mild laxative. Decoctions of tea if strong, on the other hand, rather retard digestion, and on account of the tannic acid tend to constipate. A cup of good coffee made with half an ounce of ground beans contains from 0.10 to 0.20 gram of caffein and some substances that act as volatile oils. A cup of good tea made with 100 grains of leaves contains about 2 grains of caffein, though bulk for bulk of tea leaves and coffee beans, the tea contains the more caffein. Green tea contains some volatile oils, black tea very little. Both contain about 7 per cent. of tannic acid, which is extracted slowly, hence the viciousness of prolonged steeping. The volatile oil in the after-dinner cup of black coffee is probably a slight stimulant to digestion, while the hot decoction causes a slight carminative action from the volatile oils. Coffee also slightly stimulates the salivary secretion.

Circulatory System.—Caffein causes the heart, in animals, to beat more rapidly by acting either on the heart muscle or on the terminations of the accelerator nerves. This rapidity seems to be due to a shortening of the diastole and the force of the muscular contraction is increased. This acceleration may be due to stimulation of the irritable muscle in the lower parts of the heart. When caffein is administered to man by the stomach, the heart is generally slowed, owing to the action on the inhibitory center in the medulla. A strong action of caffein lessens the strength of the auricular contraction and later of the ventricular, and soon there is a lessening of the amount of dilatation during diastole. As poisoning progresses the diastole grows shorter, and the ventricles and auricles contract irregularly, and as above stated, without complete relaxation. Very large doses cause very irregular cardiac action, and later permanent contraction or rigor as in skeletal muscles. After death the heart may be found in diastole.

The vasomotor centers in the medulla are stimulated by this drug, causing contraction of the arterioles, and this is the principal cause of the rise of blood-pressure, as the output of blood from the more rapidly contracting heart is not much increased. The muscular coat of the walls of the arterioles is also somewhat stimulated to contraction. The blood becomes somewhat depleted of its water by the strong action of caffein on the kidneys, but it gets its supply again from the tissues.

Nervous System.—Here caffein acts not unlike strychnin, but acts more on the brain. The cerebral cortex is stimulated and the mental functions improve, in fact, it is our best cerebral stimulant. Under its action thoughts are rapid, there is wakefulness and the patient is alert; if the dose is too large, there may be rapid reasoning, but with not so accurate judgment as usual. Whenever fatigue or mental inertia are in evidence, caffein is a temporary cure of the condition, but at the expense of the organism. In other words, it calls forth the reserve power.

Under an over-dose there are convulsions and increased reflex irritability, and any irritation may cause contraction of all the muscles.

Coffee and tea increase the rapidity of mental impressions and the development of thought, but the perfecting or carrying out of these intellectual conceptions may be retarded. Large doses of caffein, or a coffee or tea habit will impair mental activity by increasing the general nervous and reflex irritability. Caffein in over-dose often causes headache, and there may be delirium, tremor, and restlessness, though a tolerance is acquired in those accustomed to its use, but there is always in large doses increased nervous irritability. It is a respiratory stimulant by its action on the medullary center. The senses are all made more acute under the action of caffein, especially the sense of touch. There is a slight increased temperature during the action of caffein, probably from the increased muscular activity, and also due to the increased oxidation caused by caffein. It has a mild aphrodisiac action, probably due to spinal stimulation.

Muscular System.—A small amount of caffein is a muscle restorative and will increase the strength and temporary endurance of muscles, and more work and longer work can be done without fatigue or sleep under the influence of caffein, probably due to peripheral stimulation of the muscles. However, the system will always pay for this sight draft on its reserve energy. A large amount of caffein, however, is a muscle poison, and injected directly into a muscle it causes a peculiar stiffening or rigor. Coffee and tea, or caffein, increase tissue waste, though they call out the reserve muscle and nerve forces, due to nervous stimulation. The urea and the carbon dioxid output are increased. The chief effects of tea and coffee are due to the caffein and to nothing else.

Action on Secretion.—Caffein is an active diuretic, unless too large doses are used, when a vasomotor contraction is caused by over-stimulation and this contraction affects the blood-vessels of the kidney. Theobromin is, therefore, a better diuretic than caffein, as it causes no contraction of the blood-vessels. Caffein causes some increase of the solids of the urine and the nitrogen is increased, but the increase is mostly of the watery part. Sodium chlorid is the most increased, while uric acid is not at all increased. Hence, caffein probably acts on all the secreting parts of the kidneys; rarely, it may cause a mild glycosuria. The blood depleted of its water gets it either from the tissues or from any edema or infusion that may be present, or demands it from the stomach and intestines.

Action of a Therapeutic Dose or the Primary Physiologic Action.—Caffein increases the tone of the blood-vessels, increases the rate of respiration, stimulates the cerebral functions, increases muscular tone and power, diminishes fatigue, increases the excretion of urine, especially the watery part, and hence raises the specific gravity of the blood, which will then get more water where it can find it. It is excreted by the kidneys and appears in the urine partly as trimethylxanthin or caffein, partly as dimethylxanthin and partly monomethylxanthin, or xanthin.

Toxic Symptoms.—These are: rapid heart, cardiac oppression, due to its irregular contractions, irregular pulse; paleness of the face; restlessness, nervousness; increased reflex irritability, insomnia; rarely delirium and convulsions, and a diminished amount of urine due to vasomotor over-stimulation.

Treatment of Poisoning.—As a chemical antidote for whatever caffein may be in the stomach, tannic acid should be administered in solution or in suspension. As a physiologic antidote to spasmodic contraction of the blood-vessels, nitroglycerin should be given hypodermatically. As cerebrospinal sedatives, chloral and bromids may be given, unless the heart is too weak for such treatment, in which case morphin should be administered hypodermatically. Morphin will quiet the nervous system, but will not stop the action of caffein on the heart, hence nitroglycerin should be frequently repeated. Hot foot-baths may dilate the vessels and relieve some of the tension on the heart. Hot fomentations over the kidneys may aid these to more rapidly excrete the drug.

Therapeutic Uses.—The indications met by this drug are: (1) as a circulatory stimulant; (2) as a cerebral stimulant; (3) as a muscle stimulant; (4) as a diuretic; (5) as an antidote in poisoning.

1. Caffein is more than a cardiac stimulant in that it somewhat strengthens the heart and contracts the blood-vessels. As a cardiac stimulant caffein can be used at any time when such a stimulant is indicated. It acts quickly to tide over a period of cardiac depression, but is not so quick in its action in acute collapse as the reflex stimulation of a strong alcoholic preparation or the stimulation of ammonia. It is, however, a strong adjunct to the above and with strychnin makes an active respiratory and cardiac stimulant with no secondary depression. If there is in the cardiac weakness a good deal of nervous excitability and muscle restlessness, other cardiac stimulants and tonics should be chosen. The same is true when there is high vasomotor tension. As a cardiac stimulo-tonic caffein is indicated in prolonged fevers in place of much alcohol, and is good in typhoid fever in the form of a cup of black coffee given once or twice in the morning. It is best to avoid it in the afternoon on account of its tendency to cause wakefulness. As a cardiac stimulant in weakened heart action with poor cerebral circulation and mental sluggishness it is often efficient. Patients with good compensation in valvular disease should avoid the stimulation from much tea or coffee.

2. As a cerebral stimulant perhaps no drug equals caffein, not only in a person unused to its action, but in those accustomed to its use. While there is no intolerable and uncontrollable desire for caffein when it is

stopped by the ordinary coffee and tea drinker, still at the regular hours for tea and coffee stimulation, if it is omitted the majority of people miss greatly its effects. There is, however, such a condition as the caffein habit, and this habit is on the increase, and its seriousness should be explained to the laity. The hard brain workers at irregular hours, as editors, reporters, authors, and students just before examination, increase the number of hours which the brain will work well by frequent cups of coffee, learning that it is the best and most effectual stimulation that they can take, and often leading to no immediate noticeable secondary depression. As the coffee wakes up the brain, so to speak, it also stirs up the spinal cord and nervous and peripheral reflexes. The man after cerebral stimulation then smokes a good deal, which soothes the spinal irritation, and he then, having coffee plus tobacco can do an immense amount of brain work. If this is long kept up, sooner or later, depending on the individual endurance, a nervous, irritable condition supervenes with insomnia, anorexia, loss of weight, a tremulous tongue, with perhaps some trembling of the hands, with pale or yellowish skin due to disturbed liver function, and perhaps some kidney or bladder irritability, and we have a neurasthenic to treat. This means that all coffee and tea must be stopped and the patient given a mental rest, change of air and scene, and the institution of every legitimate means or subterfuge to produce sleep.

The chronic tea drinkers of this country are generally the kitchen girls and women who remain in the kitchen and in the house a great deal. The teapot is constantly on the stove and the strong stale brew full of tannic acid and bitter extractives is poured into the stomach at frequent intervals. Here we get not only the stimulation of the caffein, but the irritation of the tannin derivatives on the stomach mucous membrane, and tannin precipitates the peptones and albumins and soon causes dyspepsia. The sooner or later result is sleeplessness, an irritable fretty disposition, anorexia, nervous dyspepsia, or even gastritis, and constipation. Of course, the treatment is to stop the cause, treat the insomnia, dyspepsia and constipation, and give fresh air. Tea tasters show earlier than other individuals decay of the teeth. The above shows conclusively that children up to fifteen years should not drink coffee or tea regularly, and caffeinated soda fountain drinks should be prohibited.

Therapeutically, caffein as a cerebral stimulant can be used whenever a sudden demand for much brain work is required, as also in some mental morbid conditions, but all such use of caffein is purely tentative and symptomatic. The cause of the mental deterioration should be sought.

Caffein has been used as a substitute for alcohol in breaking off the alcohol habit.

As a respiratory stimulant caffein is indicated in conjunction with ammonia whenever respiration is failing. In headache, due to depression, sometimes in autointoxication from fermentation of the bowels, in some forms of neuralgia, and even rarely in migraine, caffein is efficient in changing the circulation and thus stopping the pain. Used for this purpose the dose should be 0.30 gram (5 grains), of the citrated caffein, and if there is no improvement in an hour, 0.15 gram (2½ grains) more may be given.

3. As a muscle stimulant, coffee and tea or caffein can be given to aid the endurance of any forced muscle work, especially valuable to soldiers on forced marches, but if such stimulation is frequently repeated the reaction is not satisfactory, in fact, depression will occur.

4. As a simple diuretic, caffein is rarely used, though its good auspices in this line are often sought in cardiac weakness with edema, but cardiac edema is better treated by digitalis unless there is some contra-indication to the latter and its congeners. In renal or hepatic dropsies it may be of some value, but other diuretics are better, if in fact a diuretic is indicated at all. As a diuretic, theobromin is better than caffein. To cause diuresis in general dropsy or in ascites, caffein must be pushed. This drug in ordinary dose does not irritate the kidneys or genitourinary organs, but in acute inflammation of these parts coffee and tea should be stopped.

5. As an antidote, caffein as such or as strong coffee is indicated in any depressant narcotic poisoning as by opium and its alkaloids, chloral, bromids, and other cerebral and spinal depressants. It is, as above stated, always a respiratory and circulatory stimulant. Enough caffein should be given to get decided improvement of the pulse. Strong coffee may be given by mouth or rectum, or caffein may be given hypodermatically. As an antidote to alkaloids in the stomach, tea containing a little tannic acid might be quickly used as a precipitant, but the precipitate soon dissolves in weak hydrochloric acid and in alcohol, hence alcohol should not be given at the same time that tannin in any form is used as a chemical antidote.

Contra-Indications.—The contra-indications to the use of caffein are palpitation, irritable heart, high blood-pressure, arteriosclerosis, cerebral or spinal inflammations or irritations, insomnia, neurasthenia, and acute genitourinary inflammation.

Official Preparations.—*Caffeina Citrata*, citrated caffein, is a white, bitter, sour, odorless powder, containing 50 per cent. of caffein, very soluble in water. The dose is from 0.10 to 0.20 gram (from 1½ to 3 grains), three times a day, or 0.30 gram (5 grains) used once.

Caffeina Citrata Effervescens, effervescing citrated caffein (caffeina, citric acid, sodium bicarbonate, and tartaric acid), dissolved in water makes a pleasant effervescing acid drink of caffein. Dose is a teaspoonful to a dessertspoonful, in a glass of water.

Non-Official Preparations.—*Caffein-Sodium Cinnamate* is a good preparation for hypodermatic use. The dose by the stomach is 0.20 gram (3 grains). Other non-official preparations are: *Caffein Hydrobromid*, *Caffein-Sodium Salicylate*, and *Caffein-Sodium Benzoate*.

A number of effervescing, non-official preparations containing caffein are found in the shops combined in so-called headache powders with acetanilid, antipyrin, phenacetin, or with one or more bromids. While these preparations are often elegant and efficient, the laity should be discouraged from their indiscriminate and, especially, frequently repeated use, as the bromo-caffein or other stimulo-sedative habit is easily acquired, and the outcome is a nervous heart and a neurotic and neurasthenic tendency. It should be distinctly remembered that it has been proved that the addition of caffein to any coal-tar product, whether acetanilid or some other does not prevent the depression caused by the coal-tar synthetic, and in fact seems to add to its toxic effect.

Administration.—Caffein is absorbed rapidly and acts quickly, and its action lasts several hours. There is no cumulative effect. For continuous action it should be given three or four times in twenty-four hours. In acute indications it should be repeated every hour for a few doses. If it causes sleeplessness, the evening dose should be omitted. It is best given as caffeina citrata, dry, in capsules. For headache and for cerebral stimulation it i best given as strong black coffee or as tea, or as an effer vescing caffein. Caffein may be used hypodermatically in dose of 0.05 gram (¾ of a grain), but it may cause a little pain, for a short time, at the point of introduction. Caffein-sodium benzoate is perhaps the best form for hypodermatic use. Caffein hydrobromid and caffein-sodium cinnamate are also used hypodermatically.

CONGENERS

THEOBROMIN

Theobroma (θεός, a god: βρωμα, food, "food of the Gods") or cacao, the native name (often called incorrectly cocoa) or chocolate, is made from the seeds of a large tree, *Theobroma cacao,* of Brazil and Central America. These seeds contain theobromin. Theobromin (dimethylxanthin) contains more nitrogen than caffein, and can be prepared synthetically from xanthin. Chocolate contains about 1 per cent. of theobromin, from a trace to 0.25 per cent. of caffein, and a large amount of fat (cacao butter from 30 to 50 per cent.), starch, albumin, and a little volatile oil. As all these latter constituents are assimilable, chocolate is a food. The seeds of the cacao tree, ground while warm with about an equal weight of sugar, and often flavored with 0.5 per cent. of cinnamon or other aromatic, makes the ordinary chocolate ready for solution in water or milk. Chocolate so prepared contains only a trace of caffein.

Theobromin does not stimulate the nervous system, hence it can be given when caffein, tea, or coffee are contra-indicated. Chocolate is rather rich and heavy for digestion in a weak condition of the stomach, hence chocolate is made for convalescents freed from oil and not sweetened. Theobromin has its greatest action on the kidneys, and is a pretty sure non-irritating diuretic. As above stated, it has no action on the nervous system, and but little action on the circulatory system.

Official Preparations.—Oleum Theobromatis, cacao-butter, is a fixed concrete oil expressed from the seeds of theobroma cacao. It is a yellowish-white solid, with a faint odor and taste of chocolate. It melts at the temperature of the body, and hence makes a splendid base for suppositories, one gram (15 grains), being the ordinary amount used for a rectal suppository. It makes a bland, soothing emollient application for irritations on the skin, for sun-burn, etc. It is sometimes adulterated with paraffin, wax and tallow.

Non-Official Preparations.—Theobromina is a crystalline bitter powder rather insoluble and but slowly absorbed. It is obtained from the seeds of theobroma cacao, and is also made synthetically. *Theobromina Sodio-Salicylas* (Diuretin) is a mixtures of equal parts of sodium theobromin and sodium salicylate, containing when pure 50 per cent. of theobromin, but ordinarily only 40 per cent. It is a white, odorless, salty powder, soluble in water. The dose is 1 gram (15 grains), given in aromatic solution or in capsules, generally three times a day, but it is often advisable to give it every three or four hours. It is largely used as a diuretic, as it acts on the renal epithelium without irritation, hence it can be used in both acute and chronic nephritis, and in cardiac and hepatic dropsy. In all ordinary doses there is no effect other than the diuretic. Rarely it produces nausea and headache, but this is probably due to impurities. Experimentally, poisoning can be caused with symptoms of cardiac disturbance and dyspnea, increased temperature and some nervousness.

Theophyllin is another purin derivative found in tea, and is isomeric with theobromin (dimethylxanthin). It somewhat stimulates the nervous system, and is also a stimulant to the muscles. It is at times an active diuretic. It often causes severe irritation of the stomach, even when administered after meals.

It is a white, crystalline powder, almost insoluble in water, but in combination with sodium (theophyllin sodium) it is very soluble. The dose of either is 0.25 gram (4 grains). *Theocin* is a synthetic theophyllin.

GUARANA (BRAZILIAN COCOA)

Gaurana, gauranæ, is a dried brown paste made of the crushed seeds of *Paullinia sorbilis,* which is a climbing shrub, native of Brazil, named from Paullin, a German botanist living from 1643 to 1712; *sorbilis* is from *sorbere,* to suck or to drink. Gaurana is the name of a tribe of South American Indians. This drug contains from 4 to 5 per cent. of caffein theobromin, and about 26 per cent. of tannic acid, a trace of volatile oil, a resin, and a starch. The caffein of this drug has been called *gauranin.* The dose of gaurana is about 2 grams (30 grains). It acts like caffein and is stimulant to the nervous system. It is astringent on account of its tannic acid, and sooner or later upsets the appetite and causes dyspepsia. It is used for ordinary migraine headache, and in nervous and menstrual headaches, and also sometimes is used as a restorative after a drinking debauch. A gaurana habit can be formed.

Official Preparations.—Fluidextractum Gauranæ, fluid extract of ganrana. Dose, 5 c.c., or a teaspoonful.

KOLA

Cola-nut, *Cola acuminata,* is a large tree of Central Africa. The cola-nut contains about 2 per cent. of caffein, theobromin, starch, sugar, and a volatile oil. It acts like coffee and cocoa, and has been used as a food.

Kolanin is probably a mixture of caffein, theobromin and tannic acid.

The fluidextract of kola has been recommended as a muscle stimulant, as it has been proved that more physical labor can be done under the influence of kola when other food is withheld than without it. This is probably a caffein activity, in other words, depression must follow such stimulation.

Barium Sulphate and Serodiagnosis of Syphilis.—From the experiments of H. Noguchi and J. Bronfenbrenner, reported in the *Journal of Experimental Medicine,* it is clear that the absorption by barium sulphate is not directed in a selective manner to the antibodies. Barium sulphate has almost no anticomplementary action on guinea-pig serum. A light antihemolytic effect has been noticed when 1 c.c. of a 7 per cent. suspension of this salt was mixed with 0.05 c.c. of the complement. Barium sulphate removes both the anticomplementary substances and the syphilitic antibodies. The addition of one part of normal serum to one part of syphilitic serum reduced the removal of the antibodies to one-half of that obtained when no normal serum was added, and the addition of four parts of the normal serum to one part of syphilitic serum reduced the removal to about one-fifth. This indicated undoubtedly that the normal serum employed possessed the same affinity as the syphilitic antibodies for barium sulphate. The syphilitic antibodies are removed by barium sulphate (to which they seem to adhere), and the antibodies thus absorbed retain their activity. Several experiments were performed with antihuman amboceptor (rabbit), and the results show that the amboceptor is quite readily removed from the solution by barium sulphate absorption. The barium sulphate treated with the amboceptor solution retains the amboceptor and causes hemolysis when mixed with human corpuscles and guinea-pig complement. They conclude, therefore, that the barium sulphate absorption is to be recommended for the original method of Wassermann under certain conditions, but that it is unnecessary for the antihuman hemolytic system of Noguchi.

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THE ROCKEFELLER COMMISSION FOR THE ERADICATION OF HOOKWORM DISEASE

The whole rationale of lessening the evils of such social plagues as alcoholism, tuberculosis, hookworm infection and venereal disease lies obviously in educating the people up to the point of working out their own salvation. What has been accomplished by public exhibitions and lectures, by well-written popular articles in current magazines and periodicals and by direct personal appeal from physicians themselves, is far from insignificant, and what can be accomplished in a very short time is strikingly shown in two recent reports of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. This commission was organized in October, 1909, and opened its offices in January, 1910. The work done to date is described in two reports, one by the administration secretary, Mr. Wickliffe Rose, the other by the scientific secretary, Dr. Charles W. Stiles, to whose important work the formation of such a commission was undoubtedly due. As stated by Mr. Rose, the task set for itself by the commission was to map out the geographic distribution of the infection, to effect a cure in existing cases and to remove the cause—in this case the pollution of soil by country privies and the use of human excreta as a "fertilizer."

Taking separate states as units for investigation, the commission cooperated with the various boards of health in appointing a director of sanitation in each state under whose direction a field force of sanitary inspectors was soon set to work. In addition, the public health laboratories of most of the southern states cooperated in the matter of making microscopic examinations of patients' stools. By combining the reports of the sanitary inspectors with the laboratory records used to check up their work, scattered hookworm infection has been demonstrated in all the southern states, including Tennessee and Kentucky, as also in Oklahoma, Nevada and California. Infection is particularly heavy in Virginia (ninety-one out of 100 counties), North Carolina (ninety-seven out of ninety-eight counties), Georgia (108 out of 145 counties), Alabama (sixty-three out of sixty-seven counties) and Mississippi (sixty-five out of seventy-six counties). In the mines of California it is reported so heavy as to be a matter of great economic moment. The degree of infection in foreign countries is also in process of investigation.

The task of treating present sufferers from the disease is threefold, involving, first, the cooperation of private practitioners by means of bulletins, letters and personal interviews; and second, the task of interesting the people in their own welfare through public demonstrations as object-lessons, medical examinations of school and factory children, laboratory diagnoses, free lectures and the dissemination of tracts; third, proper treatment of the infected poor by means of voluntary contributions and free treatment, as in Virginia and North Carolina, free dispensaries, as in Mississippi, or by the payment of a special bonus for each patient cured, as in Florida. The results of these various activities, as tabulated in Mr. Rose's report, are significant.

The most satisfactory cooperation of physicians in the general treatment of the disease was naturally secured in states having the greatest density of infection, as in North Carolina, Georgia or Virginia, and the same is true of the number of diagnoses made and the number of patients cured. The newspapers of nearly all the southern states were in thorough sympathy with the movement. It is interesting to note that the newspapers of Mississippi and North Carolina were at first humorously indifferent or resentfully antagonistic, but are now practically all of them in cordial cooperation.

During the first year of its administration the Rockefeller commission has spent over $47,000, while about $13,000 has been spent by the different southern states, making a total expenditure of a little over $60,000 for the eradication of hookworm infection in 1910. The best showing made by any state so far is that of Florida, for the reason that the board of health of that state is maintained by a mill fund of about $75,000 per annum. With such a sum at their disposal it was natural that the Florida public health authorities should have instituted a campaign against hookworm infection before the Rockefeller commission came into being. Since the organization of the commission they have cooperated with its work in a most admirable way, supporting themselves and spending nearly nine thousand dollars to this end, including a sum of $1,806 expended in payment for treatment of poor patients (a bonus of $3 for each patient successfully treated). During the year 1910, bacteriologic laboratories were established at Jacksonville, Tampa and Pensacola, and in these over 7,000 examinations for hookworm were made. A map investigation of the status of hookworm infection in Florida shows that "there is hardly a physician in the state not treating hookworm disease," and that even if the state board were to relinquish the work "the hookworm problem will now solve itself, so far as it can be solved."

The general effect of the propagandism of the Rockefeller Commission can best be ascertained by comparing Mr. Rose's statements in reference to Porto Rican and

American conditions. In Porto Rico, "the infection is severe, the people are sick, they know they are sick, and have learned that they can be cured." In the United States the infection is scattered and relatively light, and the people were at first not disposed to take it seriously; but as they gradually come to perceive its true significance "they come to look on it as they have been accustomed to look on tuberculosis, typhoid fever, or any other serious preventable disease."

The removal of the principal cause of hookworm infection by doing away with soil pollution is the main subject of Dr. Stiles' report. Very effective preventive measures are about to be introduced. Since Looss demonstrated that the hookworm usually enters the body through the skin, reaching the intestines by a devious route, all preventive measures have been concentrated on the surface of the body, in particular the hands and feet of those exposed to infection. The hookworm commonly thrives where it is warm and moist, as in mines, tunnels and cultivated fields. Pollution of the soil is perpetuated by those frankly suffering from hookworm disease, and also by "hookworm carriers," who, like the typhoid carriers, spread disease, although apparently free from it themselves.

Viability experiments, conducted under the direction of the Marine-Hospital Service, show that the mere burial of excreta does not prevent the eggs of the hookworm and other parasites from hatching. Such an expedient might prove an actual agent in infection, especially in the limestone regions. Sewerage is not practicable in the open country, and most of the surface privy systems in vogue are shown to be either faulty or unhygienic. Statistics show, moreover, that a large percentage of southern farms have no privies of any kind. The schools, churches and sawmills in the rural districts seldom have privies attached.

The crux of the hookworm question is, therefore, the contamination of the hands and feet of the country people by fecal matter, and the solution of the problem is in the sanitary privy. As Stiles puts it, "The privy is the great sanitary problem of the open country and the non-sewered village," and most of his recent experimental work, as set forth in his report, has been concentrated on this all-important point. During the past year Stiles, Lumsden and Roberts have devised a simple, inexpensive and practically odorless privy-trap which should assist materially in solving this problem. Improvements in this apparatus are now being made and models have been loaned out to different organizations for exhibition purposes.

A reading of these reports shows that in the short space of a year's time the beginnings of a splendid piece of prophylactic work have been made. The problem of a suitable sanitary privy for our rural population has been practically solved, and all that is needed is the cooperation of the country people themselves. To the missionary work of the Rockefeller Commission and the Marine-Hospital Service the southern newspapers have, in the main, given cordial cooperation, and we cannot too strongly insist on the importance of their most resolute support to this movement.

THE PRESENCE OF BACILLI IN HEALED TUBERCULOUS LESIONS

Just what constitutes healing of a tuberculous lesion is a matter of much importance and great uncertainty. It is now recognized that nearly all adult bodies contain calcified, fibroid, or encapsulated caseous tuberculous lesions, chiefly in the lungs and lymph-glands, and such lesions are commonly looked on as healed and devoid of danger. Recent studies, however, have demonstrated that the tubercle bacillus has remarkable powers of resistance which permit it to remain viable in the tissues of the host for great lengths of time, and even without producing lesions. It may be recalled that various investigators who have injected material from the lymph-glands and tonsils of cadavers into guinea-pigs, have produced tuberculosis in as high as 20 per cent. of the animals, although the glands were themselves free from either gross or microscopic evidence of tuberculosis, and were from bodies which showed no tuberculous lesions. Such a condition constitutes a true latent tuberculosis, even although there are no specific tuberculous lesions, and its apparent frequency makes us more lenient than we otherwise might be to von Behring's theory that bacilli taken in cow's milk during infancy and remaining latent during youth and adolescence constitute an ordinary source of tuberculosis in adults.

The cases in which a tuberculous lesion shows anatomic evidence of quiescence, yet contains living and virulent bacilli, should be regarded as persistent rather than latent tuberculosis. Apparently caseous tubercles practically always contain living bacilli, even when their progress has been checked and they are surrounded by a well-defined fibrous capsule. Until recently it was assumed that when calcification had taken place the lesion had been so long encapsulated that all the bacilli must be dead, but actual investigation has made it necessary to modify this view. Lydia Rabinowitsch injected into guinea-pigs material from four calcified lymph-glands of stony hardness, and in all cases tuberculosis resulted. E. Schmitz examined calcified nodules from twenty-eight autopsies, and could find tubercle bacilli with the microscope in but two; but of thirty-three guinea-pigs inoculated with material from as many calcified nodules no less than thirteen became tuberculous. As was to be expected, positive results were obtained much more frequently with material from the chalky or caseo-calcareous areas (75 per cent.) than with those of stony hardness and presumably greater age (27 per cent. positive). An important fact is that the tuberculosis produced by such inoculations was of a mild character, only one of the infected animals dying spontaneously from tuberculosis. By use of the new alkaline hypochlorite method Wegelin[1] has been able to demonstrate the tubercle bacilli much more frequently in calcified lesions, in each of three chalky and in four of ten hard calcified nodules bacilli being found.

We must, therefore, conclude that even when a tuberculous lesion has become encapsulated and calcified it is still a possible source of danger, since it may contain living tubercle bacilli. Nevertheless this danger is more potential than actual, for the mechanical protection afforded by the capsule and the lime salts must effectually prevent invasion of other tissues by the bacilli, and we have no observations which indicate that a calcified lesion is often, if ever, the starting-point of a fresh infection. Possibly if a suppurating process, or some trauma, disintegrated both capsule and lime deposits the bacilli might be set free, but even then serious trouble is not probable, for, as Schmitz' experiments have shown, the encapsulated bacilli are of such low virulence that even the susceptible guinea-pig can resist them successfully.

UNRELIABLE PHARMACEUTICAL PRODUCTS

For some years past, pharmaceutical houses have put out in tablet form an enormous number of combinations of drugs of real or fancied value. In many instances the combinations are not suited to the tablet form and it is not surprising that many of these tablets do not conform to the composition that is claimed for them. It is not to be inferred that the manufacturers wilfully put up products that are false to label, but rather that many of the combinations are pharmaceutical impossibilities. That is to say, it is pharmaceutically impossible—or at least, commercially impracticable—to manufacture, in tablet form, some of the combinations that are listed in the manufacturers' catalogues.

These tablet-combinations have been offered to the medical profession primarily because such products are considered as "business-getters" and the manufacturers seem to have tried to outvie one another in the number of combinations which they offer physicians. In most cases these tablets have been made, not to supply, but to create a demand, and as soon as one manufacturer has put out a new combination, his competitors immediately put similar combinations on the market. The result has been harmful to medicine and a discredit to pharmacy.

With the object of showing how pharmaceutically impossible it is to make some of these tablet-combinations, our chemists were asked to examine some of the several brands of tablets said to contain bismuth subnitrate, opium and phenol (carbolic acid). While this tablet is, in itself, of comparatively little importance, it was selected as a type because practically all pharmaceutical houses offer it for sale, because its manufacture offers some difficulties and because its phenol-content can be accurately determined. More than two years ago, the leading brands of these tablets were bought in open market, analyzed by the Association's chemists and the results published in The Journal.[1] Two years later, similar products of the same firms were again purchased, analyzed and the results published.[2] Both of these reports showed that the composition of the tablets examined—at least so far as their phenol-content was concerned—could not be relied on. The second examination brought out the further fact that practically all the manufacturers whose products had been examined had apparently made no effort either to modify the claims on the labels, to improve the quality of the tablets or to withdraw the product from the market.

In the "Propaganda for Reform" department of this issue appears the third, and final, article from our chemical laboratory on this subject. It will be found not only to verify the statements of the previous two articles, but also to bring out another point that is of almost as great importance as the unreliability in composition, namely, that ready-made mixtures of this type are more than likely to be several years old before they reach the physician. While this does not, of necessity, impair the efficiency of all drugs, it must in many instances be detrimental to scientific prescribing.

The three exhaustive and painstaking examinations made in the Association's laboratory and the articles that are based on these examinations teach some valuable lessons, both specifically and generally. Specifically, they show that there are probably no tablets of bismuth, opium and phenol on the market which contain the amount of phenol stated on the label; this, too, even though the tablets are obtained direct from the manufacturer. It is true that in one case the tablets obtained direct from the manufacturer contained not only all the phenol claimed, but a very appreciable percentage in excess of that amount. These tablets, however, bore such evident marks of having been "made to order" that the general findings of the laboratory were in no way vitiated. Essentially then, it has been proved that it is impracticable, if not impossible, to manufacture tablets of bismuth, opium and phenol so that the phenol-content can be relied on.

Generally, the results are of even greater importance. First is the very evident unwisdom of attempting the pharmaceutically impossible merely for the sake of achieving pharmaceutical "elegance." When one considers the enormous number of tablet combinations on the market—some firms listing over a thousand—and further realizes that undoubtedly in a great number of cases such combinations are absolutely worthless so far as accuracy of dosage is concerned, the menace that such forms of medication must be to scientific medicine becomes apparent.

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[1] Wegelin: Cor.-Bl. f. Schweiz. Aerzte, 1910, xl, 913.

[1] July 25, 1908, p. 330.

[2] Dec. 17, 1910, p. 2169.

Second is the responsibility that rests on the pharmaceutical manufacturer for the deplorable conditions that these investigations have exposed. Physicians naturally have supposed that they could rely on the statements of such pharmaceutical firms as those whose products are affected in this exposure, at least so far as the composition of non-proprietary preparations is concerned. The defections are those of the manufacturing pharmacists. It is no excuse for them to say that they are but supplying a demand when they put out such products. The physician, of necessity, does not always realize the limitations to the art of compounding drugs and it has long been considered the function of the pharmacist to enlighten him on such technical points. In the present instance, however, the physician, instead of being advised, has been taken advantage of. Further, as has already been stated, the manufacturers are not so much supplying a demand as attempting to create a demand. Moreover, if they wish to retain the confidence of physicians they should frankly admit, when asked to put up combinations that are not pharmaceutically practicable, that it cannot be done. Instead of taking this attitude, they seem to have decided that; so long as there is money in pretending to make tablets that cannot be made, they might as well get what financial benefit they could out of the pretense.

In view of the facts brought out by our chemists, we are justified in asking a question: We know that the products examined were untrue to label when first taken up over two years ago: we know, further, that the same class of products were equally unreliable two years later, when examined the second time; we also know that still more recently these tablets, even when purchased direct from the manufacturer, are not to be depended on. Twice THE JOURNAL has given publicity to the unreliability of these products, but the manufacturers have neither profited by it nor apparently paid any attention to it. Now, for the third time, attention is directed to the same conditions. We are justified in asking, therefore: Will reputable pharmaceutical houses continue to put on the market products which they know to be not only unscientific but actually fraudulent, simply because it is "business?" The medical profession awaits the answer.

Current Comment

ROCKY MOUNTAIN SPOTTED FEVER

Through the work of the late H. T. Ricketts and others, it was demonstrated that Rocky Mountain spotted fever, an important disease in man, is conveyed by the common wood-tick of the Rocky Mountains. The disease has been found in its most virulent form in the Bitter Root valley in western Montana, the mortality in this section being from 70 to 80 per cent. The importance of ascertaining the distribution of the tick which is responsible for the transmission of such a deadly disease became apparent and, accordingly, the Bureau of Entomology of the United States Department of Agriculture in 1909 began a study of the distribution of this insect. The result of that study is published in Circular 136 of the bureau. In the investigation, specimens of the species causing the disease, *Dermacentor venustus*, were obtained from 225 different localities, embracing the states of California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming. While there are no doubt areas of considerable extent within the territory named where the tick is entirely absent, yet its distribution is much wider than was thought before this investigation, but entirely within the Rocky Mountain region. Specimens have been collected at various elevations, from 500 feet to nearly 9,000 feet above sea level. The species seems to reach its highest development and occurs in greatest numbers between 3,000 and 5,000 feet. The immature ticks have been found to feed exclusively on the small mammals and the adults on the large domestic animals. The fever may be transmitted to man in any region where this species of tick is present if the disease is once introduced into a locality by a tick from an infected region, or by man or some other animal susceptible to the malady. There is reason to believe that the disease is spreading, and therefore a knowledge of the range of this species of tick is important, so that steps may be taken to lessen the danger of its introduction into regions as yet uninfected.

A POINT IN THE MANAGEMENT OF THE INSANE

Recently a patient, having been tried, found insane, and ordered sent to an institution, was turned over to the sheriff for safe delivery. The sheriff deceived the patient, a paretic who suffered from grandiose delusions concerning money and property matters, into thinking that he was to inspect a large institution which might be made into a hotel. Thus the patient went peaceably to the insane asylum and the sheriff, having done all that he thought was required of him and transferred his charge to other hands with the least possible trouble to himself, left well satisfied with his finesse; and doubtless most persons who have had little or no experience in the care of the insane would consider his satisfaction justified. Soon the patient saw that his orders about the hotel property were not obeyed, and thus learned that he had been duped. So he protested, resisted and fought and, in spite of careful handling, sustained some bruises; his relatives raised complaint and the institution received scare-head publicity on the first page of the newspapers. An investigation was called for and held, and the exoneration of the authorities received a few lines on an inside page. The state authorities who made the investigation directed the superintendent of the institution, in the future, to make a statement to each patient brought to the institution, in the presence of the sheriff and his attendants, to the effect that the institution was an insane hospital and that the patient had been committed by law to its charge and must obey its rules and regulations. This precaution should be generally adopted.

A STRONG TESTIMONIAL

We have been interested recently to note a faint modern recrudescence of a horrific fable of our youth. Most of us have read blood-curdling tales of individuals who suddenly became human volcanoes, belching forth fire and smoke, and were in a short time utterly consumed. To judge by a recent testimonial, the ghost of the slain theory of spontaneous combustion of the human body still walks the earth. A Chicago woman testifies to her sufferings before treatment by the "United Doctors," a concern employing a number of peripatetic doctors who operate in the smaller towns in various parts of the country:

> "At this time my heart became affected also and my suffering was greatly increased by its disturbed action, causing what is commonly called 'hot flashes.' These 'hot flashes' added greatly to my misery and at times the heat from my head would burn and scorch the combs in my hair."

Needless to say, after receiving "treatment" from these noted specialists, the poor patient was restored to her former condition of well-being and comparative frigidity, and the underwriters' rates on property in her immediate neighborhood were immediately lowered.

RACE SUICIDE IN FRANCE

Statistics cited in this issue by our Paris correspondent throw an interesting light on the problem of the diminishing birth-rate in France. It seems that an official investigation has been undertaken to ascertain the probable cost of assistance to needy large families. We are told that there are in France 369,739 families having each more than four children aged less than 13. There are in these families 1,712,322 children. Nearly two-thirds of these families—237,802 to be exact—are in a permanently needy condition. When one remembers the social habits of the careful middle-class Frenchman, which render it most discreditable for a father to fail to make suitable provision for his son's start in life and his daughter's dowry, and when it appears that the greater number of the parents with large families are unable to provide, not merely for their children's future, but even for their present necessities, it becomes evident that measures against "race suicide" will have to go very deep in order to be effective.

Medical News

ALABAMA

New Hospital.—At the last meeting of the Medical Society of St. Clair County, a fund of about $5,000 was raised for the construction of a hospital at Pell City.

Antituberculosis Camp.—Through the efforts of the Montgomery Antituberculosis League, a camp has been secured for that city. Miss Julia Johnston has been elected secretary of the league.

State Society Meeting.—The annual meeting of the Medical Association of the State of Alabama was held in Montgomery, April 18 to 21. The following officers were elected: president, Dr. Lewis Coleman Morris, Birmingham; vice-presidents, Drs. Martin Luther Malloy, Birmingham, and Charles Lee Guice, Gadsden; special officers of the tuberculosis league, Drs. Geo. McWhorter, Riverton, and Benjamin Leon Wyman, Birmingham, and members of the medical council, Drs. John C. McLeod, Bay Minette; Thomas M. Littlepage, Mount Sterling; William Alexander Graham, Fayette; Robert Henry Baird, Cullman; Edward Harris and Wellington Prude McAdory, Birmingham. The Jerome Cochran lecture was delivered by Dr. Rudolph Matas, New Orleans, and was on tuberculosis.

ARKANSAS

Elections.—At the annual meeting of Logan County Medical Society, held in Magazine, April 5, the following officers were elected: president, Dr. John S. Shibley, Booneville; vice-president, Dr. Richard A. Harkins, Ratcliffe; secretary-treasurer, Dr. Austin R. Hederick, Booneville; delegate to the state society, Dr. Early E. Scott, Magazine, and alternate, Dr. E. M. Life, Scranton.——At the annual meeting of the Tenth Councilor District Medical Society, held in Rogers, March 21, the following officers were elected: president, Dr. John Young, Springdale; vice-president, Dr. Ernest G. Epler, Fort Smith; secretary, Dr. Dred R. Dorente, Fort Smith, and treasurer, Dr. Othello M. Bourland, Van Buren. The next meeting will be held in Fort Smith.——At the annual meeting of Lawrence County Medical Society, held at Walnut Ridge, Dr. Horace R. McCarroll, Walnut Ridge, was elected president; Dr. Wight W. Hatcher, Imboden, vice-president; Dr. John C. Swindle, Walnut Ridge, secretary; Dr. John C. Hughes, Walnut Ridge, treasurer; Dr. Gus A. Warren, Black Rock, delegate to the state society, and Dr. William J. Robinson, Portia, alternate.

CALIFORNIA

Personal.—Dr. E. S. Metzger has been reappointed a member of the trustees of the Redondo Beach library.——Dr. Alanson Weeks, U. S. P. H. and M.-H. Service, in charge of the United States Marine-Hospital, San Francisco, has resigned to enter private practice.

Medical Milk Commissioners Organize.—On the occasion of the annual meeting of the Medical Society of the State of California, the California Association of Medical Milk Commissioners was organized and the following officers were elected: president, Dr. Thomas McCleave, Alameda; vice-presidents, Drs. Fitch C. E. Mattison, Los Angeles, and Thomas A. Stoddard, Santa Barbara, and secretary, Dr. Adelaide Brown, San Francisco.

GEORGIA

Additional Officers.—At the annual meeting of the Medical Association of Georgia, held in Rome, April 19 to 21, the following councilors were elected: first district, Dr. J. Lawton Hiers, Savannah; second district, Dr. Jarvis G. Dean, Dawson; third district, Dr. Rupert H. Stovall, Vienna, and fourth district, Dr. Charles L. Williams, Columbus; chairman of the board of councilors, Dr. Wyman W. Pilcher, Warrenton, and editor of the *Georgia State Medical Journal*, Dr. Wm. Clifton Lyle, Augusta (reelected). The next meeting of the society will be held in Augusta.

ILLINOIS

Personal.—Dr. Albert Nicholas Mueller has resigned as a member of the board of directors of the Rock Island Municipal Tuberculosis Sanatorium.——Dr. J. T. Foster, Central City, has been appointed coroner of Marion County.——Dr. Emil W. Brust, Addison, started for Berlin, April 3.

Another Hospital for Oak Park.—The West Suburban Hospital Association has been incorporated with a capital stock of $25,000 all of which has been subscribed, and the fifteen physicians who resigned from the Oak Park Hospital are said to make up the incorporators of the new hospital. The new hospital will be located in territory convenient both to Oak Park and Austin.

State Board Convictions.—Mrs. J. Dunn, who claimed that she had made wonderful cures of cancers by the use of a combination of drugs and who, it is said, had been convicted before in this state, was convicted by a jury in the Municipal Court of Chicago, of violation of the Medical Practice Act, and fined $200.——M. Janik, said to be an old offender who conducts the Cracow Institute, and makes his own medicine; was convicted by a jury in the Municipal Court, and fined $200 and costs.

Chicago

Hospital Acquires Property.—The Provident Hospital has acquired property north of its building at Thirty-Sixth and Dearborn Streets, which will be used for the children's department of the institution.

To and from Europe.—Dr. and Mrs. Clarence E. Brinckerhoff and Dr. and Mrs. Wallace Blanchard have sailed for Europe.——Brigadier General Alfred C. Girard, U. S. Army, retired, and Dr. and Mrs. Theodore Wild, Jr., have returned from Europe.

INDIANA

Personal.—Dr. T. Victor Keene has been appointed a member of the board of health of Indianapolis, vice Dr. Paul F. Martin, to take effect June 1.——Dr. Herman Bowles has succeeded Dr. Clarence G. Rea as secretary of the board of health of Muncie.——Dr. Harold Pierce, Cloverland, is reported to be seriously ill with septicemia due to an operation wound. Dr. Orange G. Pfaff of Indianapolis is just recovering from infection and will go to Atlantic City.——Dr. Roscoe H. Ritter, secretary of the Indianapolis Medical Society, is critically ill at a sanatorium in Martinsville.

Ice Cream Standardized.—The State Board of Health calls the attention of all ice cream manufacturers in the state to the standard for ice cream in Indiana. Hereafter all ice cream shall have a minimum of 8 per cent. of butter fat, and 18 per cent. of milk solids and not to exceed 0.7 per cent. of gelatin or vegetable gums. Fruits, nuts, candied and preserved fruit and nuts, chocolate and other similar products should be classed as flavorings, and all ice cream containing such ingredients shall conform to the standard above specified. The addition of any color or coloring matter to ice cream to make it appear richer in butter fat, or the use of fruit color to counterfeit the color of strawberry, cherry, peach, etc., is not allowed, unless the goods are marked imitation and declare the presence of the color.

District Society Meeting.—The spring meeting of the Eighth District Medical Society was held in Portland, April 21, and was devoted principally to a consideration of cholelithiasis. At the afternoon meeting L. Ert Slack, an attorney of Franklin, spoke on "Health," pleading for a broader conception of the healing art, with special attention to the powers of the mind and the necessity of getting the patient's mind in proper attitude. The following officers were elected: Dr. Thomas Monroe Jones, Anderson, president; Dr. Charles E. Caylor, Pennville, vice-president; Dr. Fred McK. Ruby, Union City, secretary; Dr. Charles Leander Botkin, Farmland; Dr. Joseph E. Hall, Alexandria; Dr. Hamilton P. Franks, Muncie, and Dr. Charles Hollis, Hartford City, censors. The next meeting of the society will be held in Anderson, May 9, 1912.

IOWA

New Hospital.—Fort Madison is to have a new hospital to be ready September 1 and to be under the management of the Sisters of St. Francis of the Third Order.

Medical Women to Meet.—The annual session of the State Society of Iowa Medical Women will be held in Des Moines, May 16-17, under the presidency of Dr. Sophia Hinzie Scott, Des Moines.

Personal.—Dr. and Mrs. Carl W. Wahrer sailed for Europe April 12.——Dr. George P. Hanawalt, Des Moines, who has been ill for a long time, has recovered and resumed practice.——Dr. Horace Husted has been elected health officer of Muscatine, vice Dr. Benjamin Ernest Eversmeyer.——Dr. Jay Clark Cooper, Villisca, sailed for Europe April 20.——Dr. Fred Albert has been reappointed health officer of Mason City.——Dr. Edward Tyler Edgerly has been appointed city physician of Ottumwa.

KANSAS

Doctors' Building for Wichita.—In the new Schweiter building, Wichita, not yet entirely ready for occupancy, twenty-eight physicians thus far have arranged to rent offices.

State Hospital for Western Kansas.—Ellsworth, Scott City, Great Bend, Spearville, Norton, Wakeeney, Hill City, Larned, Downs, Ashley and Ashland make up the list of western Kansas towns thus far desiring to be considered as candidates for the location of the new state tuberculosis hospital for which $100,000 was appropriated by the last legislature.

Hospital Staff Organizes.—Twenty-four physicians of Salina were present at a meeting of the staff of St. Barnabas Hospital, April 18, called for organization. Dr. Oliver D. Walker was elected temporary president, and Dr. Jesse Wheeler temporary secretary. For permanent officers Rev. S. M. Griswold was elected president; Dr. Jonathan Harvey Winterbotham, secretary, and Drs. Oliver D. Walker, Howard N. Moses and Melchor Cockay were elected a committee to arrange the times of service for members of the staff.

Medical Society Meetings.—At the annual meeting of Smith County Medical Society, held in Smith Center, April 12, Dr. James A. McCammon, Reamsville, was elected president; Dr. Victor Watts, Womer, vice-president; Dr. Frank Relihan, Smith Center, secretary-treasurer, and Dr. Francis M. Bilby, Kensington, delegate to the State Medical Society.——At the semi-annual meeting of the Southeast Kansas Medical Association held in Independence in April, Dr. Giles A. Blasdel, Garnett, was elected president and Dr. Elmer A. Miner, Independence, secretary. The next meeting will be held in Parsons.

KENTUCKY

Ten-Cent Day.—On April 20 ten-cent day was celebrated in Louisville. The purpose of this scheme is to solicit a subscription of 10 cents from every inhabitant of Louisville, the money realized from the campaign to be turned over to the State Antituberculosis Association.——At the annual meeting of the association, held April 3, W. R. Belkner was elected president; Dr. Sam A. Hartwell, Jr., second vice-president, and Dr. Ellis S. Allen, a member of the board of directors.

LOUISIANA

Site Selected for Isolation Hospital.—The board of health of Hammond has selected a site in the southwest part of town for the new isolation hospital, the erection of which will be proceeded with at once.

Senior Student Dies.—Leon Fercol Beridon, an intern in the Charity Hospital, New Orleans, and a senior student in the Tulane University; a young man of brilliant promise; died in New Orleans, April 6, from typhoid fever, aged 23.

New Parish Society.—Jackson Parish Medical Society was organized April 20 at Eros, and the following officers were elected: president, Jacob H. Landrum, Eros; vice-president, B. E. Brown, Chatham; secretary-treasurer, Dr. A. E. Douglas, Chatham.

Sanitarium Staff Organized.—The staff of the Schumpert Memorial Sanitarium, Shreveport, has been organized with the following officers: president, Dr. J. Ashton Blanchard; vice-president, Dr, Joe J. Frater; secretary, Dr. Jacob Mahne Bodenheimer, and treasurer, Dr. Lewis Henry Pirkle.

Personal.—Major John A. Devron, Jr., M. C. N. G., La., assigned to the Second Infantry, has been detailed for duty at the maneuvers on the Mexican frontier.——Dr. Charles Chassaignac has been appointed chairman, and Dr. John Callan a member of the house committee, and Dr. Louis G. LeBeuf, a member of the finance committee of the Eye, Ear, Nose and Throat Hospital, New Orleans.

MARYLAND

State Medical Directory.—The April issue of the *Bulletin of the Medical and Chirurgical Faculty of Maryland* contains a directory of the membership of the association, which numbers 1,059, of these 1,021 are active, 18 non-residents and 20 honorary members.

Medicine and Man's Redemption.—Dr. Charles M. Ellis, Elkton, who is at present a patient in Johns Hopkins Hospital, Baltimore, suggests that the triumphs of the medical profession in the Canal Zone be recognized by a great international congress on tropical medicine to be held in Washington the year before the Panama Exposition in San Francisco, to demonstrate what medicine has accomplished for man's redemption.

Baltimore

Personal.—Dr. Robert W. Johnson has been elected president of the Churchmen's Club.——Dr. Francis M. Chisholm has moved to Washington, D. C.——Dr. James M. H. Rowland has been appointed a member of the school board.——Dr. Daniel Webster Cathell is engaged in preparing the twelfth edition of his book on "The Physician Himself" which will be published in the fall.

Hospital Report.—The twenty-ninth annual report of the Baltimore Eye, Ear and Throat Charity Hospital states that during the year 5,870 new patients were treated, 3,932 white, and 1,938 colored. Of these 5,509 wer charity patients; namely, 3,312 in the eye department; 840 in the ear department, and 1,548 in the throat department. There were 1,831 operations performed; 459 on the eye; 319 on the ear, and 1,053 on the throat. Dr. Jesse W. Downey, Jr., is superintendent of the hospital and Dr. Francis J. Hackney, resident physician.

MASSACHUSETTS

Estate Left for Research.—By the will of the late Dr. Walter Remsen Brinckerhoff, who died March 2, the entire estate is left to his son, a minor. In the event of the death of the son, two-fifths of the estate is to go to Harvard College to found a memorial to the wife of Dr. Brinckerhoff, the income to be spent for scientific research on communicable diseases.

MINNESOTA

Personal.—Dr. Charles O. Cooley, Madelia, is seriously ill at his home in Madelia.——Dr. John A. Winter, Duluth, has been appointed assistant in the eye, ear and throat department of the St. Louis County tuberculosis clinic.——Dr. N. L. Linneman, Duluth, has returned from Europe.——Dr. Ignatius J. Murphy has been appointed police surgeon of Duluth.

Association Meeting.—The annual meeting of the Stearns-Benton Medical Association was held, April 20, in St. Cloud. Dr. Harold Lamb, Sauk Centre, was elected president; Dr. Charles Stewart Sutton, St. Cloud, vice-president: Dr. John C. Boehm, St. Cloud, secretary and treasurer; Dr. Warren L. Beebe, St. Cloud, delegate to the state association, and Dr. James H. Beaty, censor.

The Antituberculosis War.—The annual report of the Minnesota Association for the Prevention and Relief of Tuberculosis for 1910 shows that during the year $4,295 was received and $4,740 expended: and that at the end of the year there was a balance in hand of $212.09.——Plans for the St. Louis County Tuberculosis Sanatorium have been accepted and the building will be ready for occupancy in the fall. The institution will have an initial capacity of seventy patients and the first unit will cost $30,000. The sanatorium is located north of Fond du Lac and is 700 feet above the lake level.

MISSOURI

New Hospital.—St. Joseph's Convent of Mercy has raised $300,000 to build the new St. John's Hospital, St. Louis, on a tract near Forest Park with frontage on Euclid and Audubon Avenues and Park View. The institution is estimated to cost $380,000 in addition to the site.

Wants Merit System.—The hospital committee of the St. Louis Society of Medical Research, at its meeting April 25, announced that a bill would be presented before the municipal assembly, asking that a merit system be substituted for the present hospital commission system in the new City Hospital.

Change in Meeting Place.—Owing to the destruction by fire of the state capitol at Jefferson City, the place of meeting of the Missouri State Medical Association has been changed to Kansas City. The meeting will be held on the dates originally set, May 16-18. Headquarters will be in the Coates House and the sessions will be held in the Coates House and Casino Hall, which adjoins the hotel.

Alumni Reunion Dinner.—An invitation has been issued to the alumni of the Missouri Medical College, St. Louis Medical College and Washington University Medical School to take part in a social reunion and dinner at Kansas City, May 17, during the meeting of the Missouri State Medical Association. Tickets stating time and place may be had by addressing Dr. Richard S. Weiss, 346 North Boyle Avenue, St. Louis.

Personal.—Dr. Abra C. Pettijohn, Brookfield, has been reappointed superintendent of State Hospital No. 2, St. Joseph; Dr. E. H. Trowbridge, Kansas City, has been appointed assistant physician, vice Dr. W. E. Carey, Kansas City, resigned; Dr. Ashman H. Vandivert has been reappointed assistant physician, and Dr. Harlan P. Mills assistant physician and bacteriologist.——Dr. Cleveland H. Shutt, St. Louis, has returned from abroad.——Dr. Ernest F. Robinson has been appointed chief surgeon of the Kansas City Terminal Railway Company.

NEW HAMPSHIRE

State Society Meeting.—The one hundred and twentieth annual meeting of the New Hampshire Medical Society will be held at Concord May 11-12. The meeting of the House of Delegates will be held on the evening of May 10, under the presidency of Dr. Alonzo Stewart Wallace, Nashua. On the first day there will be a symposium on ophthalmia neonatorum with general consideration by Dr. Louis W. Flanders, Dover, and a discussion from the standpoint of the general practitioner by Dr. E. C. Batchelder, Dover; and from the standpoint of the specialist by Dr. Charles Francis Nutter, Nashua; a paper on "Medical Practice Laws" by Dr. John Martin Gile, Hanover, and one on "Rational Medical Treatment" by Dr. Elbert A. Landman, Plaistow. Among the important papers to be considered on the second day are those on "Medical Inspection of Schools," by Dr. Zatae Songsdorf Straw of Manchester, and "The Treatment of Medical Subjects by the Lay Press" by Dr. Henry O. Smith of Hudson Center.

NEW YORK

No Vivisection Inquiry.—By a vote of 34 to 11 the senate defeated the Bayne bill creating a commission to inquire into the nature and practice of experimentation on living animals and the status of the present laws regarding vivisection.

Investigation of Hospitals and Penal Institutions.—Following the appointment of a committee for the purpose of investigating conditions in the Matteawan and Dannemora state hospitals, a general investigation by a legislative committee of conditions in all New York prisons, hospitals and penitentiaries is called for by a resolution introduced by Senator Stillwell. The resolution carries an appropriation of $25,000.

Medical Examiners Appointed.—The following have been appointed as members of the State Board of Medical Examiners by the State Board of Regents: Drs. Arthur W. Booth, Elmira; Aaron B. Miller, Syracuse; Henry B. Minton, Brooklyn; Floyd S. Farmsworth, Plattsburg, and Ralph H. Williams, Rochester.

New York City

For Convalescent Home.—Sixty acres of ground has been purchased by the Burke Foundation on Manaroneck Avenue, White Plains, at a cost of $180,000. Cottages will be built here that will furnish accommodations for 300 patients, convalescents of New York hospitals.

Hospital to Teach Hygiene.—The Union Hospital which has leased the old Fordham Hospital building, opened May 1. It will undertake to teach office hygiene, to direct business and professional men, educators and ministers in sanitary conditions under which they should work. The president of the association is Dr. John F. Holmes, and the vice-presidents are Drs. Nathan B. VanEtten and Frederick W. Loughran.

Funds for Hospitals.—The Presbyterian Hospital won a bequest of $100,000 in the Supreme Court when it was decided that the first will of Edward O. Kindberg was valid and that his second will was invalid.——The will of Bernard G. Amend leaves $2,000 to the German Hospital.——The New York Dispensary, having recently established a social service department which takes care of sick persons and on their recovery finds them employment, has had its activities threatened through lack of funds and has sent out an appeal for help.——The Methodist Episcopal Hospital of Brooklyn will receive $5,000 by the will of the late William Lawrence of Goshen, N. Y.——Mrs. Adolph Scheftel has given $10,000 to the Montefiore Home for Chronic Invalids to endow a ward for the treatment of locomotor ataxia. This gift is in memory of Adolph Scheftel.——By the will of Mrs. Alice A. Hicks of Old Westbury, L. I., the Nassau Hospital Association will receive $100,000, and the New York Association for Improving the Condition of the Poor, $50,000.——A special performance at Wallack's Theater, by stage children, netted $4,000 for St. Mary's Free Hospital for Children.

Hospital Saturday and Sunday.—The distributing committee of the Hospital Saturday and Sunday Association announces that $112,000 has been raised this year. The apportionment among hospitals is based on the amount of certified free service given by each hospital, and is as follows: Montefiore Home and Hospital for Chronic Invalids, $9,400; Mount Sinai Hospital, $8,669; St. Luke's Hospital, $5,345; Orthopedic Dispensary and Hospital, $4,786; German Hospital, $4,352; St. Mary's Free Hospital for Children, $4,094; Home of the Sisters of Misericordia, $3,845; Ruptured and Crippled Hospital, $4.768; Post Graduate Hospital, $3.737; Roosevelt Hospital, $3.683; Lincoln Home and Hospital, $3,486; Lebanon Hospital, $3.483; Hospital for the Lying-In Society, $2,610; Beth Israel Hospital, $2.570; Home for Incurables, $2,204; House of the Holy Comforter, $1,940; Isabella Heimath, $1,834; Manhattan Eye, Ear, Nose and Throat Hospital, $1,788; House of Rest for Consumptives, $1,567; New York Eye and Ear Infirmary, $1.432; Babies' Hospital, $1,399; Flower Hospital, $1,360; Sloane Maternity, $1.107; St. Mark's Hospital, $1,048, and Hospital of the French Benevolent Society, $1,007. Many other hospitals received smaller sums.

PENNSYLVANIA

Measles Closes Schools.—Bryn Mawr College and all public, private and parochial schools in lower Merion Township, even Sunday schools, were ordered closed, April 27, by the board of health, until May 8, pending a thorough fumigation by an augmented squad of health inspectors. This drastic action which also prevents all public meetings of children and young people in the township, was taken as a result of the alarming spread of measles.

Dairy Farms Inspected.—In the campaign for pure milk over 50.000 dairy farms are being inspected by the officers of the State Department of Health. After inspections the farmers receive notice from the state commissioner of health that certain conditions must be remedied and are given to understand that unless sanitary improvements are made the public will not accept the milk produced. The reports of the department show that each inspection has been productive of greatly improved sanitary conditions.

Philadelphia

Bequest to Medical College.—By the will of the late Annie Shoemaker, Swarthmore, the Woman's Medical College of Pennsylvania will receive a bequest of $3,000.

Personal.—Dr. John Herr Musser, Philadelphia, sailed for London April 13.——Dr. George W. Norris has been elected visiting physician to the Episcopal Hospital, vice Dr. David L. Edsall, resigned.

Portraits Presented.—At a meeting of the College of Physicians, April 5, portraits were presented to the college of the late Dr. George Convier Harland and Dr. James Tyson. Both portraits were accepted by Dr. George E. de Schweinitz, president of the college.

Alumni Room for Jefferson.—The alumni association of Jefferson Medical College has appointed Drs. W. M. Late Coplin, George Evans Reading and Pascal Brooke Bland a committee to devise ways and means to secure funds for the perpetual endowment of a room in the Jefferson Medical College Hospital, to be used for the free treatment of any ethical graduate of the college.

Fellowship for Medical Research.—Friends of the late Dr. J. Allison Scott, adjunct professor of medicine in the University of Pennsylvania, have contributed $10,000 for the establishment of a memorial. It has been decided to make this in the form of a fellowship for medical research. About $200 of the interest will be used to help some worthy third or fourth year medical student to complete his course, and the remainder of the interest will be invested until the entire sum is sufficiently large to constitute a proper endowment for research work.

Milk Temperature Regulation Violated.—The board of health's regulation requiring the temperature of milk shipped into this city to be not more than 60 degrees is being violated every day, according to J. W. Pancoast of the Interstate Shippers' Association, for large quantities of milk are being sent daily to the various receiving stations of the large milk dealers at a temperature of 75 to 85 degrees F. The producers think it unfair that farmers who send milk directly to the city should be compelled to conform to this regulation while farmers supplying receiving stations may send milk at any temperature.

Work on Open-Air School Halted.—For the second time the work of installing an open-air school in this city has been interrupted. The present delay arises from a disagreement between J. Horace Cook, superintendent of the board of buildings and Alexander Wilson, secretary of the Phipps Institute. When the project was started, the institute agreed to assume all the expenses of fitting up the class room, furnish warm clothing for the pupils and provide milk and eggs. The plans for fitting up the roof of the McCall School at Seventh and Lombard Streets, were submitted to Superintendent Cook, who says the proposed structure will have a tendency to deface the school building.

Pennsylvania Tuberculosis Society Meeting.—The annual meeting of the Pennsylvania Society for the Prevention of Tuberculosis was held at the College of Physicians, April 11. J. Byron Deacon, the executive secretary, emphasized the need of Hospitals for advanced cases of consumption, a plea that Dr. Lawrence F. Flick has made for several years. Dr. James Tyson declined to serve again as president and Asa S. Wing was elected to the office. Other officers chosen include: vice-presidents, Drs. James Tyson, Joseph S. Neff, William Duffield Robinson, William Charles White and Talcott Williams; treasurer, Dr. James Gurney Taylor; secretary, Dr. Ward Brinton, and directors, Mrs. Charles F. Jenks, Mrs. Lawrence Lewis, Jr., Miss Henrietta Ely, Francis R. Cope, Jr., and Drs. Henry Robert Munsy Landis and James M. Anders.

Care of Scholars' Teeth.—Twenty thousand toothbrushes and forty gross of tooth powder will be distributed free to public school children by Dr. P. B. McCullough and his assistants in City Hall at the free dental clinic. Dentists of the city in practice more than twenty years raised the fund for this purpose. These will be given each child when his mouth has been put in proper condition at the clinic. At one school, where examinations of the mouths of 110 children were made, only 6 sets of perfect teeth were found. Dr. Joseph S. Neff, director of public health and charities, feels it necessary to have salaried dentists for the work in the free clinic as it is not possible to depend on the corps of volunteer dentists, which in the beginning numbered 200 but now has dwindled to scarcely half a dozen. - Councils will be called on to support the clinic

GENERAL NEWS

Dominion Physicians to Meet.—The forty-fourth annual meeting of the Canada Medical Association will be held in Montreal, June 7, 8 and 9. Sir James Barr, Liverpool, England, will deliver the address in medicine and Dr. Alexander Primrose, Toronto, the address in surgery. Dr. William J. Mayo, Rochester, Minn., will read a paper on "Gallstone Disease," and Dr. Casey A. Wood of Chicago is on the program in the ophthalmologic section.

Change Date of Climatological Meet.—It is announced that the scientific sessions of the twenty-eighth annual meeting of the American Climatological Society will be held in Montreal, Que., June 13-14. The plans contemplate a stay at Saranac Lake, N. Y., June 12, with a visit to the Adirondack Cottage Sanatorium and the New York Sanatorium at Raybrook. The preliminary program includes twenty-two titles, notable among which are the papers by Dr. James M. Anders, Philadelphia, on "The Climatic and Hygienic Influences of Forest Growth;" by Dr. Richard Cole Newton, Montclair, N. J., on "Some of the Laws for the Treatment of Consumption Laid Down by Sydenham and His Successors;" by Dr. David R. Wyman, Wallingford, Conn., on "The Economic Value of Sanatorium Treatment of Pulmonary Tuberculosis;" by Edward Osgood Otis, Boston, on "Blood-Pressure and Physical Exertion;" and by Henry Robert Munsy Landis, Philadelphia, on "After History of Patients Treated in the Phipps Institute."

Medical Sociologists to Meet.—The American Society of Medical Sociology will hold a meeting in the Academy of Medicine, New York City, May 12. The papers of the evening are "What Animal Experimentation or So-Called Vivisection has Accomplished for Mankind," by Dr. James P. Warbasse, Brooklyn; "The Control of Prostitution and of Venereal Disease in This Country and Abroad," by Dr. Frederick Bierhoff, New York City; and "The Question of Abortion from a Social and Ethical Point of View," by Dr. William Josephus Robinson, New York City. The discussion will be opened by Dr. Abraham Jacobi.

Recent Deaths in the Profession Abroad.—In addition to those mentioned by our correspondents, the following deaths have been reported: J. F. Hempel, surgeon-general of the Danish army, died March 8, aged 63.——P. Patron, a leading physician of Peru and on the editorial staff of the *Cronica Medica* of Lima, Peru.——E. E. del Arca, dean of the medical department of the University of Buenos Aires, where he was professor of materia medica, collaborator on the Codex Argentina, member of the state legislature and president of the school board, died March 21, aged 57.

LONDON LETTER

(From Our Regular Correspondent)

London, April 22, 1911.

Notification of Consumption at Hospitals

The local government board has issued an order embodying further regulations for the notification of cases of pulmonary tuberculosis occurring among the in-patients or out-patients of hospitals and other institutions for the treatment of the sick, which are supported wholly or partially otherwise than by the contributions of the patients. This regulation carries the notification of tuberculosis another step forward. Previously notification was necessary only in the infirmaries provided by the state.

Shellfish and Disease

The dangerous conditions from sewage contamination under which oysters are liable to be collected, fattened or stored, have for several years attracted the attention of health officers. Since 1898, outbreaks of typhoid fever have been traced to this source in England. To cockles similarly contaminated in Belfast Lough the prevalence of typhoid in Belfast is attributed. Dr. Bulstrode, inspector of the local government board, has issued a very important report on "Shellfish Other Than Oysters in Relation to Disease" in which he reviews the evidence connecting the consumption of mollusks with typhoid fever and gastro-enteritis. It has been fairly easy to establish the connection in cases in which a large number of persons partake of these and become ill soon afterward. But in addition to these cases, local investigations made by health officers during the last twenty years have shown that shellfish probably have caused, and are still causing, a serious number of sporadic cases of typhoid fever which contribute largely to maintain its endemic prevalence. Thus in the urban district of Ormesby. Dr. Johnson, the health officer, has shown that of the patients suffering from typhoid fever, 25 per cent. had eaten shellfish from a contaminated source a short time before, while among a large proportion of the population only 7.3 per cent had eaten shellfish during the whole of the summer. Dr. Bulstrode declares that means must be devised whereby shellfish for human consumption shall no longer be laid down, stored, washed in, or gathered from, positions liable to sewage contamination. The places from which shellfish are procured, cleansed or prepared for market must be periodically inspected. In the meantime, until proper regulations can be enforced, persons who desire to avoid typhoid should consume shellfish only after they have been cooked at the boiling point for at least five minutes.

PARIS LETTER

(From Our Regular Correspondent)

Paris, April 21, 1911.

First Aid To Injured Workmen

The president of the Conseil général de la Seine has just received a petition from Dr. Rémy, *agrégé* professor of the Faculté de médecine de Paris, requesting authority to open courses in the professional schools of the city of Paris to train working men to give first aid to injured comrades until the physician should arrive. The Syndicat des Médecins de la Seine has passed a resolution protesting energetically against this petition on the ground that the first dressing should be made with as perfect asepsis and antisepsis as possible.

Responsibility of the Author of a Work of Popular Medicine for a Typographical Error

A cabinet-maker, coming home drunk and realizing his own condition, asked his wife to send to the nearest druggist for something to sober him. His wife consulted a book which she had, the "Médecin du peuple," and found a formula calling for 100 gm. of water, 15 gm. of peppermint water and 15 gm. of ammonia water, to be taken in two or three doses; this she carefully copied and sent to the druggist. The cabinet-maker took the potion and died. The book in question, written by Dr. Georges Migot under the pseudonym of "Dr. Davaud," was first published at Ghent and republished at Paris. In the reprint a serious error crept into the formula copied by the cabinet-maker's wife. The amount of ammonia was given as 15 grams instead of 15 drops. Dr. Migot and the pharmacist were both prosecuted for manslaughter, the one for not having verified his formulas and the other for delivering a remedy without a prescription and without fulfilling the conditions demanded by law. The cabinet-maker's widow, as civil party to the suit, demanded for herself and her two children $8,000 (40,000 francs) damages. Dr. Migot was condemned to three months in prison and the pharmacist to one month. The widow was awarded damages of $200 (1,000 francs) and an annual payment of $60 (300 francs) for herself and $40 (200 francs) a year for each of her two children until they shall be 18 years old. Two-thirds of this pecuniary recompense is to be at the charge of the author of the book in question and one-third is to be charged to the pharmacist.

Large Families in Indigence

An official investigation has been made throughout France into the number of large and indigent families, in order to ascertain the probable cost of monthly relief to such families. It appears that the number of families having from four to ten children, aged less than 13, is 369,739, the total number of children being 1,712,322. Among these 237,802, having 1,078,855 children, are in a condition of permanent indigence.

Protest Against a Play Derogatory to the Medical Profession

A play is now being presented in a Paris theater containing violent attacks against the medical profession. The physicians in this theater have resigned. The Conseil général des Sociétés médicales d'arrondissement de Paris has just unanimously voted its congratulations to the physicians of the theater for not countenancing such outrages by their presence. They call on all their colleagues to follow this example, relying on the professional dignity and solidarity to insure that no physician shall take the place of the physicians who have resigned.

The Signs Displayed by Midwives

Some midwives place at their doors signs announcing that they treat diseases of women. On the complaint of the Syndicat des Médecins de la Seine the prefecture of police has ordered these midwives to suppress all such notices. It is to be hoped that the administration will extend this measure to masseurs and healers of all kinds, and will thereby put an end to an abuse which has lasted too long to the injury of the medical profession.

Has a Physician the Right to Inject a Non-Authorized Serum?

The courts have recently had to pass on the case of a physician, Dr. Lorot of Paris, who was prosecuted for manufacturing and selling without authorization an antituberculous serum called "toxyline." This serum was, according to M. Guignard, director of the Ecole supérieure de pharmacie de Paris, composed of three other serums; one an antityphoid serum, one an antistreptococcus serum coming from the Pasteur Institute of Paris, and the other, the name of which Dr. Lorot was unwilling to give, coming from the Pasteur Institute of Lille. Dr. Lorot's defense was that he did not sell toxyline to patients or to physicians, but that the injections that he made were comprised in the treatment that he gave. Dr. Lorot was acquitted and the court of appeals confirmed the decision of the lower court on the ground that, while the law prohibits the sale of serums not authorized by the government, the injection in the course of treatment, even though it is a serum, should not be considered as a sale.

Treatment of Obesity

On April 11 Professor Albert Robin read before the Académie de médecine a paper on the treatment of obesity by a strictly hygienic and dietetic régime without the administration of any drug and without any quantitative restriction of food or drink. This treatment consists essentially in having the patient take fractioned meals. The first meal in the morning consists of cold meat or fish and hot water with a little tea, and is followed by half an hour's walk. At half past ten the patient eats one or two eggs, drinks hot water and then takes a walk of half an hour. This meal is intended especially to blunt the edge of hunger for the midday meal, for which the patient takes cold meat, a vegetable salad, fresh vegetables and fruit, hot water as before, and then a walk for half an hour. At 5 o'clock he takes a light luncheon with hot drink and a walk afterward; in the evening, a meal like that at noon, but with hot meat, and another walk. This frequency of meals is intended to suppress the sensation of hunger as the ingestion of aromatic hot water restrains thirst, while greatly limiting the quantity of liquid ingested. The treatment is almost always successful. In any case, one may ascertain the outcome very early by measuring the total urine of the two or three days preceding the treatment and, likewise, the urine of the days following. If the treatment is to be successful, an increase of the quantity of urine is immediately observed.

Dr. Maurice de Fleury remarked that Professor Robin was right to reject the starvation treatments, which are always harmful to obese subjects who are affected with tuberculosis.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, April 13, 1911.

Personal

Dr. Königshöfer, professor of ophthalmology at the veterinary college at Stuttgart, died a few days ago at the age of 59. He secured his preparation for his specialty as assistant to Professor Michel at Erlangen, and has published many investigations in the field of ophthalmology. Moreover, he was active in a scientific and practical way in social hygiene, and did good service as an advocate of the interests of the medical profession, especially for the introduction of the free choice of physicians. It was largely due to him that free choice of physicians in hospitals was introduced in the state hospitals for the railroad and post-office employees of the kingdom of Würtemberg. Königshöfer belonged to the business committee of the German medical league (*Deutscher Aerztevereinsbund*).

Alcohol and Misdemeanors in the Army and Navy

Some interesting facts are given in a recently published article regarding the connection between alcohol and misdemeanors in the German army and navy. According to this article, the offenses committed from drunkenness against military discipline in the army have ranged from 9.6 to 12.5 per cent. of the total misdemeanors in the last ten years, and in the navy from 11.1 to 22.3 per cent. This does not include slight infractions of military order; of the most serious offenses against military discipline (actual attack, mutiny, insubordination) about three-fourths are due to the clouding of the consciousness by alcohol. The geographical distribution of the offenders is also interesting. In the eastern provinces alcohol is used under its purest forms as whisky, while in the west more wine is drunk, although in the Rhine provinces absinthe is also used, and in Bavaria beer has the preference. The abuse of alcoholic drinks is regulated by the habits of the people of the various divisions of the country.

Repeal of the Tuberculin Test for Imported Cattle

Serious objections have repeatedly been made by German agriculturists against the tuberculin test prescribed to protect the German cattle industry against the importation of foreign diseased animals. On the one hand animals have been rejected on account of their violent reaction to the tuberculin test, which when slaughtered showed only slight tuberculous lesions, conditions that did not necessitate the exclusion of the cattle. On the other hand, it has been established that foreign cattlemen have learned to immunize their cattle to tuberculin, so that animals have passed the test and their importation has been allowed, when later they have proved to be tuberculous. The federal council (*Bundesrat*) has taken cognizance of these complaints, and at its last sitting adopted new regulations for the quarantine of animals imported by way of the sea. The tuberculin test is to be abolished after July 1 and replaced by a clinical investigation.

Hotel Proprietors and the International Hygiene Exposition

At a meeting of the directors of the association for the promotion of commerce between Dresden and foreign places, the chairman stated that the Dresden branch of the international association of hotel proprietors had decided not to impair the invitation of Dresden to foreign cities by a special advance in prices during the international exposition of hygiene, but to support this hospitality by accommodating service. It would be very satisfactory if the Dresden exposition could be made notable above other similar affairs by the carrying out of this resolution.

Municipal Institutions for the Care of Sufferers from Pulmonary and Laryngeal Affections

The Berlin authorities have decided to establish a station for the care of pulmonary and laryngeal patients at Buch, a sewage-farm district belonging to Berlin, where already important municipal institutions are situated, particularly the pesthouse, an insane asylum and a hospital for pulmonary patients. The building of a pavilion is contemplated providing for 500 beds, with a possible enlargement to 1,000 beds.

Education of Blind and Deaf and Dumb Children

The upper house of parliament at one of its recent sessions adopted a law for regulating the schooling of blind and deaf and dumb children. In special institutions for the blind, attendance at school is to begin at the sixth year and that for the dumb at the seventh year. For children who are retarded in their development the school attendance is to be postponed three years. As for children who are both blind and deaf and dumb, a special resolution was passed declaring that legal regulations for school attendance were not applicable to such children at present. The government was requested, however, to give particular attention to the schooling and education of such children. As soon as methods for the training of these children have been successfully developed and it is possible to assemble blind, deaf and dumb children in an institution, regulations for their attendance at school are to be established.

BUDAPEST LETTER

(*From Our Occasional Correspondent*)

Budapest, April 10, 1911.

Wood Alcohol Poisoning

Dr. Felletar, director of the Public Analytical Office, in a lecture at a recent meeting of the local medical society, gave some object-lessons on the recent multiple poisoning by wood spirit. He said that in the majority of these cases the persons affected have been of alcoholic habits and have taken to the drinking of the methyl spirit either from a liking for it or as a substitute for unattainable ethyl alcohol. The fatal dose in these cases was half an ounce. One of the patients was poisoned by inhalation of the vapor, and another by absorption through the skin. Both of these were workmen in a distillery. This shows, said Felletar, that in manufactories where large quantities of methyl spirit are used it is necessary to provide for an extra supply of fresh air to the workers. In the cases quoted by Felletar the most constant symptoms of the poisoning were mild intoxication followed by severe headache, gastric pain, retching, dilatation of the pupils and partial or complete blindness. In the most serious cases this sequence was followed by dyspnea, coma with stertorous breathing and death. The toxic amblyopia, continued the lecturer, is of all these symptoms the most constant and important, since even when recovery takes place, atrophy of the optic nerve is likely to follow the neuritis, and permanent blindness is the result. The immediate cause of death in fatal cases is not clear, though respiratory paralysis sometimes precedes circulatory failure. It is thought that the toxicity of the drug may be greatly increased by the production of formates in the body by the decomposition of the methyl alcohol; and formates have actually been discovered in two of these patients. Whatever be the exact pathology of the condition, there is no doubt that the intense toxicity of methyl alcohol calls for extreme caution in its use. It is, moreover, the duty of the profession to see that the public are properly instructed on the point.

Syphilis in Physicians

Dr. Sellei, dermatologist to the Teleia Hospital, recently urged the necessity of counting syphilis as an "occupation disease" of physicians. He has had as patients seven medical men suffering from the disease (Professor Blaschko had twelve). The primary lesion occurred in nearly every case on the hands, and was received in the course of gynecologic examination or operation. In some of the cases the cause of infection was the accidental wounding of the finger with an instrument, but in most it occurred through some unnoticed scratch or minute lesion. In one case, indeed, infection was definitely traced to the performance of an autopsy on a syphilitic. The primary lesion in Sellei's cases was usually very small and by no means painful, and presented some difficulty in diagnosis; in particular, it had to be distinguished from herpes, from anatomic tubercle, and from chancroid. Sellei advises against excessive use of the scrubbing-brush in preparation for gynecologic examinations, as he thinks it is responsible for many slight traumata about the fingers. He advises, too, the more frequent use of gloves in general gynecologic work.

VIENNA LETTER

(*From Our Regular Correspondent*)

Vienna, April 18, 1911.

Military Facilities for Medical Students

The proposed new regulations of the compulsory military service contain some provisions dealing with medical students. Hitherto the rule for the service in the ranks has been three years for the bulk of the population. Medical and certain other students, as well as a few groups of persons having a university education, had the privilege of serving but one year with the colors. The medical students had to serve half a year with the ranks before graduating, and then after having obtained their regular M.D. diploma, they had to serve another six months in the army hospitals. The new plan requires a two-year service with the colors for the bulk, one year for persons with college education, and for medical students three months' service with the rank and file, while the other nine months will be spent in hospitals of the army. Furthermore, the three months of actual army service can be taken during the annual summer vacations, July-September, so that the medical student will no more lose half a year of his curriculum as hitherto. The nine months of hospital service are to be divided up chiefly between surgical and medical wards. Specialist tendencies to be favored whenever present. The military service will, in future, be postponable up till the twenty-eighth year of the student or doctor. After serving his term the doctor will hold the rank of "Oberarzt" (a little less than captain), in his private position. The facilities for medical students have been made necessary by the lack of first-class men in the Army Medical Corps, for nearly all doctors who are capable to do so, leave the army on account of the unsatisfactory position they have to expect there.

Medical Men and the Dissolution of Parliament

The unexpected dissolution of the Austrian parliament has just now come as a welcome period of preparation for the medical profession. The defunct parliament had no more than nine medical members out of a total of 425. They were quite inadequate to cope with the problems confronting our profession just now. The social legislation was framed in such a way that the doctor would have been the sufferer. In previous Vienna letters (The Journal, Dec. 11 and 25, 1909, pp. 2019, 2171; May 7, 1910, p. 1558) it was explained that a grand action was deliberated in parliament to secure free medical aid for a large proportion of the population by means of compulsory membership in a Krankenkasse or friendly society. While the profession wanted a certain income limit of 2,400-3,000 kronen ($500-$600) on the part of the insured members, so that persons earning more than that yearly income should not become members of this Krankenkasse, parliament had framed a bill in which no income limit was fixed and all wage-earners could have availed themselves of the opportunity of cheap medical help. This bill spelled ruin to many a private practitioner. By the dissolution of parliament the bill is done away with for a time. Meanwhile the profession has started an energetic action to bring in as many doctors as possible into the new house to be elected in June. All local branches have been asked to nominate medical candidates and the cooperation of influential political parties will be sought after in this endeavor. Especially in certain country districts and in some towns, where the doctor plays a prominent part among the population, there is reason to expect the return of the practitioner into the house. Then, of course, when the bill is again introduced, amendments more suitable to the needs of the profession will be likely to be carried. All the more, as also a new "epidemic act," a "medical regulation act" and a "health officers' act" are under consideration. There will be plenty of opportunity for useful work for would-be members of parliament who are doctors too.

Marriages

James S. Archibald, M.D., Nokomis, Ill., to Miss Julia Le Hurt of St. Louis, at Edwardsville, Ill., April 15.

Edwin A. Griffin, M.D., Manhattan, New York City, to Miss Ethel Frances Gibson of Brooklyn, April 12.

Charles Lewis Franklin, M.D., Des Moines, Ia., to Miss Maria Helen Richardson of Chicago, April 26.

Carl O. Bernhardi, M.D., Jr., Rock Island, Ill., to Miss Edith Snyder of Terre Haute, Ind., April 19.

Charles Wheeler Walker, M.D., to Miss Mary Elizabeth Gaffney, both of Rye, N. Y., April 16.

Hugh Payne Greeley, M.D., Boston, to Miss Floretta Elmore of Milwaukee, Wis., April 20.

Clarence E. Brinckerhoff, M.D., to Miss Mildred Kathryn Cooney, both of Chicago, April 27.

Heber Butts, M.D., U. S. Navy, to Miss Maude M. Grimes of Washington, D. C., April 17.

Earl B. Bush, M.D., Ames, Ia., to Miss Edna Evans of Worthington, Minn., April 15.

Henry M. Fine, M.D., to Mrs. Margaret Havermale, both of Oakland, Cal., April 18.

Henry B. Decherd, M.D., to Miss Fannie Dealey, both of Dallas, Tex., April 12.

Deaths

Manning Simons, M.D. Medical College of the State of South Carolina, Charleston, 1868; a member of the American Medical Association; one of the most prominent and successful of the older generation of South Carolina physicians and surgeons; died at his home in Charleston, April 18, from heart disease, aged 64. Almost from the time of his graduation he was a member of the teaching staff of his alma mater as professor of abdominal surgery and gynecology. He was for many years surgeon to the Roper Hospital and the St. Francis Xavier Infirmary. He was formerly president of the South Carolina Medical Association, the Tri-State Medical Association of Virginia and the Carolinas, and the Southern Surgical and Gynecological Association; and was a member of the American Association of Physicians and Gynecologists and International Association of Railway Surgeons. Dr. Simons was local surgeon to the Southern Railway and the Charleston Consolidated Railway and Lighting Company.

Herman Knapp, M.D., an eminent ophthalmologist of New York City; died in Mamaroneck, N. Y., May 1, aged 79. He was born in Danborn, Prussia, received his degree in medicine at the University of Giessen in 1854, and made studies in ophthalmology in Germany, France and England, thereafter. He became professor of ophthalmology in Heidelberg University in 1864 and continued in that position for four years, when he came to America. He settled in New York City in 1868 and founded the New York Ophthalmic and Aural Institute a year later. In 1869 he also established the *Archives of Ophthalmology and Otology*, of which he was editor for many years. From 1882 to 1888 he was professor of ophthalmology in the New York University Medical College. From 1888 to 1902 he occupied the same chair in the College of Physicians and Surgeons, New York City and, in the latter year, was made emeritus professor.

John Bedford Shober, M.D. University of Pennsylvania, Philadelphia, 1885; died in the German Hospital, Philadelphia, April 27, after an operation for the removal of gall-stones, aged 51. He was a member of the American Medical Association, The College of Physicians of Philadelphia, and the Philadelphia Medical Club; gynecologist to the American Hospital for Diseases of the Stomach and the Howard and Gynecean hospitals, Philadelphia, and to the Bar Harbor (Maine) Medical and Surgical Hospital. Dr. Shober practiced in Philadelphia excepting from June to October of each year, when he resided in Bar Harbor, Me.

Alexander H. Crosby (license, Lewis County, N. Y., 1862); a member of the American Medical Association; and a practitioner of Lewis County for nearly fifty years; in 1875, a member of the state legislature; and for several years a member of the county pension examining board; died at his home in Lowville, March 2, from carcinoma of the liver, aged 74. Lewis County Medical Society, at a special meeting, held March 3, adopted appropriate resolutions regarding the death of Dr. Crosby.

William Green, M.D. Jefferson Medical College, 1858; a member of the Medical and Chirurgical Faculty of Maryland; and chief surgeon in the Confederate Army on the staff of Gen. Robert E. Lee during the Civil War; at one time president of the Baltimore Clinical Society; for several years professor of materia medica and therapeutics in Washington University, Baltimore; died at his home in that city, April 16, from heart disease, aged 74.

Thomas Peter Scully, M.D. Albany (N. Y.) Medical College, 1885; a member of the Medical Society of the State of New York; formerly president of the Oneida County Medical Society; a member of the staff of the Rome Hospital; a member of the Rome board of health, and formerly of the board of health of Cohoes; died at his home, April 19, from pneumonia, aged 41.

Arthur Case Fitch, M.D. George Washington University, Washington, D. C., 1903; formerly night medical officer of the Government Hospital for the Insane, Washington; but for the last two years a resident of Porto Bello, Brazil; and quarantine officer of the Maderra-Manore Railway Company; died suddenly in Porto Bello April 6, from cerebral meningitis, aged 34.

J. Wiltsie Knapp, M.D. Albany (N. Y.) Medical College, 1872: a member of the Medical Society of the State of New York; for six years demonstrator of anatomy in the Syracuse University; for two terms coroner of Onondaga County, and later president of the local board of pension examiners; died at his home in West End, Syracuse, April 14, from nephritis, aged 58.

Edwin Farnham, M.D. University of Pennsylvania, Philadelphia, 1869; a member of the Massachusetts Medical Society, the American Public Health Association, and the Massachusetts Association of Boards of Health; medical officer of the board of health of Cambridge from 1889 to 1909; died at his home in that city, April 16, from arteriosclerosis, aged 68.

Addison Parker Macomber, M.D. New York University, New York City, 1853; formerly president of the Iowa State Homeopathic Medical Society; died at his home in Atlantic, Iowa, April 16, aged 79. The physicians of the city passed resolutions expressing their regret at the loss of a faithful associate, and a man of wise counsel and judgment.

William Harper Barrett, M.D. Washington University, St. Louis, 1864; a member of the Missouri State Medical Association, and a charter member of the Cass County Medical Society; major and brigade surgeon of volunteers during the Civil War; died at his home in Harrisonville, April 17, from arteriosclerosis, aged 73.

John Rayner Richardson, M.D. McGill University, Montreal, 1865; a surgeon in the federal service during the Civil War; a member of the American Medical Association; surgeon to the Lakeside Hospital and to the Sons of St. George; died at his home in Chicago, April 27, from cerebral hemorrhage, aged 67.

Katherine Bohm Leidich, M.D. Woman's Medical College of the New York Infirmary for Women and Children, New York City, 1899; a member of the Harrisburg Academy of Medicine; died in the Harrisburg Hospital, March 24, from acute nephritis following an operation for appendicitis, aged 44.

Elbert S. Miller, Jr., M.D. University of Pennsylvania, Philadelphia, 1869; a member of the Tennessee State Medical Association; for about twenty years president of the Johnson City Board of Education; said to have been the oldest practitioner of that city; died at his home, April 12, aged 68.

Charles Stuart Elder, M.D. Rush Medical College, 1863; a veteran of the Civil War; a member of the school board; for two terms alderman, and in 1872, mayor of Chenoa, Ill.; died at the home of his daughter in that city, April 12, from senile debility, aged 75.

Charles C. Phillips, M.D. St. Louis College of Physicians and Surgeons, 1895; formerly a member of the American Medical Association; a member of the Idaho State Medical Association; died at his home in Lewiston, March 29, aged 42.

John Andrew Steele, M.D. Berkshire Medical College, Pittsfield, Mass., 1866; Homeopathic Medical College of Pennsylvania, Philadelphia, 1858; died at the home of his daughter in Minneapolis, April 14, from cholelithiasis, aged 74.

Eugene J. Chassagne, M.D. University of Paris, France, 1877; Jefferson Medical College, 1893; for eight years a member of the staff of Jefferson Hospital, Philadelphia; died at his home in Washington, D. C., April 7, from paresis.

John Fairfield Moulton, M.D. Long Island College Hospital Brooklyn, 1874; a member of the Maine Medical Association; died at his home in Limington, April 14, from peritonitis, following an operation for appendicitis, aged 61.

Samuel Michael Jenks, M.D. Rush Medical College, 1872; of Madison, S.D.; a veteran of the Civil War; and a member of the first board of trustees of the State Normal School; died in Madison, April 14, from pneumonia, aged 65.

Abraham R. Groves, M.D. Kentucky School of Medicine, 1858; University of Louisville, 1867; for a time dean of the staff of the Louisville City Hospital; died at his home in Louisville, April 17, from nephritis, aged 75.

Isaac Frederick Ingersoll, M.D. Queen's University, Kingston, Ont., 1863; medical officer in the United States Army during 1864 and 1865; died at his home in Regina, Sask., Nov. 10, 1910, from senile debility, aged 71.

Robert Louis Hill, M.D. Rush Medical College, 1864; Hahnemann Medical College, Chicago, 1867; consulting physician to the Fabiola Hospital, Oakland, Cal.; died at his home in that city, April 6, from prostatitis, aged 69.

Gabriel A. D. Brown, M.D. Jefferson Medical College, 1868; a member of the Kentucky State Medical Association; of Harrisonville; died at the home of his son in Louisville, April 15, from carcinoma of the stomach, aged 64.

Herbert Benjamin Hutton, M.D. Trinity Medical College, Toronto, 1902; a member of the Welland County (Ont.) Medical Association; died suddenly at his home in Humberstone, Ont., April 8, from myocarditis, aged 33.

Harry Ross Wallace, M.D. College of Physicians and Surgeons, Chicago, 1891; of Chicago; a member of the American Medical Association; died in St. Joseph's Hospital, Alton, Ill., April 12, from diabetes, aged 54.

Samuel D. Smoke, M.D. Medical College of the State of South Carolina, Charleston, 1859; died at his home in Fort Ogden, Fla., Nov. 13, 1910, from chronic nephritis, complicated by aortic stenosis, aged 73.

George Bayneham, M.D. Manitoba Medical College, Winnipeg, 1908; of Brookdale, Man.; died in the General Hospital, Portage la Prairie, April 10, from injuries received in a runaway accident a week before.

Carl Ludwig Larson, M.D. College of Physicians and Surgeons, Chicago, 1902; formerly a member of the American Medical Association; a practitioner of Butte, Mont.; died in Chicago, April 7, aged 39.

Harriett E. Magee Fox, M.D. Hahnemann Medical College, Chicago, 1871; prominent for many years in philanthropic work in Chicago; died at her home in that city, April 21, from diabetes, aged 68.

Robert C. H. Rademaker, M.D. Hospital College of Medicine, Louisville, 1903; clinical assistant in diseases of children in his alma mater; died in Washington, D. C., April 5, from gastritis, aged 37.

Charles James Joseph Lynch, M.D. Bellevue Hospital Medical College, 1890; died at his home in New York City, April 19, from an overdose of paraldehyd, taken as a sleeping potion, aged 41.

William P. Woodcock, M.D. University Medical College, New York City, 1850; for more than thirty years a practitioner of Spencer, Ia.; died at his home, April 6, from senile debility, aged 84.

Hamil Cato Timmons, M.D. Georgia College of Eclectic Medicine and Surgery, Atlanta, 1882; a Confederate veteran, and one of the oldest practitioners of Atlanta; died at his home April 15.

Leander Dixon Rand, M.D. University of Vermont, Burlington, 1888; a member of the Maine Medical Association; died at his home in Fairfield, April 8, from cerebral hemorrhage, aged 48.

James Richard Shapard, M.D. University of Nashville, Tenn., 1874; a member of the Tennessee State Medical Association; died at his home in Nashville, April 18, from meningitis, aged 56.

William Ezekiel Webb, M.D. Jefferson Medical College, 1887; physician to the Chester County (Pa.) Insane Hospital; died at his home in Unionville, April 13, from pneumonia, aged 47.

Percy Ray McLean, M.D. University Medical College of Kansas City, Mo., 1908; of Hunters, Wash.; died in the Monrovia (Cal.) Sanatorium, April 14, from tuberculosis, aged 23.

William R. Endris, M.D. Missouri Medical College, St. Louis, 1882; formerly of St. Louis; a member of the Illinois State Medical Society; died at his home in Brussels, March 31.

Alexander Davis, M.D. Baltimore Medical College, 1892 (license, Tex., Sixth Judicial Board, 1898); died at his home in West, Tex., Oct. 28, 1910, from endocarditis, aged 72.

William H. Hyten (license, Ind., 1897); for sixty years a practitioner of Montgomery County; died at his home in Parkersburg, April 14, from senile debility, aged 87.

John Botsford Sabin, M.D. University of Buffalo, N. Y., 1867; for several years coroner of Kootenai County, Ida.; died at his home in Coeur d'Alene, April 19, aged 65.

Frederick T. Robinson, M.D. College of Physicians and Surgeons, Baltimore, 1893; of Brooklyn, Md.; died in the Johns Hopkins Hospital, Baltimore, April 10, aged 43.

William Carson Wilson (license, Arkansas, 1903); for forty-three years a practitioner of Arkansas; died at his home in Yellville, April 5, from influenza, aged 74.

Arthur Dorval, M.D. Victoria University, Coburg, Ont., 1874; died at his home in Montreal, Que., Dec. 26, 1910, from peritonitis due to a gastric ulcer, aged 58.

Eli Wilson, M.D. Barnes Medical College, St. Louis, 1896; of Puxico, Mo.; died in Hot Springs, Ark., Oct. 15, 1910, from valvular heart disease, aged 43.

Philip A. Austin, M.D. Cleveland University of Medicine and Surgery, 1866; died at his home in Muscatine, Ia., February 13, from pneumonia, aged 76.

Isaac Smith Vreeland, M.D. New York University, New York City, 1876; died at his home in Stony Point, N. Y., April 8, from pneumonia, aged 59.

John J. McElwee, M.D. Washington University, St. Louis, 1863; formerly of Chain of Rocks, Mo.; died at his home in Houston, Tex., April 21, aged 76.

Addison Snively, M.D. University of Wooster, Cleveland, O., 1880; a veteran of the Civil War; died at his home in Cleveland, April 9, aged 66.

Vernon Tuford Chew, M.D. Washington University, St. Louis, 1860; died at his home in Rosenberg, Tex., March 26, from influenza, aged 74.

Thomas J. Solt, M.D. Central College of Physicians and Surgeons, Indianapolis, 1884; died at his home in Mountaintop, Pa., April 3, aged 54.

Joshua M. Fackler, M.D. Pulte Medical College, Cincinnati, 1878; died at his home in Plymouth, O., April 11, from pneumonia, aged 73.

Harry Lloyd Madden, M.D. Medico-Chirurgical College of Philadelphia, 1909; died recently at his home in Mount Alton, Pa., aged 29.

Wesley Jones Burns, M.D. Trinity Medical College, Toronto, 1876; died recently at his home in Caledonia, Ont., aged 57.

R. H. Dyke, M.D. Missouri Medical College, St. Louis, 1878; died at his home in Bellflower, Mo., April 19, aged 57.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

[Contribution from the Chemical Laboratory of the American Medical Association]

TABLETS OF BISMUTH, OPIUM AND PHENOL

W. A. Puckner and W. S. Hilpert

Nearly three years ago[1], a contribution from the Chemical Laboratory appeared in The Journal, dealing with the composition of tablets of bismuth, opium and phenol (carbolic acid). It was there shown that these tablets contained only from 72.65 per cent. down to as low as 12.66 per cent. of the amount of phenol stated on the label.

After publishing these results in detail and waiting a little more than two years, we again examined similar tablets of the same makes, bought in the open market. The results of this second examination were published in The Journal, Dec. 17, 1910. Instead of finding that conditions were better, that the firms had made an effort to market tablets that were true to the label, this examination showed that the phenol-content of the tablets now ranged from 63.53 per cent. down to 12.27 per cent. of the amount claimed.

This second examination also showed that the manufacturers were not sufficiently concerned with the quality of their product to call in any stock which they must have known was untruthfully labeled. In view of this fact, it was thought worth while both to learn the ages of the various tablets that were purchased at the time of, and for the purpose of, making the second examination and also to examine the most recently made tablets put out by the same firms. Accordingly, the identifying marks on each package of tablets examined and which formed the basis of the report of the second paper, were sent to the respective firms with inquiries as to the date of the manufacture of these various specimens. At the same time orders were placed in each case for the firm's most recently made product.

The result of this work is arranged in tabulated form as follows: Table 1 gives the age of the specimens that were used for the second examination; Table 2 compares the composition of tablets as found in the first and second examinations with the composition found in the present (third) examination.

TABLE 1.—AGE OF TABLETS IN SECOND EXAMINATION

Manufacturer	Date of Manufacture	Date of Purchase	Age When Purchased
Hance Bros. & White...	Sept. 17, 1910.	Oct. 27, '10	1 month.
W. S. Merrell Chem. Co.	July 11, 1906..	Oct. 27, '10	4 years.
H. K. Mulford Co.....	Nov. 22, 1909..	Sept. 15, '10	1 year.
Parke, Davis & Co.....	Sept., 1910....	Sept. 15, '10	Under 1 mo.
Sharp & Dohme.......	June 1, 1906...	Sept. 15, '10	4 years.
F. Stearns & Co... ...	August, 1906..	Oct. 27, '10	4 years.
Truax, Greene & Co....	Prior to 1906..	Sept. 16, '10	4-5 years.
H. K. Wampole & Co...	Aug. or Dec.,'08	Oct. 27, '10	2 years.
W. R. Warner & Co....	Aug. 3, 1906...	Nov. 11, '10	4 years.

Strange as it may seem, some of the manufacturers wrote as if they had not known of the former publication of the laboratory's examination.

Wm. R. Warner & Co. writes that it is going to engage the services of a commercial chemist to examine the stock and that it will not offer the tablets for sale until assurance is had that the tablets are true to claim. While it may cause some surprise to learn that this firm must engage outside talent to learn the quality of its own wares, the decision to discontinue the sale of its practically worthless stock is to be commended.

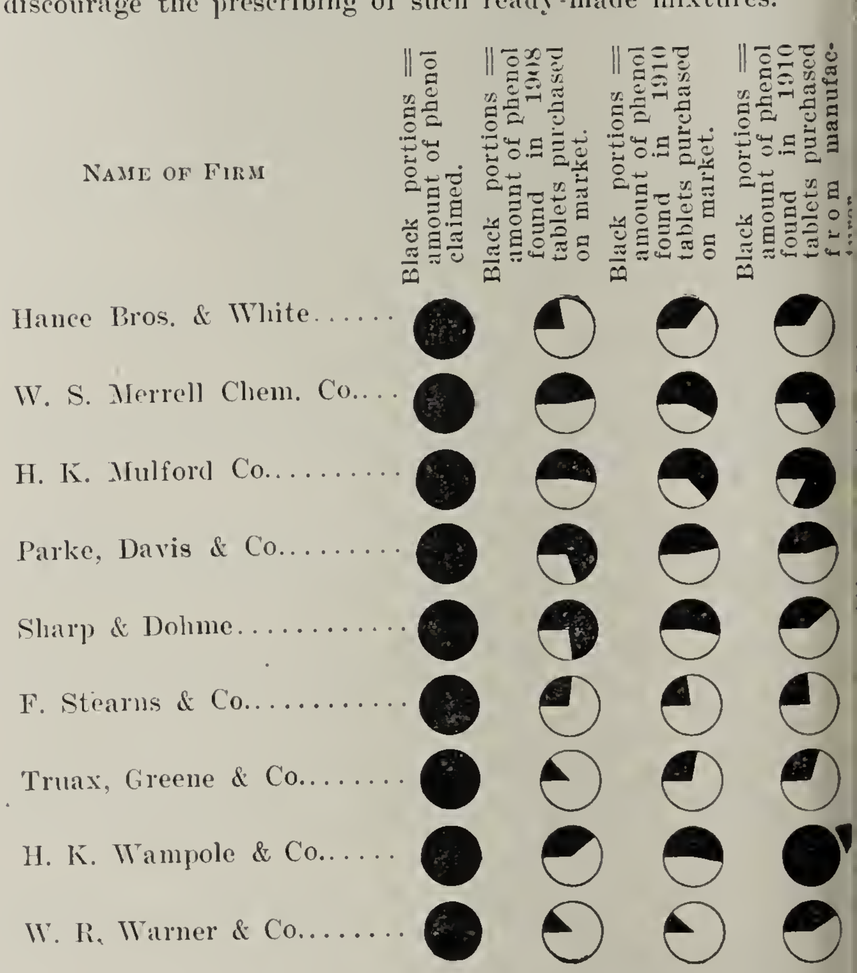
TABLE 2.—COMPOSITION OF TABLETS IN FIRST, SECOND AND THIRD EXAMINATIONS

Phenol Found Expressed as Per Cent. of Amount Claimed

Manufacturer	Specimen Purchased on Market 1908	Specimen Purchased on Market 1910	Specimen Obtained from Manufacturer 1910
Hance Bros. & White......	21.89	34.19	34.49
W. S. Merrell Chem. Co....	48.89	57.59	68.43
H. K. Mulford Co.........	52.34	63.53	83.18
Parke, Davis & Co........	(a) 70.23 (b) 47.02	46.86	46.83
Sharp & Dohme..........	(a) 72.65 (b) 34.63	53.39	38.14
F. Stearns & Co..........	26.55	23.17	24.86
Truax, Greene & Co.......	13.69	28.09	28.24
H. K. Wampole & Co.....	(a) 46.14 (b) 39.31	53.75	112.64
W. R. Warner & Co.......	12.66	12.27	41.47

The tablets which were obtained direct from H. K. Wampole & Co. and which were found to contain an amount of phenol in excess of the amount claimed were quite different in appearance when received from any previously examined in that they were damp and had a strong odor of phenol. About two months later, the tablets of this batch which remained in the bottle presented a most remarkable appearance in that they were covered with an efflorescence of crystals of phenol. Should these tablets be dispensed on a physician's prescription the possibilities are that the pure phenol would come in direct contact with the tongue and throat and produce painful burns. Of course these tablets are quite unfit for use.

Another important matter brought out is the fact that ready-made mixtures, such as these tablets, may be four or five years old before they leave the hands of the wholesaler. While, in this case, the efficiency of the remedy is not influenced by age, it is a well-known fact that many drugs rapidly deteriorate. If tablets such as these are likely to be four or five years old before they leave the wholesale house, how old will they be before they are dispensed on a physician's prescription? This question is a pertinent one and the answer—which the laboratory's work furnishes—should do much to discourage the prescribing of such ready-made mixtures.



The above presents the findings of the Association chemists a graphic form and shows the great discrepancies between t claims made for the tablets and the actual facts. The solid bla portions represent the phenol-content. In the first column is giv the phenol content claimed by the manufacturer; in the seco column is shown the actual phenol-content found in the tabl purchased in 1908; the third column represents the phenol-conte as found in the tablets purchased on the market in 1910, while t fourth column shows the phenol-content of the tablets purchased 1910 direct from the manufacturer. Note the excess of phenol the tablets sent by H. K. Wampole & Co. in filling the order for bottle of the most recently made products.

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[1] The Journal A. M. A., July 25, 1908, p. 330.

SANATOGEN—ITS FOOD VALUE

To the Editor:—Will you kindly tell me whether or not Sanatogen has any food value?

ARCH DIXON, JR., M.D., El Paso, Texas.

ANSWER.—Sanatogen is said to contain 95 per cent.of casein so that 30 gm. (1 ounce) of this preparation would contain approximately 28.5 gm. of protein, which would yield 117 calories. This is the equivalent in round numbers of one-third of a pint of milk or one and one-half eggs. The same amount of energy would be given by an equal weight of starch or by one and one-fifth as much of flour or other cereals. To present the matter even more graphically, it may be said that $1 worth (4 ounces) of Sanatogen yields approximately no more energy than 6 cents' worth of good milk or 1 cent's worth of ordinary wheat flour. Sanatogen, therefore, like most preparations of this class, while a food, is a ruinously expensive one. The absurdly exaggerated claims regarding it were discussed in THE JOURNAL, Feb. 19, 1910, as follows:

"According to the manufacturers, this patent medicine—or food—is composed of 95 per cent. casein and 5 per cent. sodium glycerophosphate. The preparation is advertised very extensively both to physicians and to the laity, on both sides of the Atlantic. In Great Britain it is a 'tonic food,' in this country a 'food tonic;' whether this is a distinction with or without a difference, it is hard to say. The public is told that Sanatogen is a 'muscle builder and a nerve and brain food;' the medical profession, that 'it should not be regarded as a food preparation in the ordinary sense of the term and it is not offered as such to the medical profession. . . .' Many of the claims made for this combination of milk-curd and glycerophosphates are exaggerated and absurd. The following are taken from advertisements, appearing both in this country and abroad:

"The Re-Creator of Lost Health."
"Sanatogen is . . . a rebuilding food."
". . . revitalizes the overworked nervous system."
"Specific nerve tonic action."
"Most reliable and scientific of all nutrients."
". . . *in certain diseases* it exerts a *specific action* which renders it a valuable adjunct to other curative measures."

"In one of the form letters sent to physicians, the makers of Sanatogen opine that 'you have likely noticed' an article that appeared 'in the May issue' of a certain medical journal. The ingenuousness of this intimation becomes apparent when it is known that a few days previous to receiving the letters, the physicians had been the recipients of pamphlet reprints of said article—'With Author's Compliments.'

"That milk curd has a food value no one will deny; that the glycerophosphates of soda have a place in medicine may be admitted; but that a combination of these two products should become at once the summum bonum of medicinal foods is a proposition that will not appeal to the thinking physician."

Correspondence

Fatal Accident from Toy Pistol Means of Securing Sane Fourth Ordinance

To the Editor:—On April 11, a child, aged 7, was playing with another boy, aged 13, and in some manner a toy blank cartridge pistol, which had been loaded with a 22-caliber cartridge, with the bullet whittled down to allow it to enter the bore of the pistol, was discharged, the bullet entering the younger child's back, between the lower ribs and the crest of the ilium. In spite of everything that could be done, even to opening the abdomen in the hope of tracing the bullet, which had been followed from the rear as far as the spine, the child died about thirty-six hours after the accident.

It was found that the toy pistol causing the child's death had been purchased for the celebration of last Fourth of July.

Attorneys, physicians, and business men, together with the press, at once took up the matter of a prohibitive ordinance insuring a "sane Fourth" and April 17 the desired ordinance was passed by the Enid city commission, and the prohibition made to include all forms of explosive fireworks. Some slight objection was made by one or two members of the commission who wanted an exception made in favor of small firecrackers and other so-called harmless fireworks, but several physicians armed with the statistics summarized in THE JOURNAL, Sept. 3, 1910, turned the tide; the opposition was withdrawn and the ordinance was passed as drawn.

The firms in the city handling fireworks had agreed to cancel their orders in case an ordinance was passed immediately, and to their fair-mindedness in the matter the result was due in no small measure.

The physicians of Enid have been trying to get such an ordinance passed for two or three years, but were always met by more or less indifference, and by the statement that it would be unjust to the dealers to prohibit the sale of stock already purchased. It took this needless sacrifice of an innocent young life to bring the community and the city government to their senses in the matter, but once aroused they have moved in the matter with a promptness truly commendable, and we hope in the future to have a Fourth truly "sane."

P. A. SMITH, M.D., Enid, Okla.

The Round-Ligament Operation

To the Editor:—I believe Dr. J. Clarence Webster and Dr. J. M. Baldy (see THE JOURNAL, April 29, 1911, p. 1280) are both behind the times in respect to priority of the operation above named. I saw Dr. Frank Andrews do this operation at Mercy Hospital in 1898 many times, drawing the round ligaments through the broad ligaments and uniting them back of the fundus. Dr. Andrews said that occasionally it might be advantageous to put a small suture from ligaments to fundus when the round ligaments were greatly relaxed.

WILLIAM J. THOMSON, Portage, Wis.

Method of Staining Bacteria

To the Editor:—My attention has been called to the fact that I have not mentioned the staining of preparations for the standardizing of vaccine by the method described in my article on "The Simplified Method of Staining Bacteria," which appeared in THE JOURNAL, April 22, 1911, p. 1189.

I have used this method of staining for that purpose all along with the greatest satisfaction in place of Leishman's or Wright's blood-stain recommended by most observers.

LEON S. MEDALIA, Boston.

Association News

No Genito-Urinary Section Program at Los Angeles

To the Editor:—At a meeting of the executive committee of the Section on Genito-Urinary Diseases of the American Medical Association, held April 20, it was unanimously resolved to hold the first meeting of the Section in 1912.

The committee finds that proper representation cannot be secured at so late a date in June this year.

H. H. YOUNG, Secretary, Baltimore.
WILLIAM T. BELFIELD, Chairman, Chicago.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

PUBLIC DOCUMENTS NOT FREE

To the Editor:—You recently mentioned the Public Health Bulletins. Every letter that I have received in reference thereto has indicated that the writer had received the impression from your publication that the bulletins were sent free.

If you can see your way clear to publish a few lines removing that erroneous impression, which causes some disappointment to those who address me, and involves considerable correspondence on the part of my clerks, I shall be obliged.

AUGUST DONATH, Superintendent of Documents,
Washington, D. C.

Answer.—The language in the editorial referred to, April 8, 1911, page 1039, can hardly be held responsible for the inference that these bulletins are sent free. It is far more likely that this inference comes from the well-known fact that government publications are, to such a large extent, furnished free. The average reader may be excused if he thinks this custom is general, in view of the thousands of tons of speeches and political documents which our representatives and senators send without charge on slight provocation to any of their constituents who may be influenced. For instance, a recent despatch from Washington stated that one senator had shipped two car-loads of envelopes, addressed and bearing his frank, to the largest city in his state, where they were to be filled with copies of his speeches and distributed, gratis, and postage-free to the voters of the state. This enormous mass of literature (?) was distributed for political reasons, and so cost the individual nothing, but will be paid for by the tax-payer. The public health pamphlets on the other hand, were intended only to save life and reduce sickness, and so could not, of course, be distributed free to the tax-payer. A price-list of these documents can be secured from the Superintendent of Documents. Meanwhile political speeches and garden-seeds can be had for the asking, as usual.

QUININ AND UREA ANESTHESIA

To the Editor:—Please give me the technic and other information pertaining to quinin and urea hydrochlorid as a local anesthetic.

E. D. Collett, Mangum, Okla.

Answer.—The technic of anesthesia by quinin and urea hydrochlorid is the same as that by cocain. The injections are used in the strength of from ¼ to 1 per cent. The ¼ per cent. solution is said to be free from the risk of producing fibrous indurations, which sometimes occur with the stronger solution. For application to mucous membranes solutions varying in strength from 10 to 20 per cent. should be used.

The following articles on this subject have been published or abstracted in The Journal.

Thibault, H.: A New Local Anesthetic, Jour. Arkansas Med. Soc., Sept., 1907; abstr. in The Journal, Nov. 16, 1907, p. 1719.

Brown, E. J.: Painless Tonsillectomy and Adenectomy with Quinin Anesthesia, The Journal, Aug. 8, 1908, p. 496.

Herztler, A. E., Brewster, R. B., and Rogers, F. B.: Quinin and Urea Hydrochlorid as a Local Anesthetic, The Journal, Oct. 23, 1909, p. 1393.

Gaudier, M.: Quinin and Urea Hydrochlorid, Presse Médicale, July 2, 1910; abstr. in The Journal, Aug. 6, 1910, p. 538.

Thibault, H.: Local Anesthesia with Quinin and Urea Hydrochlorid, The Journal, Apl. 23, 1910, p. 1375.

Quinin and Urea as Local Anesthetics, The Journal, May 14, 1910, p. 1628.

Green, W. O.: Local Anesthesia with Quinin and Urea Hydrochlorid, The Journal, June 11, 1910, p. 1940.

Quinin and Urea Hydrochlorid, N. N. R. Supplement, The Journal, Apl. 15, 1911, p. 53.

See also Graham, H. F.: Quinin and Urea Hydrochlorid as a Local Anesthetic, Long Island Medical Journal, June, 1910.

PIPERAZIN, LYCETOL AND LITHIA IN NEPHROLITHIASIS

To the Editor:—Please advise me as to the value of piperazin and lycetol in nephrolithiasis. Are they of enough value to warrant paying such a fancy price for them? Please advise me if there is anything I can do beyond advising a strict diet, plenty of water to drink, and possibly lithia.

C. E. D., M.D., Flora, Ill.

Answer.—Piperazin, lycetol, lithium carbonate and other alkalies are more or less efficient solvents of uric acid and urate calculi in the test-tube; careful experimental work, however, as well as theoretical considerations, demonstrate that the chemical conditions are unfavorable for their solvent action in the tissues and in the urinary passages. Critical clinical observers also agree that these drugs are not reliable uric acid solvents. The most rational and effective, as well as the most economical, treatment of nephrolithiasis consists in the dilution of the urine by drinking plenty of water, prevention of excessive acidity by the administration of alkalies, and limitation of the uric acid progeners in the food by avoidance of meats. It is doubtful whether piperazin, lycetol or lithium salts would add to the efficiency of the treatment. The question of uric acid solvents will probably be discussed in The Journal in greater detail in the near future.

ALCOHOL IN THE TREATMENT OF POISONING BY THE PORTUGUESE MAN-OF-WAR

To the Editor:—It may help Dr. R. S. Lowry, of Fort Lauderdale, Florida [The Journal, April 22, 1911, p. 1213] to know of my experience, during the past seven years at Palm Beach, with the poison of the Portuguese man-of-war. Among the numerous bathers at the above resort, I have had several cases of more or less severe poisoning by this jellyfish, and the only prompt relief that I have obtained has been by bathing the place stung with alcohol 95 per cent. This gives immediate relief, and the continual use of alcohol and water, equal parts, relieves permanently. My theory has been that the alcohol dissolves and neutralizes the poison, as it does in ivy poison. I have tried nearly every external application, but found nothing so satisfactory as the alcohol.

William E. Bullard, Larchmont, N. Y.

The Public Service

Medical Department U. S. Army

Changes for the week ended April 29, 1911.

Glennan, James D., lt.-col., left Army Gen. Hosp., San Francisco, on 30 days' leave of absence.

Kerr, Robert W., lieut., relieved from duty as surg., transport *Sheridan*, on arrival at San Francisco, about Oct. 12, 1911, and will report to adjunct general of Army for further orders.

Bayly, Rozier C., lieut., relieved from duty as trans. surg. *Logan*, on arrival at San Francisco, about Nov. 12, 1911, and will report to the adjutant general of the Army for further orders.

Suggs, Frank, M.R.C., on withdrawal of troops from Ft. Egbert, Alaska, will proceed to Seattle, Wash., for further orders.

Lincoln, H. F., M.R.C., when his services are no longer needed on the transport *Crook* will proceed to Ft. Apache, Ariz., for duty

Ruddy, Wm. P. J., M.R.C., recently appointed, will proceed to Ft. Myer, Va., for duty at that station.

Hewitt, John M., M.R.C., assignment to U. S. A. T. *Dix*, revoked.

Fisher, H. C., major, left Columbus Bks., Ohio, on ten days' leave

Deshon, Geo. D., major, orders directing him to proceed to the Philippine Islands, for duty, on July 5, 1911, revoked.

Hewitt, John M., M.R.C., retd. to station U. S. Mil. Prison Ft. Leavenworth, Kan., from en route to Seattle, Wash., for duty on transport *Dix*.

Griffis, F. C., M.R.C., to Ft. Robinson, Neb., for temporary duty

Wolven, F. Homer, D.S., ordered to proceed to several posts in Alaska, for duty.

Knox, Howard A., lieut., resignation accepted by the President

Richardson, William H., captain, relieved from duty at Army Gen. Hosp., San Francisco, and ordered to Ft. Miley, Cal., for duty

Boak, S. Davis, D.S., relieved from duty at Army General Hospital, San Francisco, and ordered to West Point, N. Y., relievin William H. Chambers, D.S., who will proceed to the Army Genera Hospital, San Francisco, for duty.

Ferguson, James B., 1st lieut., relieved from active service unde the provisions of an Act of Congress March 4, 1911.

Freeman, Chas. E., captain, relieved from duty at Ft. Miley, Cal. and ordered to the Army General Hospital, San Francisco, for duty

Each of the following-named officers is relieved from duty a the station designated after his name, to take effect at such tim as will enable him to comply with this order, and will proceed a the proper time to San Francisco and take the transport to sai from that place on or about Sept. 5, 1911, for the Philippine Islands, and on arrival at Manila will report in person to the commanding general Philippines division, for assignment to duty 1st Lt. John T. Aydclotte, M.C., Ft. Sam Houston, Tex.; 1st Lt Harry R. Beery, M.C., Ft. Benjamin Harrison, Ind.; 1st Lt. Josep Casper, M.C., Ft. Du Pont, Del.; 1st Lt. George W. Cook, M.C Ft. Douglas, Utah; 1st Lt. Arthur O. Davis, M.C., Ft. Oglethorp Ga.; 1st Lt. Joseph W. Love, M.R.C., Fort Banks, Mass.; 1st Lt Herbert I. Harris, M.R.C., Ft. Snelling, Minn.

Each of the following-named officers is relieved from duty at th station designated after his name, to take effect at such time as wil enable him to comply with this order, and will proceed at th proper time to San Francisco and take the transport to sail fro that place on or about Oct. 5, 1911, for the Philippine Islands, an on arrival at Manila will report in person to the commanding general, Philippines division, for assignment to duty: Lt.-Col. Gu L. Edie, M.C., attending surgeon, Washington, District of Columbia: Maj. Wm. E. Vose, M.C., Jackson Bks., La.; 1st Lt. Taylo E. Darby, M.C., Ft. McPherson, Ga.; 1st Lt. Ralph G. de Voe, M.C Ft. Worden, Wash.; 1st Lt. James S. Fox, M.C., Ft. Sam Housto Tex.; 1st Lt. Glenn I. Jones, M.C., Ft. McDowell, Cal.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended April 26, 1911:

Stoner, J. B., surgeon, directed to proceed to Pittsburg, Pa., an assume command of the service.

Wertenbaker, C. P., surgeon, directed to proceed to Fortress Mo roe, Va., and inspect unserviceable property on hulk *Jamestown*.

Schereschewsky, J. W., P. A. surgeon, relieved from duty at Ba timore and directed to proceed to Washington, D. C., and report Director of the Hygienic Laboratory for duty.

Grimm, R. M., asst.-surgeon, relieved from duty in the Hygien Laboratory and directed to proceed to Savannah, Ga., and assum temporary charge of the service.

Clarke, F. M., acting asst.-surgeon, granted twenty days' lea of absence from May 6, 1911.

Goldthwaite, Henry, acting asst.-surgeon, granted thirty day leave of absence from April 1, 1911.

Board of medical officers convened to meet at San Francisco, Ca April 24, 1911, for the examination of Assistant Surgeon A. Lanza, to determine his fitness for promotion to the grade Passed Assistant Surgeon. Detail amended as follows: Surge Rupert Blue, chairman; Passed Assistant Surgeon F. E. Trotte Passed Assistant Surgeon M. W. Glover, recorder.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

GOVERNOR O'NEAL VETOES THE ALABAMA OPTOMETRY BILL

The optometry bill recently passed by the Alabama legislature, through a misapprehension as to its intent, has been vetoed by the governor, Hon. Emmet O'Neal. His veto message should be read by all interested in preventing the passage of these bills. Governor O'Neal said:

To the Senate: I herewith return Senate Bill No. 151, without my approval.

This bill proposes legally to organize or establish in this state a new occupation or profession, to be known as optometry, based on the science of optics as applied to the eye.

As I understand it, an optometrist is in reality an optician, and an optician has always been considered a tradesman, and he is not required or expected to have a scientific medical knowledge required by law of the oculist—whose profession authorizes him to medically treat the eye.

Inasmuch as the field of the optometrist constitutes a part of the broad field of the science of medicine, a part already occupied by regularly educated and licensed physicians, known as oculists, it becomes a question worthy of investigation and study as to the wisdom of permitting territory belonging legitimately to one profession to be invaded by persons who are not, and do not claim to be, equipped for membership in that profession. As all know, the eye is a very delicate and important organ of the body. Consequently, to deal with it intelligently there is required a thorough knowledge of not only its optics, but its anatomy, physiology and diseases. While optometrists propose to deal only with the optics of the eye, to draw the line that separates the optics of the organ from its diseases must require a thorough knowledge of everything that appertains to the eye; that is, of its optics, anatomy, physiology and its diseases.

A man who is familiar with only one part of the subject would necessarily often be unable to determine where his domain begins. Just as a physician who understands only the anatomy, physiology and diseases of the eye would not be in a position to deal with its optics, so a person who only understands its optics would not know where its diseases begin. That is, the entire subject seems to be so closely correlated as to render it practically impossible to draw a line of demarcation between its parts, and assign one part to persons who do not claim to study or understand the whole. If this be true, it becomes a serious question as to the good policy of by law authorizing persons to occupy a field, the limits of which they cannot definitely define. A class of men, known as opticians, has long existed. The duties of these consist in grinding glasses and filling the prescriptions of oculists. This relation corresponds with that sustained by druggists and physicians, and it would seem to be the wisest policy to insist that these relations be maintained. To permit an optician to usurp the rights of an oculist, who is at the same time an educated physician, would be quite as irregular as to permit a druggist to usurp the rights of a physician in the treatment of diseases of patients.

I am informed that bills similar to this one have been introduced in many legislatures, inspired perhaps by some large manufacturing establishments for the manufacture and sale of glasses. It is easy to see that conferring a high-sounding title on men engaged in a trade would tend to exaggerate their importance and skill in the minds of the public.

In vetoing this bill I am not depriving opticians or persons dealing in glasses of any rights that legitimately belong to them.

If such a law is enacted it would, in my opinion, be an infringement on the already existing laws regulating the practice of medicine in this state. I therefore recommend that any applicant for the practice of optometry be required to undergo the same examination as that of any specialist who proposes to practice medicine in his selected specialty.

I am informed by physicians of the highest authority and by men who by life-long study have thoroughly acquainted themselves with the eye and its diseases, that the legislation sought in this bill is extreme, and I am also informed by the State Board of Health that only a thoroughly equipped and licensed physician should be permitted to enjoy the privileges intended to be conferred on optometrists by this bill.

It will be noticed that it is intended by this bill that the opticians of the state shall have exclusive control of the officers provided for in the bill, and I am informed that if there is a department created by legislation akin to that sought by this bill it should be placed under the control of the State Board of Health, or of regularly licensed and educated physicians.

A bill similar to this one was presented in 1907 to Governor Hughes of New York, and was vetoed by him on this very ground.

[After quoting from the veto messages of Governor Deneen[1] of Illinois and Governor Harmon of Ohio,[2] Governor O'Neal concludes:]

The eye is too delicate and valuable an organ to be made the subject of any experiment whatsoever; and if there is to be such a science as that of optometry I fear that it is yet too near to its inception to be given the power contemplated in this bill, which is returned to you without my approval.

Emmet O'Neal, Governor.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—Second Weekly Meeting

Causes of Sudden Death (Continued)

Death by Asphyxia

Hanging: Death due to obstruction of admission of air, to pressure on blood-vessels, to injury to nerves or spinal cord. Phenomena of hanging; three stages (Tidy). Postmortem appearances, external and internal. Suspension before and after death. Homicidal hanging.

Strangulation: Manual (immediate) or by ligature (mediate). Garroting. Phenomena of strangulation; four stages (Draper). Post-mortem appearances, external and internal. Accidental, suicidal and homicidal strangulation.

Suffocation: Methods. Accidental, suicidal and homicidal suffocation. Post-mortem appearances.

Drowning: Post-mortem appearances, external and internal. Manner of death. Accidental, suicidal and homicidal drowning. Determination of interval between death and recovery of body.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arkansas: Regular, Little Rock, May 9. Sec., Dr. F. T. Murphy, Brinkley; Homeopathic, Little Rock, May 9. Sec., Dr. P. C. Williams, Texarkana; Eclectic, Little Rock, May 9. Sec., Dr. G. A. Hinton, Hot Springs.

Florida: Regular, Tallahassee, May 8-9. Sec., Dr. J. D. Fernandez, Jacksonville.

Kentucky: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

Louisiana: Regular, New Orleans, May 18-20. Sec., Dr. A. B. Brown, 108 Baronne St.

Massachusetts: State House, Boston, May 9-11. Sec., Dr. Edwin B. Harvey, Room 159 State House.

Mississippi: Jackson, May 9. Sec., Dr. S. H. McLean.

Nebraska: State House, Senate Chamber, Lincoln, May 24. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

New York: May 23-26. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

Wisconsin: Milwaukee, May 24-26. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Utah Secures an Amended Practice Act

Revisions to the Utah medical practice act have been secured providing: (a) that the attorney general shall be ex officio a member of the board of medical examiners; (b) that the board shall consist of nine members so appointed that the terms of three members expire each year; (c) that the minimum number of hours constituting the medical course required of all applicants be 3.500 hours, no specific total being fixed for the various subjects of the medical curriculum; (d) that the minimum requirement of preliminary education shall be a certificate from a first grade high school which shall have included at least two units work in Latin or German, but that after 1916, each applicant in addition must furnish evidence of at least one year's work in a college of liberal arts; (e) that the fee for examination be $25.00; (f) that authority be given to the board to revoke the license of any practitioner guilty of unprofessional conduct after proof of such conduct has been secured; (g) that the board be empowered to establish reciprocal relations with other states; and (h) for a definition of the practice of medicine.

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[1] The Journal A. M. A., June 1, 1907, p. 1871.
[2] The Journal A. M. A., June 25, 1910, p. 2135.

"Unprofessional conduct" is defined to mean: (1) offering or attempting to procure or aid or abet in procuring a criminal abortion; (2) the procuring or aiding or abetting in procuring a criminal abortion; (3) the obtaining of any fee on the assurance that a manifestly incurable disease can be permanently cured; (4) the wilful betraying of a professional secret; (5) any advertising naming diseases of or in relation to the diagnosis or treatment of, or medicine for any abnormal or diseased condition of, or pertaining to the organs of generation; (6) all advertising of medicine or of any means whereby the monthly periods of women can be regulated or the menses reestablished if suppressed; (7) conviction of any offense involving moral turpitude; (8) habitual intemperance or gross immorality; (9) lending his name to be used as a physician or surgeon by another person who is not a physician or surgeon; (10) street advertising, soliciting or other public peddling or selling of medical or surgical remedies or appliances in person or by proxy; (11) prescribing any intoxicating liquor to be used as a beverage; (12) prescribing morphin or cocain or other narcotic with intent that the same shall be used otherwise than medicinally or with intent to evade any law in relation to the sale, use or disposition of such drugs; (13) wilful violation of the law in regard to the registration of births and deaths and the reporting of infectious diseases to the State Board of Health.

The definition of the practice of medicine is as follows: Any person shall be regarded as practicing medicine within the meaning of this title, who shall diagnose, treat, operate on, or prescribe or advise for, any physical or mental ailment or any abnormal, mental or physical condition of another, after having received or with the intent to receive therefor, either directly or indirectly, any fee, gift, compensation or other pecuniary benefit, reward or consideration; or who shall hold himself out by means of signs, cards, advertisements or otherwise as a physician or surgeon.

Connecticut Regular, Homeopathic and Eclectic March Reports

Dr. Charles A. Tuttle, secretary of the Connecticut State Medical Examining Board, reports the written examination held at New Haven, March 14-15, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 75. The total number of candidates examined was 24 of whom 17 passed and 7 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Yale Medical School	(1910)	75.5, 76.9, 81.5, 82.1, 82.9, 85.8, 88.6.
Northwestern University Medical School	(1897)	79.4
Johns Hopkins University Medical School	(1908)	77.7
Tufts College Medical School	(1905)	78.3
Long Island College Hospital	(1909)	77.9
Jefferson Medical College	(1909)	83.2
University of Virginia	(1908) 84.7; (1909)	77.2
University of Toronto, Ontario	(1909)	81.9
McGill University, Quebec	(1899)	76.4
University of Rome, Italy	(1898)	78.8
FAILED		
Maryland Medical College	(1910)	65.8, 66.4
Baltimore Medical College	(1907)* (1909)	67 68.1
College of Phys. and Surgs., Boston	(1907) 49.4; (1910)	57.7

* No percentage given.

Dr. Edwin C. M. Hall, secretary of the Connecticut Homeopathic Medical Examining Board, reports the written examination held at New Haven, March 14, 1911. Only one candidate, a graduate of Boston University, 1909, was examined and he passed with a grade of 93 per cent.

Dr. T. S. Hodge, secretary of the Connecticut Eclectic Medical Examining Board, reports that at the meeting held at New Haven, March 14, 1911, one candidate, a graduate of the Eclectic Medical Institute, 1883, was licensed through reciprocity with New York.

Washington January Report

Dr. F. P. Witter, secretary of the Board of Medical Examiners of the State of Washington, reports the written examination held at Spokane, January 3-6, 1911. The number of subjects examined in was 11; total number of questions asked, 132; percentage required to pass, 75. The examination included the clinical examination of patients in hospital wards. The total number of candidates examined was 75, of whom 51 passed, including 1 osteopath, and 24 failed. The following colleges were represented:

PASSED College	Year Grad.	Total No. Examined.
Gross Medical College	(1901)	1
Bennett Medical College, Chicago	(1896)	1
American Medical Missionary College	(1910)	1
College of Physicians and Surgeons, Chicago (1883) (1908) (2, 1909)	(1910)	5
Rush Medical College (1887) (1900) (1906) (2, 1908)	(2, 1910)	7
State University of Iowa, College of Medicine	(1910)	1
Louisville Medical College	(1901)	1
Johns Hopkins University	(1910)	1
University of Maryland	(1910)	1
University of Michigan, Department of Medicine and Surgery (1903) (1904)	(1910)	3
Harvard University Medical School (1893)	(1898)	2
Saginaw Valley Medical College	(1898)	1
University of Minnesota, College of Medicine (1896) (1902) (1905) (1907)	(1908)	5
Missouri Medical College	(1889)	1
Creighton Medical College (1909)	(1910)	2
New York Homeopathic Med. Coll. and Hosp.	(1910)	1
New York University Medical College	(1893)	1
Albany Medical College	(1900)	1
Jefferson Medical College (1906)	(1910)	2
University of Pennsylvania (1878) (1895) (1896) (1899)	(1907)	5
Tennessee Medical College	(1906)	1
University of Vermont	(1889)	1
Trinity Medical College, Ontario	(1903)	1
McGill University, Quebec	(1910)	1
University of Toronto, Ontario	(1908)	1
University of Christiania, Norway	(1908)	1
University of Munich, Germany	(1901)	1
FAILED		
Rush Medical College (1886) (1899)	(1903)	3
College of Physicians and Surgeons, Chicago	(1910)	1
Northwestern University Medical School	(1910)	1
Bennett Medical College	(1896)	1
State University of Iowa, College of Medicine	(1908)	1
University of Louisville	(1900)	1
Drake University, College of Medicine	(1897)	1
College of Physicians and Surgeons, Baltimore	(1909)	1
Tufts College Medical School	(1906)	1
University of Michigan, Department of Medicine and Surgery(1883)	(1879)	2
Barnes Medical College	(1907)	1
Missouri Medical College	(1895)	1
Bellevue Hospital Medical College	(1898)	1
University of Buffalo	(1910)	1
University Medical College, Kansas City	(1898)	1
University of Pennsylvania	(1909)	1
University of Nashville	(1902)	1
Tennessee Medical College	(1900)	1
University of Vermont	(1899)	1
University of Toronto	(1908)	1
London School of Medicine for Women	(1900)	1

Wyoming March Report

Dr. J. B. Tyrrell, secretary of the Wyoming State Board o Medical Examiners, reports the written examination held a Cheyenne, March 7-9, 1911. The number of subjects examined in was 10; total number of questions asked, 100; percentage required to pass, 75, and not less than 60 in any on branch. The total number of candidates examined was 2 both of whom passed. Five candidates were licensed throug reciprocity. The following colleges were represented:

PASSED College	Year Grad.	Per Cen
Hering Medical College	(1895)	86.
Creighton Medical College	(1910)	80.

LICENSED THROUGH RECIPROCITY College	Year Grad.	Reciprocit with
University of Colorado	(1910)	Colorad
Denver and Gross College of Medicine	(1910)	Colorad
Chicago Homeopathic Medical College	(1903)	Illino
Keokuk Medical College, Coll. of Phys. and Surgs.	(1904)	Iow
Northwestern University Medical School	(1910)	Illino

Book Notices

MODERN TREATMENT. The Management of Disease with Medicinal and Non-Medicinal Remedies. In Contributions by American and Foreign Authorities. Edited by Hobart Amory Hare, M.D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia, Assisted by H. R. M. Landis, M.D., Director of the Clinical Department of the Phipps Institute (University of Pennsylvania). In Two Volumes. Vols. I and II. Cloth. Price, $6 net. Pp. 1830, with 193 Illustrations. Philadelphia: Lea & Febiger (1910).

This is a composite work; the selection of authors for the various chapters, however, has been judiciously made and the result as a whole is satisfactory. A short introduction by H. A. Hare discusses the general subject of therapeutics and points out its dependence on and close relations to clinical medicine. H. C. Wood, Jr., in a chapter on "Modern Pharmacology," undertakes the difficult task of presenting the conclusions regarding the therapeutic value and use of drugs drawn from the investigation of chemical structure and from animal experimentation. A classification is made from a therapeutic standpoint and the subject is treated in such detail as to insure its marked practical value.

Ambrose Hunsberger, in a chapter on "Combination of Drugs," gives some valuable hints as to the prescription blank, the prevention of repetition, etc. The various forms in which remedies are to be administered are exhaustively described. In connection with this article as well as elsewhere in the work we regret to see a certain carelessness in regard to the Latin of the prescriptions. Errors in the grammatical endings are frequent, while in places a disregard of the official titles and pharmaceutic spelling is noticeable. Thus we find "Adipis lani hydros," "Acetphenetidinæ," "Ol. theobromæ," "Adipis benzoinatis," etc.

Tuberculin as a therapeutic and diagnostic agent is discussed by F. M. Pottenger, who gives a high value to the tuberculin therapy, but regards it as only one of the agents to be employed. The tuberculin tests are fully discussed; the method of von Pirquet is regarded by the author as of value in adults if interpreted in the right way. We fail to find, however, any specific directions for its correct interpretation. The vaccine treatment of typhoid fever is not considered by D. Riesman as a decided improvement on the older methods. The discussion on this subject is brought fully up to date. The use of horse serum for the hemorrhage of typhoid is suggested. Excellent detailed directions for the administration of specific serum in the treatment of epidemic cerebrospinal meningitis are given by C. H. Dunn.

"The Treatment of Pneumonia" by F. S. Meara exhibits the influence of experimental pharmacology in an important field of practice. Alcohol, in his opinion, has been much used in this disease without justification; it is never a true stimulant. Strychnin, he thinks, has been much overrated and nitroglycerin is absolutely contra-indicated. The method of thoracentesis is described with great detail. Tuberculosis receives 70 pages from the pen of H. M. Landis. Drug therapy receives attention, but aside from a few recommendations for cough and other symptoms, little credit is given to medicine. Even for cough the teaching of self-control to the patient is emphasized.

Syphilis is well treated by William Gottheil. Much space is given to prophylaxis, but the author is skeptical as to the value of moral advice, good as it may be. The treatment with mercury is described with great detail. Salvarsan is noticed, but the author gives merely his own experience, which seems to have been rather unfavorable to the new remedy. The dysenteries are comprehensively treated by J. L. Rhoads.

The article on "Diseases of the Circulatory Organs," by James McKenzie, possesses unusual merit, not only for the expert handling of a subject in which the advances of modern therapeutics have been so momentous, but also for the light thrown on the principles of therapeutics. The tendency of patients and even of physicians to give the credit of the improvement resulting from suggestion to remedies which are in themselves inefficient is especially noted. Such a tendency is often responsible for the continuance of ineffective remedies in cases in which imminent danger demands the prompt application of energetic remedies in sufficient doses. Again, the reader is warned against the tendency to rely too exclusively on the results of laboratory experiments. For instance, although experiment shows digitalis to be a vasoconstrictor, the author's experience shows that therapeutic doses in man do not raise blood-pressure, but often lower it.

"Diseases of the Blood," by J. C. DaCosta, Jr., receives adequate and satisfactory treatment. The work of Joseph Sailer on "Diseases of the Stomach and Intestines" is excellent. The same is true of the treatment of the other internal organs. The technic of local examination and treatment of the female genital organs is clearly described by B. M. Anspach, who contributes one of the most valuable chapters in the book.

Space will not permit specific reference to all the articles in the excellent work, but so far as we have been able to examine them, they seem well adapted to the needs of the practicing physician. The volumes are well illustrated where the subject permits it. Of special interest at the present time are the colored plates showing the erythema of pellagra.

THE MODERN MATERIA MEDICA. The Source, Chemical and Physical Properties, Therapeutic Action, Dosage, Antidotes and Incompatibles of All Additions to the Newer Materia Medica that Are Likely to be Called for on Prescriptions, Together with the Name and Address of the Manufacturer or Proprietor, and in the Case of Foreign Articles, of the American Agent. Second Edition. Cloth. Price, $1.25. Pp. 432. New York: The Druggists Circular, 1911.

This book lists, alphabetically, practically every medicinal product which has been introduced into medicine during the last decade. The sources from which the information has been compiled are chiefly the circulars of the manufacturers. Consequently, the work cannot have the authoritative value that it would have had if it had been subjected to rigid censorship by the editor. The statements of the manufacturers have not, however, been accepted at their face value in all cases. In a considerable number the reports of analyses made in the laboratory of the American Medical Association and, to a lesser extent, those made in the laboratory of the Pharmaceutical Institute of the University of Berlin, have been carefully abstracted by the editor and the results compared with the claims of the manufacturer. In this way the plain truth has been told about many nostrums. While in most cases the therapeutic applications of the medicaments are indicated, the book makes no pretense of being an authority in therapeutics. The amount of information given, as indicated in the subtitle, makes the work an encyclopedia which should prove useful alike to prescriber and dispenser. Physicians, however, who are not excessively confident of their own ability and good judgment in such matters might find it more satisfactory to limit their prescribing of proprietaries to such as are included in New and Nonofficial Remedies.

THE WORK OF THE DIGESTIVE GLANDS. Lectures by Prof. I. P. Pavlov, Director of the Physiological Section of the Imperial Institute of Experimental Medicine. Translated by W. H. Thompson, Sc.D., M.D., F.R.C.S. (Eng.), King's Professor of the Institutes of Medicine, Trinity College, Dublin. Second English Edition. Cloth. Price, $3 net. Pp. 266, with 43 illustrations. Philadelphia: J. B. Lippincott Co., 1910.

Those who read the first edition of Pavlov's work will find little difference in the main part of the book between that edition and the present one. The translator has added something here and there to bring the lectures up to date, but it is a striking testimony to the value and thoroughness of Pavlov's work that, notwithstanding the activity in this field of research during the eight years which elapsed between the appearance of the two English editions, so few new facts were discovered to add to his description of the secretory function of the stomach. The motor function, on the other hand, is more completely understood, as a result especially of *x*-ray investigations, and in order to present these facts, the translator has added two new chapters drawn largely from American and English sources. In order to conform to the style of the rest of the book these chapters are also presented in lecture form. One other chapter has been largely rewritten.

The readers of the first edition will agree that the character of the facts presented and the charming style in which they are portrayed gave the book much of the fascination of a romance. Both old and new readers will enjoy the perusal of the present edition in which one of the most important and practical sections in the whole field of physiology is so clearly exhibited.

Medicolegal

Adjudications and Prior and Subsequent Conditions as Evidence of Mental Capacity

The Supreme Court of Indiana had, in Taylor vs. Taylor (93 N. E. R. 9), a case where a woman 63 years of age was stricken with apoplexy, July 12, 1899, made a will July 3, 1900, was declared of unsound mind and incapable of managing her estate on a complaint filed January 6, 1906, had a second stroke of apoplexy in July, 1906, and died in January 1907. Unsoundness of mind at the time the will was executed was claimed, and the petition, answer of the clerk and judgment of the court of 1906 were offered in evidence, and excluded.

In holding that there was no error in such exclusion, the Supreme Court says that it cannot perceive that the evidence was so clearly competent or so material, that, if given, it could have had any effect or influence in determining the question of the mental capacity of the woman when the will was executed, when there was direct evidence to the point.

It cannot be doubted that much latitude in point of time, both before and after the transaction under inquiry, is allowable in determining the question of soundness or unsoundness of mind. The reason for the rule is apparent. The consistency or inconsistency of acts or declarations, differences in conduct towards family, relatives, and friends, and differences in habits of life at different times, if they exist, are relevant to, and sometimes highly indicative of, conditions of mind, and therefore competent for the purpose of determining that question, when they are of such character as to denote the mental condition. In some states the statute authorizes the inquiry in lunacy to be extended to a time anterior to the inquiry itself; but the Indiana statute does not authorize a retroactive inquiry to be made, or status fixed, though this court recognizes the prima facie status fixed by the adjudication, and holds that, even though a will is executed after an adjudication of unsoundness, mental capacity may be shown.

Whilst large latitude should be allowed in all such proceedings, and whilst there is no agreed limit of time within which the prior or subsequent condition is to be considered, the circumstances of each case in the very nature of things ought to control, and the discretion of the trial judge, though reviewable for abuse, ought to have weight. The question in such cases is necessarily one of relevancy. The inquiry must be sufficiently near in point of time to aid the jury in determining the mental condition at the time of the execution of the will.

The court knows as a matter of common knowledge that sane people become of unsound mind; therefore there must be some point of time when they thus become. And it knows that persons of unsound mind may have intervals of such lucidity of mind that they are competent to execute wills; hence the fact that a witness has testified that one is of sound mind at one time is only remotely, if at all, affected by the fact of the same person five and one-half years later filing a petition asserting such person to be of unsound mind, and incapable of managing his or her own estate, at that time. The adjudication is only prima facie evidence of mental incapacity.

Liability for "Waste" in Use of Property for Small-Pox Hospital

The Supreme Judicial Court of Massachusetts holds, in Delano vs. Smith and others (92 N. E. R. 500), that the use of property for a small-pox hospital may, under certain circumstances, constitute what in law is known as "waste." The latter it defines as an unreasonable or improper use, abuse, mismanagement, or omission of duty touching real estate, by one rightfully in possession, which results in its substantial injury—a violation of an obligation to treat the premises in such manner that no harm be done to them, but that the estate may revert to those having an underlying interest undeteriorated by any wilful or negligent act.

The plaintiff in this case was a holder of a mortgage on property which the defendants, acting as members of the board of health of the city of Everett, leased from the owner, after he had given the mortgage, "to be used as a contagious disease hospital." The plaintiff claimed damages, in the nature of waste. The jury fixed his damages at $1,800, but the trial judge ruled that there could be no recovery, which the court holds was not necessarily so.

It is the commonly accepted view, the court says, that smallpox is a contagious disease, spread through the instrumentality of germs, which, although invisible to the naked eye, are perniciously active and capable of causing loathsome and often fatal sickness. In Commonwealth vs. Pear, 183 Mass. 242, is a statement of the judicial notice which the court will take of the horrors of small-pox. From the agreed facts the jury would have been warranted in finding that this building was filled in every nook and crevice with the microscopic germs of this dreaded disease. This might have been found to constitute a material change in the qualities and condition of the house with reference to the purposes for which it was intended to be used, such as to constitute a definite injury.

Inoculation with germs of glanders was held to be a "bodily injury" in H. P. Hood & Sons (Corp.) vs. Maryland Casualty Co., 206 Mass. 223. Sowing the seeds of noxious weeds was restrained as waste in Pratt vs. Brett, 2 Madd. 62. Impregnation of a building with the indiscernible but vital germs of a dangerous malady is closely analogous to the sowing of seeds of deleterious plants, and may be in its effect far more injurious. It may be in fact even more harmful than to tear down or remove a part of the building. It is in principle the same general kind of injury as the more familiar instances of waste. The possibility of germination of the disease germs which, it might have been found, were deposited through the action of the defendants within the house in question was or might have been found to be waste, unless it was shown that they could be removed by disinfection or otherwise, without material physical change in the building, so as to make it as safe for residence as before.

A case like this one should be submitted to the jury under instructions which would permit the plaintiff to recover the material diminution in the value of his property for every valuable use among ordinarily intelligent men arising from the occupancy for a small-pox hospital, provided the jury were satisfied that it was not reasonable and proper to let the building for this purpose, having reference to the probable effects on its future growing out of the presence of disease-producing conditions, in view of the existing state of the art of disinfection or other way of rendering it healthful, and excluding all sentimental or fanciful notions affecting only its reputation.

Testimony of Attending Physician Inadmissible in Will Case

The Supreme Court of North Dakota holds, in Auld vs. Cathro (128 N. W. R. 1025), that, the privilege of secrecy attaching to all information acquired by a physician from a patient in attending the patient professionally, in a proceeding contesting the probate of an alleged will of a deceased patient, the testimony and opinion of the latter's attending physician as to her mental capacity, based entirely on information derived from her statements or his observations while treating her professionally and for the purpose of such treatment, were properly excluded. The court says that while this question has not heretofore been passed on by it, and while some courts, notably Minnesota, Iowa and Missouri, have held under certain circumstances that such testimony was admissible under statutes somewhat similar to that of North Dakota, the court thinks the better rule is as above stated. New York, Wisconsin, California, Utah and other states hold such evidence inadmissible, holding that the privilege is personal with the patient, that it applies in testamentary matters, and cannot be waived by the heirs and personal representatives.

Neurasthenia and Movable Kidney.—Movable kidney is proved to be a cause of neurasthenia by the following facts: 1. There is no doubt about the very great frequency of movable kidney in neurasthenic patients, male and female. 2. When these movable kidneys are supported by a proper belt great relief is experienced. 3. Nephropexy cures neurasthenia. Not one relapse has been observed in 150 cases.—C. W. Suckling, in the *Practitioner*.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

American Assn. of Genito-Urinary Surgeons, New York, June 1-3.
American Academy of Medicine, Los Angeles, June 23-26.
American Dermatological Association, Boston, May 25-27.
American Climatological Association, Montreal, Canada, June 13-14.
American Gynecological Society, Atlantic City, May 23-25.
American Laryn., Rhin. and Otol. Society, Atlantic City, June 1-3.
American Laryngological Association, Philadelphia, May 29-31.
American Medico-Psychological Association, Denver, June 19-20.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Otological Society, Atlantic City, June 26-27.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Proctologic Society, Los Angeles, June 26-27.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Surgical Association, Denver, June 19-21.
American Therapeutic Society, Boston, May 11-13.
Association of American Physicians, Atlantic City, May 9-10.
Cong. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Connecticut State Medical Society, Hartford, May 24-25.
Florida Medical Association, Tallahassee, May 10.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Missouri State Medical Association, Jefferson City, May 16-18.
Montana State Medical Association, Butte, May 10-11.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Hampshire Medical Society, Concord, May 11-12.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
North Dakota State Medical Association, Fargo, May 9-10.
Ohio State Medical Association, Cleveland, May 9-11.
Oklahoma State Medical Association, Muskogee, May 9-11.
Rhode Island Medical Society, Providence, June 1.
Texas, State Medical Association of, Amarillo, May 9-11.
Washington State Medical Association, Spokane, May 9-11.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifth Annual Meeting, held at Albany, April 18-19, 1911

(Continued from page 1285)

President's Address: Medical Teaching and State Board of Medical Examiners

Dr. C. Stover, Amsterdam: An evolutionary movement originating within the medical profession has for some years been directed toward the elevation of medical education in the United States, and the last report to the American Medical Association by the Council on Medical Education was distinctly in the line of advancement. It was not marked by excessive tenderness toward the weak institutions, and fairly indicated the relative strength and weakness of the various medical colleges. The Council cannot greatly regret the appearance of the Carnegie report, for, having been criticized for its somewhat advanced position taken last year, by comparison the Council will be generally considered moderate, and its work in the future rendered easier. The medical schools that have the best laboratories and hospital facilities will attract the best prepared students, and it is equally true that the institutions having inadequate means of instruction will be distinguished by the inferiority of their students. It is at this point that the State Boards of Medical Examiners have abundantly justified their existence. The state has assumed the right to pass on the competency of the graduates of the medical colleges. They touch this problem at three points: (1) the preliminary educational requirements; (2) the facilities of the medical schools; (3) the examinations for licensures. The future of these boards will be marked by increasing importance and responsibility, for on their action more than on any other agency will these problems depend for their evolution. While this is fully appreciated nominations by this society for medical examiners will be among the weightiest duties to be performed. With the increasing importance of laboratory work, it does not require great far-sight to anticipate examinations on laboratory methods, in order to guarantee fully equipped physicians for practice. It is not unlikely that a national board may ultimately be evolved that will unify the chaotic practice of the various states. Is it not clear that if a curriculum of study is to be standardized in the medical schools, it will be equally necessary to have a standard of preliminary training in order to teach with any degree of efficiency? If so, then the entrance examination will be relied on to stop on the very threshold the ill-prepared students. If one were to venture a forecast of the future, it would be that a revolution is not impending, but that the intervention of the state, encouraged by advanced medical opinion, will increase the importance of medical examining boards, that higher and uniform standards of admission on entrance, and more rigid examinations for licensure will eliminate the unfit, and the colleges that best provide the equipment for education will survive, and those that are inadequately equipped must go to the wall. This seems inevitable.

Operations for Adherent Retrodisplaced Uteri by Shortening the Round Ligaments

Dr. L. Broun, New York: After the abdomen has been opened for pelvic conditions, the preference given by operators for retaining the retroverted uterus in an anterior position has been usually some intra-abdominal operation. The operations giving the best results are those in which the strongest part of the ligament is utilized. The Alexander operation, the operation of Gilliam, and also the Simpson operation all do this. The Peterson operation, with some slight modifications, has become so satisfactory in my hands that I have practically discarded other methods. It is for this reason, and because it seems to be little known, that I bring it before the society. The several steps of the operation as I carry them out are as follows: A horizontal incision after the manner of Pfannenstiel is made, but lower down in the area of the growth of the parts. The length of the cut need not be over two and a half inches long. The fascia is divided horizontally and dissected free from the muscle above and below. The recti and pyramidali are now separated, and the peritoneal cavity is entered. Through this opening in the abdomen adhesions can be severed, diseased tubes or the appendix can be removed, and all ordinary pathologic conditions dealt with. Having completed the necessary work in the abdomen, and before closing the incision, the fat in one angle of the wound is dissected free from the fascia in the direction of and up to the external abdominal ring, which is easily located by palpating the pubic spine. This dissection is quickly done with a few snips of the scissors. The skin is retracted beyond the ring, which is readily exposed to view. The round ligament is grasped and withdrawn until the reflexion of the peritoneum comes well in view. This is not stripped from the ligament. If preferred, the fascia can be split up for a short distance, making the ready picking up of the ligament easier. The external abdominal ring of the opposite side is exposed in the same manner, and the ligament is withdrawn, as in the corresponding side. Before anchoring the ligaments in the new position, I retract the edges of the abdominal wound to be sure that no loops of intestines lie over the fundus of the uterus, which generally will be found to be in admirable position. The ligaments are now stitched to the pillars of the ring with chromic catgut or silk, as may be preferred, and the abdominal wound is closed. While drawing out the ligament from the canal, I have found it of value to use for that purpose clamps in which the sharp edges of the serrations have been filed off and the edges also rounded. If ordinary artery clamps are used, the sharp teeth lacerate and cut through the ligament, causing much annoyance, and at times embarrassment. With a flat file the sharp serrations on old discarded clamps can quickly be taken off and at the same time the edges rounded. In dressing the wound after the completion of the operation, full pressure should be applied over the site of the operation to secure close approximation of the separated parts.

DISCUSSION

Dr. H. P. Jack, Canisteo: For the last ten years I have been doing operations for retroflexion of the uterus. In regard to the operation Dr. Broun has brought before us, I can see several objections which have occurred to me in the use of the Alexander-Adams operation. The ilio-inguinal nerve comes through the canal and is frequently injured and pressed on in any shortening of the round ligament, and although I do not do this operation myself, I have seen a number of cases in which the patients have suffered much pain in the region of the inguinal canal, much more pain than from the retroflexion. For that reason, I think Dr. C. H. Mayo has discarded the operation which he originated himself and in which he shortened the ligaments through the inguinal canal by bringing the forceps down and dragging the ligament through the canal. He has given up that operation entirely, and does the Noble operation of fastening the round ligament behind. That operation, he tells me, has been very successful. After ten years' experience with the Gilliam operation I cannot commend it too highly. Patients operated on by this method do not have pain afterward, and with the modification that has now been made we have an ideal operation. I have had a number of these patients go through labor, and the uteri are still in position. I think it has all the advantages of the Peterson operation, it is simpler of performance, and less liable to give pain in the inguinal canal, and requires less dissection.

Dr. L. Broun: I can only suggest that Dr. Jack try this operation, and he will be so pleased with its simplicity and the excellent position of the uterus afterward that I am sure he will do just as I have done, adopt it exclusively.

Diagnosis and Surgical Indications of Duodenal Ulcer

Dr. J. T. Pilcher, Brooklyn: It is impossible to differentiate duodenal ulcer from uncomplicated ulcers of the gastric outlet in some cases. The purest type of symptom-complex is evidenced by duodenal ulcer. There are four cardinal symptoms: chronicity, periodical exacerbations, peculiar pain, and pain relieved by the ingestion of food. In this paper I analyze 156 cases with reference to the cardinal symptoms named. The confirmatory conditions are obtained by analysis of the stomach contents. The hyperacidity of gastric secretions must be considered, and the existence of latent cases is not to be overlooked. There is no ground for conflict between the surgeon and physician in this field of work. The symptoms indicating operation are hemorrhage, stenosis, tumor, and intractability.

DISCUSSION

Dr. Alexander Lambert, New York: After twelve or fifteen years of pain and constant recurring discomfort and disability which such a condition brings about, these patients are glad to go to a surgeon and be relieved. Those are as much surgical cases as are the stenoses of the pylorus or ulcers of the stomach that have formed cicatrices and a more or less contracted or hour-glass condition. A question that is constantly referred to me is what should the medical man do to a young man or person who comes into his office who shows this symptom-complex for the first time? If in a healthy young person who has pain two or three hours after eating, which is relieved as soon as food is taken, and in which by gastric analysis the physician finds distinct hyperacidity, he is generally convinced in his own mind of the probability of duodenal ulcer. After a three days' test of no meat or blood-forming content in the food, one may or may not find occult blood in the stool. Should such a patient be sent to a surgeon for operation? I cannot settle this question from my own experience. Some years ago, I saw such a patient who gave that symptom-complex for the first time, and while quietly lying in bed suddenly bled to death from one large hemorrhage. A better care of the individual patients will be given by both medical men and surgeons if we can settle in our minds what should be done with the early single cases of duodenal ulcer, or those which present the syndrome which justifies us in considering they have duodenal ulcer.

Dr. Elliott P. Joslin, Boston: The average duration of cases of duodenal ulcer before operation is from twelve to thirteen years. What is the average duration of patients who have been subjected to gastro-enterostomy? That is still *sub judice*. We do not know how long these patients are to get on comfortably with that artificial opening. Undoubtedly patients in the class referred to by Dr. Pilcher should be operated on. It is the duty of medical men, whenever they advise operation for the relief of duodenal ulcer, to qualify their advice by saying that the operation shall be done by a man who has had considerable experience in gastric surgery.

Dr. Nathan Jacobson, Syracuse: The question of diagnosis was presented to me about two weeks ago when I was called to see a case of duodenal hemorrhage. The patient, a man of 49, was in an extremely low condition, with the sudden appearance of duodenal hemorrhage. Melena was very profuse; the hemoglobin percentage was nearly 40; the red blood-count a little over 2,000,000. This case presented a series of manifestations so different from what I had seen before, that I could not but consider that we were dealing with more than a simple duodenal ulcer. The first thing that stared me in the face in regard to the diagnosis was the absence of all previous gastric manifestations. This man had never had gastric distress and none of the characteristic manifestations portrayed in the paper. His temperature ranged from 101 to 102 F. While there was a loud endocardial murmur, it was not the hemic murmur we should get from simple loss of blood. It was accentuated. I found petechial spots, and the question arose as to whether we were not dealing with some other condition than duodenal ulcer. A blood-culture was made and a pure culture of pneumococcus was found. There was a case in which the blood-infection showed its first disturbance as duodenal hemorrhage. Once before I have seen intestinal hemorrhage which showed itself first with the symptoms of acute appendicitis as the first manifestation, a purpuric condition, a condition in which we have the appendix with other evidence of intestinal hemorrhage in its region, and subsequently hemoptysis, renal hemorrhage, and purpuric spots, and the first evidence of trouble in that case was intestinal hemorrhage. To those who have seen duodenal ulcers occur in the course of burns I will say that we may think of an acute case of duodenal hemorrhage due to the pouring out of toxins in the duodenum and irritating processes there, and I want to emphasize the necessity of studying cases of acute hemorrhage and acute conditions and whether or not they are cases for operation. Certainly this case was not one for operation, and its subsequent course justified that conclusion.

Dr. A. E. Chase, Tarrytown: I recall the case of a bo who had been seen by physicians in New York and a numbe of diagnoses made. He finally came to Tarrytown, and number of diagnoses were likewise made there. He wa brought to the hospital in a moribund condition. He ha general septic peritonitis, and I endeavored to do what I coul for him. I made a rather large incision, and found the sign of septic peritonitis with considerable pus. But back of tha the intestines were matted together by the firmest adhesion I have ever seen, these adhesions being so strong and dens that they could not be torn but had to be cut. In the mids of them was a sinus communicating with an old duoden ulcer, passing down to the middle of the abdomen and u again to the spine. That sinus had been there for a lon time. This boy had had duodenal ulcer for three years; had perforated, and gave him general septic peritonitis, whic caused death.

Dr. A. McFarlane, Albany: No man can tell beforeha what one must do in the individual case. But the importa thing that the Mayos have brought clearly to our min is that a great many of these patients who are reliev are not neurasthenics or nervous dyspeptics, but are suffe ing from serious anatomic lesions. Whether it is best to operate immediately, or to try local medical treatment in such cases, is a matter to be decided in each individual case.

Dr. I. Adler, New York: While in rare cases gastric ulcer will heal perfectly, duodenal ulcer never does, and the chances of doing irreparable harm are much greater there than in gastric ulcer. I believe that whenever duodenal ulcer has been diagnosed, operation should be decided on at once. It is only a question of time in my mind when operation should be recommended, and I would guide myself always by the appearance of the occult hemorrhage. If there is more or less occult hemorrhage, then I would not delay operation very long, but advise that it be done early.

The Bladder and the Prostate

Dr. John F. Whitbeck, Rochester: It has been estimated that at least one-third of all men after the age of 40 or 50 have enlargement of the prostate, and it is just as certain that hypertrophy of this gland or increase in size from any cause, whether simple or complex, involves the bladder in difficulties. If a patient can be persuaded and taught to lengthen gradually the intervals of urination within the limit of reason, much better control will be obtained with or without the aid of the catheter and patients should be as careful and deliberate as possible while passing urine in order the more completely to expel some portion of the residual fluid. Prostatectomy is rational and offers a complete cure when the individual has no serious organic disease, but is sound or may be made so. Experience shows conclusively that a man in fair health may be cured surely without danger. Contrast for a moment the entire relief afforded by the removal of the prostate when it is enlarged enough to act as an obstruction and a state in which the gland is allowed to remain and the lateral lobes to grow larger, while a middle or third lobe is formed and acts as a ball valve to close the urethral canal, although it lets a catheter pass easily. It is not the frequent desire and necessity to urinate, or the mere use of the catheter from which one shrinks and seeks relief, but the risk of infection, of cystitis, or calculus or pyelitis, or abscess of the prostate, or traumatism from the use of various instruments and the progress from bad to worse.

SYMPOSIUM ON SALVARSAN

Indications for Salvarsan in Syphilis

Dr. S. Pollitzer, New York: Every patient with active infective lesions of syphilis should receive a dose of salvarsan. every individual with extensive gummatous or ulcerative lesions should receive a dose of salvarsan. The effect of salvarsan on such lesions is in general so marked, so prompt, that in justice to our patients we owe them this treatment which so greatly shortens the period of the local treatment. Patients in whom important structures, like the eye or the throat, are involved, should receive salvarsan, as also those with painful lesions of the bones or of the throat and syphilitic cachexia. In these cases the effect of the drug on the constructive metabolism is most striking; a gain in body weight of from 10 to 15 pounds within a fortnight has been observed repeatedly. Individuals with syphilis complicating pulmonary tuberculosis should also receive salvarsan. In these cases the tuberculous process is aggravated by administration of mercury and iodid, and the fear of further damaging the patient's lungs makes it difficult to treat the syphilis properly. Infants with hereditary syphilis should receive salvarsan in minute doses. Here, again, we have the prompt antisyphilitic effect of salvarsan aided by its tonic effect on metabolism. This drug is also useful in an early stage of tabes with pains or sphincter symptoms. While we cannot expect to restore degenerated nerve tracts, the work of Erb and Nonne has made it seem probable that in early tabes there are still active syphilitic foci in the cord, and it seems likely that salvarsan will at least exercise an inhibitory influence on the course of the disease. In the rare cases of oversensitiveness to mercury on the one hand, or of resistance to the effect of mercury on the other, the patients should be treated with salvarsan. Patients who, notwithstanding a thorough course of mercury, show a positive Wassermann reaction, even in the absence of visible lesions, should receive a dose of salvarsan. In the present state of our knowledge a positive Wassermann reaction must be regarded as evidence of an active focus of syphilis. In several individuals who had received a four or five months' course of salicylate of mercury injections in doses up to 5 grains, a persisting positive Wassermann reaction was promptly changed by an injection of salvarsan.

Action of Salvarsan on the Wassermann Reaction

Dr. Howard Fox, New York, presented a tabulated list of thirty-four cases in which salvarsan had been used, and drew the following conclusions:

1. It is difficult at present to draw general conclusions, owing to the great discrepancies in the results of various observers.
2. These discrepancies are partly due to the different methods of injection and to the different stage of the disease in which the injections were given.
3. The results of a single injection given by either the intravenous or intramuscular methods are, as a rule, rather unsatisfactory from the serologic standpoint.
4. Repeated injections seem to have given better results and offer a more hopeful outlook for the future.
5. The action of salvarsan on the Wassermann reaction is, in general, analogous to that of mercury.
6. The effect on the Wassermann reaction is much less favorable than on the clinical manifestations of syphilis.

Therapeutics of Salvarsan

Dr. S. J. Meltzer, New York, laid special stress on the scientific principles which form the basis of Ehrlich's experiments in contrast to the use of mercury, which is a remedy hit on by chance. He described the steps by which Ehrlich evolved salvarsan and the brilliant results that have been obtained, and stated his belief that this discovery may be the means of raising therapeutics to the dignity of a science. This article will be published in full in The Journal.

Treatment of Syphilis with Salvarsan

Dr. John A. Fordyce, New York: This paper presents an analysis of the clinical and serologic results obtained in the treatment of 175 patients with this disease with salvarsan. Salvarsan gives more rapid and brilliant results in this class of cases than is seen from the administration of the classical drugs. It is possible that there is here a different strain of organisms more easily influenced by salvarsan than by mercury and potassium iodid. The lesions heal rapidly, a decided increase in weight occurring within two weeks, and the temperature often becoming normal. In advanced disease of the nervous system no benefit was noted from the administration of the drug, but in several cases of early tabes, in one of paresis, in endarteritis of the base of the brain, and in several cases with persistent headache most gratifying results were obtained. In this series of cases there were six relapses, all after treatment with a single dose. They are periosteal lesions in a case of malignant syphilis, plantar and palmar syphilis, mucous membrane lesions and acute unilateral optic neuritis and iritis. Failures were encountered in advanced tabetics and paretics, and in five cases of hereditary syphilis, but three of the latter it is hardly fair to class as failures, since the dose was inadequate. In only one case were by-effects noted which have given any anxiety, namely, convulsions and hemiparesis three days after an intramuscular injection of 0.2 gm. alkaline solution to a child 7½ years old with an extensive gummatous infiltration of the nose and upper lip. The child made a good recovery, and the lesions for which it was treated healed rapidly.

Technic and Methods of Administration of Salvarsan

Dr. Homer Swift, New York, described the method of preparing the salvarsan solution and its employment.

A Few Plain Truths About Salvarsan

Dr. W. S. Gottheil, New York: Salvarsan is valuable in certain cases as an additional weapon in our armamentarium, but it does not accomplish the marvels attributed to it. It does not cure any more than does mercury. It is powerful in combating symptoms. Symptoms of the persistence of syphilis appear more frequently after treatment with salvarsan than after treatment with mercury. Individuals recently infected are the only ones in whom its efficacy must be estimated. Mercury is still the antisyphilitic for general use. The latest advice from high places is to use salvarsan first, and then to go back to mercury. Cases of idiosyncrasy in which mercury cannot be borne are not so frequent as some would have us believe since the discovery of salvarsan. Salvarsan has been efficacious in the early type of syphilis. The symptomatic effects are equal to those of mercury and sometimes fail. Salvarsan is as useless as mercury in late cases. It is useful in persistent lesions in mucous patches, and in cases not permitting of long medication.

By-Effects of Salvarsan

Dr. James Winfield, Brooklyn: The by-effects are local, organic and general. The local effects are pain, infiltration, sloughing, necrosis, especially with the subcutaneous method of injection, swelling of the lymphatic glands in the neighborhood, scarlatiniform eruption, icterus, herpes zoster and urticaria. Among the organic effects are pulmonary embolism and pneumonia, cardiac and circulatory disturbances, hemorrhagic nephritis and acute necrosis of the convoluted tubules. There are no serious effects on the gastro-intestinal tract. Affections of the cerebrospinal system seem to increase after its use, also ocular involvement and oral effects, which are often transitory. The vital organs should be carefully examined before this remedy is used for any deviation from the normal.

Discussion on Salvarsan

Dr. George Henry Fox, New York: To those who imagined that syphilis was to be forever cured by one dose of salvarsan, and that thereafter mercury will be of value on account of its historic interest, the disappointment has been severe. Even those who have witnessed beneficial results of the remedy, or the numerous and speedy reliefs which have occurred, have been disappointed in a milder degree. While salvarsan has proved a disappointment and in some respects has not yet and probably never will fulfil the high hopes its discoverer intended, it must be admitted that in many cases it has proved to be a remedy as efficacious in its action as it was brilliant in its inception. From what I have observed in private practice and hospital experience, I am convinced that it is a remedy which in certain cases is able to accomplish what no other remedy or method of treatment has done. While I agree with Dr. Fordyce that salvarsan has accomplished what mercury has never accomplished, at the same time I heartily concur in the assertion made by Dr. Gottheil that the disappearance of the symptoms is by no means indicative of a cure of syphilis.

(*To be continued*)

TENNESSEE STATE MEDICAL ASSOCIATION

Seventy-Eighth Annual Meeting, held at Nashville, April 11-13, 1911

(*Concluded, from page 1287*)

Fractures of the Tibia and Their Treatment

Dr. P. F. Eve, Nashville: I have treated many of these fractures and have had a number of others under observation; in not a few instances I have seen ununited fractures which demanded operative interference. In some of these cases the interposition of the soft parts prevented union, while in others the inability to maintain the fragments in coaptation caused a like result. I have come to the conclusion, therefore, that there are some varieties of fractures of the tibia which call for an open method of treatment. I base this conclusion on the following facts: 1. Should non-union occur from the interposition of the soft parts, and an operation be required after waiting the requisite length of time for union, the very nature of this operation results in a much greater shortening than would have occurred had the operation been performed at the time of the injury. 2. The time required for union in such cases is twice as long. 3. The physical condition of the patient is not nearly so good as soon after the receipt of the injury, his general health having suffered in the many weeks which have elapsed in the effort to accomplish healing of the fracture. 4. The anatomic and cosmetic appearance is not so pleasing

Report of Case of Pellagra

Dr. E. H. Jones, Murfreesboro: In this case the patient lives in the country, appears well, and is working and has been doing so all fall and winter. The treatment consisted of arsenic, iron and strychnin, the arsenic being pushed to tolerance.

DISCUSSION

Dr. J. M. King, Nashville: There have been forty or fifty cases of pellagra in and around Nashville, and I have seen a number of them. The treatment has been climatic, together with the use of iron, quinin and strychnin. I have not pushed the arsenic too much. Moderate doses of arsenic are sufficient, with the very best of food and nursing, with probably bismuth or some of its preparations for the diarrhea.

Dr. J. P. Runyan, Clarksville: Has menorrhagia been a prominent symptom in any of the cases? In two cases I have seen, that symptom was pronounced.

Dr. W. Litterer, Nashville: It is the general consensus of opinion that pellagra is contracted through the intestinal tract—that it is some kind of intoxication. Whether it is produced by the food that is ingested or by some bacterium, we do not know. Torrance and McAlester have given salvarsan intravenously in three cases of pellagra with marvelous results.

Dr. J. Overton, Nashville: It is proper to employ tonic treatment for a week or so, but unless decided improvement is shown, some more radical procedure should be resorted to, such as direct transfusion. Cole has obtained a remarkable percentage of recoveries in severe cases of pellagra by transfusion.

Dr. W. Frank Glenn, Nashville: I do not believe that good corn meal will ever produce pellagra, but I am inclined to believe that the disease is communicable.

Dr. L. L. Sheddan, Knoxville: I know of two cases of pellagra in which menorrhagia was a symptom.

Dr. B. J. Rash, Nashville, narrated a case of pellagra in which menorrhagia was a symptom.

Dr. C. N. Cowden, Nashville: I treated a patient for two or three months for infection of the skin, but later a diagnosis of pellagra was made. One diagnostic symptom of pellagra is extreme redness of the tongue.

Dr. M. C. McGannon, Nashville: A young girl had been under my care for two years, and I was unable to account for the inflammation of the vagina which was so intractable to treatment. The condition of the patient steadily progressed until now she has developed all the symptoms of pellagra without, however, any skin eruption.

Reform in Public Schools

Dr. O. Dulaney, Dyersburg: There is need of reform in public schools with reference to hygiene and sanitation. Medical inspection of school children is of great importance, as are also the frequent inspection of buildings by a sanitary officer, and the need of law governing school buildings, and the necessity for medical representation on the state board of education.

The Physician and the Public

Dr. John A. Witherspoon, Nashville: Physicians are in a measure public men, in that they should be the guardians of the health and lives of the people. A physician should stand for everything that is right and uplifting in his commonwealth. His standing in his community should be such that his influence is great and widespread. Belonging to a profession of highest ideals and greatest of responsibilities, in which his opportunity to do good is as great, if not greater, than the ministry, the people have a right to expect a great deal from him. At the same time, they owe a great deal to the physician and should uphold his hands in every way. It is high time that the press, law-makers and people should recognize the fact that the medical profession is the most self-sacrificing in the world, and quit this idle talk of doctors' trusts and all other equally fallacious and untrue statements which only retard the efforts of physicians in the public interest and give to the enemies of mankind a weapon to be used to retard progress and keep from the people the wonderful and life-saving methods which modern medicine offers in the way of preventing disease and insuring that development, mentally and physically, so necessary to the welfare of mankind and good citizenship. Physicians have been subjected to charges of all kinds of crimes and misdemeanors by means of pamphlets circulated by an alien, who suddenly is so much in love with our people that he rushes to their rescue from the north as a representative of the National League of Medical Freedom—whatever that is. I understand that it is composed of the "patent-medicine" manufacturers and others who have been the vampires that sucked the blood of our people so long that they have grown arrogant and dictatorial to the extent that they assume to themselves all the virtue and wisdom of the age and ruthlessly and falsely make charges against the medical profession. Our duties to the public do not end here, but to see that none but safe, moral and competent physicians are permitted to enter the profession. To practice medicine is a very sacred and grave responsibility and the people have a right to expect protection. How can this be done? In two ways: First, by insisting that none but high-grade, well-equipped medical schools for the training of the young men be tolerated; second, by passing such laws by the legislatures that none but moral and well-qualified doctors can be licensed to practice. The passage of good laws and the appointment of strong and competent men to enforce them would soon rid this country of charlatans and ignorant pretenders and strike the death-blow to quacks and venders of nostrums, whose stock in trade is the cupidity and ignorance of the people. If there is any creature any lower than he who traffics in the ills and afflictions of his fellowman, or he who withholds any remedy or treatment that might alleviate human suffering or assist in any way to save human life, it has never been my fortune to meet him. We are misunderstood and often accused of selfish motives when we raise our voices in protest against fads or harmful practices by which individualism and often life is sacrificed on the altar of ignorance.

Acute Inflammatory Glaucoma

Dr. Walter Dodson, Gallatin: Iridectomy is the greatest of all primary operations for glaucoma, but after the operation has been done and the pain and increased tension continue, or should we have a recurrence of the disease, I would not further mutilate the iris by doing a second or third iridectomy, but would do a cyclodialysis. This operation has fallen into disrepute as a primary operation, unless the eye be blind before operation, and then it seems to be the ideal operation. Enucleation is reserved as the last resort, but we find many persons who have been neglected until the eye is blind, and the eye-ball or some parts of it are undergoing a stage of degeneration.

Typhoid Fever

Dr. Thomas Weaver, Nashville: Two outbreaks of typhoid fever in an institution were traced to bacillus-carriers. These outbreaks serve to emphasize several points that may well be remembered. First, the question of bacillus-carriers is one of very great importance, and should always be borne in mind in tracing the source of infection in an outbreak of typhoid fever. Second, the possibility of this danger should be considered in the employment of cooks and other culinary employees, not only in private families, but especially in institutions. Third, it should not be forgotten that the presence of Eberth's bacillus in the stools of bacillus-carriers is by no means constant, and repeated examinations are frequently necessary for its detection.

Practical Laboratory Work for the General Practitioner

Dr. N. Evans, Nashville: Gastric diseases do not receive the attention from a scientific standpoint by the general practitioner which they deserve. They are very frequent, occur for the most part among the better classes, and in a large proportion of the cases are relieved by proper treatment. In many cases it is absolutely essential, in order to make a correct diagnosis, to examine the stomach contents by means of the chemical tests for hydrochloric acid and the organic acids. It is the duty of the teachers of microscopy and allied subjects in medical colleges to make the students see clearly the difference between the laboratory procedures which have simply an educational value and those which have an immediate practical importance. In the latter every man should be so thoroughly trained that he is master of them, can perform them with absolute assurance, and can trust his own findings in, for instance, the recognition of tubercle bacilli, the malarial parasites, and urinary casts. I am satisfied that many physicians graduate from medical colleges without the practical experience in these simpler methods which they ought to have. I believe the plan is most satisfactory where two physicians are associated together in practice, where one can do the greater part of the necessary laboratory work. In most cases the younger men who have more recently worked in the college laboratories will be better fitted to do that part of the work.

The Disease and the Man

Dr. W. B. St. John, Bristol, gave a condensed history of physicians who are discoverers of diseases which bear their names, giving incidents in their lives, their best-known works, under what circumstances their contributions to medicine were brought about, where they were born, what good they did, and how they are remembered and the debt of gratitude the profession owes them.

The Duty of the Country Physician to the Mother and Child

Dr. Howard C. Curtis, Algood: Every mother should be told how to care for her baby, no matter what her circumstances or environment in life; the poorer and more unfortunate mother should have special attention to enable her to better care for her offspring. She should, if possible, nurse her child, and be taught the proper care of the infant's eyes, its mouth and skin, and that it should have a daily bath; that the clothing should be light and cool; that it should have plenty of outdoor exercise; fresh water to drink instead of paregoric and laudanum; that it should have regular habits, and also that it should have regular hours to nurse. A good many other things—feeding, etc.—should not be neglected.

Salvarsan and the Wassermann Reaction in Sixty Cases of Syphilis

Dr. W. Litterer, Nashville, drew the following conclusions:

1. The consensus of opinion now is that a single injection has in favorable cases approximately the same results as a four or five months' treatment with mercury.
2. Salvarsan seems to be of particular value in malignant precocious syphilis, in threatening destructive processes, and in cases that are refractory to mercury.
3. There seems to be no uniformity between the disappearance of the Wassermann reaction and in the improvement of the patient.
4. In a number of instances relapses could be detected by the Wassermann test before clinical symptoms manifested themselves.
5. More favorable results can be expected in a beginning tabetic showing a distinctly positive Wassermann reaction than in one in which a slight reaction appears.
6. In the majority of instances administration by the extravenous (intragluteal) route should first be instituted, since it is the safest method. Should the patient not become Wassermann-negative, the intravenous route may be resorted to.
7. In my series, after a single injection, 35 per cent. resulted in a negative Wassermann reaction in six weeks' time. Out of this number 15 per cent. showed a positive test in three months, while an additional 6 per cent. recurred two months later.
8. A final opinion as to the permanence of its action can only be given after a lapse of several years, during which time both clinical manifestations and Wassermann reactions must be carefully observed.

Treatment of Syphilis

Dr. W. F. Glenn, Nashville: After many years' experience with various preparations of mercury, I feel sure that we can hope for less good from proto-iodids than from any other preparation. I would not willingly abandon entirely the use of a remedy, such as mercury, which has been a sheet anchor for almost 400 years; at the same time I regard salvarsan as a great addition to the therapeutics of syphilis, and truly a boon to humanity.

Injuries of the Head

Dr. D. Eve, Jr., Nashville: There are three prime indications in the surgical treatment of fracture of the base, and these are asepsis, relief of compression, and drainage. In case a fracture communicates with the nose, the nostrils are sprayed with mild antiseptic solution, gently dried and packed with sterile gauze, the packing should not be very tight. the idea being to filter all the air reaching the seat of fracture. In the middle fossa, first place a little piece of sterile cotton in the canal of the ear, then wash the whole outer ear with green soap and sterile water, then remove the cotton and douche the canal with warm normal salt or boric acid solution and insert gauze loosely into the canal. Fluff gauze is placed on this, and retained with a bandage. Compression is relieved by the decompression operation and lumbar puncture. If the fracture involves the anterior or the middle fossa, the operation consists of subtemporal trephining in the temporal region with drainage. Cushing advises trephining on both sides; with fracture of the posterior fossa, the operation should be occipital decompression with drainage. Patients with dilatation and fixation of both pupils, deep coma, rapid rise of temperature and stertorous breathing are rarely benefited by operation. We often see patients in whom the coma is not profound after the accident, but later grows gradually or suddenly worse, showing signs of increased intracranial pressure, then operation with drainage will save many of them. Lumbar puncture should be done for diagnostic and therapeutic purposes. It is a positive means of distinguishing subdural hemorrhage from supradural hemorrhage; also it diminishes the intracranial tension. Ransohoff uses repeated lumbar puncture in cases in which the coma is not profound, and claims that this takes the place of the decompression operation.

Appendicitis With Concurrent Typhoid Fever

Dr. W. D. Sumpter, Nashville: In a case of appendicitis in which the symptoms of typhoid did not appear until after operation, the distal end of the appendix was distended with thick pus and was so near rupture that after the operation, in handling it, pus oozed spontaneously from its wall. The proximal end appeared normal except for adhesions.

Vaginal Hysterectomy

Dr. J. A. Gaines, Nashville: The vaginal method of hysterectomy is indicated for carcinoma of the cervix of corpus uteri in any case in which there are not such glandular involvements as preclude operation by any method. For non-adherent fibroids not too large to be delivered by the vagina the operation is indicated. Either general myofibroma, subperitoneal or submucous tumors are easily dealt with in this way. This method is also greatly superior in dealing with prolapsus uteri after the child-bearing period is passed, as it lends itself more readily to the plastic work required to support cystocele and rectocele, one or both of which are always found in association with this condition. The vaginal route offers ready access to the ovaries or tubes which may be removed, resected, or the tube removed, leaving any part of the ovary desired, with as careful plastic resection as the abdominal route will permit. No vaginal celiotomy for any cause should be done without a thorough preparation of both vaginal and abdominal fields. In any vaginal hysterectomy, conditions may arise or be found making it most desirable to finish by the abdominal route, using the combined method, which is preferred by some as a regular procedure.

Other Papers Read

The following papers were also read: "Lacerations of the Deep Urethra," by Dr. J. J. Waller, Oliver Springs; "Pellagra Associated with Uncinariasis," by Dr. J. W. Breeding, Ravenscroft; "When Does the Gonorrheic Cease to be Infectious?" by Dr. C. F. Anderson, Nashville; "Surgery of the Intestines," by Dr. J. H. Carter, Memphis; "The Relationship of Food to Disease," by Dr. E. A. Timmons, Columbia; "Technic for Intravenous Injection of Salvarsan," by Dr. E. T. Newell, Chattanooga; "Sarcoma of the Stomach," by Dr. J. Overton, Nashville; "Oblique Inguinal Hernia," by Dr. D. Eve, Nashville.

House of Delegates

The House of Delegates by resolution commended the work of Senator Owen, of Oklahoma, in his effort to promote the passage of national legislation for the establishment of a National Department of Health, and urged each member to interview Senators Taylor and Lee of Tennessee, with a view to enlisting their support in the passage of the bill.

The association adjourned in a body and appeared before the Committee on Ways and Means of the Senate, and urged the passage of the following bills: a model vital statistics bill, a state hygienic laboratory, and the medical inspection of school children. The senatorial committee, after listening to speeches from several members of the medical profession, in less than thirty minutes, recommended the three bills for passage. A similar hearing was granted the profession before the Committee on Ways and Means of the House, where the opposition to the bill on the medical inspection of schools was violent, but it is thought that the three bills will finally pass.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Boston Medical and Surgical Journal

April 20

1 *Scoliosis with Marked Structural Change and Rotation. R. Soutter, Boston.
2 Acute Postoperative Dilatation of the Stomach. E. W. Lee, New York.
3 *Id. R. T. Morris, New York.
4 An Analysis of Forty-Six Cases of Prostatectomy. L. Davis, Boston.

1. Scoliosis.—Soutter pleads for the more thorough treatment of stiff scoliotic cases, in many of which absolute correction of the curve seems practically impossible. Simple, flexible and uncomplicated curves are not considered in this paper. He urges that the general condition must be improved. Developmental exercises should be done systematically, all exercises taken in a position which brings a minimum strain on the deformity. This may be accomplished best by suitable machines for the purpose under skilled assistants. It is accomplished also at home to a less extent. The flexibility of the spine in all directions should be increased; having attained this, and improved the general physical condition, the state of mind and endurance of the patient is much better. The periods for eating, for rest and for work should be established with regularity. Correction of the deformity is started during the development and flexibility treatment; later it is carried to a greater extent and the points of greatest deformity attacked more vigorously. Exercises are adjuncts in the treatment but will not take the place of especially adapted corrective machines and apparatus applied to the deformity. The advanced case of scoliosis should not be trifled with.

In addition to the appliances in which the patient is treated for from three to four hours each day, the patient should have apparatus to wear when about, and other apparatus to wear when in bed. The amount of apparatus and the treatment necessary varies with the patient. The apparatus worn at night is made after a certain amount of correction has been attained. The night and day apparatus must be carefully adapted to the improvement. Corrective jackets follow the other treatment. The patient is kept recumbent and successive corrective jackets applied either from remodeling the cast or from newly applied jackets. Following from two to four months of corrective apparatus, a retentive apparatus is applied, maintaining the full correction in a comfortable way and the patient is allowed to go from two to six months, when further treatment may be instituted, according to the requirements.

Excellent results were obtained in 182 cases treated by Soutter. Sixty-five, or one-third, were greatly corrected, ninety-seven were improved; in twenty, while the patients were benefited in strength, endurance and health, their curves were not improved. Considering the degree of rigidity as a factor in those that were greatly corrected, thirty-nine were of slight degree of rigidity, none was extremely rigid. In the cases with marked improvement, thirty-two were slightly rigid, twenty-eight were rigid and thirteen were extremely rigid. Of the patients who were improved, three were slightly rigid. eleven were more rigid and eight were extremely rigid.

3. **Acute Postoperative Dilatation of the Stomach.**—In cases of acute gastric dilatation Morris advises placing the patient on the abdomen, inclined a little to the right side. That will mechanically compress the dilated stomach and unkink the duodenum. He would wash out the stomach every hour or two if necessary with the stomach tube. That allows the postural mechanical resource to become more effective, and it takes away saprophytic poisons.

New York Medical Journal

April 22

5 The Starnook and the Window Tent: Two Devices for the Rest Cure in the Open Air and for Outdoor Sleeping. S. A. Knopf, New York.
6 The Study of Fats and Lipoids in Animal Tissues. J. Wright, New York.
7 The Prevalent Misuse of the Prostate in Gonorrhea. H. G. Klotz, New York.
8 Chronic Backache; Etiology; Treatment. C. Ogilvy, New York.
9 *A Case of Psychogenetic Convulsions, Simulating Epilepsy. H. W. Frink, New York.
10 *Clinical Studies in the Pepsin and Diastase Content of Urine. E. H. Goodman, Philadelphia.
11 Breaking Down of Wounds Following Operations. J. J. Gilbride, Philadelphia.
12 Studies of Antiformin Resistant Microorganisms Found in the Brain of Animals Infected with Rabies. F. Proescher, Pittsburg, Pa.
13 Clinical Importance of the Impure First Sound at the Cardiac Apex. S. Neuhof, New York.

9. **Psychogenetic Convulsions.**—A woman, aged 23, gave a history of attacks of *petit mal* from her second to her fourth year; she had *grand mal* attacks, from four to twenty a month, from the fourth to the twenty-third year, with hallucinatory attacks, and compulsive ideas. Treatment by suggestion produced immediate and almost complete relief for a period of eleven months.

10. **Pepsin and Diastase in Urine.**—Goodman is convinced that no diagnostic aid is to be sought in the amount of pepsin or diastase in the urine. He disclaims all value for the determination of the ferments in the urine, *per se.*

Kentucky Medical Journal, Bowling Green

April 15

14 Indications for the Induction of Premature Labor. J. G. Cecil, Louisville.
15 Pernicious Anemia. O. W. Doyle, Louisville.

Journal of the Indiana State Medical Association, Fort Wayne

April

16 Catheters, Sounds and Drainage Tubes; Their Selection, Care and Use. W. N. Wishard, Indianapolis.
17 *A Plea for the Cesarean Operation, Based on a Report of Fifty-Three Cases Performed in Indiana. G. W. H. Kemper, Muncie.
18 *The Conservatism of Elective Cesarean Section. O. G. Pfaff, Indianapolis.
19 The New Physician. M. C. Kimball, Converse.
20 *Bone Transplantation. D. Ross, Indianapolis.

17 and 18. Abstracted in The Journal, Nov. 26, 1910, p. 926.

20. **Bone Transplantation.**—By an accidental discharge of gun. Ross' patient was shot in the middle third of the right g. the shot carrying away part of the tibia and fracturing he fibula, and completely destroying the anterior tibial group f muscles in the middle third of the leg. A posterior splint, ell-padded, was applied with plaster-of-Paris encasing the ot and the thigh. The father refused to allow the foot to e amputated. Infection followed and for a while threatened e life of the patient. When it became evident that union as not going to take place voluntarily, Ross began to look bout for some means of relief and finally decided to try untington's suggestion of using the fibula in a somewhat odified form. An incision was made about 6 inches in length idway between the tibia and fibula in the lower part of the per third and the upper part of the middle third of the leg. he muscles were carefully dissected away and the fibula was t about 2 inches below its articulation with the tibia. The adjacent borders of the two bones were denuded of periosteum and fastened with nails which were removed ten days later. The tibia and fibula had become united by callus below the seat of the fracture so required no care; except for a pointed projection, there was a space of at least 1½ inches between the bones. One fragment of dead bone in part filling this space was removed and the cavity curetted and cleansed as well as possible. Considerable infection followed with breaking down of scar tissues. Despite this, in four weeks' time the union was fairly firm. The patient walked on the foot about seven months after operation. The limb is about 1¼ inches short, due in part to shortening allowed to bring ends of bone nearer together and, in part, to imperfect growth since accident, as the left foot is about ¾ of an inch shorter than the right. Shortening does not seem to have increased since operation. The gap between the ends of the tibia is completely filled with new bone.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

April 1

21 *The Selection of Operation for Inguinal Hernia. A. MacLaren and H. P. Ritchie, St. Paul.
22 The Grossich (Iodin) Method of Skin Sterilization. E. C. Robitshek, Minneapolis.
23 Finkelstein's Classification of Diseases of the Gastro-Intestinal Tract in Infants. F. W. Schlutz, Minneapolis.
24 Signs Determining the Activity and Latency of Tuberculosis. E. L. Tuohy, Duluth.

21. Abstracted in The Journal, Jan. 28, 1911, p. 298.

New York State Journal of Medicine

April

25 *When Shall We Operate in Puerperal Septic Infection? J. O. Polak, Brooklyn, N. Y.
26 *Extra-Uterine Pregnancy. A Review of 100 Consecutive Operative Cases. C. Graham, Rochester, Minn.
27 Diagnosis of Ectopic Gestation. C. F. Adams, New York.
28 Appendicitis During Pregnancy. C. C. Lytle, Geneva, N. Y.
29 Toxins, Antitoxins, Antiserums and Bacterial Vaccines, with Comparisons. G. F. Seaborn, East Orange, N. J.
30 A Case of True Staphylococcus Pyemia Treated Exclusively with Vaccines. W. A. Sherwood, Brooklyn, N. Y.
31 Bacterial Vaccines in Middle Ear Infections in Infants and Young Children. E. M. Sill, New York.
32 A Case of Otitic Meningitis and Temporosphenoidal Abscess. Operation. Recovery. S. Oppenheimer, New York.
33 Treatment of Diffuse Peritonitis. G. D. Gregor, Watertown, N. Y.
34 County Hospital Care for the Tuberculous. D. B. Hardenbergh, Middletown, N. Y.
35 Embolism and Thrombosis of the Mesenteric Vessels. E. C. Thompson, Newburgh, N. Y.
36 Functional Albuminuria. I. O. Nellis, Herkimer, N. Y.
37 Iodin Disinfection of Wounds. C. F. Nieder, Geneva, N. Y.
38 Rewards of the Obscure Physician. M. J. Sanford, Suffern, N. Y.
39 The Economic Consciousness of the Physician. S. B. Allen, Riverhead, N. Y.
40 Therapy in Typhoid. T. H. Dexter, Brooklyn, N. Y.

25. **Puerperal Septic Infection.**—The query propounded in the title of this paper is answered by Polak as follows: Each case of postpartum or postabortal infection must be studied individually, and an accurate diagnosis made on the clinical and bacteriologic findings, before any treatment is instituted. Nature is competent in the majority of instances to localize and circumscribe the infection. Operative procedures should be avoided if possible, and are not indicated unless there is demonstrable evidence of intrapelvic or abdominal inflammation, necrosis or suppuration. Curettage, douches and examinations during the acute stage, break down barriers and open avenues for the further dissemination of sepsis to the myometrium, parametrium and adjacent tissues, and the danger from curettage increases with each month of pregnancy. Enormous pelvic and abdominal exudates may disappear without operation, and in time enlarged ovaries, tubes, etc., may assume their proper size and function, and so long as the patient's general condition improves, no surgery is advisable. All operations are attended with less risk after the acute stage of the infection has subsided, and an exact diagnosis is more easily made at this time. After the uterus is thoroughly emptied, the pelvis should be left absolutely alone, and every effort should be made to support the patient and increase the natural blood resistance.

Vaccine therapy has a definite but limited field in the treatment of puerperal septic infection. Inoculation with autogenous vaccines will promise prompt results in staphylococcus and colon bacillus infections, but in streptococcus poisoning vaccine treatment is unreliable and is of value only when the virulence of the germ is attenuated, or when Nature has already developed a phagocytic defense.

Extraperitoneal drainage of local foci should be elected when possible, either by incision just above Poupart's ligament or by posterior vaginal section, and when this is impossible, because of an inability to determine the exact anatomic relations of the local focus, an exploratory laparotomy is justifiable in order to make an exact diagnosis, and to determine on the safest route for drainage. Operative interference, in the acute stage of sepsis, is only indicated in general purulent peritonitis, postabortal pelvic peritonitis, infected tumors in or near the genital tract and uterine rupture, when said rupture has occurred in the course of labor and has been handled outside of a well-managed maternity, and finally, thrombophlebitis is a conservative process on the part of Nature to limit the infection, and any form of pelvic manipulation only tends to break down and separate parts of these thrombi, extending the infection to the more remote parts, and thus jeopardizing the patient's life.

26. **Extra-Uterine Pregnancy.**—In this series of cases, fifty pregnancies were on the right side, forty-four on the left, one double, and the others were not recorded. Sixty-six cases were diagnosed as ectopic, fourteen (three diagnosed fibroids and four with a question of appendicitis) as pelvic tumor, with a question as to the cause, but no mention of ectopic pregnancy, three as appendicitis, four as twisted pedicle or extra-uterine pregnancy, seven pelvic inflammation (pyosalpinx, hydrosalpinx, etc.). In some cases gall-stones and perforations were considered in making the diagnosis, one patient being sent for gall-stones only and gall-stones were found. Five did not give a diagnosis, though most of them gave a clear history and were recommended to the hospital for surgical pelvic trouble. In summing up the points in differential diagnosis, Graham says: Briefly, one gets (1) the history of a normal menstruation missed, usually but a few days (fourteen), possibly weeks; (2) there are more or less severe colicky pelvic or abdominal attacks, alternating irregularly with periods of perhaps normal health, (3) accompanying these painful attacks or immediately following them is a scanty, intermittently prolonged flow; (4) examination reveals pregnant changes in genital tract, smooth, velvety mucous membrane, softened cervix, enlarged uterus, a tumor, tender, localized and not large, before rupture. After rupture, tender and large without a prolonged history to account for its size, and no history of infection. Vomiting, chills and fever with fainting and collapse attend the severer cases. Careful history development and careful physical examination should leave fewer unmade diagnoses in extra-uterine pregnancies.

Journal of the Michigan State Medical Society, Battle Creek

April

41 Alcohol as a Factor in Mental Diseases. G. F. Inch, Kalamazoo.
42 *Operations for Radical Cure of Inguinal and Femoral Hernia Under Local Anesthesia. J. A. MacMillan, Detroit.
43 Diagnosis of Surgical Diseases of the Kidneys and Ureters. J. D. Matthews, Detroit.
44 Pellagra. B. N. Colver, Battle Creek.
45 *Id. E. L. Eggleston, Battle Creek.
46 Chorea Minor. I. L. Polozker, Detroit.

42. Abstracted in The Journal, Nov. 5, 1910, p. 1676.

45. Abstracted in The Journal, Oct. 22, 1910, p. 1492.

Iowa Medical Journal, Des Moines

April

47 Prevention of Typhoid. A. C. Page, Des Moines.
48 Gonococcus Infection in Girls, Wives and Mothers. J. C. Powers, Hampton.
49 *Modified Pyloroplasty. F. S. Hough, Sibley.
50 Traumatic Synovitis of the Knee. A. Steindler, Des Moines.
51 A Plea for Therapeutic Advancement. D. G. Lass, Ocheyedan.
52 *Probable Cause of Acute Poliomyelitis. D. S. Grossman, Minburn.

49. **Pyloroplasty.**—Hough thinks that his modification of the ordinary pyloroplasty might prove effective by furnishing a permanently large pylorus and could be done with greater ease than Finney's operation and in some cases in which a Finney operation would seem to be impracticable. The objection to it is that it is an open operation and cannot be done with clamps, but in a patient prepared properly and guarded by gauze, this is not to be considered seriously. It is the sliding of a wedge of stomach wall into the spreading duodenal part of the incision. This is accomplished by making a Y-shaped incision and suturing it into a V-shaped form. An incision 4 or 5 inches long, 2 or 2½ inches of which are on the duodenum and 2 or 2½ inches on the stomach wall, is made as in the ordinary pyloroplasty, after which the stomach end of this incision is carried for a short distance in two diverging directions, making the arms of the Y. These arms diverge at any required angle—the more obtuse the angle the greater the width of the new pylorus. By bringing the apex of the wedge along the spread duodenogastric incision until it can be attached to the other end of the incision, the wedge gradually becomes wider and the result is a V instead of a Y.

52. **Probable Cause of Acute Poliomyelitis.**—Corn and cornmeal are here associated etiologically with anterior poliomyelitis. Grossman points out that there were more cases of infantile paralysis in Iowa in 1910 than ever before in any one year. There was much more spoiled cornmeal and spoiled corn consumed by the people of the state the same year than ever before. In examining the diagrams of the towns where the disease was prevalent last year, the diagrams being drawn by expert physicians, and showing the residences of those who were stricken by the disease, Grossman could not conclude that the plat of the towns showed any evidence whatever that the disease is contagious. Here and there in different parts of the towns persons were affected, or perhaps in some families there may have been two persons thus affected. Therefore, he asks whether it does not look very much more as if some grocery might have had sour cornmeal, or spoiled corn in some other form, and the people in different parts of the towns and country used it.

Military Surgeon, Washington, D. C.

April

53 The Training of Sanitary Troops. P. F. Straub, U. S. Army.
54 Efforts, Accomplishment and Aim of the Ohio National Guard. J. A. Hall, N. G., Ohio.
55 The "Inactive" Medical Reserve Corps. H. C. Coe, U. S. Army, New York.
56 The Medical Department at Sea in Its Parallelism to the Construction and Administration of Naval Hospitals as Seen by a Fleet Surgeon. A. M. D. McCormick, U. S. Navy.
57 Duties of the Supervising Surgeon of a Naval Hospital. E. M. Shipp, U. S. Navy.
58 Practical Points in Diagnosis and Treatment of Asiatic Cholera. J. McLaughlin, U. S. P. H. and M.-H. S.
59 Contagion and Infectious Diseases. A. N. Collins, Minn. N. G.
60 Mental Diseases in the Military Services, with Special Reference to Dementia Præcox. L. L. Smith, U. S. Army.
61 Report of the U. S. Army Board for the Study of Tropical Diseases as They Exist in the Philippine Islands. W. P. Chamberlain, H. D. Bloombergh and E. B. Vedder, U. S. Army.

Illinois Medical Journal, Springfield

April

62 The Pioneer Period of Medicine in Illinois. O. B. Will, Peoria.
63 Hygiene in Schools. L. M. Bergen, Highland Park.
64 *Raw and Pasteurized Milk and Milk Serums. E. Gudeman, Chicago.
65 *A Sanitary Milk Supply for Cities from a Medical Standpoint. R. A. Black, Chicago.
66 Heredity in Cancer. H. W. Abelmann, Chicago.
67 *Two Insufficiently Appreciated Baths. B. Fantus, Chicago.
68 Real and So-Called Incontinence and Its Treatment. F. Kreissl, Chicago.
69 Carl Spengler's "I. K." Treatment. C. W. Leigh, Chicago.
70 *Prevention of Hemorrhage in Pulmonary Tuberculosis by Administration of Autogenous Vaccines. R. T. Pettit, Ottawa.
71 Two Cases Treated with the Vaughan Cancer Residue. F. L. Evans, East St. Louis.
72 Myopia of the Medical Profession. W. R. Allison, Peoria.
73 Appendicitis from a Medical Standpoint. E. E. Sargent, Le Roy.
74 Syphilitic Evidences in the Rectum. C. J. Drueck, Chicago.

64. **Milk and Milk Serums.**—Gudeman is convinced by the results of his experiments that if a milk-supply is to be protected for the benefit of the public health, real pasteurization is not sufficient, and commercial pasteurization, much less so. Sterilization is a much better safeguard (home sterilization)—even with is effects on the milk, change in character as to taste and possible effect on ratio of digestibility. It is fully as necessary to protect and watch sterilized milk

as raw milk, and pasteurization, *per se*, Gudeman says, is only protection for the benefit of manufacturers and vendors of pasteurizing machinery. Cleanliness is the most necessary, most essential and most efficient requirement in the production and distribution of milk. Milk should be watched and protected against contamination of all kinds, from cow to consumer, both inside and outside of the containers used in its distribution. Raw milk, spoiling and becoming "sour" within a short time, condemns itself and the acid-forming germs are the safeguards, indicating to the consumer the age, that is, the actual condition of the milk. Acid-forming germs do not increase the toxicity of the milk; just the contrary. Pasteurized milk, unless as fresh as the raw milk, can be and often is the cause of an infinite number of troubles, the absence of "souring" being a false indication of security. Sterilized milk is a safe milk, being free from living germs and free from toxic substances due to their decomposition, although also free from the living active germs necessary for a complete and perfect digestion of the milk, under normal conditions. Clean, raw milk comes first; thereafter Gudeman's choice is sterilized milk, fresh or canned, but if one is compelled to use commercially pasteurized milk of unknown origin and uncertain age, he would practice self-protection and boil the milk before consumption. Commercial pasteurization is a poor makeshift, a premium offered for the distribution of old, dead, stale and often unwholesome, dirty milk. Pasteurization, he asserts, deteriorates clean milk.

65. **A Sanitary Milk-Supply.**—Instead of contending and temporizing with improper pasteurization, or pasteurization of improperly procured milk, or improper care of pasteurized milk, Black would demand and work for pure, clean milk. Work with the dairyman to have him produce it, work with the general public to keep it so after receiving it, and last, but not least, occasionally remind our own profession of the important place they have in this battle.

67. **Unappreciated Baths.**—The effervescent bath and the continuous bath are discussed by Fantus and their more frequent use is urged.

70. **Prevention of Hemorrhage.**—Since June 15, 1909, Pettit has administered autogenous vaccines to eighty-four patients with pulmonary tuberculosis. Of these eighty-four, sixty-five were under observation two months or longer. It has been observed during the past nineteen months, that hemorrhages have been less frequent than before. The class of patients, diet, exercise, sleeping conditions, supervision, etc., were practically the same as in preceding years; the only new factor introduced into the treatment was the administration of autogenous vaccines. It has occurred to Pettit that possibly the injection of vaccines against the organisms of mixed infection had a protective action against tissue dissolution and hence against hemorrhage. In all cases considered in the class receiving vaccines at least three doses of vaccine were administered. In thirty-two cases vaccines were made from organisms isolated from the sputum. In twenty-two cases vaccines were made from organisms isolated from the blood-stream. The percentage of hemorrhage in individuals receiving vaccines was approximately ⅓ of that in persons not receiving vaccines. The percentage of hemorrhage in those treated with vaccines made from organisms isolated from the sputum is very much lower than it is in individuals treated with vaccines made from organisms isolated from the blood. The results shown in patients showing hemorrhagic tendencies are suggestive of the protective effect of the vaccines. Pettit regards the administration of autogenous vaccines justifiable in a large number of cases as a protective measure in the same way typhoid inoculations are used in the prevention of typhoid.

United States Naval Medical Bulletin, Washington, D. C.

April

75 Intravenous Administration of Salvarsan. G. B. Trible and H. A. Garrison, U. S. Navy.
76 Satisfactory Results with a Simplified Wassermann Technic (Emery). E. R. Stitt, U. S. Navy.
77 Preparation of a Culture Medium from a Dried Blood-Serum. E. W. Brown, U. S. Navy.
78 Existence of Anchylostoma Duodenale in Guam. W. M. Kerr, U. S. Navy.
79 Intestinal Parasites Found Among the Crew of the U. S. S. *South Dakota*. E. G. Parker, U. S. Navy.
80 Examination of Filipino Mess Attendants for Intestinal Parasites. W. A. Angwin and C. B. Camerer, U. S. Navy.
81 Practical Use of Carbon Dioxid Snow as Seen at the West London Hospital. G. D. Hale, U. S. Navy.
82 Nomenclature for Causes of Physical Disability in the Navy. C. N. Fiske, U. S. Navy.
83 An Atypical Typhoid Bacillus. O. J. Mink, U. S. Navy.
84 Parasites Found at Animal Autopsies in the Naval Medical School Laboratories During 1910. C. S. Butler and P. E. Garrison, U. S. Navy.
85 An Intestine Tray for Necropsies. P. E. Garrison, U. S. Navy.

Colorado Medicine, Denver

April

86 Causes and Treatment of Chronic Backache. G. B. Packard, Denver.
87 *An Unusual Powder Smoke Fatality. C. Johnson, Montrose, Colo.
88 Congenital Body Atresia and Choana. F. L. Dennis, Colorado Springs, Colo.
89 *Non-Diabetic Glycosuria. S. Ringolsky, Denver.
90 A Case of Bilateral Sarcoma of the Adrenals. O. M. Gilbert and R. C. Whitman, Boulder, Colo.

87. **An Unusual Powder Smoke Fatality.**—On Jan. 16, 1911, a blast was set off in the Gunnison Tunnel at 2:30 in the afternoon. The men at work retired to a safe distance, as they had done several times daily for many weeks, to allow the smoke to clear away. In less than three days nine of a bunch of thirteen men who inhaled the smoke died of acute pulmonary trouble. A like disaster had never been heard of by engineers in charge of the work. There were many old miners among the men who were working in the tunnel, and none of them had ever known of a similar occurrence. An analysis of the circumstances by Gilbert and Whitman seems to show that the cause of the deaths was the inhalation of nitrous fumes, particularly of ntirogen tetroxid or dinitryl, N_2O_4, and that these fumes were formed by the action of the electric power current on the smoke from the burning powder. Although no record can be found of the formation of dinitryl in this manner, sufficient has been written on the subject to show the entire reasonableness of this explanation. When nitric acid is exposed to the air or is brought into contact with organic matter or metals it is partly volatilized and partly decomposed, and the oxids of nitrogen are formed, particularly nitrogen tetroxid, N_2O_4, also called dinitryl or nitrogen peroxid. The simpler and less poisonous form of this gas is NO_2 or nitryl. It will be shown that nitryl, NO_2 was present in the smoke. Only the action of the electric current could then be necessary to convert it into its allotropic or nascent form N_2O_4, or dinitryl. Johnson cites briefly the history of each of the thirteen cases. He calls attention to the possibility that some of the rapidly fatal cases of pneumonia to which miners are subject may be due to dinitryl.

89. Also published in the *Denver Medical Times* and *Utah Medical Journal*, April, 1911.

Journal of the American Public Health Association, Columbus, Ohio

March

91 *Report of Committee on Education of the Public as to the Communicability and Prevention of Gonorrhea and Syphilis. G. M. Kober, Washington, D. C.
92 *Venereal Prophylaxis in the U. S. Navy for the Benefit of Public Health Officials. C. N. Fiske, U. S. Navy.
93 *Venereal Diseases Among Seamen of the Merchant Marine. J. W. Kerr, U. S. P. H. and M.-H. S.
94 *A Plea for Applying the Usual Methods of Preventive Medicine to Venereal Diseases. J. R. Kean, U. S. Army.
95 Bacterial Content of Separator Cream and Separator Milk. P. G. Heinemann and E. Class.
96 Epidemiology of Diphtheria, Scarlet Fever and Measles. H. W. Hill.
97 Importance of the Registration of Marriage Certificates. F. W. Shumway, Lansing, Mich.

91 to 94. Abstracted in The Journal, Sept. 24, 1910, p. 1136.

Archives of Internal Medicine, Chicago

April

98 *Blood-Pressure in Tuberculosis. H. Emerson, New York.
99 Pyrogenic Action of Salt Solutions in Rabbits. H. F. Helmholz, Chicago.
100 Retention of Alkali by the Kidney with Special Reference to Acidosis. H. M. Adler, Hawthorne, Mass., and G. Blake, Boston.
101 *Effects of Certain Internal Secretions on Malignant Tumors. G. L. Rohdenburg, F. D. Bullock and P. J. Johnston, New York.
102 Duration of Trypanosome Infections. J. L. Todd, Montreal, Canada.
103 *Pathologic Anatomy of the Human Thyroid. D. Marine and C. H. Lenhart, Cleveland, Ohio.

104 *Studies on Water Drinking. S. A. Rulon and P. B. Hawk, Urbana, Ill.
105 *Use of Digipuratum in Heart Disease. W. F. Boos, L. H. Newburgh and H. K. Marx, Boston.
106 A Case of Strongyloides Intestinalis with Larvæ in the Sputum. J. G. Gage, New Orleans.

98. **Blood-Pressure in Tuberculosis.**—A complete study was made by Emerson of the status of the blood-pressure in tuberculosis. He says that hypotension or subnormal blood-pressure is universally found in advanced pulmonary tuberculosis, in which condition emaciation may play a part in its causation. Hypotension is found in almost all cases of moderately advanced tuberculosis, or in early cases in which the toxemia is marked, except when arteriosclerosis, the so-called arthritic or gouty diathesis, chronic nephritis, or diabetes complicate the tuberculosis and bring about a normal pressure or a hypertension. Occasionally the period just preceding hemoptysis or during hemoptysis may show hypertension in a patient whose usual condition is that of hypotension. Emerson emphasizes that hypotension should be sought for as carefully as it is the custom at present to search for pulmonary signs. Hypotension when found persistently in individuals or families or classes living under certain unhygienic conditions should put us on guard against at least a predisposition to tuberculosis. Hypotension, when it is present in tuberculosis, increases with an extension of the process. Recovery from hypotension accompanies arrest or improvement. Return to normal pressure is commonly found in those who are cured. Continuation of hypotension seems never to accompany improvement. Prognosis, Emerson found, can as safely be based on the alteration in the blood-pressure as on changes in the pulse or temperature.

Emerson believes that the causes of low blood-pressure in tuberculosis are probably primarily a toxic action on the vasomotor center in the medulla, allowing of a vasoparesis or stimulating an active vasodilatation, and secondarily, progressive cardiac atrophy or degeneration. Rapid heart action is a usual and necessary sequel to low blood-pressure and will, if extreme, aggravate the hypotension by the very act of its shortened diastole. It has been suggested, but not proved, that lack of vagus inhibition owing to pressure by enlarged bronchial lymph nodes and presence of sympathetic excitation from similar or reflex causes such as pulmonary or gastric irritation, are responsible for the tachycardia and hypotension. Marked vasomotor irritability is recognized as a frequent phenomenon in pulmonary tuberculosis and is supposed to result in tachycardia and hypotension, but it is not easy to see exactly what is meant by this term unless a certain functional instability, for which we have no proof of any definite local cause. The result of hypotension in tuberculosis or in any other condition is insufficient capillary pressure, more or less venous stagnation and insufficient nourishment, with resulting atrophy or degeneration of the essential organs of the body.

Emerson emphasizes that the treatment of tuberculosis in all its stages should take into consideration the need of assisting in every way the return to normal blood-pressure, first by relieving the relaxed vessels of the load put on them during the vertical position or exercise, and later by assisting the heart by abundant nutrition, moderate exercise and the stimulating effect on cardiac and vascular tone of cold fresh air, to meet the extra work put on it by the loss of vascular tone. Thus will the heart be able to maintain its normal bulk and strength or even to gain from the atrophy or small size of the early disease, to a normal size, so that the brain, kidneys, lungs and body at large may be properly nourished, until the disease is arrested and the toxic products of the tubercle bacillus are no longer distributed from the site of the lesion.

101. **Effects of Internal Secretions on Tumors.**—Briefly summarizing their evidence, the authors point out that: (1) removal of certain glands (i. e., thyroid, thymus and testes) appears to decrease the susceptibility to cancer; (2) removal of single glands or combination of glands in immune animals leads to lessened immunity to cancer; (3) extracts of thymus, thyroid, spleen, pancreas, pituitary and testes on injection tend to increase immunity against cancer and extracts of certain other tissues produce like effects; (4) similar extracts, on injection in cancerous organisms, alleviate pain, reduce tumors or even cause them to disappear; and finally (5) their results, combined with those of other observers, tend to the conclusion that many tissues contain some common element, possibly of the nature of a hormone, which is capable of producing immunity.

103. **Pathologic Anatomy of the Human Thyroid Gland.**—The classification of the thyroid diseases made by Marine and Lenhart is as follows:

I. Normal thyroid.
II. Active hypertrophies and hyperplasias (goiter).
    1. Developing from the normal thyroid.
    2. Developing from the colloid gland (goiter).
III. Colloid glands (goiters).
IV. Regeneration (hyperplasias).
V. Atrophies:
    1. Premature atrophies:
        (a) of obsesity.
        (b) of cretinism.
        (c) of myxedema.
    2. Senile.
VI. Degenerations:
    1. Hyaline.
    2. Amyloid.
    3. Calcareous, etc.
VII. Inflammations:
    1. Acute thyroiditis.
    2. Chronic thyroiditis.
VIII. Tumors:
    1. Benign.
        (a) Fetal adenoma.
        (b) Simple adenoma.
    2. Malignant.
        (a) Carcinoma from fetal adenoma (carcinoma simples).
        (b) Glandular carcinoma.
        (c) Sarcoma.
        (d) Endothelioma.
IX. Complications:
    1. Hemorrhage.
    2. Cyst formation.
        (a) From hemorrhage.
        (b) From fetal adenoma.

Thus, there are nine major anatomic divisions, which represent different physiologic or pathologic stages. The first four divisions, viz., normal thyroid, active hypertrophy or hyperplasia, colloid gland and regeneration, are physiologic. The remaining five divisions are properly designated as pathologic and are only the generally accepted groupings common to all body tissues.

104. **Water Drinking.**—Three experiments are described by Rulon and Hawk in which the topic under investigation was the influence of copious water drinking between meals on the excretion of chlorids. The subjects were young men ranging in age from 22 to 29 years. Each experiment was divided into three periods, a preliminary period during which nitrogen equilibrium was attained through the feeding of a uniform ration of low water content, a water period during which the uniform ration was supplemented by the drinking of large volumes of water between meals, and a final period in which the conditions of the preliminary period were in force. In two of the experiments there was a pronounced increase in the output of chlorids in the days of added water intake with a return to normal during the final period. This augmented excretion of chlorids is interpreted as indicating that the large volume of water ingested during this period has markedly stimulated the secretion of gastric juice. The excess hydrochloric acid thus passed into the intestine has been reabsorbed and appears, at least in part, in the urine as ammonium chlorid. The main bulk of the increase in the chlorid excretion they believe to have originated in this way. The flushing of the tissues and the stimulation of protein catabolism brought about by the copious water drinking may have been contributing forces in causing the increased output of chlorids observed. In one experiment there was a small increase in the chlorid output on each day of increased water ingestion followed by a pronounced rise in the output on the first day following the water period. Neither the flushing properties of the water nor its stimulating efficiency as regards protein catabolism or gastric secretion offers a satisfactory explanation for the high chlorid concentration observed on the day following the period of copious water drinking.

105. **Digipuratum in Heart Disease.**—Digipuratum has now been in use at the Massachusetts General Hospital for over a

year, and more than 180 cases of primary heart disease or secondary cardiac involvement have been treated with it. The effect on the urinary output has been very prompt in most instances. There was not a single case of vomiting or diarrhea. In fact, the vomiting of a number of cardiac patients at entrance was promptly stopped by digipuratum. Cumulative poisoning has never been observed. One of the early patients, a boy of 16, was given 106 tablets in six weeks; at no time was there any suggestion of digitalis poisoning. In one or two instances the house officers were made uneasy by sudden drops of 40 or more beats in the pulse-rate, but no disagreeable consequences followed in any case. It must be borne in mind, however, that digipuratum is a digitalis preparation, and that as such it must necessarily have a tendency to produce poisoning by cumulation. In the case of digipuratum this tendency is merely much diminished, so that it is possible by means of this drug to push digitalis therapy in a manner heretofore unknown.

Southern California Practitioner, Los Angeles

April

107 Fracture of the Skull with Intracranial Injuries. C. E. Zerfing, Los Angeles.
108 Necrosing Mastoid, Without Involvement of the Antrum, Middle or Internal Ear. Fatal Acute Suppurative Otitis Media of Two Days' Duration in an Adult. Persistent Bleeding Following Adenoid Operation. E. W. Fleming, Los Angeles.
109 Liver Abscess with Tertian Malaria. O. I. Towner, Los Angeles.
110 Overeating and Its Consequences. B. Reed, Alhambra, Cal.

Laryngoscope, St. Louis

March

111 Manifestations of Thyroid Disease in the Upper Respiratory Tract. B. R. Shurly, Detroit, Mich.
112 Bone Cyst of the Ethmoid Cells. J. A. Thompson, Cincinnati.
113 A Case of Sarcoma of the Tonsil in a Young Child. L. C. Cline, Indianapolis.
114 Erysipelas of the Larynx. D. B. Delavan, New York.
115 Clinical Studies of Five Cases of Suppurative Labyrinthitis. P. D. Kerrison, New York.
116 A Set of Antral Cannulas. J. Dunn, Richmond, Va.
117 A Non-Caustic Cresol (Cresatin) in Diseases of the Nose, Throat and Ear. M. D. Lederman, New York.
118 A Speculum for the Direct Examination and Treatment of the Naso-Pharynx and Eustachian Tubes. S. Yankauer, New York.
119 Electric Laryngeal Mirror Heater. J. D. Heitger, Bedford, Ind.
120 *A New Tongue Depressor. D. W. Layman, Indianapolis.
121 Two Well-Known Tonsil Dissectors Mounted in Convenient Form on a Single Handle. C. M. Harris, Johnstown, Pa.

120. **A New Tongue Depressor.**—The tongue depressor devised by Layman is intended especially for operative work under a general anesthetic, when the tongue is held by an assistant. The instrument conforms readily to the shape of the floor of the mouth, when the tongue is depressed, holding the tongue firmly downward and forward. The handle is so constructed that it affords a firm, non-slipping grip. There is a groove on the inner side of the upper part of the handle, in which rests the index finger, and below the groove the handle is obliquely fluted. The handle is set at an obtuse angle from the rest of the instrument so that it is out of the way of the patient's chest. The part of the mouthpiece that joins the handle is so shaped that it overrides the teeth easily; the drop or downward curve at the end, which joins the tip, is so placed that it permits a free forward or backward placement of the instrument. One size tongue depressor serves for both adults and children. The tip is nearly triangular in shape, and is serrated on the tongue sides and curves down just enough to conform to the shape of the depressed tongue. The downward drop of the tip gives an advantage of at least an inch or more over the ordinary right-angled tongue depressor; thus the tongue is held in the desired position with less effort. It does not obstruct the view of the operative field, and is out of the way of other instruments.

Journal of Biologic Chemistry, Baltimore

April

122 The Determination of Alkylamines Obtained from the Urine After Kjeldahl Digestion. C. C. Erdmann, Waverly, Mass.
123 The Recovery of Adenin. G. DeF. Barnett and W. Jones, Baltimore.
124 The Combined Action of Muscle Plasma and Pancreas Extract on Glucose and Maltose. P. A. Levene and G. M. Meyer, New York.
125 General Metabolism with Special Reference to Mineral Metabolism in a Patient with Acromegaly Complicated with Glycosuria. F. Medigreceanu and L. Kristeller, New York.
126 Presence of Histidin in Pig Thyreoglobulin. F. C. Koch, Chicago.
127 Fate of Benzoylacetic Acid in the Animal Body. H. D. Dakin, New York.
128 Nucleases. W. Jones, Baltimore.
129 Catabolism of Phenylalanin, Tyrosin and Their Derivatives. A. J. Wakeman and H. D. Dakin, New York.
130 The Chemical Nature of Alkaptonuria. H. D. Dakin, New York.
131 Researches on Purins. C. O. Johns, New Haven, Conn.
132 Physiologic Agents Concerned in the Nuclein Fermentation, with Special Reference to Four Independent Desamidases. W. Jones, Baltimore.

Journal of Infectious Diseases, Chicago

April

133 Investigations on the Purification of Boston Sewage. C. E. A. Winslow and E. B. Phelps, Boston.
134 *Liver Broth: A Medium for the Determination of Gas-Forming Bacteria in Water. D. D. Jackson and T. C. Muer, Brooklyn, N. Y.
135 Guinea-Pig Test of the Virulence of Diphtheria Bacilli. P. G. Weston and J. A. Kolmer, Philadelphia.
136 *Variations in the Phagocytic and Coccidal Power of the Blood in Pneumonia and Scarlet Fever. R. Tunnicliff, Chicago.
137 Fusiform Bacilli and Spirilla. R. Tunnicliff, Chicago.
138 *Transmission of Spotted Fever by Other than Montana and Idaho Ticks. M. B. Maver, Chicago.
139 Complement Deviation in Rocky Mountain Spotted Fever. B. F. Davis and W. F. Petersen, Chicago.
140 *Time Relationships of the Wood-Tick in the Transmission of Rocky Mountain Spotted Fever. J. J. Moore, Chicago.
141 Technic for the Inoculation of Bacteria and Other Substances into Living Cells. M. A. Barber, Kansas City, Kan.
142 The Number of Cellular Elements in Milk. R. S. Breed and I. R. Stidger, Meadville, Pa.
143 Institutional Dysentery. G. F. Dick, Chicago.

134. **Determination of Gas-Forming Bacteria.**—For those observers who desire to determine the presence of all gas-formers, including *B. coli*, to the highest accuracy, the use of liver broth is recommended by Jackson and Muer. In the examination of water, dilutions of 0.1, 1.0 and 10 c.c. of the sample may be inoculated into lactose bile and another series into liver broth. Positive tests in the lactose bile indicate the degree of recent pollution with the colon group. Gas formation in the liver broth indicates the degree of contamination with gas-forming bacteria, both attenuated and vigorous. Any difference in the results obtained in lactose bile compared with those found by transplanting within twelve hours from the liver broth into a second set of lactose bile tubes gives a fairly accurate idea of the amount of attenuated *B. coli* present. Negative results in both sets of bile tubes and positive results in the liver broth usually show that the gas-producing bacteria present are not of the colon group.

136. **Blood in Pneumonia and Scarlet Fever.**—The observations recorded by Tunnicliff indicate that, as a rule, there is an increase in the phagocytic power in the leukocytes in mild cases of pneumonia. In mild and uncomplicated cases of scarlet fever, there is no change in the phagocytic activity of the leukocytes. In severe cases of pneumonia and scarlet fever, the phagocytic power of the leukocytes is generally diminished during the height of the disease, but when the patient improves, it rises above normal, to which it returns during convalescence. Although the opsonic power of the serum is specific, there is no such specificity in the phagocytic power of the leukocytes, so far as Tunnicliff's results indicate. So far as pneumonia and scarlet fever are concerned, variation in the opsonic power of the serum and in the phagocytic activity of the leukocytes, as a rule, is accompanied by a corresponding variation in the pneumococcidal or streptococcidal power of the serum and the leukocytes.

138. **Transmission of Spotted Fever.**—From Maver's experiments it appears that in so far as ability of ticks from various regions to transmit the virus of spotted fever is concerned, the disease might find favorable conditions for its existence in localities other than those to which it now is limited.

140. **Time Relationship of Wood-Tick in Spotted Fever.** The minimum duration of feeding necessary for a tick to infect a guinea-pig, Moore found to be one hour and forty-five minutes. The average time necessary seems to be about ten hours, while twenty hours were almost constantly infective. The duration of feeding necessary to infect a tick is approximately twenty-five hours, while the minimum incubation period in the tick was not definitely determined. With ticks obtained

from Nature it is necessary to infect the tick, and the incubation period in the tick will be found to be much less than is indicated here.

143. **Primary Vaccinations.**—This is a strong endorsement of vaccination, which Amesse says is the safest, simplest and most potent specific prophylactic in the field of preventive medicine. Of itself, it is essentially harmless; the infections sometimes complicating the operation are due to faulty technic on the part of the physician or unclean handling on the part of the patient. The plain duty of the profession, therefore, is to advocate, in season and out of season, early vaccination, preferably during the first years of life, and again at the age of 12. Compulsory health laws of this character, while apparently antiquated and oppressive, must continue to be enforced so long as public sentiment, in purely medical affairs, questions or denies the deductions of large experience and ripe judgment.

Denver Medical Times and Utah Medical Journal, Denver

April

144 *Conclusions from 30,000 Primary Vaccinations. J. W. Amesse, Denver.
145 Chronic Otitis Media and Its Treatment by the Radical Mastoid Operation. J. J. Pattee, Pueblo, Colo.
146 Prevention of Typhoid. W. T. Hasler, Lehi, Utah.
147 A Mild Case of Typhoid. R. J. Smith, Logan, Utah.

West Virginia Medical Journal, Wheeling

April

148 Modern Surgery of the Kidney. J. Ransohoff, Cincinnati.
149 Extra-Uterine Pregnancy. O. F. Covert, Moundsville.
151 Diseases of the Accessory Sinuses, with Reference to the Eye, Ear, Nose and Throat. J. McK. Sites, Martinsburg.
152 Local Use of Magnesium Sulphate. B. B. Wheeler, McKendree.

Journal of Nervous and Mental Diseases, Lancaster, Pa.

April

153 *Falling of the Humerus Associated with a Dislocation of the Shoulder and Paralysis of the Arm. T. T. Thomas, Philadelphia.
154 An Extramedullary Tumor of the Spinal Cord, Apparently Caused by Trauma. D. Bovaird, Jr., and M. G. Schlapp, New York.

153. **Falling of the Humerus.**—In 1879, Jonathan Hutchinson reported a case under the title of "An Incomprehensible Case of Arm Paralysis with Recurring Dislocation of the Shoulder." Thomas has seen three cases of what he believes to be essentially the same condition. He attempts to show that it is only a variation of the ordinary anterior dislocation of the shoulder, and that paralysis is the result of the displacement in the joint, not of actual nerve rupture, although the latter condition may occasionally be present. He believes that the importance of the lesion of a dislocation of the shoulder and its analogous condition, a sprain, has not been appreciated in the etiology of obscure brachial paralyses. For the sake of brevity, Thomas proposes the name "dropped shoulder" or "dropped humerus" for this condition, because according to his experience it is the distinguishing feature and the primary and underlying cause of the whole trouble. He believes that it is the result of the tearing away from the humerus of the attachments of the upper part of the capsule with or without those of the external rotators from the greater tuberosity which is in the upper part of the joint. All three of his cases were apparently the result of an anterior dislocation, which was associated with a downward displacement of the humerus, but had not the usual rigidity of a dislocation. By operation in such cases, the normal joint relation can be restored, and the operation can be followed by a complete or almost complete return of function in the paralyzed muscles. Such a result was obtained in two cases, the operation being performed in one case eight weeks and in the other five weeks after the accident which caused the trouble. How long after this accident the result can be obtained remains to be determined. There is some reason to hope that the paralytic dislocation of the shoulder ascribed to poliomyelitis and to injuries of the brachial plexus at birth may be due to a similar cause, and that by early operation a cure may be obtained.

Cleveland Medical Journal

March

155 Untoward Results of Delayed Operations and of Incomplete Operations. A. Primrose, Toronto, Canada.
156 The Mental Hospital of the Future. H. H. Drysdale, Cleveland
157 Relation of Pharmacology to Clinical Medicine. W. deB. MacNider, Chapel Hill, N. C.
158 Ointments and Their Therapeutic Use. W. T. Corlett, Cleveland.
159 Ointments. L. C. Hopp, Cleveland.
160 Eight Cases of Fatal Meningeal and Cerebral Complications of Suppurative Ethmoiditis. J. A. Stucky, Lexington, Ky.
161 A Juvenile Case of Paresis. T. Diller, Pittsburg, Pa.

Alabama Medical Journal, Birmingham

April

162 Is Anything the Matter with the Physician? W. J. Robinson, New York.
163 The Fermental Form of Summer Diarrhea of Infants. W. W. Harper, Selma.

Canadian Medical Association Journal, Toronto

April

164 A Study of 850 Cases of Scarlet Fever, with a More Particular Consideration of Seventy-One Fatal Ones. J. McCrae, Toronto.
165 Duodenal Ulcer. W. H. Rankin, Montreal.
166 Human Bacillus-Carriers. W. T. Connell, Montreal.
167 Mounting Moist Specimens. E. L. Judah, Montreal.
168 Social Problems in Relation to Medicine. R. Monahan, Toronto.

Journal of the Kansas Medical Society, Kansas City

April

169 Injuries to the Abdominal Viscera, Produced by Indirect Violence: A Plea for Early Operation. G. M. Gray, Kansas City.
170 Art and Science in the Practice of Medicine. W. A. Carr, Junction City.
171 Rheumatism. J. Dillon, Eureka.
172 Gunshot-Wounds of the Abdomen. H. L. Snyder, Winfield.
173 Tonsil Operations. J. E. Sawtell, Kansas City.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 1

1 *Acute Emergencies of Abdominal Disease. B. G. A. Moynihan.
2 Chemical Composition and Mode of Formation of Renal Calculi. B. Moore.
3 Examination of Suspected Small-Pox. A. F. Cameron.
4 *Renography, or Study of Abnormal Movements of Living Kidney. E. H. Fenwick.
5 Anthrax and Fatalism. W. Mitchell.
6 The Infective Granule in Certain Protozoal Infections, as Illustrated by the Spirochetosis of Sudanese Fowls. A. Balfour.
7 *The Therapeutics of Sugar. J. Sawyer.

April 8

8 *Heart Failure. J. Mackenzie.
9 Antivivisectionists and the Research Defence Society. E. Schäfer.
10 Medicolegal and Practical Considerations of Melancholia. G. M. Robertson.
11 Etiology of Iritis. T. H. Butler.
12 Common Diseases of the Eyes. H. P. Bennett.
13 Mechanical Etiology of Optic Neuritis. M. Mamourian and C. J. Smith.
14 Salvarsan in Syphilis. C. Gibbs and E. S. Calthrop.

1. **Acute Emergencies of Abdominal Disease.**—The catastrophes which occur within the abdomen are not, Moynihan says, strictly speaking, "acute;" they are, on the contrary, usually the result of the abrupt transition from a quiescent to an acute phase in a disorder of long standing. An acute emergency can, therefore, be prevented by a timely recognition of the value and the significance of the early symptoms, so often ignored or misunderstood, of the chronic malady in which it is the final development. The sudden occurrence of an attack of intolerable agony in the abdomen, associated with tense rigidity of all the abdominal muscles, indicates that there is an acute lesion which needs immediate surgical attention. These two signs, and these alone, are an urgent warrant and compulsion to treat the case at once by operation. A differential diagnosis is generally possible if strict attention be paid to the details of the history, and if the firm abdominal wall be searched for a tender area of supreme resistance. Shock is not a symptom of perforation, for in the early hours after this disaster has occurred the pulse is very little altered in volume or in rate. In all cases of abdominal pain, especially in children, Moynihan says that the use of aperients should be avoided.

2. **Chemical Composition of Renal Calculi.**—Experimentation has convinced Moore that the formation of renal calculi has

for its basis a condition of diminished oxidation, in which there appear primarily calcium salts of incompletely oxidized bodies, such as calcium oxalate and calcium urate, associated with calcium phosphate. Further, such diminished oxidation, occurring locally or generally, is seen in many pathologic conditions, such as calcium salt deposition in bone in old age, in tuberculous lesions, in gout, in arteriosclerosis and generally in calcification processes in the body. The tendency toward such deposition increases with age, and is probably accompanied by an increased alkalinity of the body fluids.

3. **Renography.**—This is a report on a study of the abnormal movements of the living kidney, and a hint of its bearing and influence on renal surgery. Fenwick utilizes skiagrams of the kidney region made during forced inspiration, then forced expiration, and finally a combination of both with posture. The results are most striking, not only as bearing on the detection and study of the over-movable kidney, or in aiding in the detection and elucidation of false shadows, but in indicating the technic of operative procedure. The method is described in detail. Some of his findings he summarizes as follows:

> If I come across a fixed dense kidney, with profuse hematuria, I know I have to deal with a carcinoma of the kidney that has passed through its capsule, and has fixed it so that there is no use operating; that I shall not be able to get the kidney away without damaging the inferior vena cava or abdominal aorta, or without getting a rapid recurrence by opening up planes along which the malignant growth has interpenetrated.
>
> A fixed dense kidney shadow high up under the costal arch, with profuse, intermittent hematuria, means a "too-late" cancer, for it denotes a malignant kidney that has become glued, and is therefore inoperable.
>
> A fixed shadow of a dense kidney, with stinking pyuria and shadow of pelvic stones, means nephrectomy, and, if the surgeon is wise, subcapsular nephrectomy by the lumbar incision, without touching or separating more of the pericapsular attachments than is just necessary to enucleate the organ and control its pedicle. The surgeon who acts thus will not lose these severe cases.
>
> A fixed dense kidney shadow without stone but with *B. coli* pyuria or staphylococcus pyuria generally needs the simplest pelvic drainage through the loin without disturbance of the pericapsular area.
>
> A dense fixed kidney shadow with pyuria needs serum treatment for the corticitis.

6. **Therapeutics of Sugar.**—Sawyer has used cane sugar freely and frequently during the last ten years or so with success in a variety of morbid conditions. In wasting disorders, in various forms of anemia, in adynamic varieties of rheumatism, and especially in the neurasthenic manifestations of neurotic persons, he has found the continued ingestion of cane sugar markedly beneficial, increasing weight and power, appearing to act not merely as a nutrient but also as a tonic in the best senses of that word, gently stimulating the vital energies to an aroused action by a kind of mild stimulation, slowly produced and permanent in effect. For an adult, he has usually prescribed from ¼ to ½ pound of lump cane sugar, to be eaten slowly daily, a lump or two to be taken at odd times through the day or night, but not just before a meal, the patient always carrying a little store with him, and eating some of it when so disposed.

8. **Heart Failure.**—In this, the first paper in a series, Mackenzie considers particularly the inadequacy of the back-pressure theory to explain heart failure. He says that the theory of heart failure from back pressure lays stress on and magnifies the factors of little importance and ignores the essential factors in the production of heart failure. The back-pressure theory leaves out of consideration the fact that the valve lesion may be a steadily progressive one, and it omits the still more important fact that there are coincident changes going on in the structure of the heart muscle, impairing its efficiency, and leading up to the essential cause of heart failure. But most important of all, this back pressure theory has failed to recognize that the changes which have led directly to the production of heart failure and produced such symptoms as dyspnea, ascites, enlargement of the liver, are due to the sudden inception of a different rhythm in the heart's contraction by fibrillation of the auricle. He attempts to show that the accepted view of heart failure has been based on a misconception of the means by which it has been brought about and that certain phenomena associated with heart failure had attributed to them, in consequence of this association, a significance which they do not possess.

Lancet, London

April 8

15 *Heart Failure. J. Mackenzie.
16 *Two Hundred Cases of Total Enucleation of the Prostate. P. J. Freyer.
17 *Treatment of Pulmonary Tuberculosis with Bovine Tuberculin. N. Raw.
18 Acute Inflammation of the Thyroid. W. S. Robertson.
19 How Far Can the Abuse of Drugs be Prevented by Law? W. Gadd..
20 *An Unusual Case of Gunshot Wound of the Skull. W. L. Harnett.
21 *The Eye of Surgical Needles: A New Form. J. L. Thomas.

15. Also published in *British Medical Journal*, April 1, 1911.

16. **Total Enucleation of Prostate.**—In connection with these 200 operations cited by Freyer, there were nine deaths, or 4.5 per cent., the causes of death being as follows: 1. Five patients died from uremia; in two, aged 59 and 71 respectively, necropsy revealed extensive pyelonephritis; in two, aged 76 and 83, necropsy showed long-standing backward pressure changes (aseptic) leading to almost complete absence of secreting tissue in the kidneys, only a thin layer of cortex remaining; and in one, aged 73, the patient was suffering from an extreme form of paralysis agitans. 2. Two patients died from exhaustion. In one of these, in whom death occurred thirteen days after the operation, there were almost daily rigors with high temperature, though the bladder was clean; no doubt the kidneys were pyelonephritic, though no necropsy was obtained. The other, aged 87, had been confined to bed for six weeks from pneumonia immediately previous to operation. 3. One patient, aged 74, very stout, suffering from severe cystitis, chronic asthma and bronchial catarrh with dilated heart, succumbed from bronchitis twenty-two days after operation. Spinal anesthesia was tried in this case but failed, and general anesthesia had to be employed, which, no doubt, was responsible for the fatal bronchitis. 4. In a man, aged 78, double vasectomy and subsequently castration had been performed by another surgeon several years before, without any benefit to the prostatic symptoms. For two years before coming under Freyer's care he had passed urine through a suprapubic fistula established for this purpose. The apparatus fitted badly, owing to the bladder being filled by the enormous prostate, causing great pain and frequent hemorrhage, and urine constantly leaked beside the tube. Altogether the patient was in an extremely wretched condition, and begged to be relieved at any risk. The prostate, which weighed 11 ounces, was easily enucleated, but the patient succumbed to shock in eight days. Freyer calls attention to the fact that in all of these nine cases in which death supervened on the operation the patient was afflicted with one or more grave complications which must have proved fatal after much suffering. In no case did death ensue where the vital organs were sound at the time of the operation. Had the cases been selected, therefore, the mortality would have been *nil*.

17. **Pulmonary Tuberculosis and Bovine Tuberculin.**—After a large experience in the treatment of tuberculosis in all its forms, Raw has come to the firm conclusion that tuberculin is a valuable remedy in a great many cases. The special variety of tuberculin to be used must be determined by the nature of the infection, and as nearly all cases of pulmonary tuberculosis or "consumption" are of human origin—that is, they are caused by the bacilli of the human type—it is necessary to use a tuberculin prepared from the bacilli of the bovine type, and named bovine tuberculin. In fact, he declares, one must inject the opposite kind of tuberculin. Bovine tuberculin is less irritating and less liable to produce reaction when given in the larger doses in cases of consumption. Raw does not consider tuberculin a specific remedy in severe tuberculous infections; but combined with other methods of treatment, directed to raise the general nutrition, assists in producing immunity of a more or less temporary character, but its chief effect seems to be to prevent the further spread of the disease, and to inhibit the growth of the bacilli in the human tissues, so that as the original tuberculous process dies out no further development takes place. In other words, it has a specific action on the blood in retarding the growth of tubercle bacilli. The immunity which it produces must be arrived at slowly and with caution, so that the blood may be

very gradually accustomed to its presence, and it cannot be too strongly emphasized that all tuberculous infections of however mild a type become constitutional or blood infections in a very short time, as is evidenced by the skin reaction of v. Pirquet.

20. **Bullet Wound of the Skull.**—In the case reported by Harnett, a spent bullet penetrated the skull through the squamous portion of the temporal bone, passed between skull and dura without injuring the latter and lodged in the pars petrosa.

21. **Eye of Surgical Needles.**—The eye of the needle used by Thomas has a side entrance protected by a spring grip—like a harness snap.

Journal of Tropical Medicine and Hygiene, London

April 1

22 Experiments to Ascertain if the Domestic Fowl of Uganda May Act as a Reservoir of the Virus of Sleeping Sickness. Sir D. Bruce, A. E. Hamerton and H. R. Bateman.
23 Three Cases of Pseudomuscular Hypertrophy in One Family. R. H. Castor.

Journal of Obstetrics and Gynecology of the British Empire, London

March

24 *Sixteen Cases of Hebosteotomy from the Clinics of Berlin, Munich and Königsberg (Pr.). E. B. M. Haarbleicher.

24. **Hebosteotomy.**—Haarbleicher lays emphasis on the fact that to avoid disastrous risks hebosteotomy must be performed with a very exact technic, relatively early in labor, and in carefully selected cases, uncomplicated by any previous obstetric interference. He also states that the benefit to be expected in a subsequent delivery is, to say the least, problematical. Even after a strikingly successful operation and uneventful immediate recovery, the condition of the patient is not always enviable, especially in the case of a working woman who is compelled to return to her duties after a short convalescence. Thrombosis, prolapse, sacral pain, drag on evidently although the gait is relatively seldom disturbed. Statistics show that 80 per cent. of deliveries with contracted pelves are spontaneous, if left to Nature, but if hebosteotomy is not performed till the child is in danger, or till both mother and child have suffered by a protracted labor, the goal of the operation, a living child, is uncertain, and the mother incurs a grave risk.

In order to ensure a living child at minimum risk to the mother, hebosteotomy must be performed early in labor, and as no certain benefit can be claimed for future deliveries, it has no advantage over Cesarean section. Although the technic of the operation, as now developed, is brilliantly simple and exact, Cesarean section in equally skilled hands has never shown such a list of disasters. Cesarean section overcomes all mechanical difficulties, whereas in all pelvic enlargements these have still to be faced. The exact relation of the size of the head to that of the pelvis, the condition of the child, and resistance of the soft parts cannot be gaged with certainty. Injury to the bladder and soft parts, if avoided by the technic of the operation, may occur when the bones are pressed apart by the passage of the child's head and especially so if the delivery has to be aided by forceps or version. To avoid these disasters the patients must be selected so carefully that the field for hebosteotomy must remain a narrow one, viz.: multiparæ, with a conjugata of not less than from 7 to 7.5 cm. in a flat, or 8 cm. in a generally contracted pelvis, when a segment of the head has already entered the pelvis, and it is quite clear that only a very little increase in the pelvic measurement is required for the head to slip through easily, when the child has not been endangered by previous attempts at delivery, e. g., version, forceps or induction of premature labor, and when the mother is not infected. Even in these cases Cesarean section will be considered by many to hold the field.

Dublin Journal of Medical Science

April

25 Medical Inspection of Schools and School Children. J. B. Story.
26 Diagnostic Value of Luys' Segregator. R. A. Stoney.
27 Diagnosis of Renal Tuberculosis. C. P. Smyly.

Glasgow Medical Journal

April

28 Treatment of Pulmonary Tuberculosis in the Victoria Infirmary, Glasgow. A. Napier.
29 Two Cases of Aneurysm of the Splenic Artery. R. S. Taylor and J. H.. Teacher.
30 *Treatment of Sciatica by Saline Injections. A. G. Hay.
31 The Protein Requirements of the Body. E. P. Cathcart

30. **Treatment of Sciatica by Saline Injections.**—Of twelve patients treated by saline injections by Hay, eight were cured, one was made worse and three were lost sight of. With regard to the technic of the injection, Hay injects at the sciatic foramen or at the gluteal fold, according as pressure causes greater pain at the one point or the other. To find the foramen he draws imaginary straight lines from the posterior superior iliac spine to the tip of the great trochanter and to the middle of the ischial tuberosity, bisects the angle contained by these lines, and measures 2½ inches along the bisecting line. At the gluteal fold the nerve lies midway between the trochanter and the tuberosity. To ascertain whether the needle has penetrated into the nerve, press the plunger of the syringe gently so as to expel a few drops of the solution. If the needle is in the nerve the patient experiences a sensation as if something were trickling down within the leg to a variable distance, sometimes only to the middle of the thigh, sometimes as far as the heel. In evidence of the permanence of the cure, Hay cites the case of a man whom he injected eleven years ago. For several years before the man was treated, he was confined to the house with sciatica every winter for periods varying from a few days to many weeks; since being treated he has never lost a day's work.

Journal of Laryngology, Rhinology and Otology, London

April

32 The Question of Ozena. J. S. Fraser and F. E. Reynolds.

Clinical Journal, London

March 29

33 Bronchitis. J. E. Squire.
34 Some Common Forms of Deafness. W. H. Kelson.

Medical Press and Circular, London

April 5

35 Hyperthyroidism. R. Saundby.
36 Salvarsan in Syphilis. S. Taylor and R. W. Mackenna.
37 The Mechanism of Mental Processes, with Special Reference to Emotional Control. G. R. Jeffrey.
38 Self-Retaining Mastoid Retractor. C. A. Adair-Dighton.
39 *A New Form of Roentgen-Ray Penetrometer. F. Hernaman Johnson.

39. **Roentgen-Ray Penetrometer.**—Hernaman-Johnson's procedure is based on the determination of a point at which a screen first became faintly illuminated. The essential part of his apparatus is a slide made in two pieces, numbered from 1 to 6 and from 7 to 12, and consists of squares o metal arranged according to thickness in geometrical pro gression. The rays from the focus tube on their way t the screen have to pass through this slide. As soon as faint fluorescence becomes visible, it is the penetration numbe of the tube. Hernaman-Johnson has graded his instrumen against a Wehnelt radiometer, so that the numbers correspon approximately to this scale.

Bulletin de l'Académie de Médecine, Paris

March 21, LXXV, No. 12, pp. 387-414

40 Graduated Mixed Anesthesia. (Méthode des mélanges titrés. P. Reynier.

Presse Médicale, Paris

March 25, XIX, No. 24, pp. 229-244

41 *The Professional Responsibility of Physicians and Surgeon A. Colin.
42 *Professional Responsibility in Induced Medical Abortion. Bonnaire.
43 *Induced Abortion. (De l'avortement provoqué.) H. Monta
44 *The Rights of the Father of the Family Over His Childre (A propos du droit du père de famille sur ses enfants.) Piequé.

March 29, No. 25, pp. 245-252

45 *Diagnostic Importance of the Concentration of Urine. Si nificance of Polyuria. (Volume des urines et concentrati maxima.) J. Heitz-Boyer and Moreno.

41-43. **The Professional Responsibility of Physicians an Surgeons.**—This issue of the *Presse Médicale* is devoted to art cles bearing on this subject written by lawyers and physician with a discussion at a joint meeting of members of the professions.

43. **Permission to Operate on Minors.**—The French law gives the parents and guardians the right to forbid operations on minors and the insane, and Piequé cites examples to show the evils resulting from this law, as for instance when the father of a girl between 20 and 21 refused to permit the amputation of her leg on account of a sarcoma of the lower end of the femur, declaring that he preferred death to amputation for his daughter, notwithstanding the girl's agonized appeals for the operation. He also cites instances in which the family refused to permit a needed operation on an insane member of the family, their refusal often being dictated by sordid or criminal motives. Piequé describes his efforts to influence legislation to correct such deplorable conditions, but he has been unable to accomplish anything to date in this line.

45. **Diagnostic Importance of Maximal Concentration of Urine.**—Heitz-Boyer and Moreno distinguish between a facultative polyuria in which the increased amount of urine depends on conditions external to the kidney, such as the amount of liquid ingested, influence of diuretics, etc., and a true or obligatory form in which the kidney is unable to excrete the solids of the urine in greater concentration. In true polyuria a distinction must further be made between the total amount of solid substances eliminated and the concentration of the urine in these substances. The total amount of solids depends on the diet and is no criterion for appreciation of kidney functioning. The important factor, therefore, in the modification of diuresis is the maximal capacity for the concentration. This depends on the state of the kidney parenchyma, and it is thus an index of its permeability. The maximal concentration of urea, for instance, is a direct and reliable index of one of the principal functions of the kidney. For each individual there is a certain figure above which the kidney parenchyma is unable to eliminate the different substances of the urine; this figure is the maximal concentration for the substance in question. To make the test, the individual limits as much as possible the intake of fluids while ingesting as much as possible of the substance in question. In this way the kidney is forced to eliminate the maximum of the substance in the minimum of water, that is, in the most concentrated form. A healthy man given increasing amounts of urea eliminated from 40 up to 120 gm. of urea a day, but the urine never contained more than 4.5 per cent. of urea. This was his maximal concentration. In a case of nephritis, the patient taking 20 gm. of urea for four days and then 40 gm. for a day and then none, the maximal concentration ranged from 1.45 to 2.05 per cent. in the seven days of the test. The body has reserves of water to draw on, so that the concentration of the urine is regulated by physiologic laws. Much more water is ingested ordinarily than is actually needed for urine production, so that there is enough, even when the intake is much restricted below the ordinary, for production of urine. Instead of basing our diagnosis on the volume of urine in the twenty-four hours, which is such a variable and unreliable index, depending on so many casual factors, the authors declare that the diagnosis should be based on the maximal concentration which is an exact and scientific index of the actual functional capacity of the kidney in respect to solid substances. It is easier to estimate the maximal concentration of urea than that of salt, so that urea is generally used for the test.

Semaine Médicale, Paris

March 29, XXXI, No. 13, pp. 145-156

46 *Headache from Nodules in the Muscles. (La céphalée musculaire.) F. Rose.

April 5, No. 14, pp. 157-168

47 Standards for Registration of the Venous Pulse. (De la notation et de la lecture des tracés du pouls veineux.) L. Bard.

46. **Muscular Headache.**—Rose refers by this term to the pain caused by nodules forming in the muscles of the head and back of the neck. It is sometimes called chronic rheumatic headache or nodular and callous muscular cephalalgia. The lumps in the muscles can be palpated with the lubricated fingers. They may be in the subcutis or muscles and may range in size from minute points to actual lumps, and are extremely painful even under slight pressure, especially those in the top of the scalp. They pass through three stages, swelling, elastic resistance and cartilaginous induration, and the tonicity of the muscle is always exaggerated, sometimes to actual contracture. The points where the muscles are most painful are near the articulation of the sternum and clavicle and the upper cervical vertebræ, especially the fourth, and the articulation between the atlas and the spine. Light pressure at these points causes the muscles to contract, while strong pressure abolishes the pain and relaxes the muscles. This muscular headache has been studied mostly by Swedish writers. The rare acute cases subside under salicylic or sedative medication; even in the chronic cases the prognosis is also good under suitable massage treatment. Each of the hypertonic muscles should be examined individually. With scientific massage it is possible to relieve the patient speedily after the affection has been once diagnosed. Müller states that of 140 patients in this category who were given over twelve massage treatments, 119 were cured, while 21 were either not benefited or the ultimate outcome is unknown. The trouble is most frequent in women, but it has been encountered in children. There is usually a history of some toxi-infection, influenza, recurring sore throat, acute and chronic muscular or articular rheumatism. Some explain the nodules as gouty deposits; the *Muskelschwielen* may involve the nerves in the nodules. A rheumatic origin seems probable, but Müller noticed a tendency to goiter in a number of the patients. It is possible that the contraction of the muscles in the front of the neck may compress the thyroid and thus induce insufficiency and set up a vicious circle. This assumption throws light on the headache and facial and cranial neuralgias sometimes observed with defective functioning of the thyroid. Müller asserts that headache which cannot be traced to an organic affection of the brain, skull, eyes, nose or ear is sure to be of this muscular cephalalgic type. Even with alcoholism, the headache may be of this type and may be cured by massage, as also when it is a complication of neurasthenia.

Archiv für klinische Chirurgie, Berlin

XCIV, No. 4, pp. 711-972. Last indexed April 8, p. 1075

48 *Ileus with or Following Appendicitis. (Darmverschluss bei und nach Perityphlitis.) E. Ruge.
49 Arteriovenous Anastomoses Without Interruption of Circulation. (Anlegung arterio-venöser Anastomosen bei erhaltenem Blutkreislauf.) S. Hadda.
50 *Sarcoma of the Calcaneum. (Fusswurzelsarkome.) C. Stern.
51 Bone Plastics. (Beiträge zur freien Knochenplastik.) A. Stieda.
52 Resection of Left Lobe of Liver. N. Kron.
53 *Outcome of Operations on Stomach for Non-Malignant Disease. J. Galpern.
54 *Primary Resection of Large Intestine. (Zur Frage der primären Dickdarmresection.) H. v. Haberer.
55 Improved Technic for Suturing Tendons. (Einige Bemerkungen zur Technik der Sehnennaht. O. v. Frisch.
56 *The Toxic Behavior of Metallic Lead in the Tissues. (Das toxische Verhalten von metallischem Blei und besonders von Bleigeschossen im thierischen Körper.) L. Lewin.

48. **Obstruction of the Intestine During or After Appendicitis.**—Ruge reviews forty-four cases of this kind, including fourteen in which the ileus was due to atony of the bowel, ten with broad adhesions and eighteen with narrow, one with an inflammatory tumor and one with stenosis from ulceration in the cecum. These appendicitic cases formed 17.9 per cent. of the cases of ileus in his experience in the last twenty years, but only 1.8 per cent. of the total cases of appendicitis. The diagnosis is frequently difficult as the appendicitis may mask the ileus or there may be no known history of appendicitis or merely a vague history. In twenty-one cases nothing was known of any history of appendicitis or else it had been extremely mild. In twenty cases the ileus accompanied the appendicitis. Violent peristalsis is the best sign of obstruction, and when the obstruction is suspected a history of appendicitis existing or in the past should suggest the necessity for an immediate operation. The obstruction is generally high up and operative treatment must be more extensive than with simple mechanical ileus, on account of the danger from the appendicitis. Only ten patients recovered in the twenty with existing appendicitis and only thirteen in the twenty-four with trouble due to the relics of appendicitis. In the entire number there is no case in which an early operation

was done for the appendicitis; this confirms the importance of an early operation to ward off such contingencies in the future.

50. **Sarcoma of the Calcaneum.**—Stern has encountered two cases; the patients were men of 54 and 28 and the growth was inoperable in the first case. In the other the trouble had been supposed to be of an inflammatory nature and a plaster cast was applied four weeks after the first symptoms. The increase in the pains compelled its removal in ten days when the ankle was found more swollen than at first and the patient refused to permit massage. The progress of the growth soon required amputation of the leg and the man died of metastasis in a few months. In the other eighteen cases on record, the sarcoma was mistaken for a tuberculous process in a number, but the difference in the shape of the joint might have excluded this. With tuberculosis, the joint assumes the spindle shape while this is not generally observed with sarcoma until the soft parts become involved, although in one of Stern's cases the spindle shape was pronounced from the first. The knobby tuberculous process is usually in the capsule, while with sarcoma it is more liable to be in or near the cartilage. So long as the sarcoma is restricted to the bone, the joint swelling shows a tendency to subside in most cases, but Stern's case was an exception to this rule likewise. With sarcoma, the skin is not reddened as with inflammation, and the movements of the joint are less painful, until the growth involves the joint surfaces. This does not occur for a comparatively long time as the cartilage seems to display great resistance to the spread of the sarcoma in most cases, although not in all. The pain with sarcoma is described as a pulling or tearing or neuralgic pain, while with inflammation it is more a throbbing. Fever, chills and local pains may come on suddenly as the first symptoms of the sarcoma. In some cases the pains and disturbances may be ascribed to flat-foot; this occurred in Borchardt's case, in which the patient was treated for nine years on this assumption and all kinds of insoles, massage, etc., having been applied. Radiography is extremely useful in differentiation of the sarcoma, the uniform light patch being different from the picture in tuberculosis and osteomyelitis with which there are generally shadows scattered through the light patch. The thickening and disintegration of the periosteum help in differentiating gumma from sarcoma, which otherwise the findings resemble. There is no time to waste, Stern says, in tentative antisyphilitic medication. Radioscopy is further useful with sarcoma as it permits discovery of metastases in the lungs or elsewhere before they make their presence felt, and it reveals the first tendency to recurrence after removal of the growth. With exploratory puncture or excision, the scrap should be taken from the periphery of the growth as the conditions differ materially at this point with gumma and sarcoma while in the center it is hard to distinguish between them. Before operating, the glands should be investigated; if they show signs of metastasis, there are probably metastases at other points. Of the twenty sarcoma patients two were known to be alive two years after removal of the spindle-cell and giant-cell sarcomas and one five years after removal of a sarcomatous chondroma. In Stern's two cases the growth was a small, round-celled sarcoma with occasional giant cells. The small, round-celled sarcomas seem most rapidly fatal. It is important after the amputation to saw the bone across to ascertain how far the sarcoma has proliferated up into the bone marrow; exarticulation of the knee or hip may be the preferable technic.

53. **End-Results of Operations for Benign Gastric Disease.**—Galpern has reexamined 128 of 160 patients of this class, and he here classifies them and the ultimate outcome, comparing this material with that reported from other clinics. The best results were obtained with cicatricial stenosis of the pylorus; next to this, in the cases of pyloric ulcers, while the poorest results were found with ulcers at other points in the stomach. In twenty-eight cases there was recurrence of symptoms or peptic duodenal ulcer developed.

54. **Primary Resection of the Large Intestine.**—Haberer reports nineteen cases of primary resection of the large intestine at von Eiselsberg's clinic at Vienna. Three of the patients did not survive the operation; one of this group had had a febrile sore throat a short time before and the fatal peritonitis was due exclusively to streptococci. He regrets that the operation was not postponed to allow time for the streptococcus infection to die out. In another similar case, although the patient recovered, yet streptococcus peritonitis followed the angina and streptococci could be cultivated from the blood. In the third case the patient was doing well up to the fifth day after extensive resection of stomach and intestine but then a suture on the ascending colon gave way. In all the other cases the wound healed by primary intention. Eiselsberg makes it a principle to use the simplest technic and ordinary instruments in all his surgical work, for the impression and effect on the students who, when they come to practice, will seldom have more than the most modest equipment.

56. **Poisonous Action of Metallic Lead in the Body.**—Lewin records a large number of interesting cases of lead poisoning from swallowed shot or the practice of holding shot in the mouth, or inhalation of air laden with lead particles, bullets shot into the tissues, etc., discussing the chemical action of the organic fluids on the lead. His conclusions are in favor of the necessity of extracting without delay the metal body which is liable to act sooner or later in an insidiously harmful way on the vital functions. He has been growing more pessimisti in this respect with increasing experience. No one can tell, he says, how soon the metal will become mobilized under chemical action, and when this has once happened it is practically impossible to control the consequences. The argument that people are known who have carried bullets about in them for years without harm is not based on scientific evidence, he declares. There are no records of any such persons followed carefully through years, and no records as to the symptoms with which death finally came to them. It is not known whether they died finally of lead poisoning or not. Interna medication, with potassium iodid for example, is inadequate to cope with the constant fresh supply of lead being fed into the blood from the mass in the bullet or shot. In one of hi cases the symptoms of lead poisoning were observed from merely a single shot which had lodged between the teeth a the woman was eating an apple.

Berliner klinische Wochenschrift

March 27, XLVIII, No. 13, pp. 558-604

57 The Constitution and Pulmonary Tuberculosis. C. Hart.
58 *Intermittent Limping and Spinal Disturbances from Male Fer Poisoning. (Intermittierendes Hinken und Rückenmarkse krankung nach Vergiftung mit Extractum filicis maris.) Magnus-Levy.
59 *General Principles for Estimating and Treating Cardiovascul Diseases. (Zur Beurteilung und Behandlung cardiova culärer Erkrankungen in der Praxis.) G. Honigman Commenced in No. 12.
60 *Functional Valvular Occlusion of Intestine in Infants. (Ei wichtige Form von funktionellem Darmverschluss im Säu lingsalter und ihre Beziehungen zur Hirschsprung'sch Krankheit.) E. Blochmann.
61 The Alleged Peroneus Paralysis from Salvarsan. (Ueber ang bliche Peroneuslähmung durch Salvarsan.) W. Wechs mann.
62 Case of Fistula Between Gall-Bladder and Appendix. (Fa von Fistel zwischen Gallenblase und Wurmfortsatz.) Tanaka.
63 Technic for Puncture of the Brain. (Zur Technik der Hir punktion.) M Borchardt.
64 *Clinical Importance of Decapsulation and Scarification of t Kidney. M. Zondek.
65 Treatment of Leukorrhea. (Der vaginale Fluor und sei Behandlung.) E. Runge.

April 3, No. 14, pp. 605-652

66 *Promotion of Growth of Plants by Radium Emanatio (Wachstumsforderung durch Radiumemanation.) W. Fal and G. Schwarz.
67 *Influence of Radium Emanations on Gaseous Metabolism a Circulation of the Blood. (Einfluss der Radiumemanati auf den Gaswechsel und die Blutzirkulation des Menschen A. Loewy and J. Plesch.
68 Connection Between the Kidneys, the Suprarenals and Hi Blood-Pressure in Human Pathology. (Hypertonis Diathese und nephrogene Hypertonie.) E. Frank.
69 Roentgen Rays in Diagnosis of Pulmonary Tuberculos (Zum Wert der Röntgenstrahlen für die Diagnose Lungentuberkulose.) M. Levy-Dorn.
70 Cause and Significance of Scapular Sounds. (Scapul krachen.) R. Habermann.
71 Cysts in the Tarsal Scaphoid. (Knochencyste im Os navi lare.) G. A. Wollenberg.
72 Legislation on Injurious Dyes. (Zur Revision des Reic gesetzes betreffend die gesundheitsschädlichen Farben.) Weyl.
73 *Quantitative Determination of Uric Acid in Urine, Blood a Other Serous Fluids. (Einfache und schnelle Methode quantitativen Bestimmung von Harnsäure.) Aufrecht.

58. **Intermittent Limping and Spinal Symptoms After Poisoning with Male Fern.**—In the case reported by Magnus-Levy the patient, a man of 38, took 8 gm. of extract of male fern with 16 gm. of castor oil, the combination being a proprietary mixture (Tritol-Stark) to expel tapeworm, the man believing that he had this parasite and taking the medicine without consulting a physician. For several years he had had symptoms suggesting a slight tendency to intermittent limping, but not sufficient to impair his usefulness as a policeman. The trouble was most pronounced in the morning, after the night's rest, the same as in a case recently reported by H. Curschmann. The male fern caused vomiting, violent clonic and tonic cramps, irritation of the kidney and fever, but the eyes did not seem to be affected. The tendency to circulatory disturbances was seriously aggravated, the toes were congested, numb and with blue patches on the leg. The man had to stay in bed for six weeks with varying pains in the contracted leg, and he was left with serious paresis of the leg, the type suggesting poliomyelitic paralysis. Levy is inclined to explain the syndrome as the result of a direct toxic action of the drug on the already diseased artery wall, on the cells in the spinal cord, and also on the smooth musculature. The artery cramps seemed to affect predominantly the vasa vasorum of the already pathologic blood-vessels of the left leg and of the lowest segment of the spinal cord, where the toxic action of the drug was felt most powerfully and inflicted permanent injury. The patient improved under iodin and electricity so that after a four-weeks' course he could walk for ten or fifteen minutes without being obliged to stop and without fatigue. The skin is more of a normal tint and the pulse in the arteries of the foot is occasionally perceptible although weak. The effect of iodin is soon apparent in these cases, the parts showing the influence of better nourishment and function. The benefit from iodin in intermittent limping is accepted by Levy as sustaining its efficacy in general arteriosclerosis although ordinary arteriosclerosis is by no means necessarily the causal factor in intermittent claudication, and the latter may improve even without the use of iodin.

59. **Disease of Cardiovascular System.**—Honigmann states that more than 20 per cent. of the mortality after the age of 40 is due to cardiovascular disease, and that the proportion of persons with these disturbances is still higher among the well-to-do. The general practitioner should aim to make a correct prognosis rather than to seek for the exact anatomic basis. Even if the newer methods of estimating the functional capacity of the heart are able to do all that is claimed for them, yet it would be impossible, he says, to get the ordinary patient to submit to the full battery of these tests. And even if he would, the tests reveal only isolated phases of the cardiovascular functioning; even the determination of the blood-pressure is dependent on so many factors that it is impossible to interpret it always exactly, and the gross variations can be estimated with the finger as well as with the most complicated apparatus, unless a prolonged study of the pulse is made which is not practicable outside of institutions. In reviewing his twenty-five years' experience with patients with cardiovascular disturbances under observation for many years, Honigmann has been impressed with the comparative frequency of three types: fibrous degeneration of the heart muscle, angina pectoris and renal arteriosclerosis with heart trouble. The main feature of the first type, the chronic myocarditis, is the severity of the disturbances from lack of compensation while the prognosis is more favorable than in other forms of heart disease. These patients suffer from shortness of breath with physical or even mental effort; the pulse is irregular and it may remain so after compensation has been restored and the pulse is full and strong. The irregularity is the result of some fibrous patch in the heart and is a favorable sign in these conditions. The disturbances in these cases come on gradually, but the second type is distinguished by the sudden onset, and after subsidence of the attack of cardial asthma all returns apparently to normal. The more the dyspnea symptoms in this type predominate, the better the prognosis, while sensory disturbances, suggesting angina pectoris, render the prognosis graver. If the patient can spare himself in the intervals, this form of heart disease may permit long survival. In a case cited, eight years elapsed after the first attack before the patient succumbed, and the trouble had probably been developing long before that first attack of cardial asthma. It is typical of the disturbances in this group of cases that they do not follow the overexertion at once but come on several hours afterward. Signs of general arteriosclerosis are evident as a rule in these patients, but the heart is not dilated although symptoms during the attack may indicate that it is. Development of a Cheyne-Stokes type of breathing and psychic symptoms naturally render the prognosis graver. When the attacks commence in the form of angina pectoris, the heart is close to the limits of its functional capacity and in his experience such patients have survived only for six or nine months.

In the third type, the arteriosclerosis involves principally the kidneys although the kidney symptoms seem to be merely a by-phenomenon. The albuminuria and tube-casts in the urine vary from time to time and a careful watch should be kept over them and over the hypertrophy of the heart. When the left heart is hypertrophied and the disturbances are thus perfectly compensated, the prognosis is not bad. With slight changes in the mode of life such patients can continue at business even if annoyed by sensations of pulsation, especially before dropping to sleep, frequent fatigue and a peculiar oppression in the chest. The functional capacity of the heart must be estimated from the behavior of the pulse and other organs. Cheyne-Stokes breathing and the psychic behavior of the patient are instructive signs with cardiovascular disease, especially slight confusion on waking from sleep, carrying dream impressions into the waking state. Occasionally these patients forget names and words, they feel depressed and irritable without cause. Especially after the attacks a kind of confusion persists, although physically the patient feels comparatively well. He is liable to confuse places and imagine he is in some place where he used to live or is in some foreign land; and he confuses periods of time. These phenomena may last for a few days or only hours, but they have a bad prognostic significance; when they have subsided the patient is liable to brood over them and finally they become more constant. In time they may change to agitation and excitement, with distrust of the family and friends. In cases in which these psychic disturbances were observed, the patient never survived for longer than a year or year and a half in his experience. These symptoms were never encountered with the chronic myocarditis or coronary angina but they were frequent with general arteriosclerosis and most so with arteriosclerotic contracted kidney. They coincide with the increase in the insufficiency of the cardiovascular apparatus, and thus seem to form an integral part of the disturbance, and hence are important for the prognosis. Honigmann warns against premature and injudicious use of digitalis; bed rest alone will often answer the purpose. Morphin on the other hand is often indispensable. It is not wise, he thinks, to inform the patients that they are dangerously ill. So long as the state of compensation permits, the trouble should be painted for the patient in brighter colors than as the physician sees it. Particularly with cardiovascular disease should every effort be made to refrain from depressing the patient, who knows that something is wrong with his heart and that he must spare it extra exertion, but his business need not be interfered with; the danger lies in the hours outside of business, in sports, eating and drinking. In proscribing dangerous factors the physician must constantly weigh whether the good to be derived from his restrictions will counterbalance the depression caused by the loss of coffee, alcohol or exercise, etc. By permitting the minor pleasures of life it may be possible to secure more important changes in the entire mode of life.

60. **Functional Ileus in Infants.**—Blochmann reports three cases of suddenly developing occlusion of the bowel in young infants which he was able to remedy by introducing a rubber tube into the anus and pushing it up into the bowel for a little over 3 inches. This evidently opened a valve-like

contraction or fold in the bowel: flatus and stools came at once and the children were cured. One succumbed to the sepsis resulting from the long continued ileus before treatment was applied. The others recovered although one had recurrence of the trouble a few months later, conquered anew by the tube at the first sign of trouble. In all the children the abdomen was enormously distended which is never observed under other conditions in breast-fed infants with obstruction of the intestines even for so long as five days. This valve occlusion of the intestines may produce conditions similar to those in Hirschsprung's disease and may aggravate this disease if it be already present.

64. **Scarification in Place of Decapsulation of the Kidney.**—Zondek reports experimental research and clinical experience which show that decapsulation is liable to entail serious injury of the kidney while approximately the same results can be obtained by merely scarifying the capsule. The surgeon's task is extremely simple; the main point is to determine the indications for operating, and this general practitioners, clinicians and anatomists must study in concert. The scarification technic spares the larger vessels better than nephrotomy.

66 and 67. These and other communications on radium were summarized in the Berlin Letter in The Journal, April 15.

73. **Quantitative Test for Uric Acid.**—Aufrecht evaporates the urine, blood or other fluid, adds a saturated solution of ammonium chlorid, separates the ammonium urate by centrifuging and titrates with potassium permanganate. The technic is described in detail and stated to be simple and reliable. The findings were regularly the same as those with the Ludwig-Salkowski test applied to control specimens.

Correspondenz-Blatt für Schweizer Aerzte, Basel

March 20, XLI, No. 9, pp. 289-336

74 Serotherapy of Diphtheria. F. Krumbein and E. Tomarkin.

Deutsche medizinische Wochenschrift, Berlin

March 30, XXXVII, No. 13, pp. 577-624

75 *Serotherapy of Typhus. (Zweiter Bericht über die Behandlung des Typhus abdominalis mit Heilserum.) R. Kraus and R. v.Stenitzer.
76 Cause and Treatment of Hay-Fever. (Ursache und spezifische Heilung des Heufiebers.) W. P. Dunbar.
77 Physiology of Sympathetic Nervous System. (Allgemeine Bemerkungen zur Physiologie des vegetativen Nervensystems.) L. R. Müller.
78 Traumatic Circumscribed Hyperhidrosis. (Zur Kasuistik der zirkumskripten Hyperidrosis—mit Ageusie—auf traumatischer Basis—Läsion der Chorda tympani.) K. Halbey.
79 *Auscultation Findings in Intestinal Tract and Their Diagnostic Importance. G. Glücksmann.
80 Successful Decapsulation of the Kidney in Uremia from Acute Nephritis in Girl of 6. (Nierenaushülsung bei Urämie.) T. Gumbel.
81 *Eye Disturbances After Salvarsan. (Augenerkrankungen nach Salvarsanbehandlung.) H. Davids.
82 Suggestions for Improved Treatment of Neuropathic and Psychopathic Individuals. H. Oppenheim.

75. **Serotherapy of Typhoid.**—Kraus and Stenitzer review the experiences with typhoid antiendotoxin in three epidemics; nearly a hundred patients were given subcutaneous or intravenous injections and when this was done early in the disease the beneficial action was unmistakable. The results confirm those reported in their previous communications on the subject and justify, they declare, further efforts in the line of serotherapy.

79. **Diagnostic Importance of Auscultation of Gastro-Intestinal Tract.**—Glücksmann comments on the neglect of this important aid for diagnosis of conditions in the gastro-intestinal tract, and describes his application of auscultation to determine conditions in regard to the motor functioning of the stomach. He does not attempt to distinguish the quantitative or qualitative features of the sounds, but merely the time of their appearance and their duration. He has devoted his attention mainly to auscultation of the pylorus, and has found that it is possible by this means to determine when and in what manner the stomach passes its contents along into the intestines, in short, to supervise its motor functioning. He applies the stethoscope to a point three fingerbreadths to the right of the umbilicus and three fingerbreadths above the plane of the latter. A long strip of paper is marked off into sixty numbered fields and at each sound that is heard the listener makes a mark on the square field corresponding to the minute as he notes it on the watch. The findings can be controlled by a rubber bulb which the patient holds in his hand that records simultaneously on a revolving drum the moment the sound is perceived. He has applied this method of examination to over a hundred persons, some healthy and others with various stomach symptoms. The stethoscope was thus applied for half an hour before breakfast. The patient then took a test breakfast and after this the stethoscope findings were recorded for an hour or an hour and a half. The room was kept a little warmer than usual and the findings were compared with those obtained by other methods of testing stomach functioning. Among a number of interesting facts learned by this method is that the digestive tract is never in absolute rest, the sound of fluid passing through the pylorus can be heard occasionally even with the fasting stomach, and this pyloric reflex occurred constantly at the moment when breakfast was brought into the room. The pyloric reflex occurred further much more frequently and was much more pronounced in case of disease of the small intestine. It was interesting to watch the behavior of milk; when the secretory function was at fault the milk was expelled like any other fluid from the stomach, but with normal acidity it coagulated into a solid body, as could be readily recognized by the auscultation findings; they thus revealed the existence of gastric achylia and permitted an estimation of the individual capacity for digesting milk. This may prove of great importance in pediatrics. The findings threw light also on the action and effects of various drugs, on the antagonism between certain drugs, morphin and belladona or drugs to correct acidity, stomach bitters, etc.

81. **Eye Disturbances After Salvarsan Treatment.**—Davids reports a case of bilateral iritis developing in previously sound eyes two days after injection of salvarsan. It accompanied a pronounced Herxheimer reaction, and he is convinced that all the eye affections observed after administration of salvarsan are true syphilitic phenomena, and that they might have been prevented by injecting larger doses of the salvarsan. In his case the iritis promptly subsided without leaving a trace after a second, intravenous injection of salvarsan. He reviews all the literature he can find on the subject of eye disturbances after administration of salvarsan, the data confirming, he states, the above explanation of the trouble.

Deutsche Zeitschrift für Chirurgie, Leipsic

March, CIX, Nos. 1-2, pp. 1-204

83 Behavior of Ureters with Genital Prolapse. (Verhalten der Ureteren beim Genitalprolaps des Weibes.) W. Hirokawa.
84 *Prognosis of Dislocation of the Shoulder and Elbow. (Prognose der Luxatio humeri und Luxatio antibrachii posterior.) H. Schmidt.
85 Local Anesthesia for Appendicectomy. (Anwendung der Lokalanästhesie bei Eingriffen wegen Appendicitis, nebst Bemerkungen zur Erklärung appendicitischer Schmerzen.) F. Hesse.
86 *Resection of Gasserian Ganglion for Trigeminal Neuralgia. (Beitrag zur operativen Behandlung der Trigeminusneuralgie nach Krause.) E. Bircher.
87 *Peroral Intubation for Operations on Nose, Mouth and Throat W. Kölle.
88 Dislocation of the Radius with Pathologic Cubitus Valgus B. Balsch.
89 *Acute Osteomyelitis of the Spine. (Akute Wirbelsäulenosteomyelitis.) W. Gundermann.
90 *Incarcerated Gangrenous Hernia. (Erfahrungen bei der operativen Behandlung des abgeklemmten brandigen Darmes.) K. Berkofsky.
91 *Cysts in Common Bile Duct. (Zur Kenntnis der Choledochuscysten.) H. Schloessmann.
92 Separation of Epiphysis and Fracture of Neck of Femur in the Young. (Ueber Epiphysenlösung am Schenkelhalse und echte Schenkelhalsfrakturen im jugendlichen Alter.) Stephan
93 *Fracture of Jaw. (Neue Methode zur Behandlung der Unterkieferbrüche.) B. Cuffaro.
94 Incarceration of Ovary or Tube in Hernia in Infants. (Brucheinklemmung von Adnexen im Säuglingsalter.) O. Langemak.
95 Tumor of the Nipple. (Primäre Geschwulstbildung der Brustwarze.) O. Creite.

84. **Prognosis of Dislocation of Shoulder or Elbow.**—Schmidt states that the outcome was good in 81.5 per cent. of hi cases of dislocation of the shoulder and was satisfactory i 69 per cent. of the cases of dislocation of the elbow, but only twenty-seven of his total material of ninety-two cases o dislocation of the shoulder could be traced to date, and only twenty of the forty-six cases of dislocation of the elbow These results are much more favorable than those reported by

other German surgeons, and Schmidt ascribes the better functional outcome to the lack of orthopedic treatment after reduction. The arm is merely held in a loose sling passing around neck and wrist, and nothing more than light stroking massage is applied and this only enough to promote the circulation and hasten the absorption of the extravasated blood. The Roentgen-ray findings in the twenty cases of backward dislocation of the elbow are reproduced. The findings seem to demonstrate that the manipulations necessary to reduce the dislocation are responsible for the local ossification which interferes with normal functioning in so many of these cases. This explanation applies in particular to one of his cases in which complete ankylosis developed. The vigorous attempts to reduce the dislocation had not been successful and had evidently injured the joint so that there was a large patch of ossification in the bend of the elbow.

86. **Gasserectomy.**—Bircher states that only twelve operations for intracranial removal of the Gasserian ganglion have been done in Switzerland and he adds three more to the list. The first two patients were women 76 and 30 years old, and both were cured at once of the trigeminal neuralgia and unilateral vasomotor symptoms. The operations were done according to Krause's technic. Seven peripheral operations had been done on the first patient in the course of fourteen years with transient benefit each time after resection of a stretch of the nerve. In the younger patient all three branches of the trigeminal nerve were affected, and the symptoms indicated an intracranial trouble, so no time was wasted on peripheral operations. The assumption of an intracranial site for the trouble was sustained by the edema of the lid and the congestion in the right side of the face and right arm and exophthalmos—all of which disappeared after the gasserectomy. In both cases the external carotid artery was ligated as a preliminary measure. The younger patient for two weeks after the operation showed symptoms of mild psychic disturbance which then subsided; it is possible that the injury from the retractor holding back the brain tissue may have been responsible for this. In a third case there was so much bleeding that the operation proved exceedingly difficult. The patient was a man about 70 with pronounced arteriosclerosis which had altered the vessels so that they did not behave normally and death followed in a few hours from internal cerebral hemorrhage. Gasserectomy is evidently too long and serious an operation to be attempted with existing arteriosclerosis, especially of the vessels of the neck and head; it increases the bleeding and renders the brain more sensitive to the pressure of the retractor while it enhances the danger of apoplexy. Nearly all the fatalities on record were in patients with arteriosclerosis.

87. **Kuhn's Peroral Intubation.**—Kölle gives an illustrated description of Kuhn's flexible tube and the method of its application to aid in operations on nose, mouth and larynx, with detailed reports of three cleft-palate operations, and four of tumors in all of which the peroral intubation rendered valuable service.

89. **Acute Osteomyelitis of the Spine.**—Gundermann reports a case of this affection, the only one on record, he says, terminating in recovery. His patient was a previously healthy man of 28, and the spinal affection followed a carbuncle on the back of the neck. He was traveling at the time, and the frequent change in physicians and a complicating pleural empyema aided in retarding differentiation of the true trouble. It is the fifth case on record with complicating pleural empyema. The osteomyelitis involved the seventh dorsal vertebra, with posterior mediastinitis and irruption into the left pleura and secondary, non-suppurative involvement of the right pleura, with final irruption into a bronchus. After resection of ribs and part of the left transverse process of the seventh dorsal vertebra and evacuation of the spinal process, with removal of sequesters, and measures to control the kyphosis, the patient finally recovered. He coughed up small sequesters of bone from time to time, but by the end of eighteen months after his primary carbuncle he was in permanently good health. Staphylococci could be cultivated in pure cultures from the pleural and spinal lesions. This case and others in the literature emphasize the importance of prompt and energetic measures on suspicion of vertebral osteomyelitis. As soon as the most dangerous stage is past, steps should be taken to prevent development of kyphosis, keeping the patient in bed at first and having him wear a supporting corset when allowed to get up, which should be done very cautiously. Complete restitution is the rule. In the case reported the patient was able to resume his active duties as a cavalry officer.

90. **Incarcerated Gangrenous Hernia.**—Berkofsky analyzes sixty-one cases of gangrenous hernia and twenty of gangrene of the intestines from other cause. The mortality was 32.6 per cent. in the cases of hernia with primary resection of the bowel and 62.5 per cent. in the others. Sixteen interesting cases are reported in detail, including one with volvulus of the sigmoid flexure recurring within three years, and another with volvulus of the small intestine recurring so that the bowel twice had to be resected. When the large intestine was involved in the gangrenous process, the outcome was nearly always unfavorable, whether the bowel had been resected or not. But with gangrene of the small intestine, primary resection cured the patients.

91. **Cyst in Common Bile Duct.**—Schloessman adds another to the fifteen cases of this affection on record; in all the true cause of the trouble was not recognized during life, and the treatment instituted was directly contrary to the correct indications. His patient was a girl of 7. The symptoms in this and the other cases were merely intermittent jaundice, possibly continuing for years, a tumor in the right upper abdomen of varying size and consistency, and colic-like or continuous abdominal pains, generally proportional to the varying jaundice and tumor. The ages ranged from 4 to 24 in the cases on record, and only two of the patients were males. Exploratory puncture of the cyst in his case permitted the escape of contents into the peritoneum, with consequent fatal peritonitis. As the cyst contents were sterile, the peritonitis did not develop at once, even although the operation was not attempted until thirty hours after the cyst had been punctured. Only one case of recovery is known; the patients are usually not seen until the condition is precarious from the long cholemia, and then more precious time is wasted in trying to differentiate the trouble, so that when an operation is attempted the patients are too debilitated to recover. It is not enough to evacuate the cyst, he declares; arrangement must be made for ample communication between the bile duct and the duodenum.

93. **Treatment of Fractured Lower Jaw.**—Cuffaro fitted a strong plate over the lower teeth which held them firmly in place and immobilized the two halves of the jaw. A groove was cut out of the top of the plate, permitting the lower teeth to be used in chewing, which aided functional restitution. The results were good, with the minimum discomfort for the patient.

Medizinische Klinik, Berlin

April 2, VII, No. 14, pp. 520-558

96 The Wassermann Reaction. (Die Wassermannsche Probe.) C. Fraenkel.
97 *Clinical Manifestations of Vital Reactions. (Allergie, Anaphylaxie, Immunität.) J. Bauer.
98 *Therapeutic Importance of the Steam Jet. (Bedeutung des Dampfstrahls.) L. Brieger.
99 *Discoloration of Inflamed Eyes by Fluorescein Taken Internally. (Färbung entzündeter Augen durch innerlichen Gebrauch von Uranin.) O. Fehr.
100 Prevention and Treatment of Flat-Foot and Deformities of the Toes. G. Müller.
101 Technic, Anatomy and Indications for Suprasymphyseal Delivery According to Frank. K. Hartmann.
102 The Blood in Typhoid. (Zur Hämatologie des Typhus abdominalis.) H. Rotky.

97. **Vital Reactions to Infections.**—Bauer discusses the various clinical manifestations of the vital reactions to infections, the so-called allergy which is evidenced in the form of immunity or anaphylaxis. The phenomena of the vital reactions are generally acute primary pictures of pathologic conditions. The changes in organs are generally the consequences of these original vital reactions. It is the task of the future, he says, to reveal the connection between them.

98. **Importance of the Steam-Jet Treatment.**—Brieger is in charge of the hydrotherapeutic institute of the university of Berlin, and he declares that the steam jet is not accorded the

importance in therapeutics which it deserves. He shows the fundamental physiologic difference between the action of dry and moist heat; dry heat has only a superficial action, as it is a poor conductor. Moist heat, on the contrary, is an unexcelled conductor and rapidly penetrates through the organs of the body. The steam jet possesses this property in the highest degree, inducing a hyperemia which may last for more than twenty-four hours. The best method of its application is the jet of steam under high pressure, which procedure he applies to a third of his patients. In sciatica he has the steam jet played on the painful points of the sciatic nerve and its main branches for ten or fifteen minutes. A combination of the steam jet with massage and passive movements is especially effectual. The steam jet softens the tissues, improving conditions for massage; dry heat leaves the tissues so dry that massage afterward is liable to be painful. The best results have been obtained with joint affections of rheumatic, gouty and gonorrheal origin, particularly when only one joint was affected. Excellent results have also been obtained with elbow and hip-joint disease. In one case rapid benefit was obtained by this means in a severe rheumatic affection of the jaws which had immobilized them.

99. **Differential Stain for Inflammation of the Iris and Ciliary Body.**—Fehr has confirmed in fourteen cases Hamburger's statement in regard to the remarkable way in which a stain, fluorescein, given by the mouth in a dose of 5 gm. for adults, was followed by green discoloration of the inflamed region in the eye in case of keratitis, iritis or uveitis. There is no discoloration in the sound eye or with other ocular affections, such as conjunctivitis and glaucoma. The discoloration is probably due to the increased permeability of the vessel walls.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

March, XXXIII, No. 3, pp. 265-412

103 *Tuberculosis and Pregnancy. (Gynäkologische Tagesfragen.) F. Schauta.
104 Bactericidal Properties of Vaginal Secretion and Urine During Pregnancy. (Bakterizide Eigenschaften des Vaginalsekretes und des Urines Schwangerer.) B. Zöppritz.
105 Auto-Infection or Ectogenous Infection? C. Koch.
106 Scopolamin-Morphin Anesthesia in Obstetrics and Surgery. (Der Dämmerschlaf oder die Skopolaminmorphin-Mischnarkose in ihrer Anwendung bei Entbindungen und Operationen.) B. Bosse.
107 *Allowing Patients to Get Up Early. (Frühaufstehen der Wöchnerinnen.) H. Pruska.
108 Ovarian Cause of Uterine Hemorrhage. (Die ovarielle Ursache uteriner Blutungen.) O. Pankow.

103. **Tuberculosis and Pregnancy.**—Schauta thinks that it is impossible to estimate beforehand whether the tuberculosis is going to flare up under the influence of the pregnancy or not, as this is liable even in the mildest cases. The records show aggravation in 75 per cent. and a fatal outcome in 50 per cent. of all cases. Even sanatorium treatment is generally unable to ward off or modify the aggravation of the disease. Allowing the pregnancy to progress to its latter half, and then interrupting it, is particularly disastrous for the mother, but might be indicated in exceptional cases to obtain a living child, the mother being beyond hope. The logical conclusion from the evidence presented is, he thinks, that early abortion should be the routine procedure when a woman with certain tuberculosis of the lungs or larynx becomes pregnant. He prefers vaginal Cesarean section rather than the use of tents, which is more than liable to be followed by an ascending catarrhal affection of the tubes with suppuration. The anterior colpohysterotomy avoids this, and he supplements it by ligating the tubes, without pulling down the uterus, merely seizing the round ligament close to the uterus and ligating the tube twice, then drawing the round ligament up and suturing it over the uterine stump. It is unnecessary to bury the other stump. This technic is simple and permits restitution of the permeability of the tube if the tuberculous process should heal and the woman longs for a child. The resected tube or the ovary might possibly be implanted in the uterus wall. The other technics that have been suggested for temporary or permanent sterilization require laparotomy.

107. **Allowing Parturients to Get Up on the Fourth Day.**—Pruska concludes from the experiences at the third obstetric clinic at Prague that the morbidity of the lying-in period is materially reduced when the patients are allowed to leave the bed by the fourth day after delivery; the involution of the uterus proceeds fully as well, retroflexion is much less rarely observed, and the general health is materially influenced, he thinks, for the better. Only those are allowed to get up so early who have not required suturing, who feel well and whose pulse and temperature have been persistently normal. He compares a group of 1,000 patients allowed to get up on the fourth day with an equal number who were not allowed up till the ninth day but who might have got up on the fourth day according to the present rule. In the first group only 5.8 per cent. developed fever after the fourth day while it was observed in 10.5 per cent. of the second group.

Münchener medizinische Wochenschrift

March 28, LVIII, No. 13, pp. 665-720

109 Experimental Syphilis. (Sekundäre Syphilide, primäres Hornhautssyphilom.) E. Hoffmann.
110 Anaphylaxis and Lymph Formation. M. Calvary.
111 Serodiagnosis of Trichinosis. H. Strobel.
112 *The Tryptophan Test for Gastric Cancer. (Zur Frage der Verwertbarkeit der Glyzyl-Tryptophanprobe für die Diagnose des Magenkarzinoms.) O. Neubauer and H. Fischer.
113 *Return Cases of Diphtheria. Sörensen.
114 Simultaneous Scarlet Fever and Typhoid. Meissner.
115 Lipogenous Diabetes. E. H. Kisch.
116 Cause of Incarceration with Pregnant Retroflexed Uterus. H. Cramer.
117 Experiences with Salvarsan. H. Isaac.
118 Behavior of Heart with Congenital Funnel Breast. (Verhalten des Herzens bei kongenitaler Trichterbrust.) F. M. Groedel.
119 Antithyroidin Treatment of Thyroid Hyperfunctioning. (Thyreotoxische Erscheinungen und ihre Behandlung mit Antithyroidin.) E. Laser.
120 Obstetrics in Munich a Century Ago. (Münchener Geburtshilfe vor hundert Jahren.) O. Mittelacher.

112. **Glycyl-Tryptophan Test for Gastric Cancer.**—Neubauer and Fischer report the experiences of others with their new test which have confirmed their previous announcements that the gastric juice in normal conditions does not contain the enzyme which splits glycyl-tryptophan. The findings were positive in 84 per cent. of twenty-six cases with certain cancer, in 75 per cent. of twelve cases with clinically certain cancer, in 23 per cent. of twenty-six cases of cancer suspects and only in 12 per cent. of forty-two patients with nonmalignant stomach trouble. These figures do not include those of Weinstein as he used a slightly different technic [described with the findings in thirty-nine cases and negative findings in twenty-four other patients free from gastric cancer, in The Journal, Sept. 24, 1910, page 1085]. Neubauer and Fischer remark that absolute specificity cannot be expected in a chemical reaction like this. The data they present are compiled in this way to show the value of the test in the most objective manner.

113. **Return Cases of Diphtheria.**—Sörensen states that there were eighty-two return cases in connection with the 7,037 diphtheria cases at the Copenhagen hospital between 1889 and 1901. In only eight of the patients occasioning the return cases could diphtheria bacilli be found in the throat when they were discharged. The interval was from two to thirty-three days, the majority of cases occurring from four to twelve days after the first patient had returned home.

Virchows Archiv, Berlin

March, CCIII, No. 3, pp. 321-480

121 The Parathyroid Bodies in Tetany and Other Diseases. W. Haberfeld. Commenced in No. 2.
122 Glycogen in the Thyroid. M. Ramberg.
123 Heart with Double Left Auricle in Girl of 11. (Herz mit linkem Doppelvorhof.) N. William and A. Abrikossoff.
124 Aneurysm of Left Ventricle. (Aneurysma des linken Herzventrikels mit abnormer Abgangsstelle der linken Koronararterie von der Pulmonalis bei einem fünfmonatlichen Kinde.) A. Abrikossoff.
125 Metaplasia of Epithelium. R. Kawamura.
126 The First Changes with Tuberculous Process in Kidneys of Cattle. (Die ersten Veränderungen der Nierentuberkulose bei den Schlacht-Rindern.) E. Moser.
127 Fat Content of Tuberculous Foci. E. Joest.
128 Traumatic Kidney Tumor. (Fall von traumatisch bedingtem Nierentumor, mit Bemerkungen zur Pathologie des "infiltrierenden Nierenkrebses.") R. Beneke and K. Namba.
129 Arteriosclerosis in Animals. (Ueber Arteriosklerose bei Tieren und ihr Verhältnis zur menschlichen Arteriosklerose.) C. Otto.

Wiener klinische Wochenschrift, Vienna

March 30, XXIV, No. 13, pp. 443-478

130 *Pathogenesis and Prophylaxis of the Plague. H. Albrecht.
131 *Decapsulation of Kidneys in Eclampsia. (Nierendekapsulation bei Eklampsie.) R. Franz.

132 *A Sulphur Reaction in the Urine with Cancer. (Eine Schwefelreaktion im Harne Krebskranker.) H. Salomon and P. Saxl.
133 Physiology of the Human Stomach. (Physiologie des Magens beim Menschen.) C. Mantelli.
134 Atoxyl Does Not Seem to Influence Production of Antibodies. (Beeinflusst Atoxyl die Bildung der Antikörper?) So.
135 Preventive Salvarsan Treatment of Syphilis. R. Knaur.
136 Temporary Sterilization of Women. K. Bucura.
137 The Question of Syphilis of the Auditory Nerve and Labyrinth. (Zur Frage der luetischen Erkrankungen des Labyrinthes und der Hörnerven.) G. Alexander.

130. **The Plague.**—Albrecht was a member of the Austrian committee sent to Bombay in 1897 to study the plague. Its four members, he says, were the first to insist that rats have something to do with the plague, and they proved it by discovering the bacilli in the carcasses of rats found dead in the streets. As early as 1895 plague was known to be endemic among the marmots of northwestern Asia, and he thinks that these animals may be the perennial source of the plague. When plague first appeared in India, the pneumonic form was most prevalent but gradually the bubonic type supplanted it, and he thinks that this same experience may be repeated in China and Manchuria. With a little care, prophylaxis of the bubonic type is effectual, as he learned by his personal experience at Bombay. An encouraging feature with plague is that it spreads very slowly at first, so that there is time to stamp out imported cases before an epidemic develops. But once obtaining a foothold in a place, it seems to be almost ubiquitous, like a genius epidemicus, at least in the slums.

131. **Decapsulation of the Kidneys in Eclampsia.**—From the successful case reported and other experiences, Franz concludes that decapsulation of the kidneys may prove of great value but that there is no sense in applying this measure until after delivery. The latter alone may afford the desired relief, but if the oliguria or anuria persist or the albuminuria increases and the convulsions or coma persist, then decapsulation may prove the only life-saving measure. It was done on both kidneys in the case reported, about seven hours after delivery; the patient, a primipara of 24, was in collapse with cyanosis, tracheal râles, small pulse of 140, blood-pressure 70. The convulsions had kept up after delivery; eleven preceded and four followed the decapsulation but improvement was soon marked and progressive.

132. **Sulphur Reaction in Urine with Cancer.**—Further experience has confirmed the previous announcement of Salomon and Saxl of the presence of polypeptids, of oxyproteic acid in particular, in the urine with cancer. They have now a record of over 500 urines which have been examined for their oxyproteic-acid content. In 70 per cent. of the cancer cases the findings were constantly positive while they were positive only in a very few other cases, and those mostly very serious conditions. The reaction, however, was obtained in pregnant women the same as in cancer. Even with early small cancers the reaction proved positive in many cases. The disappearance of the reaction after the cancer has been removed testifies to its connection with the malignant disease, but it seems to be independent of the cachexia and of the size and location of the tumor. The reaction is obtained by oxidizing out the neutral sulphur element of the oxyproteic acid in the urine. This is done with hydrogen dioxid, as they describe in detail, a distinct precipitate being thrown down in the urine from cancer patients while there is scarcely a trace of precipitation in other urine.

Zeitschrift für klinische Medizin, Berlin

LXXII, Nos. 3-4, pp. 189-376

138 Relations Between the Circulation in the Kidneys and the Arterial Blood-Pressure. (Beziehungen des Nierenkreislaufs zum arteriellen Blutdruck.) H. Senator.
139 *Causes of Hypertrophy of the Heart in Kidney Disease. (Ursachen der Herzhypertrophie bei Nierenkrankheiten.) H. Senator.
140 *Acute Encephalitis and Cerebral Thrombosis. S. Laache.
141 Measurement of Pulse Energy. (Zur Kritik der Sphygmobolometrie.) H. Sahli.
142 Action of Saponin on Blood-Producing Organs. (Experimentelle Untersuchungen über die Einwirkung des Saponins auf die hämatopoetischen Organe.) S. Isaac and K. Möckel.
143 Digestion and Absorption of Raw Starch. (Verdauung und Resorption roher Stärke verschiedener Herkunft bei normaler und krankhaft veränderter Tätigkeit des Magen-Darmkanals.) L. Fofanow.
144 Manchurian Typhus: Clinical Picture and Its Bacillus. S. S. Botkin and S. S. Simnitzki
145 *Syphilis of the Aorta. H. Grau.
146 Influence of Respiration on Size and Position of Heart. (Röntgenkinematographische Studien über den Einfluss der normalen Respiration auf Herzgrösse und Herzlage.) F. M. Groedel.
147 Accelerated Respiration from Lack of Oxygen. (Ueber die Sauerstoffmangelpolypnoe und deren Bedeutung für den Organismus.) C. Sonne.
148 *Uremia. F. Obermayer and H. Popper.
149 Atony of the Esophagus. G. Holzknecht and D. Olbert.

139. **Causes of Hypertrophy of the Heart with Kidney Disease.**—Senator shows the fallacies in the various theories which ascribe the hypertrophy of the heart to mechanical, hydrostatic factors. Even injection of fluid paraffin into the renal artery, inducing embolism in the finest vessels in the kidney, is unable to produce conditions sustaining the assumption of physical factors. On the other hand, there is considerable evidence to prove that it is lack of the blood-pressure-raising substance, constantly present in sound kidneys, which is responsible for the hypertrophy of the heart with kidney disease. Either other organs work vicariously and to excess to supply this lacking physiologic substance, or some inhibiting action from some other direction is lacking. In studying the subject, a number of other organs should be taken into consideration, besides the suprarenals; this, he says, opens a broad field for research.

140. **Encephalitis and Cerebral Thrombosis.**—Laache reports a case of recurring encephalitis; the first attack ten years before had subsided under treatment but the second proved fatal at the age of 34. Except for an acute articular rheumatism in childhood the patient had been healthy. The symptoms in both attacks were intense headache, right facial paralysis and hemiplegia, with aphasia. Necropsy disclosed merely a pinkish discoloration of the white matter of the left brain, corpus callosum and cerebellum, with two foci of softening but no traces of a scar or cyst, and the vessels were comparatively intact. In another case, an acute hemorrhagic encephalitis was accompanied by secondary thrombosis of the cerebral veins. The patient was a young and previously healthy housemaid who had complained at times of severe headache during the last five or six weeks but there had been no appreciable fever. Then the headache became more severe and the girl died in five days, after three days of stupor. In a third case extensive cerebral thrombosis developed in a woman of 47, secondary to chronic renal tuberculosis and soon proved fatal. In a fourth case, an acute and intensive hemorrhagic encephalitis developed in a man of 36 with a history of epilepsy and chronic nephritis and positive Wassermann reaction. Whether syphilis or the kidney disease or both were responsible for the epilepsy and encephalitis is an open question. Eichhorst gives syphilis the first place among the infectious diseases which may entail epilepsy, but Strümpell denies that it has any connection with genuine epilepsy.

145. **Syphilis of the Aorta.**—Grau reviews twenty-three cases of disease of the aorta with a history of syphilis, three of mixed etiology and sixteen free from syphilis—his total material of aortic affections in the last two years. The latter group includes nine patients with a history of articular rheumatism. In the twenty-three syphilitic cases, there had been an interval of from six, fifteen, twenty-five and twenty-nine to forty-one years since the infection. The subjective symptoms were remarkably late in developing in the syphilitic cases while in the non-syphilitic they had been attracting attention for years. The syphilitic aortic lesions may exist unsuspected for years, without causing subjective symptoms. When these do appear, the condition is then so far advanced that breakdown of compensation follows soon after. There is less enlargement of the ventricle and less disturbances in the peripheral vessels with syphilitic disease of the aorta than with the non-syphilitic. The Wassermann reaction was positive in twenty-one of the syphilitic cases of aortic disease, but he found it negative in three certain cases. The prognosis is generally very unfavorable with syphilis of the aorta when failing compensation is observed. In three of the syphilitic cases melancholia and hypochondria were noticeable, and in another there was an actual psychosis with confusional anxiety and hallucinatory ideas; this type is apparently characteristic of the disturbances in the circulation in the brain resulting from the aortic lesions

148. **Uremia.**—The research reported confirms the importance of the presence of indican in the blood-serum as a sign of kidney disease in the stage of uremia. Recent literature on the subject is reviewed and the results of extensive clinical experience are tabulated. All the evidence shows the absence of indicanemia in health and outside of kidney disease, and its constant presence with advanced nephritis and retention of certain elements of the urine.

Zentralblatt für Chirurgie, Leipsic

April 1, XXXVIII, No. 13, pp. 457-488

150 *Suction Treatment of Infectious or Suspicious Wounds by Sterile Sand Baths. (Die Saugbehandlung Infizierter und infektionsverdächtiger Wunden im sterilen Sandbade.) A. Thies.
151 Drainage of the Peritoneum. H. Iselin.
152 *Spiral Incision in Treatment of Varices and Leg Ulcers. E. Bircher.

150. **Suction Hyperemia in Sand Bath.**—Thies boils the sand in a 1 per cent. soda solution for half an hour in linen bags holding 3 or 4 quarts. The bags are then hung up for a few hours to dry. The sand is then poured on a large pan with removable end-walls. The sand is rendered alkaline by the soda solution and the infected or suspicious lesion, on the arm for instance, is placed in the pan and the sand heaped over it. The capillary attraction of the sand keeps the wound dry, the suction being the greater the finer the grain of the sand. With a spoon the patient keeps putting fresh sand over the lesion. Thies applies these sand baths twelve or fourteen hours a day or longer unless the suction is so great that it cannot be tolerated so long. Burns, leg ulcers, phlegmons and all large open surfaces with inflammatory infiltration, putrid sores and gangrene are particularly adapted for this treatment which is also effectual in treatment of transplanted flaps, first covering the flaps with a piece of chiffon glued to the sound tissues around the flaps. The capillary attraction of the sand is shown by connecting an alcohol manometer with a Berkefeld filter full of water, and standing in a dish of fine sand; the water is drawn through the filter by the sand, leaving a negative pressure in the filter and rapidly sending up the manometer index.

152. **Treatment of Leg Ulcer.**—Bircher has obtained excellent results with the spiral incision running around the leg from ankle to far up on the thigh, according to the technic advocated by Rindflesch. He has applied it in eight cases. The large veins are divided at so many points that the tendency to varices is permanently cured.

Zentralblatt für Gynäkologie, Leipsic

April 1, XXXV, No. 13, pp. 505-536

153 Treatment of Umbilical Cord According to Ahlfeld. O. Wolde.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 19, XXXII, No. 34, pp. 355-370

154 Research on Fasting Animals After Nephrectomy. (Ulteriori osservazioni sul digiuno dopo la nefrectomia unilaterale.) A. Malesani.

March 26, No. 37, pp. 387-402

155 The Poliomyelitic Syndrome in Infectious Diseases of the Nervous System. H. Claude and L. Valensi.
156 *Local Applications of Iodin in Erysipelas. M. Ferrari.

156. **Local Application of Iodin in Treatment of Erysipelas.**—Ferrari reviews the history of iodin treatment of erysipelas and reports forty cases in which he has applied it with excellent results. It is important to paint the sound zone around first; then, with a fresh wad he paints the erysipelas patch and covers it with cotton to prevent the patient touching the region and spreading the contagion. He has found it best to apply the iodin lightly five or six times a day, thus preventing the tanning which is liable to occur when the skin is swabbed too copiously with the tincture. He prefers a 10 or 12 per cent. strength and warns that the tincture must be made comparatively fresh, and reiterates that it must be applied from the periphery of the lesion working toward the center instead of from the center outward, which is liable to spread the infection.

Policlinico, Rome

March 19, XVIII, No. 12, pp. 357-388

157 Incomplete Forms of Exophthalmic Goiter. (Le forme fruste del Morbo di Basedow.) P. Alessandrini.
158 *Treatment of Tetanus by Subcutaneous Injection of Phenol. G. Finzi and others.

March, Medical Section No. 3, pp. 97-144

159 Cobra Venom Hemolysis in Diagnosis. P. Alessandrini.
160 Activation of Cobra Venom by Tuberculous Serum and Its Diagnostic Importance. T. Pontano.
161 Pathologic Anatomy of Malta Fever. A. Tomaselli.
162 Severe Jaundice with Paratyphoid Infection. (ittero grave con reperto del bacterium paratyphi *B* nel sangue e nella milza.) G. Antonelli.

March, Surgical Section No. 3, pp. 97-144

163 Effect on the Blood of Intravenous Injection of a Saturated Solution of Chloroform. (Effetti della cloroflebonarcosi sul sangue.) F. Gangitano.
164 Fracture of Costal Cartilages. V. Barnabo.
165 Etiology of Neoplasms. (Sul recenti contributi alla dottrina dei neoplasmi.) G. Fichera.

158. **Subcutaneous Injection of Phenol in Treatment of Tetanus and Sciatica.**—A number of reports by various writers are here collected, all showing the great benefit from the Baccelli technic in treatment of tetanus and sciatica to supplement local measures. About twenty-five case histories are reported with five of sciatica; the results were favorable in every case.

Riforma Medica, Naples

March 27, XXVII, No. 13, pp. 337-364

166 *Inflammatory Tumors from Migrating Foreign Bodies. (Tumori infiammatori da corpi estranei migrati.) I. Tansini.
167 Reactions in the Urine in Infectious Diseases. (La reazione di Volovskye; la reazione di Butenko.) L. Ferrannini.

166. **Inflammatory Tumors from Migrating Foreign Bodies.** Tansini found a fish-bone in a tumor in the abdominal wall below the navel: the tumor was excised on the presumptive diagnosis of a fibrosarcoma or neoplasm of embryonal origin. In a second case the tumor was in the submaxillary region, was indolent and growing harder, and was about the size of a hen's egg. It proved to be an inflammatory reaction to the presence of a scrap of a grain of wheat in the salivary gland. No giant cells were found in the inflammatory tumor in either case.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A Text-Book of Medical Diagnosis. By James M. Anders, M.D., Ph.D., LL. D., Professor of the Theory and Practice of Medicine and of Clinical Medicine, Medico-Chirurgical College of Philadelphia, and L. Napoleon Boston, A.M., M.D., Adjunct Professor of Medicine, Medico-Chirurgical College. Cloth. Price, $6 net. Pp. 1195, with 443 illustrations. Philadelphia: W. B. Saunders Co., 1911.

The Care of the Baby. A Manual for Mothers and Nurses. Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania. Fifth Edition. Cloth. Price, $1.50 net. Pp. 455, with 99 illlustrations. Philadelphia: W. B. Saunders Co., 1911.

Hospital Management. A Handbook for Hospital Trustees, Superintendents, Training-School Principals, Physicians, and All Who Are Actively Engaged in Promoting Hospital Work. Edited by Charlotte A. Aikens, Author of "Hospital Training-School Methods and the Head Nurse." Cloth. Price, $3 net. Pp. 488, with 154 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Unsoundness of Mind. By T. S. Clouston, M.D., LL.D., F.R.S.E., Formerly Lecturer on Mental Diseases in the University of Edinburgh. Cloth. Price, $2.50 net. Pp. 360, with 14 illustrations. New York: E. P. Dutton & Co., 1911.

Studies in Cardiac Pathology. By George W. Norris, A.B., M.D., Associate in Medicine at the University of Pennsylvania. Cloth. Price, $5 net. Pp. 233, with 85 illustrations. Philadelphia: W. B. Saunders, 1911.

The Prevention of Malaria. By Ronald Ross, D.P.H., F.R.C.S., D.Sc., Nobel Laureate. With Contributions by Various Men. Cloth Price, $5 net. Pp. 669, with illustrations. New York: E. P. Dutton & Co., 1910.

The Sources and Modes of Infection. By Charles V. Chapin, M.D., Sc.D., Superintendent of Health, Providence, R. I. First Edition. Cloth. Price, $3 net. New York: John Wiley & Sons, 1910.

Courtship Under Contract. The Science of Selection. A Tale of Woman's Emancipation. By James Henry Lovell Eager. Cloth. Price, $1.20 net. Pp. 440. New York: The Health-Culture Co., 1911.

Twenty-Ninth Annual Report of the State Hospital for the Insane at Warren, Pa. For the Year Ending Nov. 30, 1910. Cloth. Pp. 97. To the Board of Commissioners of Public Charities.

Sixth Annual Report, Including Medical Supplement, of the Provincial Sanatorium. A. F. Miller, M.D., Superintendent, Kentville, Nova Scotia. Paper. Pp. 15.

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THE RÔLE OF DREAMS IN ETIOLOGY *

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Interest in the subject of dreams has been especially stimulated since Freud enunciated his theory. As is well known, Freud claims to be able to unravel dreams by his so-called analytic method, and he further regards dreams as directly concerned in the production of various hysterical symptoms, phobias, obsessions and delusions. In his brochure "Ueber dem Traum," and in his book "Die Traumdeuting," he tells us that he reached new conclusions with regard to dreams when he applied to them the same method of psychologic research which he had previously applied to the solution of various morbid phenomena. It becomes necessary, therefore, in order that we may have clear conceptions, to briefly review the origin and nature of his method.

Psycho-analysis, as is well known, began with Breuer's case of hysteria. Breuer and Freud stated that they found that the individual symptoms of hysteria immediately and permanently disappeared whenever they were successful in fully arousing in the patient the memory of the event which was causal to the development of the symptoms, together with the accompanying emotion, if, added to this, the patient gave the fullest possible description of this event and gave verbal expression to the emotion. Originally this method presupposed that the patient was capable of being hypnotized and was based on the expansion of consciousness which was supposed to ensue under hypnosis. Subsequently formal hypnosis was dispensed with. Freud's endeavor was to set aside the patient's symptoms, and he attained this end in so far as he placed the patient back into the psychic state in which the symptoms first made their appearance. There appeared under these circumstances memories, thoughts and impulses which had long disappeared from his normal consciousness. When the patient communicated these, his "soul happenings," to his physician, and did so with intense emotional reaction, the symptom was conquered and its recurrence prevented. This result Breuer and Freud explained as follows: The symptom had existed as a substitute or in place of another past experience which had been suppressed (*verdrängt*), and the recollection of which had become subconscious—that is, it was a conversion of the original memory of an act and its associated emotion into a pathologic symptom or obsession. The therapeutic efficacy of their procedure Breuer and Freud explained as the catharsis of the repressed, "locked-up" emotion which had been attached to or associated with the suppressed psychic experience. Freud asserts that his method, or the "cathartic method" as it has also been termed, is, in contrast to all other methods of psychotherapy, characterized by the fact that its therapeutic efficacy is not due to suggestion, a statement which the facts attested by Freud himself lead us frankly to question. I need hardly detail the method which Freud employs. Briefly it is as follows: The patient lies on her back on a couch, while he himself sits on a chair back of her and out of her line of vision. He no longer requests the patient to close her eyes as he did in his earlier method and avoids every touch or procedure such as would be in keeping with hypnosis. Such a séance, he informs us, has the character of a conversation between two persons equally awake, one of whom, the patient, is spared every possible muscular effort and every diverting sensory impression such as might disturb her in her concentration on her internal psychic processes.

In order to take advantage of these involuntary ideas or conceptions of the patient, Freud requests the latter to allow herself to drift in her communication, just as one would drift in a conversation in which one passes in turn to the most varied subjects. He enjoins on the patient, before she enters into the detailed account of her history, to tell everything that comes into her head, whether she thinks it important or unimportant, whether it seems relevant or senseless. The patient is especially requested not to suppress any thought or idea because this idea happens to be shameful or painful.

It is with this procedure as applied to dreams that we are in this paper concerned. The essential facts of a dream having been noted in writing or in an oral statement, as the case may be, the individual is to communicate every idea without exception that occurs to her in connection with the dream. Ordinarily a person thinking about a dream will reject this or that idea suggested by the dream as unimportant and as having no connection with the dream. It is this judgment or critique, as Freud calls it, which under ordinary circumstances causes the patient to reject certain ideas from the communication; but if the patient can withhold all judgment or critique in regard to the ideas which present themselves in thinking over the substance of a dream, a psychic material is furnished which leads to the solution or unraveling of the dream. The essential facts of the dream, that is the dream as it is remembered, Freud calls "the manifest dream content"—(*den manifesten Trauminhalt*). The material derived from the dream, i. e., from the unrestrained association of ideas ensuing on a giving up of one's self to dwelling on the dream, Freud calls the "latent dream content." The psychic process by means of which the latent dream content is revealed, he calls the "dream work" or *Traumarbeit*. The opposite psychic process he calls the "analysis work" or *Analysenarbeit*.

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* Read before the Philadelphia Neurological Society, Feb. 24, 1911.

Further, Freud says that when one compares the number of ideas contained in a dream, as written down from memory, with the number of ideas to which the analysis leads, the dream work reveals that a very great condensation, or *Verdichtung*, as he calls it, has taken place in the dream. It is difficult to form an adequate idea of this condensation. It becomes more apparent the deeper the dream analysis penetrates. We do not find a single factor of the dream content from which threads of association do not lead into three or more different channels; there is no situation which is not pieced together out of three or four impressions and experiences; in other words, Freud evidently regards the dream content as a compound of a number of psychic elements. He compares it to the composite family photographs of Galton. The dream work brings the various apparently superimposed dream components to light. The common factors of the dream content become more prominent, while conflicting details disappear. This explains in part the varying prominence or peculiar indistinctness of so many elements. Where common factors or common elements between the dream thoughts are not present, the dream work endeavors to evolve such in order to make a common presentation of the dream possible. The simplest way to bring thoughts which have nothing in common nearer to each other, consists in the change of the verbal expression for one of them by means of which the other by a corresponding transformation may approach nearer. It is a process similar to that of making rhymes in which the similarity of sound supplies the common element.

Freud believes that through the process of condensation of the dream, we find an explanation of certain features of its content which are peculiar to it alone and are not found in conceptions formed in the waking state. These are the collective and mixed conceptions of persons and the strange mixed pictures, creations and animal compositions, comparable to those of oriental phantasy. In dream compositions they are formed with inexhaustible richness. Every element of the dream content is through the material of the dream thoughts, as Freud puts it, overdetermined, and traces its origin, not to a single element of a dream-thought, but to a whole series of such thoughts. The latter do not stand close to each other, but are of the most varied origins in the thought fabric. The dream element is, in the right sense, the representation in the dream content of all this disparate material.

The analysis reveals, however, another side of the relation between dream content and dream thoughts. Just as from every dream element connections lead to a number of dream thoughts, so, as a rule, a dream thought is represented by more than one dream element. The association paths converge not simply from the dream thoughts to the dream content, but intersect and interweave many times on the way. In complicated and confused dreams, the impression of dissimilarity between dream-content and dream-thought cannot be entirely ascribed to condensation and to dramatization. There is evidence of the working of a third factor. Freud notes that when he, by means of his analysis, arrives at a knowledge of the dream-thoughts, the manifest dream-content deals with entirely different material from that of the latent dream content. This, however, is merely an appearance which vanishes on closer examination, for Freud finds that all of the dream-content is carried out in the dream-thoughts and that almost all of the dream-thoughts are represented by the dream-content. However, there is still a difference remaining. That which in the dream was clearly and plainly marked as the essential content, must be relegated to a very subordinate rôle among the dream-thoughts, and that which among the dream-thoughts has the claim to greatest attention is the representation of material which is found either not at all in the dream content or is only represented there by a very remote allusion in an uncertain region of the dream. Freud expresses this idea as follows: During the dream work the psychic energy passes from the thoughts and conceptions to which it by right belongs, to others, which, in his judgment, have no claim to such an emphasis or importance, and it is this process which has to do with the concealment of the meaning of the dream and with making the connection between dream-content and dream-thought unintelligible. This process, to which Freud ascribes great importance, he terms "dream-displacement" or *Traumverschiebung*. It would seem that that which is most vivid in the dream-content would be the most important, but according to Freud's theory, it is precisely in an obscure dream element that he finds the direct evidence of the most important dream thoughts.

Displacement plays a very varying rôle. There are dreams in which no displacement takes place; these are clear and intelligible dreams, like the dreams of an unveiled or unconcealed desire. In other dreams, again, not a single particle of the dream thought retains its proper psychic value. Everything important in the dream-thoughts is replaced by secondary matter. A most complete series of transitions can be recognized. The darker and more confused a dream, the more we may count on the factor of displacement. Again, when instead of the original elements—instead of the really pertinent material—indifferent material finds a place in the dream-content, we have merely to do with an act of displacement.

Further, the dream-work, or *Traumarbeit,* fashions the preformed dream-content into a dream-composition. The dream acquires a kind of façade which covers almost all, but not all, of its parts. In this portion of the dream-work, motives become apparent, motives which have their origin in a regard for the comprehensibility of the dream.

The kernel of the problem, says Freud, lies in the displacement. The essential condition of the displacement is a purely psychologic one. It is of the nature of a play of motives or activation of motives. We ascertain the cause of this activation of motives when we realize that we are compelled to break off in communicating the contents of a dream because thoughts present themselves which cannot be revealed—cannot be spoken of to others—without the injury of most important considerations, personal and private. Freud asserts that this is true of the content of every dream; that every dream contains thoughts which necessitate privacy. If, Freud says, he pursues the dream-thoughts for himself, he arrives finally at thoughts which surprise him, which he did not know existed in him, and which not only appear strange to him, but are also unpleasant and which he, for this reason, would energetically resist. Freud says that he cannot do otherwise than to suppose that these thoughts are really present in his soul-life (his subconsciousness?), and possess a certain psychic intensity or energy, but because they had been in a peculiar psychologic situation, they could not become known to him, i. e., could not reach his consciousness. He terms this condition *Verdrängung*, suppression. He says he cannot refrain from concluding that between the obscurity of the dream content and the condition of suppression, there is a causal relationship, and he concludes that the dreams had to be obscure in order that the tabooed dream-thoughts should not reveal themselves. The misrepresentation of the dream serves to conceal the latter.

Freud believes that the dream-work, *Traumarbeit*, is one of a series of psychic processes to which the origin of hysterical symptoms, phobias, obsessions and delusions are to be ascribed. Condensation and specially displacement are characters never wanting in the other processes as well. Freud believes that a whole train of phenomena of the every-day life of normal individuals, forgetfulness, unconscious mistakes in speech, in simple acts and other errors, are due to analogous psychic mechanisms.

Freud's therapeutic application of the dream consists in having the patient submit himself to the procedure already outlined, i. e., of allowing all of the thoughts suggested by the dream, no matter what their character, to find verbal expression, and, just as in his method of psycho-analysis, the suppressed, painful or shameful thought thus finds a vent. Freud assumes that even in the deepest sleep a certain degree of psychic activity is present which manifests itself as a watchfulness or guardianship over the sleeper. This guardian-like attention or watchfulness concerns itself among other things with a suppressed desire and forms with the latter the dream, the dream being a compromise of this guardian-like attention and the suppressed desire. Thus is produced a kind of psychic relief for the suppressed desire, for the dream represents the desire as fulfilled.

It is to be noted that the feature of Freud's conception of the dream is, first, its personal, intimate nature, dealing with a subject of such a character that the latter cannot be discussed without injury to the dreamer, without lesion of the proprieties, and second, that the dream always deals with a desire. Freud divides dreams as follows: first, those which consist of an unveiled, undisguised realization of an unsuppressed desire; second, those which consist of the realization of a veiled desire latent and suppressed; and third, those which consist of the realization of a suppressed desire, little or but slightly veiled or disguised. The secret, non-communicable nature of the dream and the desire, veiled or outspoken, constitute, according to Freud's theory, the moving factors of the dream.

Freud's theory, though ingenious, and, I believe, unnecessarily involved, challenges criticism from two points of view; first, as to the secret or sexual content which he declares every dream contains; and second, as to his method.

In discussing Freud's theory, as applied to the unraveling of the psychoneuroses, in a paper read before the Philadelphia County Medical Society some years ago, I pointed out that the first criticism—a truly glaring criticism—which offers itself is the peculiar view which Freud holds in regard to the origin of obsessions. Breuer in his first patient, the patient whose case originally suggested the method, fancied or perhaps did detect in the history a cause of self-reproach or blame which had led to her hysteria, and the unloading or confession of which led to her prompt recovery. At any rate the studies made by his colleague, Freud, have led the latter to some very remarkable conclusions, conclusions to which comparatively few neurologists as yet have been able to subscribe. Freud believes that the various obsessions, hysterical and otherwise, have their origin in some passionate sexual action or aggression of childhood. Obsessions are, he says, always reproaches changed or evolved from the suppression of the memory of reproaches having this sexual origin; in other words, the memory of the sexual action itself, being repulsive or abhorrent, is suppressed, but the feeling associated with the memory persists in the mind and now associates itself with or attaches itself to some other memory or action and that in this way arise the various obsessions. Others than myself have dwelt on the glaring inconsistency of the sexual immaturity of children and the intrinsic biologic improbability of this theory. Perhaps Freud has himself been impressed by this fact, for of late years it would appear that he has retreated to the age of puberty, attempting to save the situation, however, by saying that the memory of these sexual events is projected from puberty into the period of childhood. Whether every dream has a secret or sexual content must be left to the sober thought and honest judgment of ourselves and others; must be left to the testimony of human experience in general. As far as my own experience goes, as far as the testimony of those in whom I have studied the subject of dreams goes, I must come unhesitatingly to the opposite conclusion. It is true that dreams with sexual content do occur, that unquestionably they occur in young persons, especially in young men and are no doubt normal accompaniments of sexual evolution; but that all dreams possess this secret content is certainly not in accord with general human experience, any more than it is in accord with our experience as neurologists that every obsession, for instance, is due to the suppressed memory of a sexual aggression in childhood.

Further, it is extremely probable that Freud by his method suggests the memories of sexual occurrences to his patients; in other words, that he elicits from them a fictitious memory of sexual events in their childhood, of events that have never occurred. Indeed, Loewenfeld gives an instance of a patient of Freud who subsequently came into his (Loewenfeld's) hands.[1] The woman stated to him that the sexual events which she had related to Freud when under his treatment had really never occurred. She declared that the whole thing had been a piece of pure imagination.

Not only does the presumption of a secret content in the dream, sexual in character, challenge criticism, but Freud's method of dream analysis is likewise open to criticism, similar to that which we apply to his method of psycho-analysis of the obsessions. The method that he practices for the elucidation of the obsessions is carried out under a condition which is such as to bring about in the patient a state of actual or borderland autohypnosis. He places the patient, let us remember, on her back; she closes her mind to every possible external impression; she lies perfectly still; concentrates her mind on her thoughts; and then in giving her account of her past experiences is expressly instructed to allow herself to drift at will, to tell everything, no matter what, that enters her mind. It is further admitted that the process is very fatiguing. It may be doubted whether conditions more favorable to autohypnotic states could be devised, and the presumption is justified that there is but little credence to be placed in the saying of a patient in this condition. It is extremely probable—indeed certain in cases of hysteria—that under such circumstances the patient will respond with alacrity to the slightest suggestion, inadvertent or unintentional though this may be on the part of the physician. That confession of imaginary sins, especially sexual transgressions, should be made under these circumstances is not to be wondered at.

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[1] Loewenfeld: Sexualleben und Nervenleiden, 1899, p. 195.

Now the very condition which Freud imposes in the analysis of the dream-content is equally comparable to an autohypnosis, and that under these conditions the material secured is unreliable, is extremely probable. It is presupposed that the mind, in reflecting on the dream, drifts at will without the guidance of what Freud calls the critique—which critique can be freely rendered as the personal equation of judgment. Such a severance of mental function as the conditions of the dream analyses imply, that is, the unrestrained drifting of thought and the suspension of all judgment, is not normal. Such a severance of function implies of itself a state of hypnosis—or a state of mind closely akin to hypnosis, and it certainly seems unphilosophic and unscientific to regard the various mental pictures resulting as representing the undoubted and intrinsic factors of the dream—as representing the essential features and the structure of the dream. There is nothing to justify such an inference, and yet Freud regards it as a foregone conclusion.

It is hardly the function of this paper to enter into a consideration and discussion of the origin and nature of dreams. Suffice it to say, however, that I believe, as does Samuely,[2] that dream conceptions arise just before the sleeper awakens, i. e., just as he is in the act of entering into consciousness. The dream conceptions are part and parcel of the act of awakening. The conceptions furnish the material from which the dream is subsequently constructed. This construction occurs only after waking consciousness has been established. The confused, simultaneously arising dream pictures are then arranged according to time and location, the lacunæ being filled in by the aid of the imagination and reflection. Semi Meyer[3] also believes that the dream history is usually constructed only after the person has awakened. According to Meyer, every dream is something added to the act of awakening. It is a phenomenon dependent on, and is a part of, the act of awakening. There is in every act of awakening an intermediate twilight state of mind, usually very brief, but sometimes prolonged, during which inroads, vague and indistinct, are made on the sensorium from without, and the conceptions thus arising, are, when the patient fully awakens, arranged automatically into some semblance of order and sequence both as to time and space. That long dreams, dreams of complex content and implying long duration of the dreaming act really occupy but a very short period of the dreamer's time has been repeatedly proved. Thus Flux[4] describes a dream in which the period of unconsciousness did not exceed ten seconds, and yet the dream dealt with a shipwreck with all its details, the time necessary for the occurrences being about three and three quarter hours. The truth is that the arrangement of the dream pictures is automatic, begins at once in the act of awakening, and is later often elaborated and dramatized. It is probable that when the awakening occurs quickly, i. e., when the transition to consciousness is sudden and complete, that the dream remains fragmentary. To take such a dream and submit its conceptions to a process, the essential features of which are indistinguishable from those of autohypnosis, may lead to almost any vagary. That the ideas resulting from this method are determined by the personal peculiarities of the individual, by his training, his education and his habits of thoughts; by his desires, his instincts and his sex, goes, I think, without saying; but that one has the right to ascribe to these ideas any value other than this, can be, to say the least, seriously questioned; to go so far as to say that because in one individual dreams usually have, or always have, a sexual content, therefore, we are to conclude that all dreams in all individuals have a sexual content, is, to say the least, not quite logical. To ascribe to ideas which are manifestly secondary abstractions, ideas evolved subsequently to the dream—a causal character, an etiologic value to explain preexisting symptoms, is again not quite logical. To say that the dream analysis of Freud unearths a repressed dream-complex, the unearthing of which gives relief to the patient, is merely to say that the patient dwelling on his dream and induced to speak without hindrance, merely tells the unpleasant, perhaps secret and personal fact or facts of his history which he would have told and constantly does tell without reference to any dream. The danger, however, arises, just as it does in Freud's psychoanalytic method, that the patient will fabricate, involuntarily or perhaps voluntarily, as did Loewenfeld's patient, and recite events that never occurred. Perhaps they are purely fictitious happenings to fill inconsistencies and lacunæ, and yet, arising spontaneously in the patient's mind, may be accepted by the patient as true and find a place among the memories of his actual experiences. Such a patient is, I believe, damaged, just as is a patient who takes away with him after an hypnosis, a persistent suggestion as to fictitious past occurrences.

We are all of us familiar with the relief which patients experience by giving a full account of their symptoms. Sometimes this account, although by no means invariably, embodies the recital of symptoms of a very personal and intimate nature and at such times the recital has all the force of a confession. That the relief of a patient under such circumstances is very great, we all of us know, and we know, too, that a strange and cumbersome procedure, such as is undertaken in a psycho-analysis, namely, the detailed recital of all the events of the patient's life, embodying especially the assumption of active, aggressive and other sexual occurrences in the patient's history, are unnecessary, just as they are painful, distressing and ethically objectionable; surely the dream analysis is alike unnecessary, if it be not, indeed, misleading and futile.

Finally, in the dream analysis, as in the other form of psycho-analysis, both the physician and the patient assume an expectant attitude of mind. The physician already believes, and the patient is involuntarily led to believe, that a cure of the monophobia, agoraphobia or what not, will supervene when a sexual trauma or aggression has been revealed; and it would seem that the more revolting or disgusting the incident unearthed, the greater its power to cure! Surely here is suggestion, involuntary and unintentional perhaps, but none the less suggestion. What also shall we say as to the rôle played by the shame, the self-abasement and the upheaval of the emotions, in the final result? Surely the theory of psycho-analysis commends itself to our understanding as little as does its practice.

Whether dreams ever really play a rôle in the etiology of nervous symptoms must, to say the least, remain an open question. We all know that patients not infrequently awaken from dreams in fright, as witness the familiar example of the nightmare, and yet to ascribe to the nightmare a uniformly sexual character, as does Ernest Jones,[5] is again stretching human credulity beyond the bounds of human experience.

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[2] Samuely: Ztschr. f. Psychotherap., 1909, i, No. 3, p. 150.

[3] Meyer: Ztschr. f. Psychol., 1909, lxiii, 206.

[4] Flux: Brit. Med. Jour., 1901, ii, 13

[5] Jones: Am. Jour. Insanity, 1910, lxvi, No. 3.

That dreams are sometimes followed by symptoms, every alienist knows, but even here it is probable that the dream is itself really a product of the already existing psychosis. Such, for instances, are the cases recorded by Santi di Sanctis.[6] Kazowsky,[7] again, describes a case in which a dream of murder preceded the actual commission of a murder. Penta[8] describes cases in which periods of intense excitement of short duration followed dreams and in one of these cases the dream likewise preceded the murder. Others might be added to this list, but it is safe to say that in these cases the dreams were always symptomatic of the preexisting mental disease and in no sense prodromal.

If, in conclusion, we are asked as to the rôle that dreams play in etiology, we are justified, to say the least, in the inference that that rôle is a very doubtful one; dreams are probably always symptomatic and never causal. Finally also, we may conclude that their symptomatic value is of little consequence.

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THE SO-CALLED ŒDIPUS-COMPLEX IN HAMLET *

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Of all Shakespeare's plays Hamlet is the one which has the most peculiar and abiding interest for medical readers. This is mainly so because of the problem of insanity which it presents. This problem has been as gravely discussed by alienists as though Hamlet were a real person and not a mere creature of the imagination. But in a wider sense the play appeals to the student of mental phenomena because of its psychologic, as distinct from its psychiatric, questions. The most accomplished literary critics have thus propounded many theories, and in Germany a whole body of literature has grown up about this question. To attempt even to enumerate these various theories is out of my present range, and I will merely quote one writer in *Blackwood's Magazine,* who in his despair announced that Shakespeare himself could not have written a regular dissertation on Hamlet—and then proceeded to write one himself. But if Shakespeare could not have given us a satisfactory explanation of the Prince of Denmark's mental state, I can hardly be expected to do so either, and I must beg to be excused from the attempt.

My object is not so much to discuss Hamlet as to discuss briefly a recent theory which has been advanced to explain Hamlet. The task is really not of my own choosing, but I was drafted into it by the council of this society, who must have thought I was peculiarly fitted still further to obscure the subject. They probably did not expect me really to pluck out the heart of this mystery, but merely to demonstrate that there are more things in heaven and earth than are dreamt of in my philosophy.

We have come to an era of what may be called subterranean psychology. We are invited to plunge boldly into the subconscious, the "subliminal," and in these dark underground recesses of the mind to search with confidence for the data practically of a new science. The eagerness with which this call has been answered by all manner of men and women is shown curiously in widely divergent tendencies, in medicine, in literature, and in religion; and as a result we have psycho-analysis, Christian Science, the Emmanuel movement in Boston, and the Œdipus theory of Hamlet as promulgated by Ernest Jones. All these tendencies can be classed together in what may be called the cult of Freud.

According to Ernest Jones the whole mystery of Hamlet is to be explained by the theory of Freud's "repressed emotions." This is his thesis in a nutshell. Hamlet is "suffering from an internal conflict, the essential nature of which is inaccessible to his introspection." In other words, the Prince did not know what it was that ailed him. Moreover, Shakespeare himself did not know what it was; the audience has never known what it was; the commentators do not know what it was; nobody knows what it was but Jones, and he has discovered it by the methods of psycho-analysis, applied to the play after three hundred years.

The nature of this conflict is about as follows: Hamlet as a boy had an intense passion for his mother. This was not what the world in its ignorance calls the natural affection of a child for his mother, but it was distinctly erotic; in short, the first manifestation of sexual passion. We are assured that this is not uncommon, and that women of a passionate nature frequently inspire this feeling in their young sons. Jones even quotes with approval Freud's dictum that "the mother is the first seductress of her boy."

Hamlet soon learned, however, that this would never do. The conventions of the world, or of "the herd," as Jones calls it, frowned on such erotic emotions of a boy for his mother; consequently Hamlet early learned to "repress" these emotions. Here, you see, we are at once introduced into the Freudian amphitheater. Hamlet has a great store of "repressed" sexual emotions for his mother, which in time he forgets, but which are ready to assert themselves when the opportunity offers.

As a natural corollary to this youthful experience, Hamlet had developed a feeling of jealousy for his father. But this feeling also he had instinctively "repressed," until it was forgotten, relegated to the limbo of the subconscious; and in its place had even grown up a strong affection for him, as manifested in the play.

This being the state of Hamlet's subliminal mind, all these "repressed emotions" would probably have remained quiescent, deeply buried many fathoms deep in the subconscious strata of his psyche, if it had not happened that his uncle killed his father and promptly married his mother. The effect of this cataclysm was stupendous, and I confess that the psychologic processes as expounded by Jones are from this point somewhat difficult for me to follow, although I have read his paper very carefully twice over. As I understand the psycho-analysis, however, the result was somewhat as follows:

Hamlet had laid on him the task of avenging his father's death, and, as we all know, began that remarkable career of vacillation and declamation which leads no whither, and which constitutes the mystery of the play. Now, according to Ernest Jones, this is all to be explained by the surging up of these old "repressed emotions." Just why or how, I confess I do not see; but we are assured that the thought of killing his uncle, who stands as a sort of rival to him in his mother's affections, sets all this underground machinery to going (if I may be pardoned the term), and that this is so intolerably painful to Hamlet that it paralyzes his will and arrests his hand. The concatenation of events is not at all plain to me, but I give it as accurately as I am able to interpret Ernest Jones. The argument seems to require that there is some deep and obscure association of ideas in Hamlet's mind, which he himself does not recognize, but which evokes from his subconscious memory painful "repressed emotions" which were inspired in him in childhood by his mother, and which were sexual in tone. Whether this is genuine science or whether it is mere vulgar fantasy, I leave to the consideration of others.

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* Read before the Philadelphia Neurological Society, Feb. 24, 1911.

[6] Santi di Sanctis: Jour. de neurol. et d'hypnol., 1897, Nos. 23-24, p. 473.

[7] Kazowsky: Neurol. Centralbl., 1901, xx, 440.

[8] Penta: Riv. mens. di psichat, fas., 1902, p. 324.

Ernest Jones calls this the "Œdipus-Complex," a term which he also borrows from Freud, because he sees in it a train of psychologic phenomena similar to what is seen in the old Greek legend of Œdipus. Let us see.

The "Œdipus Tyrannos," one of the two dramas by Sophocles which embody the most familiar form of the legend, is one of the masterpieces of Greek tragedy. The hero is the son of Laius, king of Thebes, and of Jocasta, his wife. An oracle had warned Laius that he would meet his death at the hand of a son of his own; consequently Œdipus at his birth was given by his father to a herdsman to be exposed to die on Mount Cithæron. But the infant was rescued, and was reared by Polybus, king of Corinth, as his own son. When he grew to manhood he was taunted with being a supposititious child, and he repaired to Delphi to consult the oracle. The god warned him that if he returned to his native country he would kill his father and commit incest with his own mother. To avoid this fate he resolved to shun Corinth, thinking that to be his native country. Wandering through Greece, still ignorant of his own origin, he happened to meet his father, King Laius, attended by only a small retinue, and in an altercation he killed the king, of whose identity he was ignorant. At this time a monster, called the Sphinx, sent by Juno to ravage the kingdom of Thebes, proposed the celebrated riddle, on the correct solution of which depended the redemption of the city. Œdipus hastened to Thebes, answered the riddle, and was proclaimed king. To complete the horror of the situation he straightway married the widowed Jocasta, his own mother, both of them being entirely innocent, for they were ignorant of their mutual relationship. By her he had children, one of whom was his devoted daughter, Antigone. He was thus caught in the meshes of an appalling tragedy.

The drama of Sophocles deals entirely with this situation, and unfolds it with all the intensity and concentration which the unities of Greek tragedy had developed into a supreme art. No one can read this drama, even in an English translation of to-day, without being profoundly moved with the simplicity, the pathos, and the accents of an irrevocable doom which speak to us across the long lapse of more than 2,000 years.

There is nothing in this tragedy by Sophocles to invite the modern methods of psycho-analysis. There is nothing in it that I can discover of the subliminal or the subconscious or the play of "repressed emotions." It was contrary to the Greek genius to deal in such obscurantism. All is as clear and as open as day. The audience knew the story well; it was only the hero and his mother who were ignorant of their horrible involvement; and as an acute critic has pointed out, it is this very contrast between the attitude of the audience and the ignorance of the hero that gives to the tragedy a singular note of the irony of fate. When the final revelation comes it comes as with the climax of doom: Jocasta kills herself, and Œdipus puts out his eyes and goes forth a wanderer on the earth, led by the devoted Antigone.

I fail to see in this tragedy any essential resemblance to the situation in Hamlet. The Prince of Denmark was not involved in any mystery arising out of mistaken identity. He knew perfectly who his mother was, and she knew that he was her son. This alone is enough to stamp the radical difference between Hamlet and Œdipus. The theory that Hamlet had any "repressed emotions" of amatory passion for his mother, is entirely gratuitous, and outrages every sentiment of nature as well as every canon of art. There is no expression in the play that I know of that supports such a theory, and it is only by reading it into the play between the lines by a process of artificial psycho-analysis that such a monstrous theory has its origin. It is supported neither by science nor by literary criticism, and of all the theories yet sprung to explain the so-called psychology of Hamlet it is the vilest and the most far-fetched.

The emphasis laid on sexual ideas by Ernest Jones in his paper is highly characteristic of the whole Freudian school. They seem absolutely obsessed with ideas of sex. They cannot get their minds out of this channel; and it would be an interesting test of the value of their own psycho-analytic methods for somebody to turn their guns on themselves, and see to what repressed sexual emotions in their own subliminal strata is due this over-emphasis of a somewhat forbidden subject. Can it be that the whole Freudian phenomenon is a form of sexual neurasthenia breaking out among a class of idealistic men and women with a tendency to scribble?

I do not pretend myself to pose as a critic of Shakespeare, but there are some thoughts which I offer in conclusion, with the more confidence as they are not entirely my own. I do not believe myself that there is nearly as much of a profound mystery in Hamlet as the critics and commentators are disposed to see. They are looking for something which is not in the play, and they have consequently wrapped it in unnecessary obscurity. Mr. Furness, of this city, the most eminent of living Shakespearian commentators, sweeps the whole problem of Hamlet's insanity aside by saying that he was neither insane nor pretended to be insane. It is impossible to classify his insanity, or to make it accord with our scientific ideas.

As a dramatic writer, moreover, Shakespeare had his faults. In common with all English playwrights he ignored the law of unities as observed by the Greek dramatists. A comparison of Hamlet with the Œdipus of Sophocles makes this apparent. The Greek holds the situation thoroughly in hand and goes straight to the climax, but the climax in Hamlet is lame and unsatisfactory.

But in my opinion the most glaring inconsistency in Hamlet is the age of himself and his mother. He is represented as a man of thirty; this at once must place his mother well along in middle life, and yet she is presented as a woman in the full bloom of her sexual charms. This bears directly on the subject of this paper.

All readers feel the fascination of Hamlet. His personality has appealed to men and women far more than any fictitious character in modern literature. I believe this is the keynote of the alleged mystery and of the romance which surround him. His grace, his personal magnetism, his melancholy, his philosophizing, his wit, his princely station and bearing, his love for Ophelia, his unhappy destiny, have all served not only to attract but to dazzle mankind. A discerning critic has said that the deep and permanent interest is in the conception of Hamlet himself rather than in the plot. In other words, Hamlet is greater than the play. No theory is necessary to explain this: it is simply Shakespeare's transcendent poetic art which has presented us with a complex and lovable character.

If Shakespeare had his faults as a technical dramatist, we must remember that he was simply writing for the entertainment of a sixteenth century English audience. He was not writing history, or biography, or science, or metaphysics, and least of all was he indulging in any process of psycho-analysis. Probably no one would be more astonished than he at the theories of Freud and his followers. To take Hamlet and attempt to pump out of him a whole lot of "repressed emotions" of sexual love for his own mother, is not only disgusting, but is no more sensible than to stand by the side of a beautiful marble statue, and, with note-book in hand, to pretend to jot down the story of the statue's subconscious life as imbedded in the depths of its marble head.

Mr. Furness has somewhat tartly said that there has been much commenting on Shakespeare which is a nuisance and a weariness of the flesh. This was even before the appearance of Ernest Jones' essay, or of my present paper.

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CHRONIC GLANDERS IN MAN

REPORT OF A CASE: PATIENT TREATED WITH GLANDERS VACCINE. APPARENT CURE

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In 1906, C. D. Robin of the Royal Victoria Hospital, Canada, reported 156 cases of chronic glanders, collected from medical literature. Since this excellent review of the subject there have been reported but four definite cases, accessible to me—one by Post and one by Sieur in 1907, one by Dr. A. T. Bristow of Brooklyn, and one recently shown at the New York Surgical Society by Dr. Hitzrot. Several cases of acute glanders have occurred, however, and have been chronicled.

After reading Robin's article and noting his conclusions, drawn from an exhaustive study of his many cases, one is forcibly impressed by two salient facts; first, that chronic glanders in man is an exceedingly rare disease, unless many mistakes in diagnosis are made; second, that the mortality is extremely high, only 6 per cent. of the 156 cases reported being positively known to have resulted in a cure. These two facts alone seem to offer sufficient justification for the publication of the following case, which came under my observation in Bellevue Hospital in the service of Dr. J. D. Bryant, to whom I am greatly indebted for the privilege of studying and recording this case as one of those in which an apparent cure was obtained, the patient remaining free from the disease for a period of eighteen months. No further report of the case is possible, as the patient has returned to his native home.

In presenting this record the rule used both by Robin and Bollinger is employed to differentiate between the chronic and acute form of glanders, namely, the existence of the disease for six weeks or longer. In reporting this case, also, I have refrained from a positive statement relative to actual permanent cure, realizing that it is very difficult to state definitely just when a patient with glanders can be considered cured, as so many of those patients reported as affected, even after many months, and in a few cases after many years, finally succumb to the disease.

This patient, as stated above, had remained free from any symptoms of glanders for eighteen months, was in good health, doing hard work daily, and had also been under close observation. This patient was treated with glanders vaccine, which proved of inestimable value in controlling the disease. The vaccines were made by the New York Board of Health from a glandered horse and kindly furnished to me by Dr. W. H. Park. These vaccines were not standardized, and so the actual number of bacteria is not definitely determined, but estimated at fourteen to twenty million per cubic centimeter. The report of the case follows:

History.—M. M., aged 34, a Pole, a cement worker, was admitted to Bellevue Hospital, Oct. 20, 1908. There was nothing in the family history which could possibly have had any bearing on his illness. The patient's habits were good, he drank four or five glasses of beer daily, ate and slept well, and worked very hard. He was employed in making cement walks; was exposed to wet and cold a great deal, his feet often becoming wet and his clothes soaked by rain. In no way was he ever directly associated with the care or handling of horses, nor was any member of his family. No other member of his family was ill.

Previous Illness.—One year previous to his admission to the hospital the patient had had a "stitch" in his right side. He was ill about one week and made a good recovery, except that occasionally he had a slight cough without expectoration. Generally speaking, however, he enjoyed fair health, working each day and eating well.

Present Illness.—Four weeks previous to admission, the patient's clothing became wet through from exposure and the same evening he had chills and fever, followed by profuse sweating. He had similar attacks three or four times weekly previous to his admission. One week after the first chill, there appeared a swelling over the right forearm, followed the next day by one over the left forearm and right thigh, without any association of pain or tenderness over them.

Clinical Data on Admission.—When the patient entered the hospital he had a temperature of 100.2 F., pulse 120, respiration 24. Blood: Leukocytes, 11,400; polynuclears, 78 per cent.; lymphocytes, 17 per cent; transitionals, 2 per cent; basophils, 2 per cent; eosinophils, 1 per cent. Urine: amber, clear, urinous odor, sp. gr. 1.022, faint trace of albumin; many leukocytes, amorphous urates, and a few hyaline casts.

General Physical Examination.—The patient was of medium frame and poorly nourished; mucous membranes clean, but anemic; pupils equal, reacted normally to light and accommodation; tongue heavily coated, slightly tremulous; pulse regular, of moderate tension. There were a few sibilant râles over base of the right lung; no nasal discharge nor expectoration; inguinal and axillary lymph-nodes palpable; reflexes normal.

Lesions.—Small abscess over radial side of middle third of left forearm; another on ulnar side of right forearm near elbow; another on posterior surface of calf of right leg, five inches below knee, and still another about six inches in length over posterior aspect of left thigh at the middle third. There were no signs of inflammation referable to these tumors and no pain nor tenderness associated with them. These abscesses, which were deeply situated in the muscles, were opened under cocain anesthesia, the cavities irrigated with mercuric bichlorid solution and drainage instituted. The pus was of a chocolate color, fairly thick, with no odor. The report of the findings obtained by examination of the pus is given in full below by Drs. Norris and Pappenheimer of the Pathological Department of Bellevue:

PATHOLOGIC REPORT

"A deep abscess situated on the posterior and outer aspects of the middle third of the right thigh was aspirated with a sterile syringe, about 5 c.c. of pus being withdrawn. Morphologic examination of this pus on smears and in hanging drop revealed no microorganisms.

"Cultures made on slanted and coagulated Loeffler's blood-serum, and on agar tubes, remained sterile after a week in the incubating oven. With this pus two guinea-pigs were inoculated, one subcutaneously, the other intraperitoneally.

"November 7, seventeen days after inoculation, the pig inoculated subcutaneously was found greatly emaciated, and had developed at the site of inoculation an abscess of considerable size, say 3 cm. in diameter. The abscess was incised, and the pus evacuated. Smears made from this pus revealed a few Gram-negative rods, which closely resembled in their morphology the *Bacillus mallei*. Besides these rods of distinctive morphology, there were found a number of involution and degeneration forms, and of globules and round masses, not staining by Gram's method, but taking on an after-stain with fuchsin.

"Cultures made from this pus yielded in forty-eight hours, on slant glycerin-agar, a growth of Gram-negative rods, resembling the glanders bacilli in morphology. With this pus, an emulsion of a glycerin-agar slant was made and inoculated into two large male guinea-pigs, each pig receiving approximately half of the agar culture emulsion.

"The pigs showed a marked and prompt reaction after inoculation, and the morning following the inoculation both pigs were very ill, with hair standing on end, extremely sensitive to the touch, especially on the peritoneum, and with greatly enlarged testicles. The pigs were found dead the following morning, approximately thirty-six hours after inoculation.

"Examination of both pigs showed a diffuse general serofibrinous peritonitis, and the typical exudate on the tunica vaginalis. The organism was found in the exudate of both guinea-pigs in smears, and by culture. The two guinea-pigs inoculated with the human pus were greatly emaciated, and were chloroformed November 13, in a moribund condition, twenty-three days after inoculation. The pig inoculated subcutaneously showed no lesions in the gross beyond the abscess at the site of inoculation in the skin. The pig inoculated intraperitoneally showed a number of well-encapsulated abscesses in the peritoneum and retroperitoneal lymph-nodes, and in the skin at the site of the puncture of the needle, and abscesses of the liver.

"The bacillus which was isolated corresponded in all morphologic characteristics with that of the *Bacillus mallei*. It decolorized by Gram's stain. The cultural characteristics corresponded in every way to that of the glanders bacillus, giving a characteristic growth on potato and blood-serum.

"Microscopic examination of the tissues of the lesions of the two guinea-pigs inoculated with human pus show the typical lesions of glanders, with numerous characteristic bacilli."

A blood-culture made also at this time proved positive.

The patient ran an irregular temperature till Nov. 5, 1908, when he insisted on returning home.

In December of the same year the patient was seen by me, he in the meantime having received treatment in one of the New York dispensaries. At this time the wounds were all healed and I decided to show him before the Bellevue Alumni Association in February, 1909, but when he was seen again, in January, 1909, two of the old wounds were discharging pus, the patient was having some elevation of temperature, chills and sweats. He was admitted to the isolation ward at Bellevue in this condition on Jan. 22, 1909, with a temperature of 102 F., pulse 108, respiration 24. He had a leukocyte count of 12,000; polynuclears, 78 per cent.; lymphocytes, 20 per cent.; basophils, 1 per cent.; eosinophils, 1 per cent. Staphylococci were found in smear and culture made from pus obtained from arm and leg, but no *Bacilli mallei*. No *Bacilli mallei* were found in the sputum. The agglutination test was negative.

Treatment.—January 29, 8 minims of glanders vaccine were injected into the gluteal region. In six hours the temperature rose from 100 to 104 F., pulse from 88 to 124, the patient had a severe chill and sweat, and there was considerable reaction in the region of the injection. The temperature dropped gradually to normal in three days and inflammation about the gluteal region subsided. This dose was considered too large and so on February 5, 4 minims were injected as before, the temperature rising to 102 F., and the pulse 108.

February 8, 4 minims were again injected; the temperature rose to 105.8 F., with chill and sweat. An interval of five days was then allowed before another injection of 4 minims was made. The temperature rose to 100 F., and pulse to 96.

February 21, 4 minims were injected. The temperature rose to 104.8 F., pulse to 118. About this time the patient was shown at the Alumni Association. At this time his general condition was markedly improved, but there was a slight discharge from the wound in the right forearm.

The patient insisted on going home and was subsequently treated by me at Bellevue Hospital Dispensary as follows: March 1, 1909, 4 minims of vaccine were injected. April 6, when he returned all wounds were healed and the patient's general health was excellent. He was given 4 minims, however, and again on April 20, May 4, May 18, June 4, and June 21, respectively, on which occasions there was very little, if any, reaction to the injection. Subsequently the patient was seen by me at different times, the last time being eighteen months after all his symptoms had disappeared. In October, 1910, in endeavoring to locate the patient, I was informed that he had returned to his native country, and so no further report is possible.

CONCLUSIONS

There are several points in connection with this case and chronic glanders as a whole which I wish to bring forward.

1. Cases of chronic glanders can easily be overlooked unless one is constantly on the lookout for the disease.
2. Multiple abscesses, especially on the extremities, without definite cause, should excite suspicion, as Robin has shown that in 80 per cent. of cases multiple abscesses occur.
3. In this case there was no direct association with horses.
4. The point of entrance of the infection was unknown in this case, no abrasion on the body being present and no history of a wound being obtainable.
5. There was never any nasal discharge.
6. The patient remained apparently cured for six weeks and then showed a return of symptoms.
7. No bacilli were found in the sputum.
8. Extreme exposure to bad weather seems to be a predisposing cause.
9. This case was proved to be one of glanders by laboratory methods and by reaction to the vaccine injections.
10. This patient was apparently cured by vaccine injections.

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CASE OF CHOKED DISK AND PROGRESSIVE BLINDNESS DUE TO SARCOMA OF THE BRAIN

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Some years ago I reported in part[1] a case of choked disk probably due to brain tumor. Recently I have heard of the termination of this case in operation and death, and I consider the complete case of enough interest and importance to submit for publication again. In giving the early history of the case I shall draw at length on the original record included in my earlier report.

Patient.—A man, aged 22, first came under my care Dec. 11, 1906, in the clinic of Dr. W. E. Lambert, New York Eye and Ear Infirmary; he stated that two weeks previously he had been "struck blind" at the car-barns, where he was waiting to take out the car of which he was conductor, but recovered the vision of his left eye about five minutes later to such an extent that he was able to take charge of his car for about two hours longer, when he was allowed to go home; he never regained the vision in his right eye. He had had a burning pain in the eyes just after the stroke of blindness, but had slept well that night, and since then had had no pain of that character. His vision at the time of examination was fairly clear but frequently blurred for a moment, giving him a depressing sense of insecurity and of impending blindness. His history previous to the sudden loss of vision was as follows: Three years before, and again, two years before, he had attacks of unconsciousness, epileptoid in character, during the night; one year before he had attacks of transient numbness of the right face, arm, body and leg, beginning in the arm and lasting a few minutes.

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[1] Thomas, J. B.: Long Island Medical Journal, November, 1907.

Examination.—Right Eye: Total blindness; the optic nerve-head was yellowish gray, raised by swelling about 1 mm. above the surface of the retina; the central vessels were much engorged; there were several bright white splashes of retinal atrophy between the disk and the macula. This eye had probably been blind for several months, but the fact was not recognized by the patient until his other eye failed.

Left Eye: Vision 20/40. The optic nerve-head was raised about 1.5 mm. above the retina, and its borders were blotted out by a yellowish exudate extending into the retina; the central vessels were intensely congested, and the center of the disk was covered by a network of congested capillaries. The whole appearance was that of an acute process as compared with the atrophic changes in the other eye; the field of vision was about normal; both pupils were dilated and reacted to light, accommodation and convergence, though feebly at times; spontaneous oscillations of the pupils made it difficult to determine the pupillary reactions but the results were verified by several examinations made on different occasions.

Possible foci of infection were sought in the ears, nose, and accessory sinuses, but with negative results. An examination of the urine was negative. There were no traces of syphilis, and the patient denied having any venereal disease.

Treatment and Course of Disease.—After about three weeks' treatment with large doses of the iodid of potassium without mprovement, the patient was given daily hypodermic doses of pilocarpin, beginning with gr. 1/12, and finally reaching a daily dose of gr. ¼.

Mercury and iodids were given by mouth at the same time. After three weeks of this treatment the patient was discharged from the wards. The exudate about the optic disk was more circumscribed and the central vision was a little more acute, but there still were frequent momentary lapses of vision. The ield of vision was moderately contracted.

About Feb. 1, 1907, the headaches became more severe and he patient had occasional attacks of vertigo. His central vision was still 20/40, but he was more often subject to momenary lapses, and his field of vision was becoming ominously ontracted. The consensual pupillary reactions were examined arefully on several occasions and found to be positive, though eeble. The tendon reflexes were normal, and the function of he cranial nerves normal; there were no areas of anesthesia, o symptoms of acromegaly; the temperature sense was normal.

Although there were no motor or other localizing symptoms n which to base a diagnosis of cerebral tumor, it was thought ustifiable, in view of such marked symptoms of intracranial ressure as progressive choked disk and persistent headache nd vertigo, to advise a decompressive operation for the relief f pain and with the hope of arresting the strangulation of the ptic nerve fibers of the left eye. Both operation and lumbar uncture were refused.

By the third week in February the frontal headache and ttacks of vertigo were still more severe. The patient ppeared dazed at times like one awaking from a deep sleep; is vision had fallen to 20/100, and his field was telescopic.

The patient then ceased to visit the infirmary, and I lost rack of him until April 10, 1907, when I examined him in ellevue Hospital, by the courtesy of Dr. Alexander Lambert, n whose wards he had been treated for several weeks. The nly trace of vision remaining was a slight and doubtful perception of light when flashed into the macular region of the ft eye. He had frequent intense headaches, and vomited a little every day. Both pupils reacted feebly to light; the consensual reactions were doubtful. There was slight, if any, change in the swelling of the optic nerve-head. He was taking 150 gr. of potassium iodid daily for the relief of the pressure symptoms.

Operative Findings.—The patient was soon removed from Bellevue by his parents and the next news I had of him was that he had been operated on Nov. 26, 1907, at the City Hospital, service of Dr. H. D. Collins, to whom I am indebted for the final data in the case. A tumor was found in the cortex of the brain, about 2 inches in diameter, "lying partly in the posterior part of the left frontal and anterior part of the left parietal region." The tumor was diffuse and could not be enucleated. The patient died within a few hours after the operation; no autopsy was permitted. The laboratory reported the tumor as a "large round-celled sarcoma, very vascular."

Although there are several gaps in the history of this case and no post-mortem examination could be secured, it constitutes a valuable unit in the statistics of optic neuritis and brain tumor.

The case demonstrates the value of optic neuritis as a very early sign of brain tumor; it developed in this patient at least four months before the appearance of other distinctive symptoms.

Progressive narrowing of the field of vision in optic neuritis is of evil omen, although the central vision may remain nearly normal and the appearance of the nerve-head show no change. This fact is familiar to the ophthalmologist, but not always appreciated by the general practitioner or the surgeon.

The experience of my patient gives one courage to advise the decompression operation early for the relief of impending blindness before the appearance of motor or other localizing symptoms.

Dr. Saenger, the eminent Hamburg neurologist, said in his address[2] before the American Medical Association at St. Louis in 1910, that he preferred to postpone a decompressive operation until, with choked disk, the vision begins to show impairment. By this I infer that he refers to peripheral as well as central vision. Dr. J. A. Bordley, Jr., of Baltimore, discussing Dr. Saenger's paper and speaking as a collaborator of Dr. Harvey Cushing, said that there was no change in the optic disk with which he was familiar, from the active stage of hyperemia to the later stages of atrophy, in which a decompression operation was not advisable. Dr. J. Herbert Parsons of London, in discussing the same paper, stated that the advisability of surgical interference in these cases, and the time of operation as well, should be determined by the ophthalmologist rather than by the neurologist; for the only palliation in many of these cases is the retention of vision during the rest of the life of the patient, which may last for a period of months or even years. The neurologist is inclined to wait so long for the more definite and convincing focal symptoms that he often delays the palliative operation until the optic nerve fibers are irreparably injured. That such conservatism is unnecessary and is contra-indicated is proved by the experience of our best brain surgeons and the case is strongly stated by Dr. Saenger as follows: "Palliative trepanation of the skull according to the modern standing of surgery, in the hands of a skilful surgeon who has experience in neurologic work, is almost without danger and an extremely beneficial operation, which I should recommend in every case of inaccessible brain tumor, in order to ease the torments of the patient, and above all to save him from impending blindness."

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2. Saenger, Alfred: Choked Disk in Its Relation to Cerebral Tumor and Trephining, The Journal A. M. A., Sept. 24, 1910, p. 1100

Viewing my case history in the light of some of the conclusions reached by Leslie Paton[3] in his study of 400 cases of brain tumor, the following facts may be noted:

1. The tumor was precentral and the accompanying optic neuritis was very severe. Paton concludes that precentral tumors are nearly always associated with a fairly severe neuritis, whereas postcentral tumors are nearly always associated with a moderate neuritis. It is unnecessary to remind the oculist that the severity of the optic neuritis should be judged not so much by the loss of vision as by the height of the swelling of the disk, turgescence of the retinal vessels, the extent of hemorrhages and patches of exudate.

2. The eye on the opposite side of the tumor was first affected.

3. The difference in severity of the optic neuritis in the two eyes could not be noted because the process in the right eye had begun the atrophic stage and in the left eye was at the height of the acute stage when the patient first came under observation. Both the second and third signs as noted above are untrustworthy, according to Paton. In about one-half of his cases a difference in the severity of the neuritis in the two eyes was observed, but the more severe neuritis often occurred on the opposite side from the tumor.

REPORT OF A CASE OF ANENCEPHALUS

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PARKER, S. D.

The following report of a case of anencephalus presents some points of interest.

Mother's History.—The mother, white, American, aged 42, was married at 17 and had nine children. Twenty-two years ago, she gave birth to her second child, a hydrocephalous female infant. She stated that she had unusually difficult labors with all her female children.

Present Confinement.—Labor occurred Jan. 29, 1911. On examination I found the abdomen unusually large, the umbilical region being rather flat, and the sides fuller than ordinary. The limbs of the fetus could be felt on the left side. By bimanual examination, a water sac could be felt, filling the roomy vagina and projecting from a partly dilated cervix. Combined version having failed, I anesthetized the patient, dilated the rigid os manually, cut the tough membrane, performed podalic version, and delivered an anencephalic fetus, which lived but a moment after birth. I estimated the amount of liquor amnii at nearly 4 gallons. The third stage of labor was normal. The placenta showed no abnormality, but the umbilical cord was about a foot long, as thick as a man's thumb, and markedly congested.

Description of Fetus.—The child, a female, weighed about 6 pounds and was well developed, except the head, which was hardly larger than a small orange. The external tissues were lacking over a space extending from just above the supra-orbital arch of the frontal bone to the superior nuchal line of the occipital and from the zygomatic process of the temporal bone on one side to the corresponding point on the opposite side. The sunken brain was exposed and showed cherry color through the delicate membrane covering it. The convolutions were very indistinct, except over the frontal lobes, which were elevated, round, and about half as large as a small English walnut. The mouth, chin and cheek, and the lower part of the nose were normal, but the root of the nose was decidedly flat and the eyeballs were protruding. There was a strip of hair about half an inch wide around the neck. Unfortunately no necropsy was permitted.

The case presents the following points of interest:

1. The birth of two abnormal fetuses from the same mother at an interval of twenty-two years, all the other children being normal. Edgar says of hydrocephalus “It has been observed to occur several times in children of the same mother.” I have failed, however, to find any reference to a mother giving birth to a hydrocephalous child at one time and to an anencephalous child at another.

2. Both of the monsters were females. Is this merely a coincidence?

3. A possible relation of hydramnion to anencephalus J. C. Webster gives anencephalus as an etiologic facto for hydramnion.

REPORT OF A CASE OF BRONCHOPNEUMONIA, SHOWING POSITIVE BRUDZINSKI NECK AND COLLATERAL SIGNS

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In view of the cases reported by Brudzinski and Morse, in which Brudzinski's neck sign was constantl absent in all diseases other than those of the nervou system, I believe that the report in my case will be o interest. Before proceeding, however, to the history o the case, I shall briefly describe these signs:

Brudzinski,[1] while trying to test the rigidity of th neck in a child suffering from tuberculous meningiti observed that flexion of the neck caused the legs t become flexed on the thighs, and the thighs on th abdomen. He followed this observation up in other case and found this sign to be positive in 95 per cent. o children ill with tuberculous meningitis, and in 100 pe cent. of those ill with either cerebrospinal, serous o pneumococcus meningitis. The sign was found to b absent only in the late comatose stage (*état agoniqu* of tuberculous meningitis.

Brudzinski found this sign present in one case o mongolian imbecility, in one case of meningism, and i four cases of arrested development. He never found th sign to be positive in any other acute disease, or i normal cases.

Morse,[2] who has examined 400 patients, agrees wi Brudzinski.

TECHNIC TO ELICIT “NECK SIGN”

The head is forcibly flexed with the left hand, whi the child is lying flat on its back; with the right han pressure is exerted on the chest to keep the child fro being lifted. If the sign is positive, both legs will fl on the thighs and the thighs on the abdomen.

The identical collateral sign consists in flexing o leg on the thigh and the thigh on the abdomen when t opposite lower member will assume the same position.

With this brief description I shall proceed to t history of my case.

History.—Baby B., aged 9 months, had a normal but di cult birth; no instruments were used. It had been artificia fed since birth. Stools passed twice daily, yellow, no cur Nutrition was good. Family history is negative. There is history of scarlet fever (?) three weeks before I saw the chi The infant became suddenly ill on Jan. 27, 1911; the moth observed fever and cough.

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[3] Paton, Leslie: Brain, 1909, xxxii, No. 125.

[1] Arch. de méd. des enfants, 1909, xii, 745.

[2] Arch. Pediat., 1910, xxvii, 561; Northrup: New Reflex Si in Meningitis Diagnosis, THE JOURNAL A. M. A., Jan. 14, 1911, 114.

Physical Examination.—The head was abnormally shaped, the left occipital region sloping downward and being depressed. It had been so since birth. The anterior fontanelle was one-half inch wide; there was no bulging or pulsation. No flatness could be elicited over the skull. The tongue was coated. Prostration was intense. Respiration was rapid, but not accompanied by pneumonic grunt or dilation of the alæ nasi. The pulse-respiration ratio was 2½ to 1. The lips were slightly cyanosed. There was slight rigidity of the muscles of the neck. The chest showed diminished expansion on the left side. There was no dulness, and neither râles nor bronchial breathing, though on the third day small mucous râles and bronchial breathing could be made out in the lower midaxillary region on the left side. The abdomen was not large, was rather soft and flabby. The spleen and liver were slightly enlarged. Heart action was rapid but there were no murmurs.

Reflexes: The pupils were normal and reacted to light; there was neither nystagmus nor ptosis of the lids. Brudzinski's neck and collateral signs were present. Kernig's and Babinski's signs were also present.

All these signs were elicited up to the third day. Between the third and seventh days I did not try to obtain them. On the seventh day the temperature was normal and these signs were no longer obtainable.

The temperature ranged between 102.5 to 104 F.; respiration ranged from 65 to 90 and was irregular; pulse varied from 160 to 200. The child made an uneventful recovery.

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THE TREATMENT OF CANCER WITH BODY FLUIDS AND CANCEROUS ASCITIC FLUID

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This paper is a report of the work done at the Massachusetts General Hospital, under the direction of the Cancer Commission of Harvard University, during the months from February to September, 1910, inclusive, on the treatment of inoperable cancer with the various normal and abnormal body fluids and with cancerous ascitic fluid.

This line of work was suggested by the results obtained by Hodenpyl of New York, which were reported in February, 1910.[1] The purpose of the present investigation was twofold: (1) to determine whether any curative properties existed in the ascitic fluids of cancerous patients; and (2) to determine what effect the various normal and abnormal body fluids, non-cancerous in origin, had on the cancer patient or his tumor. The theory advanced by Hodenpyl in regard to the action of the fluid in his apparently spontaneously cured patient, was along the lines of other theories of immunity. This theory was that the patient in this case must have manufactured within herself some substance in the nature of an antibody, which was detrimental to the growth of her cancer and which eventually caused its retrogression. Subsequent autopsy in this case, however, showed that the patient eventually died of metastatic cancer not demonstrable during life. Weil, in a subsequent report of the analyses of Hodenpyl's fluid and fluids from other cancerous and non-cancerous cases, was unable to find, by any biologic or chemical test, any antibody or any specific substance in any of these fluids whereby they could be differentiated from one another. The nature of the action of Hodenpyl's fluid on cancer remains, therefore, unexplained. Hodenpyl believed that in his case there was produced a specific antibody for the cancer cell. Whether that be true or not, we know of many cases in which the patient resists the inroads of cancer for many years, and MacKay[2] in England has collected from the literature nearly fifty authentic cases of more or less complete spontaneous retrogression of cancerous growths. Spontaneous retrogressions of various tumors, including cancer, are known to occur, but the process by which this is brought about has not been determined. We can conceive, however, of the production in the body of some substance which acts on the tissues surrounding the tumor so that the stroma necessary to the sustenance of the tumor is made to degenerate, possibly by the development of a connective tissue barrier which cuts off its nutrition, or of a substance which acts as an antibody against the cancer cell or its toxins. It is, therefore, not unreasonable to suppose that the cancer patient, as well as the patient with an infection, can manufacture substances which tend to retard the cancerous process. With this theory as a working basis the present clinical experiments were undertaken.

The cancer patients of one group (the group which comprises the main part of this study) were treated with ascitic fluids obtained from patients with cancer in all stages of the disease. An effort has been made to obtain, as far as possible, ascitic fluids from patients resistant to their disease, with the idea that the amount of antibodies per cubic centimeter of fluid in these cases would be larger than in very active or non-resistant cases.

In a second and smaller group, cancer patients were treated with the various normal and abnormal body fluids, other than cancerous fluids, in order to determine their effect on the cancer patient and his disease. In a third group, untreated patients were watched coincidentally for the purpose of comparison with the series of patients treated with the cancerous and the non-cancerous fluids. With these two classes of controls a satisfactory check could be made on the patients treated by the cancerous fluids. The fluids used in the second series were:

1. Normal blood-serum.
2. Hydrocele fluid.
3. Spermatocele fluid.
4. Ascitic fluid from a case of alcohol cirrhosis.
5. Ascitic fluid from a case of incompetent heart.
6. Pleuritic transudate resulting from broken compensation.
7. Pleuritic transudate: non-tuberculous in origin.

Bile, cerebrospinal fluid and chyle have not been used.

None of these fluids, except spermatocele fluid, which exerted a noticeable stimulant effect, especially on females, has had any beneficial effect on the cancer patient or his cancer so far as observed.

A series of ten patients (later treated with the cancerous fluids) was given a trial of from two weeks to one month with these non-cancerous fluids. The latter were given mostly in large doses so as to get all the effect possible. No local symptoms in the tumors, such as were witnessed with the cancerous fluids, or constitutional reactions, were witnessed even with doses of 60 c.c. of any of these fluids. Normal blood-serum was given only in small doses of from 1 to 5 c.c., and gave none of the phenomena of anaphylaxis. In one or two cases a slight rise of temperature was recorded after the largest doses of fluids and also after a 5 c.c. dose of blood-serum. Leukocyte counts were not recorded in this series. It is conceivable that a continuance of the largest doses over a longer period might produce some constitutional reaction. As no beneficial results were seen in the cancer patient or his tumor after one month, this series was discontinued, as it seemed reasonable to suppose that the time was sufficient for the appearance of some favorable or unfavorable symptoms.

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[1] Med. Rec., New York, Feb. 26, 1910, p. 359.

[2] Brit. Med. Jour., July 20, 1907. Also Wells, H. G.: The Resistance of the Human Body to Cancer, The Journal A. M. A., May 29, 1909, p. 1731.

For the main part of this work the following cancerous fluids have been used (they are designated in this paper by the patient's last initial):

1. "T" fluid, obtained from Mrs. G. M. T., aged 79, whose mother died of cancer; five brothers died of tuberculosis. Patient had had many febrile diseases. Four months ago she had gastric distress, pains later, vomiting with gradual increase in size of abdomen; much loss of weight. On examination, patient showed cachexia; glands above clavicle, in axillæ and groins; abdomen slightly distended, mass 3 by 4.5 cm. in epigastrium, tender, shifting dulness in flank. Patient was tapped; 3,580 c.c. alkaline fluid obtained, sp. gr. 1,011; albumin 1.6 per cent; culture, negative; slight tinge of bile. Small lymphocytes 78 per cent.; large lymphocytes 16 per cent.; polynuclears 5 per cent. Wassermann reaction, negative. Clinical diagnosis, cancer of liver.

This fluid was the most effective in producing sloughing of tumor masses. Whether this was due to the small content of bile we are unable to state. (The later use of a non-cancerous fluid with large bile content produced practically no sloughing.)

2. "K" fluid, obtained from M. K., aged 53, who had two brothers; one sister died of tuberculosis. For three months, patient had had pain in abdomen, vomiting, loss of weight (25 pounds) and increase in size of abdomen. On examination, liver edge was not felt; abdomen was tense; fluid wave present; edema of legs up to knees. After tapping, nodular masses size of hen's egg and larger were felt all over the abdomen; large mass in left pelvis. By tapping 4,000 c.c. clear dark-yellow fluid were obtained; culture, negative; Wassermann, negative. Clinical diagnosis, general abdominal cancer, active.

This fluid has been practically inert.

3. "L" fluid, obtained from Mrs. K. L., aged 28, who was operated on five years ago for malignant disease of right ovary. May, 1910, patient was in fair flesh and general good condition, but had to be tapped every four weeks. There was a hard, lobulated, slightly tender mass size of grapefruit in right lower quadrant. Fluid was pale yellow; sp. gr. 1,010. Culture, negative. Wassermann, negative. Clinical and pathologic diagnosis, malignant papilloma of right ovary.

This fluid has been valuable in relieving symptoms and retarding the growth of several cases.

4. "P" fluid, obtained from Miss E. P., aged 31, who had an operation in June, 1901, for abscess of right ovary; 1908, repair of hernia in scar. At this time a small mass in right pelvis was felt but was undisturbed. May, 1909, the abdomen began to swell again. July, 1909, the malignant ovarian mass was partially removed; patient made a good recovery. Patient was then in excellent general physical condition; in good flesh, up and about everywhere, but had to be tapped every four to six weeks. Fluid was dark yellow, slightly viscid; sp. gr. 1,024; culture, negative; Wassermann, negative. Clinical and pathologic diagnosis, malignant papilloma of ovary.

This fluid is from the most resistant type of case and produces marked reactions. It has been especially effective in several uterine cases in checking hemorrhage, and in other cases in stopping pain and has seemed to produce more retardation than any other fluid used.

5. "H" fluid, obtained from Mrs. H. H., aged 58, who had, for several months in 1905, right-sided abdominal pain with gradual increase in size of abdomen. Operation in November, 1905, revealed a right-sided malignant ovarian mass which was partially removed. Patient made an uneventful recovery, gained weight and seemed in perfect health until about April, 1910, when she began to have symptoms of increasing constipation, but no pain, loss of weight or change in size of abdomen. Physical examination was negative. At operation, May 17, 1910, recurrent papillomatous mass was found with a little free brownish fluid. Fluid was brownish, watery, sp. gr. 1,010; slight blood content; albumin, 2 per cent; culture, negative; Wassermann, negative.

This fluid seems to have had a decided retarding effect. Not enough was obtained, however, to last more than for two months' treatment. But it was from one of the most resistant types of cases and probably had some specific effect.

TECHNIC

The peritoneal cavity was in each instance tapped under sterile precautions and the fluid drawn off into a sterile bottle and put on ice until used. No standardization was attempted and no preservative was added. The following precautions were taken before the fluids were used: 1. A culture was taken to prove them free from bacteria. 2. A negative Wassermann reaction was required from the patient from whom the fluid was drawn. 3. A series of injections was given to cancer mice to prove that the injections were in no way harmful to administer to human beings. Daily injections of 5 minims of each fluid were given subcutaneously to different series of cancer mice. These were large doses for mice. If no harm came to the mice, and none did, except in three instances, which were due either to a fault in the technic of injection, or to a contamination of the fluid with bacteria, which occurred in one case, the fluid was then used on human beings. These precautions were considered necessary before the institution of this form of treatment, for we were dealing with an entirely new experimental fluid of unknown potency and content, and every safeguard should be used before subjecting even the hopeless cancer patients to its influence.

The fluid had no apparent effect on the growth of mouse tumors.

The patients treated all had inoperable growths, eithe primarily so or because of recurrence or metastases. All grades of the process have been treated. No case was refused because the process was too extensive, for we wished to get our data from unselected cases; hence, the work has been largely with decidedly unfavorable cases The patients have been treated as out-patients, reporting three times a week for injections. Fourteen of the case have been treated as house patients, with large daily injections, for periods of one to two weeks at a time The clinical diagnosis was unquestionably cancer i every case. In all but three this was confirmed microscopically. In all, forty-five cases have been treated.

The injections were given in four different ways:

1. Subcutaneously in the skin of the abdomen or breast rather removed from the local disease, in large doses.
2. Subcutaneously, as near the tumor as possible, in larg doses.
3. Into the substance or base of the tumor in small doses.
4. Remote from the tumor in small doses.

The dose varied from 5 minims, for the small dose, to 50 c. for the large dose; the usual dose, which was given regularl in most cases, without producing either local or constitution reaction was 15 c.c.

Patients varied noticeably in susceptibility, some get ting constitutional reaction with 10 c.c., while othe got no reaction with 50 c.c. This variation seemed to b due more often, however, to the nature of the fluid tha to the patient. Reaction at the point of inoculatio varied from none at all to a temporary redness, sorene and even induration, lasting from twelve to twent four hours. In obese patients the reaction was usuall marked. No abscesses ever developed. Local hyperemi and some swelling practically always occurred in t tumor itself immediately following the injection, an lasted a few hours, whether the injection was at a distance from, or near to, or into the tumor. It seems to me that this one fact speaks more clearly than anything else for the specificity of these fluids. The fact that a definite local reaction in the tumor itself can be produced within a few hours after injection by a substance injected at a distance from the local disease, indicates strongly the existence of some specific substance in these fluids, which acts on the tumors themselves. The exact way in which this action is brought about and the nature of the substance causing the effect, we have not been able to determine. It is hoped that further biochemical investigation may be able to throw some light on this important point. Constitutional symptoms varied from slight headache to general malaise, chills and fever, nausea and, rarely, vomiting. The temperature seldom went above 102 F. in any case, although large doses occasionally produced a higher rise. A temporary leukocytosis developed in the cases with the most marked reactions. Urinary analyses showed in no case any evidence of an acute nephritic condition being started up. Acute nephritic conditions have been reported by Beebe in New York, and a routine urinary examination should be made as a precaution in all cases under this form of treatment. The patients were started on 3 to 5 c.c. and increased at each injection up to 50 c.c., if well borne, except in those cases in which it was the intention to keep the dose small.

The following histories give the course of each case in detail.[3] Some patients reported very irregularly, while others were allowed to rest from treatment from time to time in order to observe the effect, after a certain number of doses.

CASE 1.—Mr. C. S., aged 61, had a growth which appeared one year previous to examination, as a small dull-red lump the size of a marble over mid-sternum, which was cauterized repeatedly, but grew steadily larger, and ulcerated, with much pain. At examination, patient was a large-framed, nervous old man, with ruddy color. Over mid-sternum was an orange-sized, fungoid, ulcerated, protruding mass with depressed center and cauliflower edges. *X*-ray showed extensive involvement of sternum. Pathologic diagnosis was cancer. February 21 to March 29, 1910, Coley serum was given up to 3 minims at a dose, with no improvement or change; much pain. April ., 1910, patient was started on "L" fluid (cancer of ovary of ive years' duration) and received 25 c.c. every other day till April 11, then 50 c.c. daily up to June 1, 1910. The first five doses caused softening of the edges and increase in discharge and later a marked filling up of the ulcer in the center took place so that bone could no longer be felt at the bottom as beore, and no increase in size of the tumor was noted. The patient had to take large doses of opium, however, to control the pain, which was present all the time. A large gland developed in he right axilla after about two months, and the patient very lowly became more feeble; but the original tumor seemed to have been checked in its growth and to have remained at a tandstill for the three months the patient was under treatment. June 1, 1910, the patient contracted a severe "cold" nd has not reported since.

In this case retardation seemed to have been effected for nearly three months by large doses of fluid from a fairly esistant type of case.

CASE 3.—Mr. W. T., aged 52, had cancer of upper and lower aw; submaxillary gland on the left was the size of a marble. Two similar masses along ramus of jaw on left and smaller odule above one molar tooth on upper jaw. Clinical diagnosis was cancer. March 17 to 25, three doses of 2 c.c. hydrocele uid were given, with slight increase in size of nodules. March 9 to April 23, ten doses of 25 c.c. of "L" fluid (cancer of ovary, five years' duration) were given; injections were always followed by local hyperemia in tumor, sometimes slight bleeding of gums and marked constitutional reaction with chill, headache and increase in pain. "T" fluid (cancer of liver with bile) was tried but produced such marked constitutional reaction and swelling of neck that it was stopped, and from April 25 to May 23, thirteen injections of "P" fluid (cancer of ovary, nine years' duration), were given with rapid increase in size of tumor of jaw, which on May 9 pointed and broke, discharging small bits of cancer tissue. May 23 treatment was discontinued at patient's request, as he was having much pain.

In this case neither hydrocele nor the two fluids from the most resistant cases accomplished anything at all, but rather seemed to hasten the rapidity of growth. The patient gradually grew weaker and died Sept. 1, 1910, with no change for the better.

CASE 5.—M. D., a man aged 58, had an epithelioma of the leg excised in 1908. There was recurrence in the parotid within eight months. Pathologic diagnosis, cancer; rapid growth occurred after several partial removals; ulcerated. The patient was treated for four months with large doses of *x*-ray. Face swollen, lips protruding, drooling; large, red, deep ulcerated area replaced whole parotid region and right upper neck and cheek. Abundant discharge. April 9, 1900, 15 c.c. "L" fluid (cancer ovary, five years' duration), followed by marked local reaction in tumor evidenced by acute swelling, increase in discharge and excessive pain. April 21, patient entered ward and kept under the influence of morphin while nine injections of 50 c.c. each of "L" fluid were given, resulting in a marked increase in the discharge of serum and tissue from the ulcer, but no improvement in the condition. In this patient pain was so excessive that treatment could not be continued. It is suspected that the previous use of such large doses of *x*-ray was an influencing factor. The patient declined rapidly and died six days after the last treatment. This was an extensive, rapidly-growing case and the patient received absolutely no benefit from the serum except the increased discharge.

CASE 6.—Mrs. N. G., aged 56, two years ago had a lump in the right axilla opened and removed; the wound never healed. Examination showed an indurated, puckered scar in right axilla, with red edges and sinus. Piece removed proved to be cancer. The breast showed no lumps or indurated areas. There were two hard glands the size of English walnuts above right clavicle at edge of sternomastoid. From April 12 to May 11, thirteen injections of "K" fluid (carcinomatosis of abdomen) were given, with cessation of slight discharge from sinus, and occasional very painful heavy condition of the breast following the injections. March 14, 1 c.c. "T" (cancer of liver with bile) fluid was injected directly into most indurated part of tumor, with resulting renewal of discharge from sinus and slight increase in size of tumor mass. This was a slow-growing condition and practically no change was noticed except those relating to the discharge. The glands in the neck, however, seemed to have grown considerably smaller. Patient was still under treatment at time of this report. There was practically no change from April to August 1, when patient stopped coming for a month. She was seen Sept. 20, 1910, when the mass in the axilla had increased 1 cm. in size; the corresponding arm was much swollen and the patient had lost considerable weight. In this case retardation lasted nearly four months. Jan. 1, 1911, patient was much emaciated and had involvement of lungs.

CASE 9.—Mr. C. H. A., aged 70, had an infiltrated, ulcerated epithelioma of right jaw removed October, 1909. November, 1909, dissection of neck was done, with removal of internal jugular vein for rapid recurrence. Examination April 16, 1910, showed portion of lower right jaw missing. There was a small pea-sized ulceration at mid-scar, slightly nodular along scar; a more prominent nodule just under the ear. Pathologic diagnosis was cancer. General condition was excellent. April 16 to May 28, sixteen doses of 5 minims each "T" fluid were injected directly into various nodules in scar, with marked alleviation of pain and slight softening of nodules, and until May 28 the patient showed marked improvement; the recurrence, which had been very rapid before, seemed to be completely held in abeyance. but on May 28 it was found that since May 23 a hard mass had developed under the molar in the right upper jaw. This case was evidently retarded for over a month by the use of "T" fluid (cancer of liver with bile), but suddenly, as in Case 8, flared up after a considerable period of quiescence. Patient stopped treatment June 3, and died July 7, 1910.

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[3] On account of the length and number of the case reports not l of them have been included in the paper as printed in THE JOURNAL, but all will be found in the author's reprints. Those selected ere illustrate the various phases of the subject.

Case 11.—M. F. W., aged 34, had a growth which appeared November, 1909, as a lump the size of a small marble under skin on right side of neck. January, 1910, the lump became ulcerated. No treatment was given. Examination showed orange-sized, hard, slightly red, tender mass under right parotid, with three ulcerated areas exuding pus. Ulcers were not continuous. Breath was foul. Patient was unable to open mouth, which was sore inside. Pathologic diagnosis was cancer. From April 21 to May 31, eighteen injections were given, averaging 25 c.c. each, of "T" fluid (cancer of liver with bile). The first injection of 3 c.c. caused extensive sloughing and moderate hemorrhage. The next three injections were followed by increase in pain also. After six injections the growth was breaking down fast and after ten, large pieces of tumor tissue dropped away. This extensive sloughing plus a mild injection throughout the mass caused much pain, sore throat and a very disgusting condition. Daily dressings were done by a district nurse, but even they did not control the profuse, bloody, very foul discharge. Patient was getting very feeble. The tumor had increased about double in size up to one week prior to report, since when it remained stationary. In this case the fluid undoubtedly caused a more marked and rapid breaking down of the tumor-cells. A fluid with small content of bile was used. The patient discontinued treatment June 7 and died June 14, 1910, without any relief.

This is the case in which the most marked sloughing was produced.

Case 13.—Miss E. P., aged 31, was the patient from whom fluid "P" was taken. Operation was performed in 1901; drainage of abscess (?) of ovary, probably malignant. In 1908 a second operation was done: repair of hernia in scar. Small mass in the right lower quadrant of abdomen was not removed. A third operation was performed in 1909: partial removal of malignant right ovarian mass. Pathologic diagnosis was papillary adenoma. April 22, 1910, patient was in excellent general condition; had had no loss of weight; in fact, had had some gain lately. Color was good. Patient was about everywhere; she suffered no inconvenience except that she had to be tapped every four to six weeks. There were bilateral, grapefruit-sized masses in each lower quadrant. April 25 to May 9, ten injections of 50 c.c. each of her own fluid were given subcutaneously, with no reaction of any kind. These were daily injections. After leaving the hospital patient had biweekly injections of her own fluid, and remained in excellent condition; tappings were more frequent and the mass in the pelvis seemed more pedunculated and smaller. Further operation for removal was advised. Patient was operated on in October, 1910, and mass practically completely removed. Patient had had no return of tumor or fluid by Jan. 1, 1911, and seemed in perfect health.

This was an interesting case, in which the patient was apparently benefited by reinjections of her own fluid. This case seems to illustrate the benefit of giving of autogenous serum.

Case 14.—Mr. F. C., aged 60, for two months had had a swelling of the gum of the right lower jaw. Teeth were removed without relief. Examination showed swollen, indurated, nodular, slightly ulcerated gum of right lower jaw from angle to median line, pushing the lip forward, with marble-sized glands under jaw. Patient's general condition was good. May 13, 1910, 15 c.c. "P" fluid (cancer of ovary, nine years' duration) were given, followed by no symptoms. May 18, a loose piece of the cancer tumor was excised and transplanted under skin of left breast. Pathologic diagnosis was epithelioma. May 31, no "take" had been effected and patient was again started on the fluid. Tumor was increasing rapidly.

This transplantation experiment was tried in the hope that if the transplant could be made to grow it might retard, as Gay has found in mice, the original tumor. Patient reported irregularly up to August 1, but was gradually losing strength and the growth increasing in size.

Case 15.—Mrs. I. M. Q., aged 34, had a growth which appeared in the left breast, just outside the nipple, three and one-half years previous to admission, as a lump the size of an egg. Nine months later patient had her last child, but there was no milk in left breast. The tumor broke through skin one year previous to admission but never discharged. No treatment was given. Examination showed a tumor the size of a fist, hard and nodular, with dry ulcerated area the size of a quarter in the left lower quadrant of the left breast. There were many large glands in axilla and above both clavicles; a small septic area at the top of the mass about to break, which did break after first injection. Patient had doses of 20 c.c. "L" fluid (cancer of ovary, five years' duration) with marked reaction at site of injection in the form of a hard, tender lump and heavy breast, with much pain after many of the injections. Patient's general physical condition was excellent at the start. May 10, 1910, the breast had become much softer under treatment and the ulcerated areas discharged more profusely. Since August 1 patient had had but one injection and the breast meanwhile became much harder agai and the ulcerated areas dried up. The fluid evidently had a specific action in this case, as shown by the marked softenin while under treatment. It was a slow-growing case and littl change was noticed other than the softening during the fou months of treatment. Jan. 1, 1911, patient was still alive bu had metastasis in right tonsil and was beginning to fail an to show evidences of metastasis in the brain. Patient die Jan. 13, 1911, with typical symptoms of brain tumor.

Case 17.—Mrs. M. N., aged 42, six years prior to admissio had a lump appear in the left breast, which was "drawn" b a quack. Three years later it returned. Quack treatment wa continued. Six months prior to admission another lum appeared in the right breast. Examination showed almos complete solidification of both axillæ, and both sets of pec torals with cancer nodules; both breasts were ulcerated an dry; the left the size of one's palm, the right the size of half dollar. Patient was in excellent general health; colo very good. May 14, .1910, to May 31, patient received fiv injections "P" fluid (cancer of ovary, nine years' duration with decided relief from pain; slight constitutional reactio with first two doses. There was no increase in discharg The fluid acted as a tonic. The ulcers cleaned up materiall The patient's health was still good after four months' treat ment. This was a slow-growing process, but seemed to hav been benefited. Patient reported Jan. 1, 1911, that she wa well except for "rheumatism," and that there then had bee no change in her breast at all.

Case 19.—Mrs. L. J., aged 48, a widow many years, had ha two children and two miscarriages; there had been much la eration. Three months prior to admission leukorrhea appeare which became foul, and one month later pain in back an vagina developed. Examination showed foul discharge; va inal vault extensively indurated; cervix nodular, hard, fissure Patient's general condition and color were excellent. May 1910, cautery and curettage of cancer of cervix was don Pathologic diagnosis was cancer. Treatment was started Ma 23, 1910. Patient was very obese and had several seve local reactions at site of injection, but immediately aft treatment was instituted the flowing and pain ceased and t discharge at first became increased and later decreased. Sep 27, 1910, patient was still in excellent condition, had no pai but considerable discharge from a process which was slow enlarging and extending to rectum. In October, 1910, patie had suppression of urine from blocking of both ureters. S entered hospital, had ureters catheterized, but was discharg against advice, to be taken home by sister to die at hon She has been lost track of.

The most noticeable effect of treatment in this case w the cessation of pain and hemorrhage.

Case 27.—Mrs. E. W., aged 49, widow, had a "lump" in t front of her neck for ten years. Operation was performed 1908 for carcinoma of thyroid. Pathologic report was canc There was almost immediate recurrence. On examination w found to be short and stout; general condition good; cachexia. There was a hard, purplish, indurated, nodular ma involving whole thyroid region, slightly more prominent left, reaching to below sternal notch and up to right parot and right tonsil, with many small glands surrounding; a very extensive process. There was a slight numbness of right arm; no pain. July 5 to Sept. 30, 1910, patient received "P" fluid. After the third injection the tumor mass became much softer, and after two more injections the purplish color disappeared and the skin took on an almost healthy color. It was impossible to give this patient over 10 c.c. doses, as she got violent constitutional reactions from larger ones. She left off treatment for one month and during that time the old tense purplish color came back and the stony hardness of the mass. Considering the rapidity of growth before treatment it seems certain that the fluid had caused some retardation in this case.

Case 31.—Mrs. C. B., aged 56, widow, had always been well until January, 1910, when she had pain when she sat down. The coccyx was removed and hypernephroma, extending to sacro-iliac joint on left, found and confirmed by pathologic examination. Five weeks prior to admission a lump appeared in the buttock. There was no pain, but discomfort on sitting. Examination showed a large-framed, obese, red-nosed woman, with poor superficial circulation, acne rosacea of face, and red scar 1½ inches long at base of sacrum; no nodules in scar. There was a hard, firm, slightly lobulated mass in right buttock, apparently springing from deep structures; no tenderness; rather tense. Pelvic examination was negative. A mass 4 by 6 inches was indefinitely determined. July 5, 1910, to Sept. 30, 1910, 15 c.c. average doses of "P" fluid were given with very slow growth of tumor to 8 by 8 inches, but considerable softening in tumor. This patient had marked local reactions after injections and numerous constitutional reac- ions, so that fluid could not be pushed to a high dosage. The only noticeable effect was the very slight softening in the mass following injections. The process later was growing more rapidly. From Oct. 1, 1910, to Jan. 1, 1911, the tumor grew only very slowly. At the time of this report it measured 9 by 9 inches, but was slightly harder. The patient was able to take 50 c.c. at a dose of the fluid and had no pain. The patient's condition was excellent.

This case proved to be very interesting, and a condition which gave no promise for relief has been greatly retarded.

Case 36.—Mr. J. N. W., aged 56, had a growth which ppeared twenty years ago as a small, hard pimple back of eft ear and broke out and healed up off and on for five years; ifteen years ago patient had it "drawn" by a "quack." Operation was performed August, 1909. The epithelioma was xcised and a plastic operation done on the ear. The growth ecurred in September, 1909. The patient had *x*-ray irregurly afterward; had Coley serum for five months with gradal slow increase in ulceration under unsettled diagnosis. athologic report finally settled the lesion as epithelioma. xamination showed a spare, "wiry" man in excellent health nd good color; lobule of left ear absent; crescentic ulceration round base of ear and partially healed ulceration nearly surounding whole ear; slight ptosis of left lower eyelid. July 6 to September 30, patient received doses of 10 c.c. each of P" fluid, with increased discharge from ulcerated surfaces at rst, followed by slow cleaning up of ulceration, which then oked much cleaner and more healthy than before. General ealth was still excellent. In October all of the ulcers above he ear were hard and covered with skin. In November ulcerion started in below the lobe of the ear and has been growg slowly ever since, and the last four or five injections had emed to hurry up the destructive process so that on Dec. 31, 910, the patient was advised to omit treatment for a month. acial paralysis became complete on left side. Jan. 20, 1911, ocess had not spread further and there were islands of scar ssue present in several places. February 1, more scar tissue. nsiderable reparative process going on.

Case 37.—Mr. A. S., aged 58, had syphilis in 1879; was eated off and on for ten years with no resulting symptoms. ne year prior to admission a small crust formed on the left le of the neck back of and below the ear; there was no ceration until six months prior to admission, since which me it ulcerated and gradually spread and grew deeper. There s some pain. On examination the patient appeared well veloped and nourished; a slightly pale man, and husky ice. There were old brownish scars over the legs and back. the left side of the neck, back of and below ear, was an ulcer ½ to 1 inch deep, with ragged edges, but fairly clean, 2½ by 3½ inches across; edges not much undermined. The sternomastoid muscle and several small vessels and nerves were exposed in the bottom of the wound. There were small whitish epitheliomatous-looking patches in bottom of ulcer. Pathologic report was epithelioma, without doubt. July 16 to September 30, the patient received *x*-ray and "P" fluid in small doses twice a week with no change for the better, but with gradual deepening of the ulcer under the ear. The ulcer was clean, no hemorrhage. Complete facial paralysis on left side slowly developed and patient began to look a little paler, and was getting weaker. This patient had normal blood-serum for one month before the "P" fluid was started. No effects were noticed constitutionally or locally from biweekly injections of 1 c.c. blood-serum and certainly the "P" fluid, in small doses, has had no effect. During November and December, 1910, large doses, up to 50 c.c. were tried, but the process went swiftly on, causing an almost complete anatomic dissection of the neck down to the vertebral column. The patient's condition, however, did not suffer much and it seems as if the large doses of fluid had stimulated and nourished him considerably.

Case 39.—Mrs. A. C. C., aged 41, had had no children or miscarriages. For five months prior to admission there was a gradually increasing vaginal discharge, not especially foul. The catamenia were not much affected. Three weeks prior to admission patient began to be very constipated and abdomen became bloated with gas. She vomited repeatedly, and had very little relief from enemas. She noticed that the uterus was lower down than normally. The patient was a small, dark-skinned, very thin, sallow woman, with pulse poor, abdomen distended, visible peristalsis, no masses. On vaginal examination the cervix was found low, hard, and with an ulcer with ragged, raised edges; the uterus was increased in size and almost completely obstructed the rectum. The patient was relieved from this attack of obstruction by one week in hospital; she went out in very poor condition. July 29, 1910, to September 30, biweekly doses of "P" fluid were given with several severe reactions, but rapid improvement in general condition, lessening in discharge and pains and gain in weight. This patient was started on four doses of 5 c.c. each of spermatocele fluid, which produced a marked stimulating effect. The cancer was slowly growing and ulcerating more rapidly, but the general condition had improved from almost *in extremis* to be very good indeed. From September to October 30, the condition remained about the same but the tumor continued to grow until the mass almost completely filled the pelvis, shutting off the rectum and nearly shutting off the bladder. Patient's strength continued good and she had little pain. The serum has been of very doubtful benefit in this case, although it seems as if the stimulating effect of large doses may have kept up her general physical condition.

Case 40.—Mr. C. H. M., aged 59, several members of whose family died of tuberculosis, had fever and ague at 18. For thirty years patient had a tumor and a sore on the right side of neck posteriorly, which ulcerated fifteen years ago, was excised once, and "drawn" six or seven times. His voice was hoarse since October, 1909. Examination showed a tall, spare, husky-voiced man, with good color; head slightly bent to left; sternomastoid on right tense. Over an area the size of a silver dollar was a hard indurated-edged ulcer with fairly clean base and granulations. Several surrounding nodules and the tissues around for 1 or 2 inches were hard and contracted, most of which seemed to be scar tissue, but some of which was typically cancerous. Examination of the larynx showed right vocal cord in cadaveric position, and paralysis of right recurrent laryngeal nerve, from presence of the disease, probably. July 27, 1910, to August 3, as house patient, he received large daily doses of "P" fluid, with severe constitutional reaction after the last two doses, but practically no change in the local condition, except, perhaps, a little softening of the edges, but with continued relief from the pain in the brachial plexus which had been complained of. August 3 to September 30, 25 c.c. of fluid were given once a week with little change, except that the ulcer seemed cleaner. This had been a very slow-growing process, and aside from the permanent relief from pain showed no change after two months' treatment. On Jan. 1, 1911, patient was admitted to the hospital and the ulcer curetted and skin grafted, with relief of pain.

Case 43.—Mr. R. W., aged 66, had always been well until two or three years prior to admission, when a lump appeared on the side of the neck and grew slowly. It was excised several times; excision with a plastic operation was done June 1, 1910. Since then patient had a recurrence of what examination showed to be epithelioma, and much pain, which required a grain of morphin a day to control. June 23 to July 30, 5 c.c. doses of "P" fluid were given every day, with complete relief from pain, but with increase in discharge and spreading of process. Letter from wife September 30 stated that patient had not had the serum for nearly six weeks; he had gradually failed in strength of body and mind and was expected to live only a few weeks. The process had spread all over the jaw, several sinuses led into the mouth and the patient was in a pitiful condition. The only benefit in this case, therefore, was complete relief from pain while under the serum treatment.

Case 44.—Miss F. H. S., aged 50, had an operation June, 1909, for carcinoma of left breast, three months after appearance of a lump near the nipple. There was recurrence in the scar after nine months. Examination showed a strong, large-framed woman in excellent health. There was a ¾-inch linear, red recurrence in mid-scar; no pain; marble-sized nodule, with several pea-sized nodules in skin of chest wall under axilla. The arm had been swollen nearly twice its normal size since the operation. Aug. 18, 1910, to Sept. 30, 1910, the patient received 5 c.c. doses of "P" fluid twice a week, with no increase in size of nodules during this time and a noticeable decrease in the purplish-red color of skin over nodules. The swelling of the arm was controlled by massage. This case was taken early and ought to have been a favorable one for retardation. Up to Nov. 15, 1910, the disease seemed to be held completely at a standstill, but afterward there was more pain and a very slight increase in the size of the nodules. The general health, however, remained excellent.

Case 45.—Mr. H. T., aged 65, Dec. 29, 1909, had an eyebrow excised with a plastic operation for epithelioma. There was recurrence in right side of neck in May, 1910. At time of admission patient had small, hard glands under right jaw and a mass the size of a pigeon's egg under the symphysis of the jaw. The breath was foul. There was no involvement of mouth. September 20 and 27, "L" fluid was administered, with some softening in mass. Fluids were continued to Oct. 25, 1910, when patient evidently had an infection of the diseased area, with swelling, pain and redness. This subsided under poultices, and patient was admitted to hospital in November and the greater part of the mass removed. He made a good recovery. Patient remained in this condition for one month, with no increase in size of remaining nodule. Jan. 15, 1911, there was a second flare-up of the process and rapid increase in size of mass, with breaking down in several places.

This was another jaw case in which the process seemed to have been checked for a time, but which later developed with lightning-like rapidity. This series makes one doubt the beneficial influence of the ascitic fluids in jaw cases. They even seem to be harmful in some cases.

Definite results witnessed in this series of cases are as follows:

In five cases there was a decrease in, or absolute abolition of, the pain previously complained of. These were cases in which maximum doses were given (Cases 19, 22, 33, 40, 43).

In three cases there was a decided increase in the discharge from an ulcerated surface and a breaking down of cancerous tissue, considerable portions of which sloughed away entirely—enough to cause moderate hemorrhage. In no case was a fatal or even dangerous hemorrhage produced. Moderate increase in the discharge from an ulcerated or broken-down surface has been noticed in practically every patient treated. This in some cases was only temporary, but was followed later by noticeable cleaning up in the ulcer and more healthy granulations.

Cessation of bleeding in several cases of uterine cancer was seen, especially in Cases 16 and 19.

Increase in pain was experienced in Cases 12 and 5, the latter patient, who had been having very large doses of x-ray previous to injection, had excessive pain even with very small doses of the fluid. In Case 37, however, the patient also had large doses of x-ray with his treatment, but had no increase in pain.

There was apparent retardation of the growth in eight cases for periods of two to five months, and in three others for a period of over one month. These tumors were growing very rapidly when started on the serum, and, when compared with other cases in this series, as well as in the control series, it seems justifiabl to state that they have actually been retarded. These are Cases 14, 8, 9, 12, 4, 6, 13, 22, 26, 27, 31.

Physical as well as psychic effects of this treatmen are often marked. Twelve patients have remained i excellent general physical condition, gaining strengt and weight in spite of a slowly growing process, and thi has been seemingly due to the stimulating effect of th fluid. This fact may be of some importance in relatio to Leary's treatment of marasmic infants with asciti fluid.[4]

On the other hand, in no case was there actual shrinking in the size of the tumor, and from the rapid increas in the size in two cases (3 and 12), there seems to hav been a decided increase in the rate of growth of th tumor; due apparently to the use of the fluid.

There was no constant effect on so-called metastati rheumatic pains.

In no instance was any marked harm done. On dose of a fluid, which "went septic," previous to bein administered to several patients, caused marked constitutional symptoms which, however, passed off in twenty-four to forty-eight hours and left no ill effects so fa as could be observed, the reaction being similar to tha experienced with Coley serum.

The number of fluids available from resistant case has not been large so that it cannot be positively state that they always have a more specific action on th cancer than the fluids from less resistant cases, but has been noted that local and constitutional reaction ha occurred more often from the use of the fluids fro resistant cases, and from this we are led to believe tha their action is more specific, and hence beneficial.

CONCLUSIONS

A trial of seven months' duration has now been mad with a series of forty-five cases, comprising variet enough both in the fluids used and in the type of canc treated to warrant the following statements in concl sion, based on a careful analysis of the results in th series.

1. The various transudates and exudates of the bod cancerous and non-cancerous, have no effect in retardi the growth of cancer in mice.

2. The use of cancerous ascitic fluid from patients the active or even moderately resistant stages of the d ease has no permanent effect in preventing or checki the growths of cancer, or permanently benefiting t cancer patient.

3. The other non-cancerous body fluids are even mo inert.

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[4] Boston Med. and Surg. Jour., Aug. 18, 1910, p. 283.

4. Temporary beneficial effects may be noticed for periods of one to five months, but the course of the disease is in no way permanently retarded.

5. Temporary relief from pain, especially in uterine cases, and in other cases in which large doses can be given, and retardation of the growth for periods varying from one to five months, may be expected in a small per cent. of the cases.

6. Noticeable benefit in the general physical condition has resulted in one patient with cancer of the ovary by the injection of her own fluid.

APPENDIX

Since the completion of this report on the first forty-five cases, Oct. 1, 1910, twenty additional patients have been treated, with practically the same results as in the reported cases, which have confirmed our stated conclusions.

The information obtained from these twenty additional cases, and the more complete following up of the forty-five original cases, emphasized the following points:

1. Great symptomatic relief can be obtained in a good percentage of the patients treated, evidenced by relief from pain and improvement in nutrition and general physical condition.
2. Retardation is noticeable and prolonged from one to six months in many cases.
3. Ascitic fluids are liable to hasten the process in practically all mouth and jaw cases.
4. This work, together with the use of the *x*-ray in other cases, and curetting and skin-grafting sluggish epitheliomatous ulcers, has impressed me with the fact that much can be done for the relief of the seemingly hopeless inoperable cancer patient. While cures and benefit cannot be expected in every case, in spite of the fact that no cures have been accomplished, the work has emphasized the fact that much symptomatic relief can be given to suitable individual cases.

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CHEMICAL DERMATITIS FROM INCOMPATIBLE EXTERNAL APPLICATIONS

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It is a well-known fact that dermatitis is frequently caused by internal medication. With somewhat less frequency do we see a case of dermatitis caused by a combination of internal medication with a wrongly chosen external application—as for example, iodids internally and calomel dusting powders externally. Still more rarely do we see a case of dermatitis caused by chemically incompatible drugs used externally; and it is for this reason that I consider the following case of sufficient interest to be reported:

History.—A patient, male, came to me suffering from a typical case of impetigo contagiosa. There were eight or ten lesions irregularly distributed over an area about 8 cm. in diameter in the left anterior cervical region. Ammoniated mercury ointment was ordered.

Dermatitis.—The patient returned the following day to say that shortly after the first application of the ointment the area began to burn and sting severely. For several hours he underwent a great deal of discomfort. On examination it was found that a very large area, probably from 15 to 20 cm. in diameter, was highly inflamed. It was of a diffuse bright red color, with several small blisters and larger blebs which contained a thin seropurulent exudate. Some of the larger blebs were from 1 to 2 cm. in diameter. Careful inquiry proved that no mistake had been made in the ointment used. Inquiry was then made as to whether the patient was taking iodids. This inquiry was answered negatively, but brought out the fact that the so-called colorless tincture of iodin had been used externally.

This tincture of iodin had been prepared by adding to ordinary tincture of iodin enough sodium thiosulphate to displace the color. It should be remembered that such a pharmaceutical preparation would result in a mixture of sodium iodid and sodium tetrathionate, and that since it would no longer contain free iodin it should not be called "tincture of iodin" ($2Na_2S_2O_3.5H_2O+I_2=2NaI+Na_2S_4O_6\ IOH_2O$).

I attributed the condition to biniodid dermatitis. As a means of corroboration some of the "tincture of iodin" and the ointment were rubbed up together and the white ointment was at once converted into a pink or brick-red. Extraction of the oil by ether left a brick-red granular precipitate.

The reaction in and on the skin between the sodium iodid (NaI) of the mixture and the ammoniated mercury ($HgNH_2Cl$) of the ointment had evidently resulted in the production of biniodid of mercury (HgI_2), which, through its irritating influence, had produced a dermatitis.

A PECULIAR CAUSE OF INTESTINAL OBSTRUCTION

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Patient.—E. Z., a white man, aged 29, family history negative, was seen first by family physician September 8, suffering with pain in the abdomen, was given purgatives without any relief. Next day purgatives and enemas were given without any relief. In the afternoon, when I saw the patient, he had pain of an intense griping character and vomiting; he retained nothing by stomach; had no fever. The diagnosis was intestinal obstruction.

Operation.—When the abdomen was opened in the median line, free fluid was found in the abdominal cavity. In the ileum, about two feet from the ileocecal valve, two hard lumps, 2 inches apart, were found obstructing the lumen of the intestine. The intestines were incised, the foreign bodies removed, the intestine sutured, and the abdominal wound closed.

The patient made an uneventful recovery.

The foreign bodies consisted of unmasticated dried apples. The patient had been eating, the morning of his illness, apples dried in portions of halves and quarters, swallowing them without much mastication. The portions after entering the intestines continued to swell, as dried apples do, and obstructed the lumen of the intestine.

Therapeutics

GENERAL PROPHYLAXIS OF TYPHOID FEVER

In many particulars, no disease surpasses typhoid fever in its importance. It attacks, as a rule, healthy adults, causing a sickness that may last for weeks and even months, and may frequently end in death. It is one of the most preventable of all infectious diseases; it is, therefore, almost inexcusable that it is so widely prevalent.

It is now generally recognized that the essential agent in the causation of typhoid fever is the *Bacillus typhosus*. Since its discovery in the early '80s, and subsequent careful investigation by a number of students, our knowledge of the method of its transmission has been greatly increased. The bacillus has been found in the blood, in the feces, in the urine, and in the bile. It cannot always be discovered in the early days of the disease, but in the second or third week it can generally be detected. It may persist for years, even as many as twenty-five or fifty, after the patient has become convalescent. It may also exist in the body, and particularly in the feces and urine of individuals who have never themselves, so far as can be determined, suffered from an attack of the disease, but who have taken the infection into their bodies in some perhaps unexplained way. These individuals in whom the bacillus exists are known as "typhoid carriers," and those in whom the bacillus exists, but who have never suffered from an attack of the disease, are known as "contact carriers."

The problem in the prevention of typhoid fever is the destruction of the bacilli which are excreted by the patients suffering from the disease, or by the typhoid carriers. It might seem that this would be a simple task, and it has been claimed that typhoid fever might be stamped out in any country within a year, but such a very desirable and Utopian result seems very unlikely of accomplishment in our generation.

To consider first the measures which should be adopted in the case of the patient who is ill with typhoid fever: It is the duty of the physician to lay down such rules for the guidance of the patient and his treatment as will effectually prevent the dissemination of any of the morbific bacilli. The physician's first and most important duty is to make an early diagnosis of the disease. It has been too much the practice in past years for the physician to neglect this important part of his work. Patients have been treated for malaria, for simple continued fever, for bilious fever, and many other real or imaginary conditions who actually were suffering from typhoid fever. There is no excuse to-day, and there has not been much excuse within the last twenty or thirty years, for any physician to overlook the possibility of his patient having typhoid fever on the first day of his attendance. This does not mean that he must actually make a positive diagnosis of the disease at his first visit, but it does mean that he must be on the alert to consider the possibility that his patient may have typhoid fever; and if he does this he will save himself and the community a great deal of trouble.

While possibly the infection may be communicated by a person in the first few days of the disease, this is not nearly so probable as during the second and third weeks, when the danger is the greatest.

The bacilli are found most frequently and most abundantly in the feces. It has long been recognized that in them the chief danger of the transmission of the disease lies, and it has long been recognized that their effective disinfection is most important and most necessary. This the physician should insist on. There are various methods of doing this. The feces immediately on being passed should be covered with a 5 per cent. solution of phenol, and the hard masses should be broken up so that the disinfectant will thoroughly penetrate the fecal matter and come in contact with all microorganisms which may exist therein. Other disinfectants may be used, such as the chlorid of lime, corrosive sublimate, cresol, and the sulphate of iron. The utmost cleanliness should be used by the attendants in connection with the movements of the bowels. The skin surrounding the anus should be carefully washed with a disinfectant solution, and the cloths used for this purpose should be put in paper bags and subsequently burned. The attendant also should, after bathing the patient, always wash her hands in a disinfectant solution. In a similar manner the urine should be discharged into a vessel and mixed with a disinfectant solution.

The bacilli can sometimes be found in the sputum, and if the patient has any cough, the sputum should be collected on cloths and burned. Even if the patient has a dry cough, expectorating the so-called droplets from the mouth, pains should be taken to collect this on pieces of cloth which should be burned.

All bedding should be soaked in a disinfectant solution and boiled before being washed. The cups, glasses, dishes, knives, forks, spoons, and napkins used by the patient should also be disinfected before being washed.

During convalescence, the feces and the urine should be subjected at intervals to bacteriologic examination, to determine whether the bacilli are still present. It has been found that they may be absent at one time, and may reappear later, so that repeated examinations are necessary. The patient should be carefully isolated until repeated examinations have shown entire absence of bacilli, both from the feces and the urine. When these rules have been observed in the care of any patient suffering from typhoid, he, his friends, and the physician, will rest assured that there will be very little likelihood of his communicating the disease to anyone else directly or indirectly.

As has been stated, the disease may be carried directly from the patient suffering from the disease, or from a so-called bacillus-carrier. The bacilli may be received directly by a person who does not possess immunity to the disease by handling articles, such as clothing or utensils used in eating, which have been contaminated by fecal matter, urine, or sputum from a typhoid patient. A far more common mode of infection is indirect method, which embraces infection through water and through various food supplies, especially milk and oysters. Many epidemics have been due to the infection of a water-supply from patients suffering with typhoid. This may occur to a limited water-supply, such as that furnished from a well or spring to a single family or to a few families, or to the water-supply of a large city. It was recognized many decades ago that a well, spring, or water-supply might be infected by improper disposition of the fecal discharges of a patient suffering from typhoid. Before disinfection was generally recommended and occasionally done, it was a common practice to throw the discharges from the bowels onto the ground in any convenient place, or into a so-called privy. If this happened to be in winter, when the ice and snow melted, or in any season of the year, when the rain fell the bacilli contained in the discharges were washed away through the ground, and if a spring or well or brook happened to be in the way of this current of flowing water, it was sure to be contaminated with the bacilli, and the people who drank of the water were very likely to become infected with the disease. With the more general spread of the knowledge of the nature of the disease and the manner of its introduction into the system, this method of transmission is becoming less frequent and less important.

Another important agent, and perhaps at the present time the most important of all, is the milk supply. It has been determined that typhoid bacilli multiply in milk, and this is true of very few other media. The milk may be contaminated in various ways, either directly from patients suffering from the disease, or from a bacillus-carrier. The infection may occur from handling the milk with infected hands, or from the use of infected water in washing the cans and bottles in which the milk is carried. This is to-day perhaps the most common, and yet the most elusive method of transmission.

Shellfish in general are said to be common media for the transmission of typhoid, but the oyster is the chief agent in this communication. This happens in the following manner: The oysters are taken from deep water and placed in shallow, fresh water in order that they may absorb the fresh water and, as the expression is, become fattened. This shallow water is very likely to become infected by sewage from surrounding houses, and if there happens to be a case of typhoid fever in a house, the sewage of which drains into the bed where the oysters are fattened, the oysters are likely to absorb the bacilli and carry them to anyone who eats the oysters, unless they have been thoroughly cooked.

TYPHOID BACILLUS-CARRIERS

One of the most interesting, and perhaps the most important, problem connected with the prophylaxis of typhoid fever which has attracted study and discussion during the last dozen years is that of the typhoid bacillus-carrier. It is only within comparatively recent years that it was discovered that a not inconsiderable number of cases of typhoid fever, whose origin had been inexplicable by the ordinary known methods of contagion, were due to infection from persons whose excretions contained the typhoid bacilli, although they had not recently themselves been ill with the disease.

These bacillus-carriers were found to be divided into two classes: one class embracing those who were known to have had well-marked attacks of typhoid fever; the other, those who had not suffered an attack of typhoid, so far, at least, as it was possible to learn from a study of their pathologic history. These latter individuals are believed to become infected with the bacilli by contact with some individual suffering from typhoid fever, but through the possession of some immunity they do not suffer the ordinary febrile attack of the disease, but the bacilli remain within their bodies and undergo multiplication and subsequently are excreted.

Under another form of classification these bacillus-carriers are distinguished as: (1) precocious carriers, which includes persons who have been recently infected with the disease but have not yet shown symptoms of it, although they may later do so; (2) the convalescent, temporary or transitory carriers who have passed through the disease and are convalescent from it, but whose excretions still contain the bacilli; (3) the chronic carriers, those who after an interval of three or four months have not ceased to present the bacilli in their excretions.

It is generally recognized that typhoid bacilli occur in the blood in a large majority of patients suffering from typhoid fever. In the feces, they are found most frequently about the third week of the disease. Various observers have found them in from 33 to 100 per cent. of cases in the third and fourth week of the disease. They are less commonly found in the urine, in ordinary cases, but it is generally agreed that they are found there in from 20 to 25 per cent. of typhoid patients. Some observers believe that in all cases in which the bacilli are found in the urine, there will also be found a slight trace of albumin. They may appear in the urine early in the disease, and in the majority of cases disappear in from three to thirty days, but in exceptional cases they may persist much longer. These facts render it important, from the standpoint of the sanitarian, to observe the cases of typhoid fever during convalescence much more thoroughly than has hitherto been done. When it is considered that these bacillus-carriers may continue to excrete bacilli for from one to fifty years after the original attack of the disease or the original infection, the immense importance of preventing their existence is easily recognized.

The natural corollary of these observations is that the health authorities in every city should conduct systematic observations of the urine and feces of every typhoid fever patient until repeated examinations on different days show that both these excretions are free from typhoid bacilli. It has been suggested that when the typhoid bacillus-carriers have been entirely eliminated that very much will have been done to entirely abolish typhoid fever.

When it has been determined that a certain individual is a typhoid carrier, the next problem is how to stop his elimination of typhoid bacilli. This is a problem which is both important and difficult. Where the bacilli are eliminated with the feces, it must be taken into account that the gall-bladder is a very important focus for the development of the bacilli. This is often associated with inflammation of the gall-bladder and with the development of biliary calculi. In fact, long before the existence of bacillus carriers was even suspected, it had been noted that people who had had typhoid fever were especially likely to suffer from inflammation of the gall-bladder and from biliary calculi.

The attempt has been made to destroy the bacilli in the gall-bladder and intestines by the administration of various drugs, among which may be mentioned hexamethylenamin (urotropin), salol, beta-naphthol, oil of turpentine, sodium salicylate, chloroform, calomel, and bile and its salt. All of these drugs, however, have but a temporary effect. The most useful are hexamethylenamin, sodium salicylate, and salol. Even the *x*-ray has been tried, but seems to be of little value.

When the bacilli are found in the urine, hexamethylenamin has been tried, and while it does decrease the number of bacilli eliminated during its administration, they often reappear when the use of the drug is discontinued.

When drugs fail, the vaccines, preferably the autogenous vaccines, have been used with apparent benefit in several cases. The usual dose is from 40,000,000 to 1,000,000,000, repeated several times. This treatment with vaccines is the more efficient the earlier during convalescence it is commenced.

The carrier himself usually suffers little inconvenience from the presence of the bacillus within his body. In some cases there may be gall-bladder symptoms, due to inflammation of the gall-bladder, or to the formation and presence of calculi. Occasionally headaches are complained of. Sometimes intestinal disturbances are noted, especially in the spring, summer, or late autumn. When the carrier is aware of his condition, and of the efforts which are taken to cure him of it, if of a nervous temperament, he may develop a form of neurosis. Sometimes the carrier may succumb to a general infection by his own bacilli causing auto-infection.

Neurasthenia an Insanity.—In pure neurasthenia there is no disturbance of the general relationship of the individual to his environment, no disorder of conduct, and therefore no insanity. It is unfortunate that the term "neurasthenic insanity" should have been applied to patients suffering from this condition in whom, while there is admittedly no insanity, the mental symptoms are exceedingly prominent. It is totally erroneous to speak of insanity, however we may qualify it, in regard to persons who are not insane, and a better term for these conditions of neurasthenia in which the symptoms are largely mental would be "psychasthenia gravis."—A. F. Tredgold, in the *Practitioner*.

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[*For other information see second page following reading matter*]

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IMPURE AIR AND MEDICINE

Impure air has long been considered the direct cause of many diseases which modern medicine can no longer explain on that basis. Laymen still not infrequently ascribe such diseases as typhoid and diphtheria to "sewer-gas" contamination, and the very name of malaria bears testimony to the erroneous theory with regard to it formerly held by the medical profession. But there remains a large and important class of diseases, principally of the respiratory tract, in the production of which atmospheric impurities play no small part. So, for instance, workers in the dust-producing industries are notoriously liable to tuberculosis, to say nothing of the added danger in the case of those dusts that in themselves are poisonous.

The vast expansion of our modern industrial centers, with the aggregation of large numbers of smoke- and soot-producing furnaces, has opened a new phase of the subject, and one whose exact significance is still a matter of dispute. The ultimately injurious action of the constant inhalation of smoke and carbon particles can almost be assumed as self-evident; but that it has effects of any great seriousness cannot be regarded as proved. In a long series of articles Ascher[1] has sought to demonstrate, by both statistical and experimental evidence, the directly injurious action of the "smoke plague" in causing death from acute inflammatory diseases of the respiratory tract.

On the other hand, Gebecke[2] in a recent article, disputes Ascher's findings, both experimental and statistical. Inasmuch as his statistical data are for the most part derived from the same sources as those of Ascher, the ultimate result seems merely to demonstrate anew the proverbial fallaciousness of such evidence. But, nevertheless, Gebecke's article serves to indicate that our modern smoke evil has not the pronouncedly harmful effect on the mortality rate that one might be inclined to assume. In regard to such diseases as may be considered as directly air-borne, such as those produced by the poisonous dusts, or by inhalation of "infectious droplets," the situation is of course quite different. The recent rapid spread of the pneumonic form of plague in North China demonstrates strikingly the potentialities of direct respiratory infection; and occupational dust-poisoning, although far less wide-spread, has been considered of sufficient importance to justify legislative control in some parts of Europe at least. The means taken to combat the evil are as ingenious and as varied as are the different industries in which it occurs. Moistening of material, substitution of innocuous ingredients for the poisonous ones, and removal of dust at the point of origin, are all taken advantage of when possible. But there still remain several industries in which these procedures are inapplicable, and in the worst of these, as for example the alkali, chrome, and dry lead works, the German government prescribes the use of respirators. A comparative experimental study has been made of the different types of these by Schablowski,[3] and his results are of interest as revealing the inefficiency of many such devices. Twenty-six of a total of thirty-seven masks of different manufacture permitted the passage of 30 per cent. or more of dust, some allowing as much as 89 per cent. to pass through. Of the remaining eleven, five were variations of the same model, and two were respirators constructed experimentally by Kobrak.[4] These last consisted simply of a fine-mesh batiste, fastened in cowl fashion by means of constricting bands about the forehead and shoulders, with an aluminum frame to keep the gauze some distance from the mouth and nose. Such a mask, it was found, absolutely prevented the passage of infectious droplets forcibly expelled by sneezing from a distance of 30 to 40 centimeters. With dust it was not so effective, as 18 per cent. passed through. On the substitution of filter-cloth for the batiste, this was reduced to 11 per cent., but at the expense of some degree of the comfort with which it was borne. The best of the commercial masks, similarly equipped, was just about as effective.

The data cited here seem to point out in some measure the difficulties that lie in the way of adequate legislative control of occupational diseases. As Schablowski somewhat pessimistically states, the choice of respirator in any given case would depend on the chooser; if the employer chose, the cheapest would be selected; if the male laborer, the most comfortable; and the female laborer, the most becoming—no one apparently being greatly concerned with the practical efficiency of the device.

THE CHOLERA SITUATION

Official reports indicate that cholera has appeared in Hawaii, 35 cases and 26 deaths having occurred between February 25 and April 16, 1911. This close approach to the Pacific Coast and actual infection of the island territory gives cause for concern at this time, when the disease has apparently receded from European ports.

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[1] Ascher: Deutsch. med. Wchnschr., 1909, xxxv, 585.

[2] Gebecke: Ztschr. f. Hyg. u. Infectionskrankh., 1911, lxviii, 105.

[3] Schablowski: Ztschr. f. Hyg. u. Infectionskrankh., 1911, lxviii, 169.

[4] Kobrak: Ztschr. f. Hyg. u. Infectionskrankh., 1911, lxviii, 157.

The present pandemic that has now threatened both our Atlantic and our Pacific coasts began in India in 1902, and in that year spread to China and the Philippine Islands. Since then the disease has gradually but steadily extended, both by caravan routes and by sea, until Persia, Arabia, Egypt, Syria, Palestine and Asia Minor were infected. Had the infection stopped there, American shipping would have been in no great danger, but outbreaks also subsequently occurred in Russia, a few cases were reported from Germany, and during the past fall and winter rather severe outbreaks have occurred in different parts of Italy and the Madeira Islands.

During the past year, cholera prevailed in serious form in Japan, which was an added menace to the west coast, and now that the disease has reached Hawaii, the danger to the United States is more direct and threatening than at any time since 1892.

That there has been real danger of the introduction of cholera during the past few months is shown by the fact that cases were discovered among arriving aliens at the ports of New York and Quebec. The fact that Italy was declared free from cholera Jan. 31, 1911, and Funchal on February 24, is, on the other hand, reassuring, but the knowledge of the liability of recurrence of the disease in previously infected localities must be borne in mind.

It is altogether probable that the disease will recur in some parts of Europe during the coming summer, and render necessary close quarantine supervision over transoceanic shipping. During the recent past this supervision has consisted in the sanitary inspection of ships and passengers at both foreign and domestic ports, close medical inspection of aliens, and the notification of state and local health authorities regarding the destination in the United States of all arriving aliens.

Such precautions would seem to furnish more than adequate protection; yet, owing to the fact that the infection of cholera may be carried by healthy individuals showing no signs of the disease, it would be possible for a bacillus-carrier to enter the United States without detection, and the nearer the approach of cholera to our shores, the greater is this danger. The present situation, therefore, demands that federal authorities shall be provided with all adequate facilities to prevent the introduction of the disease and its spread, should it unfortunately gain entrance; and all health officers should be especially alert and look with suspicion on any intestinal disturbance, particularly in individuals recently arrived, or associated in any way with newcomers.

Neurasthenia and Movable Kidney.—Neurasthenia is an exceedingly common symptom of movable kidney. To those well acquainted with the anatomy of the kidney and the difficulty with which the organ is displaced from its position surgically, the idea that neurasthenia can cause movable kidney appears absurd. Neurasthenia can no more cause movable kidney than it can dislocate a joint.—C. W. Suckling, in the *Practitioner.*

PRESIDENT TAFT'S MESSAGE TO PHYSICIANS

> President Taft was tendered one of the most extraordinary receptions and banquets, as well as a demonstration of popularity last night, that has marked his career as President of the United States, and in being the guest of honor of the Medical Club of Philadelphia . . . received fitting tribute for his humanitarian endeavors while secretary of war and as chief executive.

Thus is expressed the layman's view—that of the Philadelphia *Public Ledger*—of the splendid testimonial banquet and reception tendered by the physicians of Philadelphia, of Pennsylvania, and of the whole country —for the country as a whole was represented—to the President of the United States last week at Philadelphia. The officers and members of the Medical Club of Philadelphia are to be congratulated on the well-planned and dignified testimonial to the President of the United States in recognition of his services to sanitary science and as an appreciation of his aid in the advancement of public medicine.

No other president has been so honored by the medical profession; and no other president has so honored the physicians of the United States. But it must be said also that no other president has been brought into contact with physicians and their work in so many ways—has had such a practical knowledge of what medical science has done and is doing—for no other president has had the opportunities for personal observation of the results of scientific sanitation that President Taft had in the Philippines, in Cuba, in Porto Rico, in the Canal Zone and as Secretary of War. His address to the thousand physicians at the reception—and to the medical profession of the country, for he took pains to emphasize the fact that he had a message for the medical profession of the United States—was a gratifying appreciation of the economic and humanitarian benefits that have resulted from modern medicine. It was also an evidence that, for a layman, the speaker had an unusually wide knowledge of medical affairs and grasp of medical science and what it has accomplished.

As one listened, one could not help believing that, if President Taft could have his way about it, public health matters would be given greater recognition by the national government than they are now given, even to the extent of the creation of a department of public health, with a secretary in the cabinet. Of course he did not say so. He did not even hint at a department of public health, or intimate that he had ever heard of such a proposition; but others thought of it, and three speakers who followed him mentioned it aloud, and with emphasis. Not that there was any indication of a desire on the part of any one to make use of the opportunity to advance the idea of a department of public health or any other measure; on the contrary, the spirit that prompted the function and that prevailed throughout the evening was that of brotherly love and of respect for the President, who by word and deed, in the many responsible positions he has occupied, has shown a knowledge of medical science and an appreciation of its importance, from the economic as well as from the humanitarian aspect, as has no other public man. The medical profession feels more than ever assured that President Taft is in sympathy with the plans for increased federal activity for better public health.

Current Comment

LIFE-SAVING ABROAD AND LIFE-WASTING AT HOME

It is significant, and by no means gratifying to our national pride, that President Taft,[1] when desiring to demonstrate the value of modern sanitary methods, was forced to draw all his illustrations from our island and provincial possessions. Modern sanitary science has abolished yellow fever in Cuba, discovered the cause and largely controlled the ravages of hookworm anemia in Porto Rico, barred yellow fever and Chagres fever from the Canal Zone, isolated leprosy in Hawaii and the Philippines and aided in the investigation of beriberi. This work has practically revolutionized conditions in our tropical possessions and has enabled the President to say that "in the short twelve years that we have been responsible for the health of our people in the tropical climates, we have made more progress in the discovery of methods of prevention and cure of tropical diseases than all other countries have made in the past two centuries." Modern sanitary methods backed up by intelligent and authoritative administration have indeed worked wonders in the tropics; but what of our own country? Tuberculosis, typhoid, pneumonia and the appalling black plague of venereal infection still lay waste the land. They are tolerated chiefly because we are accustomed to their presence. If tuberculosis were a newly discovered tropical disease, if typhoid fever were limited to the tropics, how horrified would we be at their ravages and how warmly would we applaud any efforts of the national government to control them! But through long association, we have become tolerant of their presence and reconciled to their destructiveness. Yet modern sanitation, if permitted, can effect as marvelous changes here as in the Canal Zone or in Havana.

PUBLIC HYGIENE AND PRIVATE PRACTICE

In his response to the toast "The American Medical Association," Dr. Welch emphasized one fact thoroughly familiar to physicians but not yet appreciated by the public, which should be given the widest possible circulation. He said: "Public hygiene and preventive medicine have acquired an economic and social significance among the organized forces of civilization but little appreciated to-day by the general public or by legislators and administrative officers of government. They occupy a field quite apart from systems and schools of medical practice." The opponents of increased governmental activities for the conservation of life are apparently unable to discriminate between the practice of medicine by the individual physician and the application of demonstrated scientific facts in public hygiene. In no other way is it possible to account for the fact that efforts to increase the health functions of the federal government have been regarded as an invasion of the personal rights of the individual. He who cannot distinguish between the treatment of an individual typhoid fever patient by an individual physician, and the removal of the cause of typhoid fever through the purification of the water-supply of a community, is still in an elementary state of education. The treatment of the individual patient is not and should not be a matter of governmental concern. The correction of insanitary and unhygienic surroundings and conditions is of the highest importance to the modern state and is worthy of its utmost activities.

THE PRESIDENT VERSUS "LIFE"

In a former number[1] we quoted the profound and learned comments of *Life* regarding the use of typhoid vaccine in the army. In his address before the Philadelphia Medical Club, President Taft said on this point: "Now we have a division of 1,800 men in Texas and California. They have been there for two months living under canvas and in a country soaked with rain. . . I need not recall the dreadful record of sickness from typhoid fever in the camps at Chickamauga. . . . Of the volunteer regiments mobilized during the Spanish-American war, 90 per cent. [about 16 per cent. of the men] became infected with typhoid fever within eight weeks after the date of mobilization. To-day, two months after mobilization with the modern health regulations and by the use of vaccine against typhoid, not one case of typhoid has appeared in the entire force, except that of one teamster who was not vaccinated." This seems to be a question of veracity between President Taft and *Life*.

HUMAN FALLIBILITY

To one who, from time to time, looks over the accident bulletin of the Interstate Commerce Commission, it is not a little discouraging to see the number of accidents that continue to occur in spite of the endeavor of railroad officials to prevent them. One safeguard sought for is to have more than one employee responsible for the carrying out of one particular order so that, if one man forgets or fails, the duty will be performed by another, or, at least, the error detected; and yet we find an engineer rushing past both torpedo and red lantern, a conductor and engineer both misreading an order, a telegraph operator making an assumption contrary to written orders in his hand—each an instance of human fallibility. Then the trains come together and lives and property are lost. The human mechanism often seems far more fallible than mechanical safety devices. One reason may be that we are not accustomed to investigate cause and effect so rigorously in the case of the human as in that of the inanimate machine. When disaster occurs from the wrong working of a steel and iron machine, people do not stop with saying "The machine was to blame"; those who pay the cost of the new one usually find out whether the old machine was made of poor material, constructed on wrong principles, worn out or inefficiently operated; and they endeavor to avoid that cause of failure for the future. When a wreck occurred through the failure of a telegrapher to transmit orders or of an engineer to read them, if we may judge by the reports of those acquainted with the circumstances, the tendency in the past too often has been to stop with "fixing the blame," without endeavoring systematically to go further and find out how such errors can be eliminated thereafter. A letter published in this issue indicates that the railroads of the country are awake to their responsibilities. This is gratifying and creditable. Our correspondent, however, seems to take the position often assumed, namely, that the road cannot justly be held responsible for accidents due to failure of employees to carry out orders. We believe that more exhaustive study of the problem will show that a public service corporation is as responsible for the quality of its employees as for that of its machinery; as responsible for their discipline as for the repair of its equipment. Since, no matter how much may be required of inanimate machines, the directing human element can never be wholly eliminated, we hope that systematic study of railroad accidents from the point of view of the circumstances which affect the working of the human mechanism will some day help to reduce the total as nearly as possible to the sum of the humanly unpreventable.

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[1] See report of the banquet of the Medical Club of Philadelphia, in General News, this issue.

[1] The Journal, March 25, 1911, page 1902.

CHILD WELFARE EXHIBITS

In the education of the public in hygienic and health matters, the child welfare exhibits that have been held in a number of cities constitute an important agency. The exhibit recently held in New York City was a pronounced success, being attended by a large number of people. An exhibit is being held in Chicago (May 11-25) and great interest is being taken to make it a success by both the municipal health department and the various public welfare agencies. Among the features of the exhibit are demonstrations of the methods of care and feeding of infants, infant hygiene, illustrations of defective methods and their results, graphic representations of the high death-rate of infants from preventable causes, the causes and manner of preventing blindness in infants, the problems of fresh air and light, play and play-grounds, the effects of work and the hours of work on children, what municipalities and the various social welfare agencies are doing for the welfare of the children, and by charts, placards, figures, pictures, exhortations, demonstrations, etc., showing what may and should be done for the advancement of the welfare of the rising and the coming generations of children to make them healthy, strong and efficient citizens. As indicated by the success of the New York exhibit, the demonstration in Chicago should have valuable educational results.

SACCHARIN AN ADULTERANT

The referee board that was appointed to review some of the decisions of the Bureau of Chemistry has recently concluded its investigation regarding the use of saccharin in foodstuffs. Those of our readers—and they are many—who received with regret the board's decision regarding the use of benzoate of soda, will be pleased to learn of its decision in the case of saccharin. The board reports that "the continued use of saccharin for a long time in quantities over three-tenths of a gram per day is liable to impair digestion; and the addition of saccharin as a substitute for cane sugar or other forms of sugar reduces the food value of the sweetened product and hence lowers its quality." On the strength of these findings, the United States Department of Agriculture has declared that after July 1, 1911, saccharin-containing foods will be regarded as adulterated within the meaning of the Food and Drugs Act. As saccharin is several hundred times sweeter than sugar and by no means an expensive product, it has been used for years as a substitute for sugar by manufacturers who are more concerned with their dividends than with the quality of their products. Enormous quantities have been used as a sweetening agent in the inferior qualities of ginger ale and it has been used to some extent by the manufacturers of canned corn, peas, etc., to lend an artificial sweetness to these products. Fortunately, this form of fraud—for it is a form of fraud—will have to cease, so far as goods for interstate commerce are concerned, after the first of July of this year.

Medical News

ILLINOIS

Hospital Corner-Stone Laid.—The corner-stone of the Deaconess Home and Hospital of the Central Illinois Conference of the Methodist Episcopal Church, Peoria, was laid, with impressive ceremonies, May 3.

State Surgical Institute for Children.—Companion bills, providing for the establishment of a state surgical institute for children under 14 years of age and appropriating $60,000 for buildings and $15,000 for furnishing, were passed by the House of Representatives, April 26, without a dissenting vote. The establishment of the institute is dependent on the donation of 160 acres of suitable ground for a site.

Optometry Bill Defeated in Senate.—The State Board of Health announces that Senate Bill No. 140 to regulate the practice of optometry in the State of Illinois was defeated in the senate, May 3, by a vote of 14 to 10. Eighteen more senators were present but did not vote. To pass a bill, twenty-six votes are required. This action is said to kill the house bill which is still in the subcommittee of the judiciary committee of the House of Representatives.

Personal.—Dr. Arthur F. Wilhelmy, Decatur, has been detailed for duty at the maneuvers, San Antonio, Tex.——Dr. and Mrs. Hugh M. Orr, LaSalle, sailed for Europe, May 3.——Dr. Charles W. Hall has been appointed physician for Kewanee Township.——Dr. James D. Harlan has been made mayor of Fairfield.——Dr. Wiliam G. Alexander has been elected president and Dr. William C. Danforth secretary of the Evanston Tuberculosis Institute.——Dr. Theodore F. Gerould, Centralia, has been appointed diphtheria coroner of Marion County.

District Society Meeting.—The District Medical Society of Central Illinois held its thirty-seventh annual meeting in Pana, April 25, and elected the following officers: President, Dr. Melvin P. Parrish, Decatur; vice-presidents, Drs. John H. Miller, Pana, and Edgar B. Kerr, Westervelt, and treasurer, Dr. John N. Nelms, Taylorville.——The annual meeting of the Rock Island Medical Society was held in Rock Island, April 11. The following officers were elected: President, Dr. Warner L. Eddy, Milan; vice-presidents, Drs. Evlan Sargent, Moline, and William D. Snively, Rock Island; secretary, Dr. Albert Nicholas Mueller, Rock Island (reelected); treasurer, Dr. Arthur Thomas Leipold, Moline (reelected); delegate to the state society, Dr. Henry S. Bennett, Moline, and alternate, Dr. Joseph R. Hollowbush, Rock Island.

Approves Endeavor to Raise Standard.—Henderson County Medical Society, at its last meeting held in Stronghurst, adopted resolutions setting forth the existence of a number of unnecessary medical colleges from which great numbers of incompetent or illiterate physicians are graduating; that some of the best equipped medical colleges, owing to competition, are graduating improperly qualified physicians; that state boards of examiners have not proved themselves capable of neutralizing the lenient tendencies of certain medical colleges; that many teachers in medical schools reap undue advantage from their connection with such schools in the way of honors and fees; and that the foregoing conditions are disastrous to the country practitioner; and resolving that the management of the American Medical Association be thanked for the services already rendered in the way of elevating medical standards, and that it be requested to employ its utmost endeavors still further to raise the standards of medical education and of medical practice in the United States.

Chicago

Hospital Enlarges Site.—Provident Hospital has acquired property north of its present location as the result of a campaign which brought in seventy-eight contributions, ranging from $1.00 to $1,000 each.

Hurt in Auto Wreck.—Drs. James A. Jennings and H. E. Corley, while riding in their automobile across a grade crossing of the Chicago Terminal Railroad, May 4, were struck by a train and painfully injured.

Much Communicable Disease.—During the week ending May 6, twenty-six cases of diphtheria were received at the Contagious Disease Hospital. Twenty-eight patients were discharged, recovered, two died, and sixty-four patients still remain under treatment. The Isolation Hospital received seven cases of small-pox, all of unvaccinated individuals, discharged five patients, recovered; one patient died, and thirty-one remain under treatment.

Staff Returns to Hospital.—Drs. Alice Conklin, Henrietta M. Farquharson, Bertha Van Hoosen, Grace Campbell, Lois L. Wynekoop, Sara J. McCollum and Louise Acres, who were discharged from the staff of Mary Thompson Hospital on charges of alleged insubordination March 1, have been reinstated, and, beginning with May 9, the institution is operated under new management. The new plan provides that the Chicago Woman's Club will be represented on the board of control by eight of the twelve members.

MARYLAND

Personal.—Drs. Timothy Griffith and J. Marshall Price have been appointed members of the Board of Health of Frostburg.

Increased Accommodation at Sanatorium.—A contract has been entered into, that will provide accommodation for two hundred advanced tuberculosis patients at the State Tuberculosis Sanatorium.

County Society Election.—Montgomery County Medical Society held its annual meeting and election at the Chestnut Lodge Sanatorium. Dr. James Dudley Morgan, Chevy Chase, was elected president; Dr. Frederick N. Henderson, Rockville, vice-president; and Dr. John L. Lewis, Bethesda, secretary and treasurer (reelected).

Hospital Transferred to Church Authorities.—The papers formally conveying the Maryland General Hospital to the Methodist Episcopal Church were signed April 27. The conveyance was made in return for the assumption by the church of the debt of $167,000 which rests on the institution. The relations of the faculty of Baltimore Medical College to the institution remain unchanged.

No Attempts to Violate Pure Food Law Discovered.—Dr. Charles Caspari, Jr., Pure Food and Drug Commissioner, says that not a single deliberate attempt to violate or evade the state pure food law has, as yet, been discovered. In his opinion, the law has two defects which should be corrected: it grants permission to sell substandard goods, provided the formula is printed on the package, and it requires that every case be taken before the criminal court for settlement.

State Physicians' Meeting.—The one hundred and thirteenth annual meeting of the Medical and Chirurgical Faculty of Maryland was held in Baltimore, April 25-27, under the presidency of Dr. Franklin B. Smith, Frederick. The following officers were elected: President, Dr. Hugh H. Young, Baltimore; vice-presidents, Drs. J. L. Rieley, Pocomoke City, Daniel E. Stone, Mount Pleasant, and Joseph A. Chatard, Baltimore; secretary, Dr. John Ruhräh, Baltimore; treasurer, Dr. William S. Gardner, Baltimore; trustee, Dr. James W. Humrichouse, Hagerstown; councilors, Drs. Charles O'Donovan, Baltimore, Lewis C. Carrico, Bryantown, James E. Deets, Clarksburg, and Harry B. Gantt, Millersville; delegate to the American Medical Association, Dr. G. Lane Taneyhill, Baltimore; alternate, Dr. James J. Carroll; and members of the State Board of Medical Examiners, Drs. Lewis A. Griffith, Upper Marlboro, and James A. Stevens, Easton.

Baltimore

Faculty Appointments.—The following are recent appointments to the faculty of the College of Physicians and Surgeons: Dr. Charles E. Simon, professor of clinical pathology and experimental medicine, with Drs. G. Howard White and W. Milton Lewis as assistants, and Dr. Henry L. Whittle lecturer on physiologic chemistry.

Personal.—Dr. William Simon, the autochromatic photographer, is confined to his home with a slight attack of typhoid fever.——Dr. Lewellys F. Barker, who was operated on, April 10, for appendicitis and gall-stones, left the hospital, May 3.——The appointment of Dr. James M. H. Rowland to the Baltimore School Board has been confirmed by the city council.——Dr. Norman F. Hill underwent operation at Mercy Hospital recently, and is reported to be in serious condition.——Dr. Joseph C. Benzinger fell recently, breaking his arm.

Commencement at University.—At the approaching commencement of the University of Maryland, the address to the graduates will be delivered by Dr. Harvey W. Wiley of the Department of Agriculture, Washington, D. C. The honorary degree of LL.D. will be conferred on Christopher Johnston, M.D., A.M., Ph.D., professor of oriental history and archeology in Johns Hopkins University, who is a son of the late Dr. Christopher Johnston, for many years a leader in the profession of the state, and professor of surgery in the University of Maryland.

Favor Tropical Disease Congress at Baltimore.—The medical faculty of the University of Maryland has declared in favor of holding the Congress on Tropical Diseases, proposed at the recent meeting of the Medical and Chirurgical Faculty of Maryland, in Baltimore, as a recognition of the part played by the medical profession at the opening of the Panama Canal. It is pointed out that Drs. James Carroll, Walter Reed and Jesse W. Lazear received their training and inspiration in Johns Hopkins Hospital and the University of Maryland. The proposal is said to be meeting with general approval.

MASSACHUSETTS

Transfer of Nursery.—By a recent decision of the supreme court, the property of the Boston Day Nursery has been turned over to the dispensary in ratification of an arrangement entered into by mutual consent of both corporations, and actually in effect since last October. The dispensary is maintaining a hospital of sixteen beds for infants and children.

Bequests.—Under the terms of the will of the late Harriet E. Goodnow, Sterling, $5,000 is bequeathed to the Massachusetts General Hospital, $5,000 to the New England Hospital for Women and Children, and $5,000 to St. Margaret's Hospital; with the proviso that the money be used in each instance for the endowment of Waite memorial beds.

Hospital Notes.—The new St. Margaret's Hospital, Dorchester, Boston, was opened for public inspection, May 5. The building is situated on a high elevation and contains thirty-three private rooms. The hospital is an open-staff institution. ——On April 26, Dr. Caroline Hastings turned the first spadeful of earth for the foundation of the hospital, home and training school of the New England Moral Reform Society, on the old Fisher estate, Jamaica Plain.

Personal.—Dr. Henry J. Barnes, professor of hygiene in Tufts Medical School, Boston, announces that he will sever his connection with the school at the close of the present year.——Dr. Moses Greeley Parker, Lowell, was elected president-general of the Sons of the American Revolution, May 3.——Dr. and Mrs. John Bergeson, Boston, sailed for Europe, April 19. ——Dr. and Mrs. Martin T. Field, Salem, have gone abroad. ——Dr. Francis A. Bragg, Foxboro, has been reappointed medical examiner for Norfolk County.——Clement F. Coogan, Pittsfield, has been made a member of the State Board of Health vice James W. Hull, deceased.

MICHIGAN

Small-Pox in Hospital.—Small-pox which developed in the Homeopathic Hospital, Ann Arbor, April 22, was positively diagnosed as such, April 24. There were five cases and the patients have been quarantined on an upper floor of the institution.

Antituberculosis Association Formed.—At a meeting, held in Blissfield, April 18, at which Dr. Alfred S. Warthin, Ann Arbor, secretary of the State Society for the Prevention of

Tuberculosis, delivered an address, an antituberculosis society was organized and Dr. Rosingrave M. Eccles, Blissfield, was made chairman of the organization committee.

Personal.—Dr. James H. Bogan, Mackinac, while splitting wood a few days ago, cut off his left forefinger with an axe.——Dr. Paul C. Dulitz, Detroit, has been elected president of the poor commission of Wayne County, and Dr. Otto Scherer, vice-president.——Dr. William Acker has been appointed city physician of Monroe.——Dr. Isaac W. Houston has been elected health officer of Marshall.——Dr. Clarence Young has been reelected mayor of Allegan.——The governor has sent to the senate the nomination of Prof. Robert L. Dixon to succeed Dr. Frank W. Shumway, Lansing, as secretary of the State Board of Health.——Dr. Henry A. Newkirk has resigned as health officer of Iron Mountain.——Dr. Charles N. Bottum, Birch, has been appointed physician of the Morgan Heights Sanitarium, Marquette.——Dr. James E. Mead, Detroit, major M. C., N. G. Mich., has been ordered for duty to the maneuver camp at San Antonio.

NEW JERSEY

Personal.—Dr. Richard Cole Newton, Montclair, has been appointed a member of the State Board of Health.——Dr. William H. Kensinger, Camden; Frank J. Hughes, Union, and Elmer S. Loomis, Mercer, have been appointed members of the State Tuberculosis Commission.——The residence of Dr. Robert H. P. Ellis, Paterson, was damaged to the extent of about $14,000 by fire and water, April 19.——Drs. William Franklin Faison, Louis Franklin, Oliver R. Blanchard, Edward Leonard Bull and William Phyle, all of Jersey City, will open a sanitarium on Fairmount Avenue in the Bergen section.

Health Officers' Association Organize.—At the meeting of the executive officers of the Board of Health of New Jersey, held at Newark, April 17, a permanent organization, known as the Health Officers' Association of New Jersey, was formed, with the objects of advance of knowledge relating to public health and sanitation and the encouragement of social intercourse among health board officials. C. H. Wells, Montclair, was elected president; John O'Brien, Jr., Plainfield, vice-president, and J. Scott MacNutt, Orange, secretary and treasurer. An executive committee was elected and the officers of this committee were instructed to draw up a constitution and by-laws to be presented at a meeting to be held May 17. All health officers allowed state board of health licenses are eligible for membership and, doubtless, this privilege will be extended to other health board officials and employees and members of local boards of health.

NEW YORK

Site for Tuberculosis Hospital.—An option has been given o the special supervisors' committee of Broome County on a uberculosis hospital on the property owned by Mrs. W. B. Cleves, on the summit of Mount Prospect, near Binghamton, or $15,000. The building has been used for twelve years as summer hotel and can, it is said, be utilized for a tuberculosis hospital with little remodeling.

Health Board Prohibits Exposure of Food.—Commissioner Lederle believes that the exposure of food to the dust and irt of the public streets is a measure to health and has irected inspectors of the department to enforce strictly the anitary code relating to the conditions under which food roducts may be sold when exposed outside of stores. The olice department has been called on to assist in this work.

Hospital Notes.—Rockaway Beach has just opened its first ospital. It is a brick structure, built at a cost of $100,000, which was raised by popular subscription.——Mrs. O. H. P. Belmont and others who founded the Hempstead Hospital, Mineola, L. I., are said to be dissatisfied with the management of this institution. Recent action by the directors aims o do away with the hospital and to sell the property to Nassau County for an almshouse.

Antisyringe Bill Passes.—The assembly has passed the oylan bill making it unlawful to sell at retail or give away ypodermic syringes or needles, unless the purchaser has a ritten order from a duly licensed physician or veterinarian. When syringes are sold to persons with orders the dealer is o enter the date of the sale and the name and address of the urchaser in a book kept for that purpose. The object of e bill is to reduce the rapidly growing drug habit.

Personal.—Dr. Robert E. Doran, Albany, has been appointed uperintendent of the Long Island State Hospital, Flatbush, d Dr. Edward P. Case, Patchogue, has been appointed missionary of the American Board of Commissioners of Foreign Missions and, after six months' study in Paris, will go to Aintab, Turkey, and later to Erzeroum, Persia.——Dr. Eugene B. Horton has been appointed city bacteriologist of Niagara Falls, vice Dr. Harry C. Dumville.——Dr. G. H. A. Clowes, Buffalo, has gone abroad.——Dr. Charles H. Ludlum, Hempstead, is reported to be seriously ill with septicemia.

Bill Affecting Cold Storage.—The Senate Committee on Public Health has amended the Brennan bill and reported it favorably. The bill proposes to limit the period that foodstuffs could be kept in cold storage to six months, or if the State Commissioner of Health, or the State Commissioner of Agriculture permitted it, to one year. In its new form the period has been extended to ten months. Butter products are excepted and may be kept in cold storage for twelve months. The new bill requires the stamping of all foodstuffs received by cold storage warehouses with the date of receipt and gives the State Commissioner of Health authority to inspect and supervise all storage and refrigerating plants, to adopt reasonable rules for the protection of the consumer, and to designate persons to inspect warehouses.

New York City

New Hospital.—A new hospital in connection with the Ottilie Orphan Asylum in Jamaica, Queens Borough, has been dedicated.

Faculty Changes.—Dr. Henry Pike has been appointed assistant professor of physiology and will have charge of the undergraduate course at Columbia University.——Dr. Warfield C. Longcope, of the University of Pennsylvania, has been appointed assistant professor of medicine.

To Teach Office Hygiene.—The new Union Hospital, it is announced, will undertake to direct business and professional men, educators and ministers as to sanitary conditions under which they should work, and the length they and their employees should work each day and each year to make the most of their time, abilities and health.

Personal.—Dr. William L. Russell, Brooklyn, sailed for Europe April 29.——Fire in the residence of Dr. Joseph D. Nagel, New York City, April 30, caused damage amounting to more than $3,000.——Dr. Louise J. Bucholz, New York City, was given a surprise call April 22 by her friends of the Alumnæ Association of the New York Medical College and Hospital for Women, on the occasion of the twenty-fifth anniversary of her entrance into practice.

NORTH CAROLINA

District Society Meeting.—The fourth annual meeting of the Sixth District Medical Association was held in Durham under the presidency of Dr. William A. Graham of that city. The following officers were elected: President, Dr. John M. Manning, Durham; vice-president, Dr. Charles Henry Peete, Warrenton, and secretary, Dr. Charles Augustus Woodard, Durham.

Personal.—Drs. J. Howell Way, Waynesville, and William Oliver Spencer, Winston-Salem, have been reappointed members of the State Board of Health.——Dr. Bessie Puett, Dallas, has completed her term of service as assistant physician at the Williamsburg (Va.) State Hospital for the Insane and will enter practice at Dallas.——Major Eugene Beauharnis Glenn, Asheville, M.C., N.C.N.G., has resumed practice after absence of a month at the army maneuvers in Texas.

OHIO

Personal.—Drs. William T. Corlett and J. P. Sawyer, Cleveland, have returned from Europe.——Drs. Rodger Perkins and Howard D. Haskins, Cleveland, have been appointed to make an investigation as to the practicability and possibility of efficient chlorin disinfection of the city water-supply.——Dr. Lester E. Siemon, Cleveland, has been appointed a member of the State Board of Medical Registration and Examination.——Dr. James A. Park, Columbus, fractured his right arm while cranking his automobile, April 20.——Dr. Edmund C. Brush, Zanesville, chief surgeon of the Ohio National Guard, has been retired with the rank of brigadier general.——Dr. Frank S. Thompson has been appointed a member of the Dayton Board of Health.

Tuberculosis News.—Dr. Henry Baldwin, superintendent of the Springfield Tuberculosis Hospital, has erected two tents adjoining the main building for incipient cases.——The directors of the infirmary for indigent tuberculosis patients of Stark County have suggested that a brick wing be added to the infirmary hospital at a cost of about $5,000.——At the first annual meeting of the joint board of commissioners in charge of the Kinnane Tuberculosis Hospital, it was reported that the average cost per patient had been $1.69 per day. There have been thirteen deaths since the hospital opened. Three patients left the hospital with the disease arrested, and at the end of the fiscal year eighteen patients were under treatment.——The new district tuberculosis hospital, Lima, has cost, for the site, $6,525, and for equipment and appurtenances $65,378.44. The hospital will now accommodate about thirty patients.——A resolution was introduced at the Cleveland Common Council, April 10, authorizing the expenditure of $238,329.12 for the erection of a tuberculosis sanatorium.

Cincinnati

Personal.—Dr. David I. Wolfstein, who was operated on recently for appendicitis in the Jewish hospital, has returned home.——Dr. Charles T. Pearce sailed for Europe, April 30.——Dr. Otto Jeuttner suffered a stroke of paralysis, April 18, and is reported to be in serious condition.——Dr. James A. Rudolph has resigned from the health department to accept the position of milk and food inspector at Anderson, S. C.——Dr. Karl Zapp, at one time a prominent physician of Cleveland, is ill at the City Hospital with pernicious anemia.

Academy Censors Censure President.—At the meeting of the Cincinnati Academy of Medicine, April 17, the Milk Commission of the Academy, consisting of Drs. Albert Friedlander, Henry A. Woodward and Otto P. Geier, presented its fourth annual report and incorporated the following resolutions which were adopted:

> Whereas, Certain members of this Academy have, by innuendo and otherwise, cast reflection on the integrity of the members of the commission in special reference to the financial administration of their work; and
>
> Whereas, It has been suggested to the dairymen under the commission's supervision that they have been charged exorbitantly for such supervision; and
>
> Whereas, Such action directly impugns the honor of the members of the commission; now therefore,
>
> We, the members of this commission, do demand that these insinuations and the entire administration of the commission, from its inception to the present time, be searchingly investigated by the Board of Censors of the academy, who shall have power to employ an expert public accountant to assist them in their work. Furthermore:
>
> We ask that this report by the Board of Censors be submitted in writing and made the special order of business of the Academy of Medicine for 9 o'clock on Monday evening, May 1, 1911.

A motion prevailed that the academy reelect the commission in recognition of its faithful and beneficent labors. At the meeting of the academy May 1, the board of censors submitted an exhaustive report, which, on motion, was adopted. The report after reviewing the splendid work of the Milk Commission, described in detail their methods of investigation, including the investigation of all accounts by a certified public accountant, and their examination of all who were in any way connected with the affair. Not only was the Milk Commission exonerated from every charge made against them, but the censors adopted a vote of censure against Dr. William D. Haines, president of the Academy, Dr. Frank Lamb and Dr. George Strobach, editor of the *Cincinnati Lancet-Clinic*, on the ground that they had been guilty of unprofessional conduct in their methods of investigation of the work of the Milk Commission.

PENNSYLVANIA

One Board Medical Bill.—On May 4 the "One Board Medical Bill" was passed by the house on second reading, all proffered amendments being rejected.

Gift to Consumptive Home.—Through Dr. Herman L. Duhring, superintendent of the Protestant Episcopal City Missions, the treasury of the Home for Consumptives, Chestnut Hill, has received $2,000.

New Hospital.—The Armstrong County Physicians' Association has sold stock to the amount of $75,000 for the new hospital at Kittanning, which is to cost $100,000. The details for the purchase of the site on which the hospital is to be built have been completed.

Personal.—Dr. Robert Steele has been elected health officer and Dr. Oliver S. Weddell city physician of McKeesport.——Dr. Elmer G. Kriebel, Worcester, is ill with typhoid fever.——At the reorganization meeting of the Board of Health of Reading, Dr. John N. Becker was elected president; Dr. Samuel L. Kurtz, a member of the committees on adulterations and poisons, and law and ordinance, and preventable diseases; Dr. William F. Marks, a member of the committees on drainage, sewerage and water supply, school hygiene, and registration and vital statistics; and Dr. Charles Roland, a member of the committee on registration and vital statistics.

Health Work in Pittsburg.—The annual report of the director of the department of health and charities, Pittsburg, mentions that the site for the tuberculosis hospital, for which $200,000 has been appropriated, will soon be selected, and that the plans will be ready shortly for the garbage incineration plant which is to cost $100,000. During the year there were 9,601 deaths, an increase of 2 per cent. over the preceding year, which is due, in great measure, to the great number of cases of infectious diseases, particularly measles. The medical inspectors made 80,000 inspections of school children during the year and the bureau of milk inspection, 17,797 inspections.

Philadelphia

Free Lunches for School Children.—The experiment begun in March by the lunch committee of the Home and School League, in order to prove the beneficial effects of the three cent lunches (a warm meal at noon) on fifty children selected from the Woods School has been prolonged for an indefinite period.

For a Stricter Poison Law.—A conference at which Dr Neff, Director of Public Health and Charities, and Dr. Christopher Koch of the State Pharmaceutical Board were present was held at the private office of Coroner Ford, for the purpos of drafting a new and more stringent law governing the sal of cyanid of potassium and other deadly poisons and placin the bill before the legislature.

School for Consumptives.—Because of a disagreement wit the superintendent of buildings of the board of education the Phipps Institute has withdrawn its offer to erect a open-air school for incipient consumptives and generally weal children on the roof of the General McCall School, and insteac will build its shelter and conduct its experimental classes o the roof of the College Settlement Building at Fifth an Christian Streets.

Dr. Oliver's Bequests.—The will of Dr. Charles A. Olive gave his entire estate, valued at $15,000, to charity. The wil directed that the estate be divided in three parts and th income be distributed: for the establishment of the Charle A. Oliver operating room at the Wills Eye Hospital fo indigent blind and lame, to the University of Pennsylvani for an annual gold medal to the leading medical student i ophthalmology, and to the College of Physicians for the pur chase of journals on ophthalmology. Dr. Oliver left hi ophthalmologic library to Harvard University.

Plans to Reduce Infant Mortality.—Dr. Joseph S. Neff Director of Public Health and Charities, has asked the mayo to send a special message to Councils urging that body t appropriate $5,000 to further the summer campaign agains infant mortality. The plans for this work include the main tenance of the open-air hospitals on the Race and Chestnu street piers, keeping them open day and night, the establishment of a third recreation pier at Shackamaxon Street Whar and the erection of a tent for open-air treatment of babies i Fairmount Park, provided the Park Commission will gran permission.

GENERAL NEWS

Orthopedists to Meet.—The twenty-fifth annual meeting o the American Orthopedic Association will be held in Cincin nati, May 15-17, under the presidency of Dr. Albert H. Frei berg. Headquarters will be in the Hotel Sinton. One of th features of the meeting is announced as the address by D Edward H. Bradford, Boston, on "Currents and Counte Currents in Medicine and Surgery."

Congress Committee on Organization.—The seventh meetin of the committee on organization of the International Co gress on Hygiene and Demography was held in the Arm Medical Museum, Washington, D. C., April 15, with D Abraham Jacobi, New York City, in the chair. Dr. Josep W. Schereschewsky, U. S. P. H. & M.-H. Service, was mad director of the exhibition. An exhibition building is to b constructed on government land between the Washingto monument and the Continental Memorial Hall for an exhib in connection with the meeting of the International Re Cross in the spring of 1912, and the plan for this buildin which has a floor space of 17,500 square feet, may be modifi so as to accommodate the exhibit of the congress. The pr posal will be investigated. The executive secretary w instructed to invite the executive officers of the life-insuran companies of the United States and Canada to contribu suitable exhibits of their mortality experience or medical st tistics, with due regard to the elements of age, race, nativit occupation, locality, anthropometry and other pertinent fac of medical or general interest.

PRESIDENT TAFT AND THE MEDICAL PROFESSION

Banquet and Reception to President Taft and Invited Guests

Given by the Medical Club of Philadelphia at the Bellevue-Stratford, May 4, 1911

The Medical Club of Philadelphia gave an elaborate banquet May 4, President Taft being the guest of honor. This delightful affair is commented on editorially in this issue. A report of the speeches follows, some of them being given in full.

The reception following the banquet was held in the greater ballroom of the hotel, beginning at 9:30 p. m.

DR. WILLIAM L. RODMAN, president of the club, presided and felicitously presented each speaker. In an appreciative tribute he introduced the President, saying, in part:

We could, sir, as loyal and patriotic Americans, spend more time than is allotted to us in reviewing your magnificent administration, its fruitful and beneficent results, and commend you for the unflinching courage and admirable patriotism shown in administering to the affairs of the nation. Twice in as many years have you called the national Congress to assemble in extraordinary session that it should do its plain duty by the people and enact legislation that it had failed to pass in ordinary session. It would be a superlative pleasure to review at length the many things which you have done for your fellow citizens at large, and which have caused you to be acclaimed by the foreign press as having done more to make possible international peace than any of your illustrious predecessors or contemporaries.

But we are only a lot of doctors, interested but untrained in matters of state, devoted to our profession and grateful to all who have lessened human suffering and have, by the opportunity offered by public station, inspired and enabled us to do better work in the line of our calling. No one, sir, has shown a greater appreciation of what American medicine has done, and can do, than yourself. Every official act as governor, secretary and President, affecting matters medical, has demonstrated your comprehensive and judicial grasp of the question under consideration.

The 8,000,000 inhabitants of the Philippines can never forget that you gave them educational, administrative and commercial advantages hitherto unknown to them; but, better than these, you, by a wise administration, gave them health by encouraging the study of tropical diseases, which has practically put an end to devastating epidemics of cholera and plague; and by segregating all lepers on the Island of Culion leprosy will eventually be stamped out. The hospitals of Manila are splendidly equipped, admired by all who visit them, and must ever remain as a monument to your constructive genius. In your brief administration in Cuba that troublous and turbulent people were quieted as if by the magician's wand. There you nationalized sanitation by causing to be created a department of health with representation in the cabinet. Formerly a perpetual menace to this country's health and commerce, Cuba is now visited by thousands as a winter health resort.

But greater than this was the work wrought on the Isthmus of Panama by the Medical Corps of the Army under your orders as secretary of war. This zone, for many years so inhospitable to human life that it was abandoned by the French, is now as healthful as Washington or Philadelphia. A work is there progressing, with a pace which almost staggers the imagination, that must, when finished, increase our importance as a world power, double the efficiency of our Navy and add countless millions to our commerce. Congress and the nation support you almost solidly in your insistence that so important, so costly, so strategic a position should be fortified. To do less would be to indulge in iridescent dreams that the day of universal peace—indeed, the millennium—were at hand.

But I should say that your greatest work, so far as our profession is concerned, was your urgent insistence in both of your annual messages to Congress that all of the governmental forces, outside of the Army and Navy, should be coordinated into an effective whole, and made into a Bureau or Department of Health. This the American medical profession has wanted, advised and worked for at least a quarter of a century; but you, sir, are the first president who has both recognized that it should be done and courageously insisted on it.

Much more could be said, but the proprieties of the occasion require that I should give way to one whom every body has come to hear. "Nothing can cover his high fame but heaven." Therefore, gentlemen of the club, I wish to present you, your guests, and this magnificent audience to the President of the United States.

Address of President Taft

PRESIDENT TAFT arose amid cheers and, after the demonstration had subsided, said, in part: The "City of Brotherly Love" is one of the most important medical centers in this country. When, therefore, this Medical Club invited me to attend one of its meetings I gladly accepted, because it seemed to me that if I had any message to the medical men of the United States I could not find a more favorable place to deliver it than here.

Since 1898 and the Spanish war the people of the United States have been a colonizing and colony-holding people. We have become responsible for the welfare of Cuba, Porto Rico, the Isthmus of Panama and the Philippines. We have had under our care and guardianship the hygiene and the health of tropical peoples, and, while I should be the last one to minimize the importance and value of the benefits that we have conferred on the inhabitants of the tropics thus coming under our government of a political and economic and educational character, I do not hesitate to say that we have been most distinctly successful in the measures we have adopted, maintained and enforced for the improvement of the health and physical condition of these peoples in the torrid zone, over whom we have assumed guardianship.

It is not too much to say that the prevalence of yellow fever in Cuba and its constant recurrence as an epidemic in Havana and other cities of that island, so near to our own shores, threatening death to our own southern cities, was one of the chief causes, and, I may add, one of the real justifications for the popular feeling that led to the Spanish war. Hence it was that no sooner did we take Cuba, to bring it under our control, then the most strenuous efforts were directed toward cleaning it up as a pest-hole and changing its character as a neighbor dangerous to health.

The same task fell on us in assuming possession and control of Porto Rico, in undertaking the government and improving the conditions in the Philippines, and finally in the preparation of the Canal Zone for the construction of the canal. In the first three of these tasks of hygienic reform the control of governmental methods devolved in the first instance on the Army, because the early governments were all military governments. In consequence the health regeneration in these three colonies became the work of the Medical Corps of the Army; and so well was it performed that when the necessity for cleaning up the Canal Zone and making it healthful became apparent we took a member of the Army Medical Corps and put him in charge.

THE SANITARY REGENERATION OF CUBA AND PORTO RICO

It was while we were in Cuba that Walter Reed, an army doctor, investigated and verified the correctness of the theory announced some little time before, that the germ of yellow fever was conveyed from one human being to another by a certain species of mosquito. This discovery revolutionized the method of treating yellow fever, and it was made clear that the great effort and expenditure of money required to clean up Havana and the other infected towns, while useful in the prevention of other diseases, had little or no effect to prevent yellow fever. An entirely different course of procedure had to be followed. It was adopted in Havana and the other cities of Cuba, and was most successful; and one of those officers engaged in the work was Colonel Gorgas, of the Army Medical Corps.

Then we took over Porto Rico. We found that in that island the people were not suffering so much from yellow fever, but there was what was called "tropical anemia," and it was not long before an army doctor, Bailey K. Ashford, discovered that this was not the result of starvation and the absence of nutritious food, but was a disease due to the presence in the intestines of the so-called hookworm, and that it yielded to treatment, and that the many deaths and the general disability that the hookworm produced in the people of Porto Rico could be avoided in the future by comparatively simple and specific treatment. Half a million people have been the recipients of this treatment and have recovered, and a second campaign is now being planned of greater thoroughness, preparation and practice, which will doubtless rid the island of this disease.

THE TASK OF SANITATION IN THE PHILIPPINES

In the Philippines we did not encounter yellow fever, for that as yet had not reached the Pacific; but we found there, in glorious exuberance, cholera, bubonic plague, beriberi, malaria, small-pox, amebic dysentery and leprosy. By improving the water-supply and introducing mountain water into Manila, at a cost of $2,500,000, and by the introduction of artesian wells in many of the towns and villages of the interior, by regulations as to the food-supply, by a new sewage system in

Manila, costing $2.000.000. and by regulations securing the proper and safe disposal of sewage in the smaller towns and villages, and by the use of inoculation with cholera lymph, we have greatly reduced the number of victims from cholera in those islands. By a wholesale vaccination of all the inhabitants of the Philippines, carried on carefully and rigorously, we have practically stamped out small-pox of all kinds in the islands, in which the black small-pox of the most virulent type, flourished before our coming. By a crusade against rats and a cleaning up and destruction of the foci of the disease we have taken all the terrors in the Philippines out of bubonic plague. By careful attention to the destruction of the mosquito we have greatly moderated the injurious effects from malaria, and, while amebic dysentery continues to be a most dangerous and lingering form of disease in the Philippines in many cases, if treated in time it is subject to the control and cure of the remedies discovered and adopted there.

When we went to the Philippines lepers were at large. There were leper hospitals in Manila, in Cebu and in some other parts of the country, but the horrible and sickening character of them beggars description. We have segregated the lepers in all provinces in the islands to the number of 4,000 and have taken them to Culion, a beautiful island in the southern seas, have given them almost a self-governing colony and have made them so happy and comfortable that we have now no difficulty in inducing all persons afflicted with this disease to join the colony. The effect of this segregation has been to reduce the new cases annually of leprosy to 16 per cent. of what they were formerly.

One of the most obstinate and difficult diseases in the Philippines, and, indeed of the whole Orient, has been what is called "beriberi." For a long time the cause of it was beyond our discovery. But now it has been definitely traced to the use of polished rice as food. I need not go further than to say that 24 per cent. of the Japanese army were afflicted with beriberi during the Russian-Japanese war. The change of this food from polished to unpolished rice has practically stamped out the disease in the Philippines. This is a discovery since I left there, and I speak of it without practical knowledge, but only on report, but I know that the disease was under examination by the expert pathologists and investigators during my entire stay in the Philippines, and that the present discovery is only in keeping with the progress and success made in every other direction in the official inquiries made into the causes of tropical and Oriental diseases and their cure.

I may add that the investigations which have been made by our physicians into the character of the intestines of the native Filipinos indicate that those intestines are, if I may so say, a veritable "zoologic garden" of germs, microbes and bacilli that greatly enfeeble the race, and that by proper treatment might be eliminated, and the constitutions of the people at large greatly strengthened; and in the course of our stay in the Philippines I doubt not but that this method of strengthening the race will be pursued with greater and greater success.

SANITARY ENGINEERING IN THE CANAL ZONE

With all this experience, secured by our army doctors and those civilian physicians who followed them in Cuba, Porto Rico and the Philippines, we came to the problem of the construction of the Panama Canal, in a region as pest-ridden as any on the face of the earth. It is not too much to say that yellow fever and malignant malaria, known there as the "Chagres fever," contributed more than any other one cause to the failure of the French to build the canal; and when we went to the Zone to begin operations we found there lingering and ready to offer the same obstacles up to that time so fatal to success in this great work; but the Spanish war and the responsibilities it had thrust on us had given such light on the method of meeting and reducing these obstacles that we have finally swept them away. It took two years for us to make the necessary preparations before we could begin the work of excavation and construction. Those were a hard two years, with thoughtless critics demanding when the digging was to begin, criticizing every effort made and prophesying a dismal failure of our work. But we had selected as our medical officer a man who had acquired his knowledge in Havana and had practiced the new remedies there, and, with the resources of the government at his back, Colonel Gorgas changes a pest-ridden zone into a district as free from disease as any of the states of the south. He stamped out yellow fever so that for now more than four years there has not been a case on the Isthmus, and he reduced the malignancy and extent of malaria on the Isthmus to such a point that the percentage of deaths in the foreign population in the Zone is considerably less than in our large cities. He has made the Zone a pleasant place and a healthful place to live in. This great work of construction goes on without thought now of the dangers which made French success impossible.

Is not such a record one on which we can dwell with the utmost national pride? Does it not speak marvels for American courage, energy and scientific thoroughness, skill, research and power of original discovery? Other countries have been in the tropics for nearly two hundred years, and yet I do not think it an exaggeration to say that in the short twelve years that we have been responsible for the health of our peoples in tropical climates we have made more progress in the discovery of methods of prevention and cure for tropical diseases than all other countries have made in those two centuries.

OTHER SANITARY ACHIEVEMENTS

And now we have a division of 18,000 men in Texas and California. They have been there for two months living under canvas and in a country soaked with rain and deep with profanity-provoking mud. But so effective have been the regulative and preventive methods adopted to reduce sickness that the percentage of sick men is less than it was in the posts from which these men were mobilized. I need not recall the dreadful record of sickness from typhoid fever in the camps at Chickamauga and other camps established during the Spanish-American war. The percentage of typhoid cases was so high that it is hard to believe. Of 120,000 men there were twenty thousand cases, with a case mortality of 7 per cent. Of the volunteer regiments mobilized during the Spanish-American war 90 per cent. became infected with typhoid fever within eight weeks from the date of mobilization. To-day, two months after mobilization, with the modern health regulations and by the use of vaccination against typhoid, not one case of typhoid fever has appeared in the entire force, except that of one teamster, who was not vaccinated. It is hard to credit the accuracy of such a record. But, as I have it directly from the war office, I can assert it as one more instance of the marvelous efficacy of recent medical discoveries and practice.

When we consider how in times past the efficiency of an army has been reduced by large percentages through disease we can realize what an important part of the army the Medical Corps has become. But, without reference to war, when we consider the enormous advances made in the discovery of methods of preventing disease in the tropics, by members of the Medical Corps and under government auspices, and all within the last thirteen years, I think we may take pardonable pride in the record.

We expended many lives and much money in the Spanish war and in the discharge of the responsibilities that have followed that war. But they are as nothing compared with the benefits to the human race that have already accrued and will continue to accrue from the discoveries made under the conditions and necessities which the exigencies of that war and the governmental burdens following it presented.

I congratulate the Medical Corps of the Army, I congratulate the medical profession at large (for these discoveries were not all made by army doctors), that they have had the opportunity and have seized it, to make such progress in relieving the suffering of the human race and in becoming, in so conspicuous a way, the benefactors of mankind.

Following his address President Taft was made the first honorary member of the Medical Club of Philadelphia, his certificate of membership being handed to him by Dr. Rodman.

Dr. Rodman, introducing Dr. S. Weir Mitchell, said: It is fitting that the President of the United States should be followed by the most distinguished and widely renowned physician in America, one who shares with Lord Lister o Great Britain, the mother country, the honor of being the world's two most famous medical men. We should felicitate ourselves, Mr. President, on the fact that the English-speaking peoples have given to science the greatest living physician and the greatest living surgeon. Not only does the gentleman I shall next present represent the noblest, the most cultured, the most ethical sentiments of American medicine, bu he is your friend and former host, and the *beau idéal* of th Philadelphia profession. It gives me great pleasure to presen —he needs no introduction—Philadelphia's most illustrio citizen, the eminent physician, the medical author, the historian and poet—"a man so various that he seems to be no one, but all, mankind's epitome"—S. Weir Mitchell.

The Debt of the Country to Physicians

Dr. S. Weir Mitchell, Philadelphia, said, addressing President Taft: It is pleasant as citizens of the world to congratulate you and ourselves on your endeavor to establish arbitration and promote peace between the two great branches of the English-speaking race; nor could there be a more fitting occasion to remind you, and through you the people of this country, how deeply they are in debt to the American physician. For us this occasion is eloquent of opportunity. Your own profession of the law owes to you the illustration of judicial appointments where the only partiality shown was for ideal fitness and the possession of personal qualities such as your own life on the bench and at the bar has amply exemplified.

I said, sir, just now, that the country was in our debt. I would like to add that the country is of late more heavily than ever our debtor. We owe it to you, and I may add in part to your energetic predecessor, that you have given to the members of our profession who represent us in the ranks of the Army the first chance in the history of the world to prove what the intelligent despotism of educated discipline can enable the physician to effect for mankind. The chief of staff of the Army, General Leonard Wood, once—and he says "always"—a physician, with a group of young surgeons, swept the yellow-fever plague out of Cuba and freed the world from this terrible scourge; alas, at what sad cost! They cleared the island also of malaria and there and in the Philippines put an end to small-pox. You, sir, well know that it was Colonel Gorgas and his staff who have made so swiftly possible the gigantic engineering surgery which will have cleft the Isthmus of Panama from sea to sea. This was our opportunity; it was unique; and I beg to remind you, sir, and my fellow physicians, with pride, that our use of it was an unequalled display of hygienic competence.

You, sir, may not recall as I do what we did in the great war which welded the states into one. North and south the physicians remained an undivided guild in the service of humanity, while churches and the state were rent asunder. What our brothers in the south lost we do not know. We, ourselves, lost in battle 51 killed and 83 wounded, and 283 who died from disease. We have asked, sir, no reward; neither pensions, places, ambassadorships, nor even presidencies, have been for us. No memorial speaks of these great services; our dead are unrecorded in the annals of the war. The land is populous of statues of private and general; there remains for us the unrewarded consciousness of duty simply done in obedience to a creed old before Christ had spoken His great message to the world. You are, of course, aware that after a great victory general or admiral had sometimes been rewarded by the thanks of Congress. Is it too much to expect that when our flag leads a procession of the navies of the world through that great canal, Congress will commemorate the event by thanking, in the person of Colonel Gorgas, those who have read mankind a lesson in sanitary efficiency and for whom no other reward is possible? Again, Mr. President, accept our thanks for the latest chance to read into action our creed of duty.

We have been in the past nobly equal to every task laid on us. and, perhaps, sir, we may hopefully look forward to seeing in some future cabinet a secretary of health, who will enable us to do on a larger scale what we have so admirably effected n the far-sown islands of the sea.

Dr. Rodman, introducing Dr. William H.. Welch, said: It s now the highest honor that can come to one of our profession to be chosen president of the national Association. Thrice on the Lupercal did Caesar put aside the crown offered by Mark Antony, but, it is said, each succeeding time more gently than before. It is within the knowledge of many here hat he whom I shall next present, and who is now the honored president of the Association had, before his election, more than thrice put the crown from himself, and in a way hat left no one to doubt that this gentle, wise and excesively amiable man could, when necessary, be as impregnable s Gibraltar itself.

I unhesitatingly declare that he has done more for American medicine than any medical man since Samuel D. Gross; for while possessing an unusual gift for conceiving and directing big things." he has not been tied down by the exactions inseparable from private practice. Therefore has he conceived nd directed great clinical hospitals and experimental laboatories, and has been the chief inspiration to more medical eachers and molders of thought in various cities and pathlogical laboratories of America than any living man. To-day he is in the Hopkins School or Hospital, in Baltimore; to-morrow, in the Rockefeller Institute in New York; and the next day, directing the Foundation in Washington; leaving on the midnight train for Chicago to run the American Medical Association. I introduce to you Dr. William H. Welch.

The American Medical Association

Dr. William H. Welch, president of the American Medical Association: The city of Philadelphia has had a large share in making the medical history of this country. To-night it is contributing an event unique and memorable in the reception by this medical club of the President of the nation as its guest of honor. This is an event in which the whole medical profession of this country cannot fail to rejoice and take pride, and I esteem it a high privilege, Mr. President, to be permitted to offer to you, in behalf of the American Medical Association, our cordial greetings and best wishes, and to express to you our profound appreciation and great pleasure in the honor conferred by your presence on this occasion. Permit me especially to express the appreciation and thanks which I am sure all physicians in this country would desire me to offer for the inspiring words which you have spoken and for the fine tribute which you have paid to the work of members of our profession in our colonial possessions. Your voice will carry to the larger public that record of achievement which should be a source of pride to the whole country and to the world.

The American Medical Association, with an actual membership approaching 40,000 and with a much larger potential membership, represents the organized medical profession of this country. During the sixty-five years of its existence it has been a great unifying force, which has reflected the conditions and the progress of American medicine. By improving medical education, by inculcating high standards of professional conduct, by favoring the enactment of beneficial medical and sanitary laws, by protecting physicians and the public from frauds, by promoting the science and art of medicine, by preaching the gospel of public health, and in various other ways this Association has rendered important service, not to the medical profession alone, but also to the people as a whole.

The great conquests over disease which have been set forth to-night so clearly and fittingly by the President are wholly the result of a remarkable extension of our knowledge during the last three decades into the nature and causes of the infectious diseases, which are the diseases of the greatest racial and social significance to mankind. At no previous time in the world's history could such a record of triumphant achievement have been attained. It is in the power of man to control to-day great pestilences, such as yellow fever, cholera, pernicious malaria and the plague, and even more devastating, although from their familiarity less dreaded diseases, such as tuberculosis, typhoid fever and infantile diarrhea, because Koch and Pasteur and Ross and Reed and a host of workers in the new fields of bacteriology have discovered how these diseases originate and spread, and have thereby placed sanitary practice on a rational and scientific foundation. It is immensely gratifying that our country has been able to furnish to the world the most striking example in the history of preventive medicine of the conquest of a great scourge by the extirpation of yellow fever through the discoveries of Reed, Carroll and their colleagues of the Army yellow fever commission and the practical application of these discoveries by Colonel Gorgas—all names of undying fame. These, as well as all of the discoveries in this domain, are triumphs of the experimental methods of research.

We know that you, Mr. President, in your administrative duties in the Philippines, in Cuba and on the Isthmus, have been brought into close touch with this life-saving work of physicians and sanitarians, the results of which, as you have authoritatively stated, constitute the greatest of our services to the peoples of these possessions, and we know also that you have aided and furthered this work in important ways by your advice, cooperation and sympathy. I desire on this occasion, on behalf of my colleagues of the medical profession, to pay tribute to the great services which you have thus rendered, and to the intelligent and sympathetic interest which you have repeatedly manifested by word and by deed in the cause of public health.

Public hygiene and preventive medicine have acquired an economic and social significance among the organized forces of civilization but little appreciated to-day by the general public or by legislators and administrative officers of government. They occupy a field quite apart from systems and schools of medical practice. The great International Exhibition of Hygiene, which has just been opened in the city of Dresden, affords an impressive demonstration of the methods and results of public health administration and activities, and of every kind of effort in the conservation and promotion of the health of the peoples of the world. It is deplorable and greatly to our discredit that of all the civilized nations of the world ours is the only one not officially represented in this international exhibit. We have, however, an opportunity to make partial amends for this slight dereliction by adequate governmental support and vigorous efforts in behalf of the success of the International Congress of Hygiene and Demography to be held in the city of Washington in September, 1912, on the invitation of our federal government.

It is a remarkable and significant fact that in order to make an impressive showing of what our country has done for public health we have to pass beyond the boundaries of this broad land which we inhabit and tell of what we have done for the peoples of distant islands and on the Isthmus of Panama; and it is true that our nation has organized better for scientific and practical sanitary work in these possessions than it has done at home.

We have a few highly efficient municipal and state departments of health, but we should have many more. The contributions of the Massachusetts State Board of Health to the principles of purification of public water-supplies and of sewage disposal, and of the New York City Department of Health to the administrative control of tuberculosis are recognized everywhere as of the highest importance. The state of Pennsylvania is setting the pace for the rest of the country in liberal support and efficient conduct of its department of health.

The activities of the Public Health and Marine-Hospital Service, our chief national health agency, have greatly improved and extended in recent years on both the scientific and the practical sides, but a larger and better plan of organization of our federal health agencies is urgently needed.

The health of the people is the greatest asset of the nation and should be the first consideration of governments. The interest of medical men in this subject differs in no respect from that of the rest of the community, nor is this interest longer confined to the medical profession. It is incredible that any one who has any realization of the suffering, inefficiency and enormous waste to the country resulting from preventable disease and insanitary conditions of living and of work can fail to appreciate the incalculable benefits to our people which would accrue from larger hygienic activities of the national government in ways entire consonant with our form of federal government and within the proper scope of such government.

Did our federal government not fall so far short of its plain duty in the way of promotion of public health, we should find here at home records of as beneficent achievement as those which have been cited from distant lands, and our own people would reap the full benefits of that ever-advancing knowledge of disease and its prevention, which carries its messages of hope to mankind.

Dr. Rodman, introducing Dr. Charles A. L. Reed, said: We have heard from the distinguished President of the American Medical Association, who has told us of its achievements and its purposes. I shall next present a man who had much to do in making the Association what it is, for it was under his presidency that the epoch-making reorganization occurred. A Cromwell was needed and the alert, the lion-hearted, the determined president of 1901 was equal to every constructive and parliamentary emergency at the meeting in St. Paul.

Moreover, he, as Chairman of the Committee on National Legislation, has served not only the profession, but the public in a way that few appreciate. As a member of the committee for ten years, together with the distinguished gentleman who has just spoken, I know something of the splendid work he has done in bringing about necessary and wholesome changes for both profession and public.

Although living in the Middle West and carrying on an extensive practice, he never hesitated to go to Washington when the call of duty was sounded. He recked not whether it was the Army reorganization bill, the pure food law, or the Dodds bill under consideration. He was always there and his presence was an inspiration to his followers, and a dismay to opponents.

I present to you the Queen City's best-known surgeon and author, the fellow-townsman and admirer of our distinguished guest—"one not in the rôle of common men"—Charles A. L. Reed.

National Medical Legislation

Dr. Charles A. L. Reed, Cincinnati: The Medical Club of Philadelphia stands for much in this country. It typifies not only fraternity, organization and effective ultraism, but shows the strength and vitality of the present-day movement, not only to lengthen but to broaden and to make happier the span of human life. That movement is fortunate in having here to-night such a leader as President Taft has shown himself to be. As Governor-General of the Philippines, he established medical education on a governmental basis in that country. As Secretary of War, as I happen to know, he cut the bands of red tape that officious officialdom had wrapped about Colonel Gorgas and that were hampering him in the very sanitary administration that alone has brought the great engineering achievement at the Isthmus within the range of possibility. So with the sanitation of Cuba, the reorganization of the Medical Corps of the Army, the enforcement of the pure food law and the development of the great Red Cross organization, President Taft has shown himself the actual leader in the very movement in behalf of the people to which movement alone the medical profession stands consecrated.

What shall be the next forward step? What are some of the conditions to be met? The people of this country are dying from preventable causes alone at the rate of more than one a minute. This is an impressive fact whether viewed from an economic or humane standpoint. It is likewise impressive that Congress has failed to furnish an adequate national mechanism to assist in staying this havoc, a havoc that is equivalent five times over, to the death every year of every officer and man in both the Army and Navy of the United States. It is true that we have some public health agencies scattered throughout five departments of the Government and it is likewise true that each of five members of the Cabinet takes a whack at being national health officer. This, of course, is all very absurd and, as I know from personal investigation in Europe only last summer, it makes us the laughing-stock of the world. But Congress seems to be destitute of pride as it appears to be destitute of interest in this subject. It seems to be sorely afflicted with constitutional lawyers who have been authoritatively defined by President Taft as lawyers who have ceased to be lawyers and gone into politics. These wiseacres seem to think it constitutional for the government to educate the people to protect swine but not to educate them how to protect themselves against disease. They seem to think it incontestably constitutional to control interstate commerce but entirely unconstitutional to control the sanitation of that commerce; or, in other words, they assume that the healthfulness of an interstate commodity is no attribute of that commodity at all. They concede that the government can and does exercise jurisdiction over the navigation and commerce of interstate waterways but contend that it has no right so to regulate the sanitation of such waterways as to make such navigation and commerce possible. In the Ohio Valley we have a thousand miles of river and a thousand miles of typhoid; from which it would seem to be entirely constitutional for the United States to use its streams for the dissemination of disease and the destruction of the people.

The derelictions of Congress in dealing, for instance, with the plague condition in this country cannot be hidden by its surreptitious expenditure of a half million dollars epidemic fund every year in fighting conditions many of which ought never to have become established. I could lengthen this indictment against Congress by giving you a fresh count every minute for an hour. It is enough to say that for every one of the more than 600,000 deaths from preventable causes in the United States every year each member of Congress has a certain measure of individual responsibility. The sooner he is made to feel that responsibility and feel it by votes of the people, the better. As the President has just stated, clearly the next step forward must be a more highly evolved national health service. Whether "department," "bureau," "commission" or "board" it should be so constituted that every available agency and every branch of modern science shall be brought to bear in solving the complex problem of human health and human efficiency.

Dr. Rodman, introducing Surgeon-General Stokes, said:

The sister service, the Navy, is in every sense the equal of the Army—they cannot be dissociated—and by its ability, its chivalry and cosmopolitanism, has so maintained the credit of our country in foreign lands as justly to cause it to be one of the chiefest prides of the American profession. No wiser and better administrative act was ever done than that which placed medical officers in command of hospital ships. If hospital ships are necessary, and assuredly they are, who else can so well command them as well equipped surgeons? We have with us to-night one who commanded the hospital ship *Relief* in the now famous cruise around the world. He originated a war plan which adds to the military efficiency of the fleet, attends to the humanities of battle, and bids fair to revolutionize some features of naval warfare. The judgment he displayed, together with his executive ability and charming personality, caused him to be promoted to the honorable post of surgeon-general—a position that he now adorns, and should for many years adorn. "He has a head to contrive, a tongue to persuade and a hand to execute."

I take great pleasure in presenting one, who, though surgeon-general and holding the rank of admiral, likes to be called plain doctor—Charles F. Stokes.

The Sanitary Organization of the Navy

Dr. Charles F. Stokes, Surgeon-General, U. S. N.: With the exception, possibly, of medicine and surgery, no branch of science has been more completely revolutionized than that of naval warfare. Not only has this great change been effected in ships and personnel, but in spirit and aims. Spars, sails and wooden hulls have given way to the grim monsters of steel that carry our flag to-day. The change in the personnel has been almost as radical. The agile, cat-like top men, of the age of spars and masts, have been replaced by the seaman-mechanic, the gunner-mechanic and mechanics of other sorts. The muzzle-loading rifle, of decidedly indifferent effectiveness, has given way to the high-powered breech-loading rifle with mokeless powder, and a projectile of almost a ton of metal. nstead of, as in the past, having its field of usefulness limited argely to the treatment of sick sailors, the Medical Department of the Navy, to-day stands side by side with the fighting branches in adding to military efficiency and all that has to do with making the winning of battles possible.

You physicians in civil life are giving considerable attenion to the so-called occupational diseases. Those diseases have been for a long time the subject of careful study by naval medical officers, not on economical and humanitarian grounds, s they would interest you, but on the score of pure military fficiency; for example, the solution of the problem of sustaining life in disabled submarines is a complex proposition. It is omething more than simply generating oxygen and removing arbon dioxid; it has to do with the so-called fatigue-poison, ydrogen given off by batteries, the gasoline emanations, and o on. The men who manipulate the search-lights must be creened from actinic rays, otherwise their sight is seriously amaged. Ears must be prepared for and protected against the lasts of gun-fire. The continuous use of telescopic sights by un-pointers frequently leads to serious impairment of vision. t is on these men that we must rely for accuracy of fire. The onstructors may give us stable battleships, the ordnance fficers high-powered rifles, and the commanding officers may aneuver the ships with consummate skill; still, if the men ho point the guns cannot see straight, we are not going to ave hits, and the outcome of battle may hinge on this remedible defect.

An ophthalmologist of recognized ability is studying the sion of gun-pointers in the Atlantic fleet, and without doubt e crippling effects of this industrial disability will be averted nd military efficiency thus very materially advanced.

Sanitation has made the building of the Panama Canal posble; with the completion of the canal the field of operations the battleship fleet will be practically doubled; in other ords, the Atlantic fleet will be placed within striking disnce of the Pacific and conversely the Pacific fleet will become fective in the Atlantic. No more impressive demonstration the value of sanitation to a military establishment could pointed out.

Any war plan which fails to take into consideration the nitary features of the problem—the term sanitary is used its broadest military sense—and to benefit by the best advice tainable along these lines, should be cast aside as incomete and likely to break down under actual battle conditions. ch a plan, must, of necessity, be one-sided. Until recently e Atlantic fleet was so organized that, had it gone into ttle, the breakdown in the medical department would have en one of the most appalling in history. This condition of fairs was the result of a one-sided development. The akening of a new spirit in the Navy Department, one of ordination and cooperation, in other words team-work, with ilitary efficiency as its prime object, has made the solution this problem possible. It is perfectly plain that medicine d surgery, by virtue of what they are doing and have done promote military efficiency, stand in the front rank of the hting arms of the nation to-day, and any attempt unduly subordinate them or to deprive them of the recognition that their due should be combated to the bitter end.

If the regulations or the laws make it impossible to put into eration effective organization and administration, then the s and regulations must be changed to meet the new condins. If these conditions of naval warfare have been such as relegate to oblivion wooden ships, sails and spars, and with them much of the romance of the sea, then there should be no hesitation in casting aside cherished traditions, often clung to tenaciously for the sake of these traditions themselves, to make way for practicality and effective accomplishment. Responsibility should be recognized by appropriate rank and in this, as compared with foreign navies in all branches of the service, there is much to be desired.

The watchwords of the Navy Department to-day—and these watchwords have been instilled into us by our illustrious Commander-in-Chief—are, first and foremost, military efficiency, to be accomplished by coordination and cooperation, team work, close scrutiny of expenditures, the avoidance of needless waste; in other words, effective practical economy. Organized along these lines it is safe to say that the Navy will give as good an account of itself in the future as it has in the past, and its very preparedness will make it a potent factor in maintaining peace.

Dr. Rodman, introducing Surgeon-General Torney, said:

There is no abler, more representative, more patriotic a body of soldiers on the face of the earth, whether in peace or on the firing line, than the Medical Corps of the United States Army. It has not only demonstrated this ability and patriotism in times of war, when almost superhuman strength and courage were necessary to attend properly to the large number of wounded entrusted to its care, but it has done even more in peace, by demonstrating the cause of yellow fever and malaria, and ameliorating the terrors of each. The heroic and self-sacrificing experiments of Carrol, Reed and Lazear can never be forgotten either by their medical confreres or humanity for whom they died.

The Medical Corps of your Army, Mr. President, made it possible to build the Panama Canal after others had signally failed in this audacious and world-astounding enterprise. It was placed in such command, sir, by your orders as secretary of war. Its work has been characterized by Dr. Mitchell as "engineering surgery," and so successful was the operation that Colonel Gorgas, the operator, was unanimously elected President of the American Medical Association.

We have with us this evening the distinguished head of this corps, a man, "modest, kindly, all accomplished, wise." I now call upon and introduce to you that surgeon, soldier, gentleman—General George H. Torney.

Sanitary Progress in Fort and Field

Dr. George H. Torney, Surgeon-General U. S. A.: Of the records of the history of our country there are none more interesting than those of the Medical Department of our Army. It began at the siege of Boston in 1775. Without going into details it will suffice to state that no adequate provision was made for its administration until it was forced upon Congress by General Washington, because of the large morbidity and mortality rates amongst the troops of the Revolutionary Army.

At the end of the Revolutionary War the Army was practically disbanded, and its medical department went out of existence. After the War of 1812 there was a reorganization of the Army, but in this reorganization the Medical Department received scant consideration.

Engaged in that war was Assistant-Surgeon Beaumont, who was destined to make his name in the medical history of his country. In 1822 Alexis St. Martin, of whom you have all read, suffered from a wound of the stomach, which was finally cured, leaving a fistula. Fortunately for science he fell under the care of Surgeon Beaumont and when in 1825 the wound of the stomach of Alexis St. Martin had healed, Surgeon Beaumont began his experiments in the study of the physiology of digestion. In the light of history Beaumont should be given the credit as the first scientific investigator in physiology in our country. For it was he who instituted and carried out his investigations with all the acuity so well illustrated by modern methods. His work will endure forever.

The Mexican War brought to the Medical Department of the Army a grave responsibility in the care of the sick and wounded, and also the management of epidemics in a foreign land, and those of you who have had experience in this work will appreciate the labor involved in the solution of such problems. In this connection it must be remarked that the medical department of an army on a peace basis is inadequate in personnel for war, and this statement applies to all other armies as well as our own. The very suggestion for adequate provision of the medical department of an army seems to appall the administrative authorities of the service.

When the Civil War began the Medical Department of the Regular Army was small in numbers, and on it was thrust the medical administration of a vast army which, through the early part of the war, could not be made efficient because of inadequate personnel and lack of appreciation of its needs.

The Civil War developed Jonathan Letterman, a surgeon of the Army, of whom but a few of you have heard, but whose name stands out most prominently in the medical history of the War of the Rebellion. It was he who organized and administered the Medical Department of the Army of the Potomac under a system which was adopted by other armies in the field. There was much opposition to his policy of administration, but the War Department and Congress ultimately recognized its merit.

At that period the Medical Department had frequently 80,000 patients under its care. Exceptionally these numbers ran over 100,000, and in one instance 120,000 patients. To-day Letterman's system for the administration of the medical affairs of the Army of the Potomac has been adopted as original by the military authorities of Europe without credit to its author, and with no mention of the United States.

After the termination of the Civil War the medical and surgical history of the War of the Rebellion was written by the officers of the Medical Department of the Army .and to-day it stands as a monument of the industry of the men who engaged in this work. At the same time was begun the Index-Catalogue of the Library of the Surgeon-General's Office. At first it was a pamphlet of twenty small pages; to-day it is the greatest work of its kind in the world.

From the end of the War of the Rebellion to the beginning of the Spanish War, the Army of the United States was occupied in subduing the hostile Indians on what was known as the frontier. In these wars the officers of the Medical Department were fully engaged with their brothers of the line and exposed to the same dangers. At the outbreak of the Spanish War the personnel of the Medical Department was inadequate in numbers for the care of its own sick, and the sudden increase in the volunteer forces, for which no adequate provision had been made, added to its burden.

During this war a board composed of Vaughan and Shakespeare of the volunteer forces and Reed of the regular Army investigated the epidemic of typhoid fever which prevailed in the volunteer Army. The conclusions of this board are valuable to our profession. It is my belief that it proved that typhoid fever is a contact disease in the majority of cases.

After the Spanish War investigation was immediately begun in the study of tropical diseases, which resulted in proving by the board of which Walter Reed, surgeon, United States Army, was the directing head, that the mosquito is the intermediate host for carrying the infecting toxin of yellow fever. Of the brilliant results that followed this investigation you all know. It was due to this discovery that Gorgas, in Cuba, was enabled to stamp out yellow fever, and on his transfer to Panama, as chief sanitary officer, following the same methods to prevent the development of the disease on that Isthmus. It was this discovery, also, that enabled Kean of the Medical Corps of the Army, in Cuba in 1906, as chief sanitary officer of that island, to stamp out yellow fever after it had recurred in that island; and by his efforts to establish a department of public health which is to-day a model for the world. Measured in terms of money it is estimated that the discovery by Reed has already more than paid the cost of the Spanish War, the Philippine War and of the construction of the Panama Canal. I wish also to mention Ashford of the Medical Corps of the Army, who in 1902 began his investigations in Porto Rico as to the cause of the anemias among the inhabitants of that island. His report, with Dr. King of the Marine-Hospital Service, that the hookworm was the parasite that causes a large percentage of disability in tropical countries, was published in 1904.

To-day the Army Medical Department is engaged in an antityphoid campaign for the prevention of that dread disease. This campaign has followed the work of the typhoid board, composed of Musser, Thayer, Lambert, Vaughn, O'Reilly, Russell, Councilman and Flexner. To-day, in Texas, there is a division of the United States troops, every man of which is vaccinated against this infection. In that division not a single case of typhoid fever, which is the disabling disease of armies, has occurred. In the Spanish War typhoid fever developed in 90 per cent. of all the regiments within eight weeks after their organization.

I hope that the import of this statement will be fully impressed on you, since, from a medical point of view, this is history.

Tropical Medicine.—The eighth annual meeting of the American Society of Tropical Medicine will be held in New Orleans, May 18-19, under the presidency of Dr. William S. Thayer, Baltimore. The society will be the guest of the Orleans Parish Medical Society and part of the sessions will be held in its new building. At the morning session on May 18, held in this place, the president's address will be given and papers on malaria will be read. At the afternoon session, held in the Richardson Memorial, Tulane Campus, leprosy will be the topic. On the morning of May 19 there will be a clinic on pellagra at Charity Hospital, and at the morning session, held in the Hutchinson Memorial, Tulane Medical Department, there will be papers and a general discussion on amebiasis. The afternoon session at the same place will be devoted to the election of officers and members, and to papers on pellagra, yellow fever, snake poison, etc. An excursion to the Louisiana Leper Home has been arranged for May 20. The committee of arrangements extends a general invitation to all who are interested and requests those who are coming to notify the chairman, Dr. J. Birney Guthrie, Suite 602, Perrin Building, New Orleans.

LONDON LETTER

(From Our Regular Correspondent)

London, April 29, 1911.

Proposed Compulsory Opening of Windows

The antituberculosis campaign has had great effect in educating the public as to the importance of fresh air, and windows are now kept open to an unprecedented extent. But the compulsory opening of windows is a step which the most ardent hygienist would not dream of advocating in this country, in which the liberty of the individual is valued so highly and the house has been called the "Englishman's castle." However, the health committee of the Paddington Borough Council (one of the metropolitan boroughs) has recommended for adoption the following new by-laws for tenement houses: "It shall be compulsory for all windows of sleeping apartments to be opened wide for at least two hours a day, and for floors to be swept once a day and washed once a week." It is proposed to appoint inspectors with right of entry into the houses to see that the regulations are observed. The maximum penalty for breach of these laws will be $25, and $10 for each day the offense is continued.

The Seventeenth International Congress of Medicine

Arrangements are being made for the seventeenth International Congress of Medicine which will be held in London on August 6-12, 1913. The University of London, the Imperial College of Science and Technology and the City and Guilds College have expressed their willingness to put rooms at the disposal of the congress. It has been decided that the sections of laryngology and otology will be allotted two adjoining rooms and that the councils of these two sections shall arrange their programs in a conjoint meeting, and that their transactions shall be published in one volume and supplied to each member of the section. A section of radiology will be included in the congress. The section of pathology wil include a subsection of chemical pathology. A section of anesthesia, both general and local, will be established. Sections XX and XXI of the last congress will be so altered that one section will be devoted to naval and military medicine and another section wholly devoted to tropical medicine. The following alterations have been made in the titles of the sections: Section III, from general and experimental pathology to general pathology and pathological anatomy; Section IV from bacteriology and pathologic anatomy to bacteriology and immunity; Section XVIII, from hygiene and immunity to hygiene and preventive medicine. Papers introducing subjects for discussion will be previously printed and distributed to al the members of the section who have intimated their intention to take part in the discussion and to any members who may apply for them. The introductory papers cannot be printed in all the four official languages, but abstracts of them will be printed, as was done at the last London congress. In each section, the morning sessions will be devoted to discussions on subjects of interest to be selected by the officers of the sections. Each discussion will be introduced by no more than two speakers, to be selected by the officers of th section, with due regard to the international character of th meeting. It shall not be permissible to read the introductor papers already printed, but a time not exceeding twent minutes shall be allowed to each introducer to read an elaborate an epitome of his introductory paper. Subsequen speeches in the discussion shall not exceed ten minutes. Non but the introductory speakers shall be invited by the officer of the section to take part in the discussion. At the mornin session no papers other than on the subjects set down fo discussion shall be taken up, unless the general discussio has terminated before the hour fixed for the termination the morning section. The afternoon session shall be devoted to papers offered by the members of the section. The staff of the section shall have the power of selection from among the papers offered. Not more than fifteen minutes shall be allowed for the reading of any such paper nor more than five minutes for any speech discussing it.

The Cambridge Hospital for Special Diseases

At Cambridge a very small but remarkable hospital was founded five years ago for the study of special diseases by some of the leaders of the profession—Sir Clifford Allbutt, Professor Osler, Sir William Church, Sir Jonathan Hutchinson, Sir Richard Douglas Powell, Sir Henry Morris, Sir W. Watson Cheyne, Sir Victor Horsley and Sir Donald MacAlister. The objects for which the hospital were established were thus stated by the committee: "Much and fruitful research has been done in acute diseases, but there are many chronic and widespread maladies which have not yet received the attention they deserve. These, though not commonly immediately fatal to life, incapacitate the sufferer from active work, cause great pain and misery, and finally leave the victim helpless and entirely dependent on the kindness and charity of his friends or of strangers. Patients suffering from these diseases, owing to the slow progress and long continuance of their illness, are not suitable for reception into general hospitals, which as a rule admit by preference cases of the more acute diseases. The mode of origin or progress of these affections is very imperfectly known, and little therefore can be done in the way of their rational treatment. The great need of scientific research on these chronic diseases has been strongly felt by the medical profession for many years." At present, the hospital is lodged in a small private house containing four beds, and for the most part is supported by subscriptions from physicians. A bulletin giving the results of the work of the staff is issued from time to time. Rheumatoid arthritis is one of the subjects which has been investigated. Though no great advance in knowledge can be chronicled yet much careful work has been done which clears away prevalent misconceptions and may make a path for future advances. The house which is used as a hospital is small and in many ways inconvenient. It has therefore been decided to build a small hospital for which a site of one acre on the outskirts of Cambridge has been secured. The plans have been drawn up. There will be a consulting room, library, three rooms for research, a photographic dark room and a room for x-ray apparatus. The cost is estimated at $8,000.

The Teaching of Hygiene in Elementary Schools

Dr. Addison, lecturer on anatomy at St. Bartholomew's Hospital and liberal member of parliament for Hoxton, has introduced a valuable bill: "to require that in public elementary schools instruction shall be given in hygiene, and to girls in the care and feeding of infants." This bill is in no sense a party measure and has received the support of more than 200 members of the house on all sides. Its first reading has been carried unanimously. Since the bill was first introduced last year the principal health officer of the local government board has stated in one of his reports that the provision of this instruction would greatly prevent the waste which has caused so much pauperism in Great Britain. Of late years there has been considerable quickening of the public conscience in this matter, and owing to the efforts of various associations and the voluntary work of teachers and public authorities there has been a remarkable diminution in infant mortality. Nevertheless, one child in every three dies under the age of 5 years, and one out of every five under the age of 12 months. The number of children who die under the age of 5 years amounts to 150,000. The causes are manifold: bad sanitation, crowded rooms, poverty, etc. But Dr. Addison does not hesitate to say that at least 50,000 die as a direct or indirect consequence of parental ignorance. This is particularly true for the manufacturing districts of the north. In the fifteen large Lancashire towns with a population of 3,000,000 the death-rate for the summer quarter of last year was 30 per cent. higher than in London, and this was mainly due to infant mortality. In the town of Burnley, which has an unenviable reputation, the health officer attributes one-fifth of the deaths to the fact that the mothers work in factories and leave their children in charge of ignorant persons.

Plague in India

The recrudescence of plague in India was announced in a previous letter to The Journal. In reply to a question in parliament, Mr. Montague, the under secretary for India, stated that the situation was very seriously regarded by the authorities who had been hopeful of a permanent diminution, and had made every effort to stamp out the disease. In the central provinces of Agra and Oudh alone the deaths from plague amounted to 43,508 in February and 95,884 in March.

The Lowest Birth-Rate and Death-Rate on Record in Scotland

A short time ago the lowest birth and death-rates on record in England were reported in The Journal. A similar announcement has just been made with regard to Scotland. The birth-rate for 1910 was 25.16 per thousand and the death-rate 14.66, the lowest figures ever recorded.

PARIS LETTER

(From Our Regular Correspondent)

Paris, April 28, 1911.

Illegal Practice of Medicine in the Pharmacies

The Syndicat médical de Paris has just made an attempt to come to an understanding with the Syndicat des pharmaciens de Paris et de la Seine on the question of the illegal practice of medicine in the pharmacies. Unfortunately, after two entire sessions devoted to the joint examination of the important questions interesting the two professions, it appeared evident that the point of view of the physicians and that of the pharmacists were irreconcilable. The delegates from the Syndicat des pharmaciens asserted that the illegal practice of medicine was forced on them by the public and that their business existence depended on it. If one druggist were to refuse to sell non-toxic drugs, the customer would merely go to another pharmacist. The delegates of the Syndicat médical de Paris replied that the simplest drugs might in certain cases be harmful, or at least, useless, and might, if only by causing the patient to lose precious time, become dangerous. The delegates of the Syndicat des pharmaciens then proposed that pharmacists should be granted the right to sell once to a customer commonly used drugs, without a prescription, at the same time urging the patient to find a physician before coming again. This proposition was evidently too contrary to the law of the practice of medicine and pharmacy to be accepted. A medical society, charged with the duty of defending the interests of the medical profession, could not take the responsibility of approving a tolerated violation of law.

The delegates of the medical society proposed that a notice like the following should be posted in all of the pharmacies which wished to accept it, and especially in those of the members of the pharmacists' society: "In accordance with the laws which regulate the practice of medicine and pharmacy, in order to safeguard strictly the responsibility of pharmacists and in the interests of its health, the public is invited, in case of any indisposition, to call in a physician, since any delay in medical intervention may entail irreparable consequences, which might be avoided by the judicious attentions which can be given only by a physician." The pharmacist delegates, however, considered the proposition impracticable. They merely proposed to aid physicians to prosecute for such overt instances of illegal practice of medicine as consultations in the rear of the shops, and systematic dressings, etc., given to patients. They were also willing to take part in a newspaper campaign of publicity with regard to the danger of asking a druggist for drugs without a physician's prescription.

Similar divergencies came to view on the subject of the renewal of prescriptions. According to the law, druggists have no right to deliver drugs on old prescriptions, whether they call for toxic substances or not. The law on this point is violated daily, and the delegates of the Syndicat des pharmaciens declare that this violation is forced on them by the habits of the public. To regularize their irregular situation, they proposed the following principle: "Every prescription which does not bear the words 'not to be renewed' may be filled again." The delegates of the medical association, on the other hand, proposed the following rule, which is in accordance with the spirit of the law and guarantees the safety of the people: "No prescription may be renewed by a druggist, except those on which the physician shall have written the words 'to be renewed.'"

Other divergencies also appeared on the question of the delivery of drugs without prescriptions. The pharmacists expressed a wish that a list of drugs not to be delivered without prescriptions should be drawn up, while the physicians wished that a list should be made of the only drugs which the pharmacist would have the right to sell without prescriptions. Agreement was not reached on any of these points.

Personal

In its session of April 25, the Académie de médecine elected as national correspondents, Dr. Blanquinque of Laon and Dr.

Laguesse, professor of histology at the Faculté de médecine de Lille.

Improvements in the Hospitals

The municipal counsel of Paris has just authorized the expenditure of $2,000,000 (10,000,000 francs) for improvements in the following hospitals: the Hôpital Cochin, the Hôtel-Dieu, the Bicêtre, the Hôpital des Enfants-Malades, the marine sanatorium of Hendaye, situated on the Bay of Biscay, and the Nouvelle-Pitié.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, April 20, 1911.

Personal

In place of Professor Matthes, Professor Moritz of Strasburg has been nominated for first place for the internal medical clinic at Cologne, and it is rumored that Moritz has accepted the call. The singular circumstances that a man should go from a university to an academy and thus sacrifice his position is explained by the fact that Moritz soon after his appointment at Strasburg alienated from himself the physicians of that place and did not possess the faculty of securing himself in his present position. It is to be hoped that this experience will stand him in good stead in his new place.

Inoculation of Syphilis in Rabbits

Professor Uhlenhuth, director of the imperial health office in Berlin and soon to be professor of hygiene in Strasburg, reported, at a recent meeting of the *Berliner medizinische Gesellschaft*, the inoculation of rabbits with syphilis. The injections were made into the testicles and into the blood vessels. By further inoculations into other animals, sixteen transmissions were secured and in this manner the virulence was raised so that the inoculations yielded 100 per cent. of successes. Clinically three forms could be distinguished: Erosions of the scrotal skin, chronic inflammation of the testicle and periorchitis. Histologically the lesions resembled those of human syphilis and contained many spirochetes. Moreover, Uhlenhuth and his coworkers were able, by the injection of very virulent rabbit material into the circulation of other rabbits, to induce general syphilis in these animals. In the circulating blood of these animals living spirochetes could be demonstrated. General syphilis could be produced also in monkeys through the circulation. In the discussion that followed this paper the skepticism which Professor v. Hansemann expressed regarding the etiologic significance of *Spirochæta pallida* for syphilis was remarkable. He admits that the spirochete plays a certain rôle in syphilis, but he doubts that it causes the disease since it is not found in the tertiary forms. In the products of the inoculation there could be found many deviations from the manifestations typical of human syphilis. The other speakers opposed this skepticism with the exception of Dr. Siegel, who used to champion other ameba-like germs as the cause of syphilis. Uhlenhuth asserted in closing that the same symptoms were found in the infected monkeys as in man. That no spirochetes are found in gummas is not singular as even in tubercles it is sometimes impossible to demonstrate tubercle bacilli. He added that malaria parasites have not yet been grown in pure culture, and yet no one doubts their etiologic significance.

Age and Tuberculosis

The Prussian national statistical office has recently published a review of the mortality from tuberculosis in Prussia according to sex and age for 1908 and 1909. In an article in the *Zeitschrift für Tuberkulose* B. Frankel reproduced these tables and remarks that they demonstrate the progressive diminution in the death-rate from tuberculosis. In 1908 there died in Prussia, 63,320; in 1909, 60,871. For 100,000 living there were in 1908 16.40, in 1909, 15.59 deaths from tuberculosis. The mortality from tuberculosis in the first year of life shows in 1908 the high percentage of 26.86 per 100,000 living, the highest in any of the age classes, but in 1909 it was only 23.65. The death rate from tuberculosis of children from 1 to 15 years old has never since 1881 reached so low a figure as in 1909. While in 1881 the deaths numbered 11,000, and in 1902 they were more than 13,000, in 1909 they amounted only to 10,621.

Ward for Pay-Patients at the Moabit City Hospital

At the last session of the city council this new departure which I have previously mentioned was inaugurated. A physician belonging to the Sozialdemokratische party opposed this move as essentially an introduction of class distinctions into the municipal hospitals. He declared that every preference of the better as against the poorer classes was an evil. He was of the opinion that such an arrangement would work prejudicially to the general care of the sick. He wanted no class distinctions in the municipal hospitals and opposed it also on account of the financial interests of the city. In reply to this the mayor emphasized the pressing need of meeting the requirements of the middle classes in the way proposed. Care should be taken to bring the arrangements already present into an orderly legitimate system. He was convinced that by the establishment of a second class, the level of the third class would be raised. So long as class distinctions existed they must be recognized. As a matter of fact there are many people who for certain reasons cannot apply to the municipal free hospitals, who yet are unable to pay the high prices charged by private sanatoria, or for medical treatment at home, without actually impoverishing themselves. If the city should devote a small portion of the public funds to the assistance of these people, a good work would be accomplished. There is no occasion for any uneasiness on the part of the medical profession in view of this undertaking.

Disinfection of Books

Under the heading, "The Spread of Infectious Diseases by Printed Matter," Dr. Trautmann, who is at the head of the state hygienic institute in Hamburg, presents a very interesting article in the *Zeitschrift der Schulärzte*. The possibility of conveying infection by printed matter must be admitted although positive evidence of its occurrence can seldom be furnished. It is evident that circulating libraries constitute an especial danger in this respect. The conveyance of tuberculosis is especially to be feared, because this disease is wide-spread, usually runs a chronic course, giving opportunity for literary recreation for a long time, and further the bacillus is readily deposited on objects by coughing and the disease germs have an extraordinary capacity of resistance. Naturally other diseases can be conveyed in the same way. The use of books at school is not without danger. There is possibility enough for transmission of disease by means of text-books and books from the school library. England, America and Austria have possessed for a long time the beginnings of an official regulation for the disinfection of books. Until a few years ago, however, Germany has had no effective and harmless method for this purpose.

Books are difficult objects to treat; neither dry heat nor streaming steam at 100 C., neither sulphur dioxid nor cold formaldehyd gas gives satisfactory results. At present a solution of the question appears to have been reached and by two entirely different processes. The method of Findel and Xylander consists in the application of hot air at a temperature of 75-80 C. (167-176 F.) with a relative humidity of 30-40 per cent. or even up to 80 per cent. The moist heat acts essentially by conduction and radiation. Unfortunately sterilization by this process requires a considerable length of time. The process for a single disinfection of closed books, and the process is intended for these, requires two days. Moreover only the vegetating forms of bacteria are killed, the resting forms not being affected.

In Glaser's quicker acting modification of this method, air at 98-100 C. and a humidity of 60 to 80 per cent. is employed with the addition of formaldehyd, but there are objections to this method, which seems to be injurious to the books. Trautmann proposes another process which he considers more reliable. He bases it on the investigations of Esmarch and Kister. He calls attention to the process introduced three years ago with the so-called "Hamburg apparatus" which depends on the operation of a stream of steam evaporated under reduced pressure and saturated with formaldehyd at a low temperature. This process has worked well in the disinfection of furs, skins, leather, silk and velvet goods, and is also well suited to the disinfection of books, butterflies, stuffed animals, etc. The most important point is that the Hamburg process operates with streaming saturated steam but at a low temperature, and does its work in a short time, more effectually and at a lower cost. A complete disinfection does not take longer than ninety minutes at the most.

A condition for the successful action of the Hamburg apparatus is the careful spreading of the leaves of the book. It is not suited to the disinfection of closed, thick books or closely packed printed matter. Trautmann uses for the necessary spreading a stout rack in the form of a trough; another method consists in drawing back the covers of the books, tying them together over the back of the book and hanging a row of books thus treated on the rods in the Hamburg apparatus. Xylander unites the two methods in one. The proposed method of disinfection kills all disease germs and does not injure the books in any way. Trautmann's claims have been confirmed by a thorough trial by Xylander and Glaser. Gärtner selects alcoholic steam for disinfection, but this method is not to be recommended because the disinfection takes a long time and injures the books.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, April 25, 1911.

The Repeated Use of Prescriptions

In this country the doctor's prescription is handed back to the patient by the apothecary who has made it up, only the date of the prescription being added by him. Very often the latter rule is not strictly adhered to; thus the patient is enabled to obtain the remedy for an indefinite number of times. By such means, crimes and suicides have been committed repeatedly here within a short time. lately. Therefore, a memorandum has been presented to the ministry of the interior by medical associations, and the necessity of strict adherence to the existing rules emphasized. Shortly afterward, all druggists and pharmacists, as well as doctors, were admonished by an ordinance of the ministry, to turn their attention to the abuse of medical prescriptions by patients. The law requires that every filling of a prescription be marked on it by the dated stamp of the dispenser. If "heroic" remedies or strong poisons and other narcotic substances are contained in the prescription, the doctor should add how often the patient may have it made up by writing down: *Ne repetatur*, or *Repetatur semel.* Attention is chiefly drawn to the hypnotic and narcotic substances of modern chemistry, which are not yet contained in the "poison list," but which are most often the object of repeated administrations by the patients. On this point the interests of the public are coincident with those of the profession, although naturally the impossibility of obtaining a remedy without consulting a physician will be found an unpleasant difficulty by many easy-going patients.

Marriages

Francis Winslow Johnson, M.D., Glyndon, Md., to Miss Marion Lawrence Reese, at Baltimore, April 24.

Davis Thomas Bowden, M.D., Paterson, N. J., to Miss Helen W. Bryce of Passaic, N. J., April 19.

Raymond H. Gaynor Laub, M.D., Brooklyn, N. Y., to Miss Lucretia Ferris of Elmira, N. Y., April 24.

John Richard Callaway, M.D., to Miss Luella Louise Wingfield, both of Kansas City, Mo., April 29.

Andrew Johnson Brown, M.D., The Dalles, Ore., to Miss Marie Wetzel of Portland, Ore., April 20.

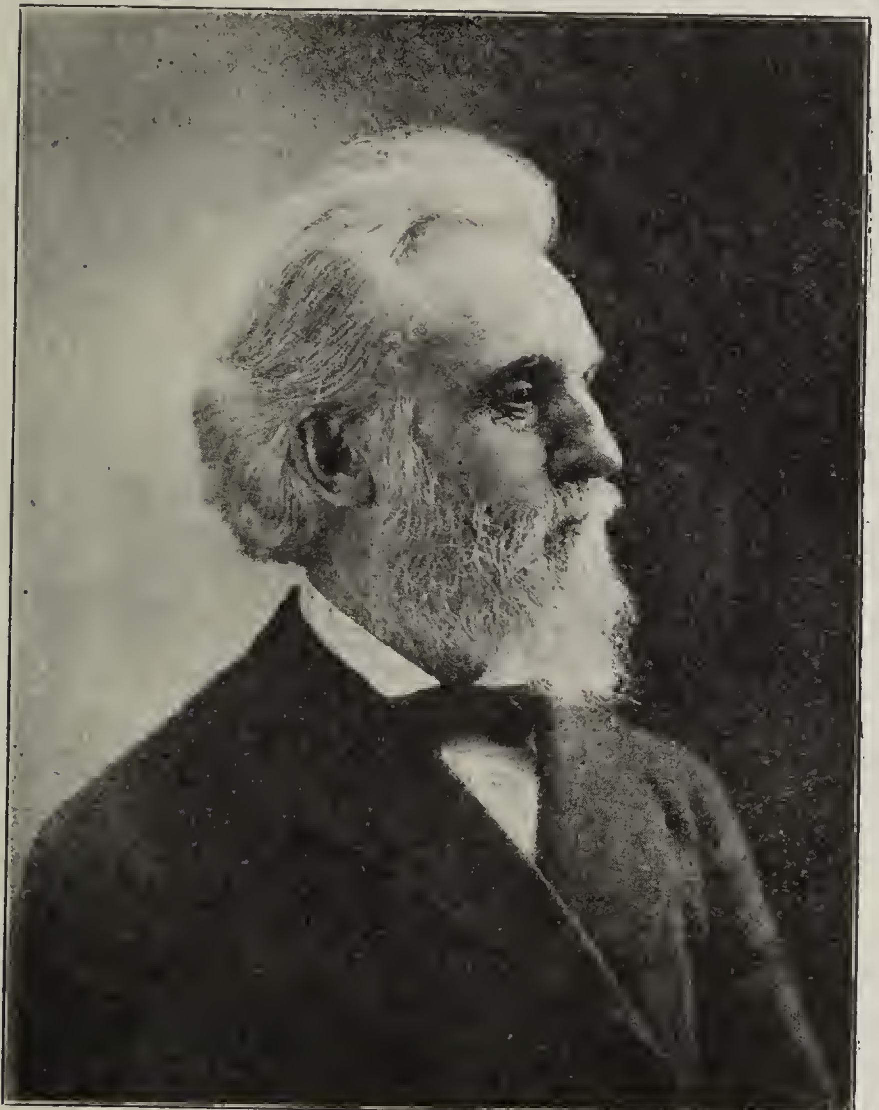
James Southall Wilson, M.D., to Miss Julia Gardiner Taylor, at Williamsburg, Va., April 17.

Arthur H. Meyers, M.D., Mystic, Conn., to Miss Helen M. Barker of East Orange, N. J., April 21.

Peter H. Jobse, M.D., to Miss Minnie Fitzgibbon, both of Milwaukee, April 26.

Deaths

Isaac Newton Danforth, M.D., one of the best beloved of the older physicians of Chicago; died at his home, May 5, from heart disease, aged 75.



I. N. Danforth, 1836-1911

Dr. Danforth was a descendent in direct line of Nicholas Danforth who landed in Massachusetts Bay in 1634. His paternal grandfather and three uncles were physicians before him and this naturally turned young Danforth's mind toward medicine. He graduated from Dartmouth Medical School, Hanover, N. H. in 1862, and was given the honorary degree of A.M. by Dartmouth College nineteen years later. After four years of practice in New Hampshire, Dr. Danforth located in Chicago where he soon attained high rank as a practitioner and teacher.

His work as a medical teacher commenced in 1868, when he became instructor in chemistry at Rush Medical College. Three years later he was made lecturer of pathology; in 1873 president of the spring faculty and in 1881 professor of pathology. His work in Northwestern University Medical School began in 1882, when he was made professor of pathology. From 1887 to 1895 he was professor of clinical medicine in that institution. In 1876 he became professor of pathology in the Woman's Hospital Medical College, which afterward became Northwestern University Woman's Medical School, and continued in this position for nineteen years; and for four years thereafter was dean of the faculty and professor of internal medicine.

He became attending physician to St. Luke's Hospital in 1870 and continued in that position until 1895. For the first ten years of the existence of Wesley Hospital, he was chief of its medical staff; for many years he was pathologist to Cook County Hospital, and consulting physician to various hospitals in Chicago for thirty years past.

His society membership included the American Medical Association, the Association of American Physicians, the Chicago Pathological Society, of which he was once president, and he was one of the founders and first president of the Society of Medical History of Chicago.

Dr. Danforth was a frequent contributor to the medical literature, and more especially of late years, on the lines of medical history and biography; in 1907 his life of Dr. Nathan Smith Davis was published. Dr. Danforth's chief recreation was in the line of history and his collection of Americana was of more than local repute.

In 1909 Dr. Danforth founded a medical missionary hospital in Kiu Kane, China, in honor of his first wife, Elizabeth Skelton Danforth.

He had not been in robust health for a long time, but was confined to his house for only about three weeks. He had been a sufferer with asthma for a long while, but his death was due to valvular disease of the heart.

As a general practitioner, Dr. Danforth was exceptionally successful. He was one of the first in Chicago and the Northwest to use the microscope in pathology. He was a man of steadfast conviction, of most exemplary life and stood always for the best in all things. His death will be deplored by his many friends and by the hundreds of men and women in the profession all over the world whom he has helped, both materially and by wise counsel.

Herbert Milton Nash, M.D. University of Virginia, Charlottesville, 1852; the oldest and most esteemed physician of eastern Virginia; died April 26, at the Sarah Leigh Hospital, Norfolk, Va., from shock following an operation for the removal of gallstones, aged 79. After his graduation, Dr. Nash took post-graduate work for a year in New York City, and then began practice in Norfolk, and was the only survivor of the physicians who combated yellow fever in that city in the great epidemic of 1855. On the outbreak of the Civil War he was appointed assistant surgeon of the State Force of Virginia and later was made surgeon and corps surgeon in the Confederate service, where he served throughout the Civil War. He was a charter member of the Norfolk Medical Society and served for several terms as its president; a member of the Virginia State Medical Society and, at one time, its president; and at the time of his death an honorary fellow. He was also a member of the American Medical Association, American Public Health Association and the Southern Surgical and Gynecological Association. He was at one time vice-president of the Medical Examining Board of Virginia, president of the Norfolk Board of Health, president of the Board of Quarantine Commissioners of the district of Elizabeth River, and formerly quarantine officer. He was also a member of the staff of St. Vincent's and the Norfolk Protestant hospitals. In 1902, on the occasion of the fiftieth anniversary of the graduation of Dr. Nash from the University of Virginia, he was the guest of honor of the faculty of that institution. The Norfolk County Medical Society, at a special meeting, adopted resolutions expressing the personal and professional loss felt by its members in the death of its oldest and most esteemed ex-president and member.

Carlton C. Frederick, M.D. University of Buffalo, N. Y., 1881; a member of the American Medical Association, the American Gynecological Society, the American Association of Obstetricians and Gynecologists, president of the Buffalo Academy of Medicine and many local societies; adjunct professor of obstetrics in the medical department of Niagara University from 1883 to 1896, and clinical professor of gynecology in the University of Buffalo since 1897; one of the founders and surgeon in chief to the Buffalo Woman's Hospital, and a member of the staff for many years of the Buffalo General and St. Mary's Lying-In Hospitals; author of many monographs on gynecology and abdominal surgery; died at his home, April 30, from endocarditis, aged 55. At a special meeting of the Buffalo Academy of Medicine, action was taken on the death of Dr. Frederick and eulogies were pronounced by many of his colleagues.

Norman J. Pettijohn, M.D. Kansas City (Mo.) Medical College, 1884; formerly a member of the American Medical Association; a Federal soldier and later assistant surgeon of volunteers in the Civil War; formerly chief surgeon of the Kansas City, Fort Scott and Memphis Railroad, and later assistant chief surgeon of the Frisco system; for several years chief surgeon of the Metropolitan Street Railway Company of Kansas City; once president of the International Association of Railway Surgeons and of the Jackson County Medical Society; died at his home in Kansas City, April 22, aged 71.

Erasmus Van Meter Swing, M.D. University of Pennsylvania, Philadelphia, 1867; a member of the American Medical Association; president of the Coatesville, Pa., Board of Health and chief of staff of the Coatesville Hospital; who came to Philadelphia to attend the reception given President Taft by the Philadelphia Medical Club, May 5; died in the Bellevue-Stratford Hospital in that city, May 6, from acute gastritis, aged 70.

Jacob Dimmitt Norris, M.D. University of Maryland, Baltimore, 1878; a member of the Baltimore Clinical Society; president of the board of police examiners of Baltimore; formerly a member of the city council and vaccine physician; president of the local pension board and formerly mayor and surgeon of the Fourth Infantry, N. G., Maryland; died at his home in Baltimore, April 24, from heart disease, aged 67.

Harry Johnson Dean, M.D. Jefferson Medical College, 1890; a member of the American Medical Association and American Academy of Ophthalmology and Oto-Laryngology; eye, ear, nose and throat surgeon to the Hershey Memorial Hospital, Muscatine, Ia.; died at his home in that city, April 26, from nephritis, aged 42.

Edward W. Fox, M.D. Denver and Gross College of Medicine, Denver, Colo., 1904; a member of the Colorado State Medical Society and president of the Las Animas County Medical Society; a specialist in diseases of the eye and ear; died at his home in Trinidad, Colo., April 30, from disease of the lungs, aged 32.

James B. Morgan, M.D. Medical College of Georgia, Augusta, 1876; professor of anatomy and clinical surgery in his alma mater; sometime president of the Medical Association of Georgia and the Alumni Association of the University of Georgia; for several years president of the Augusta Board of Health and coroner's physician for Richmond County; a member of the State Board of Health; died at his home, April 23, aged 53.

Robert Caldwell, M.D. University of California, San Francisco, 1869; a member of the Medical Society of the State of California and a pioneer practitioner of San Jose; for several years a practitioner of Nagasaki, Japan; a member of the Western Union Telegraph Company's famous expedition through Alaska in 1867 and 1868; died at his home in San Jose, April 20.

Thomas Hamill, M.D. Eclectic Medical Institute, Cincinnati, 1855; Humboldt Medical College, St. Louis, 1867; Missouri Medical College, St. Louis, 1868; acting assistant surgeon in the army during the Civil War; for twenty years a member of the board of pension examiners of Johnson County, Kan.; died at his home in Olathe, March 18, aged 85.

Henry Allison Lathrop, M.D. Hahnemann Medical College, Chicago, 1881; New York University, New York City, 1890; a member of the American Medical Association; a member of the Wisconsin state legislature in 1887; died at his home in Marshfield, Wis., April 25, from cerebral hemorrhage, aged 61.

Thomas Hodge Johnson, M.D. Eclectic Medical Institute, Cincinnati, 1879; a veteran of the Civil War; for several terms superintendent of schools of Laclede County (Mo.); a member of the Missouri legislature for three terms; died at his home in Springfield, April 24, aged 70.

Cornelius Sampson Jackson, M.D. Harvard Medical School, 1865; assistant surgeon of the Thirtieth Massachusetts Volunteer Infantry during the Civil War; a member of the Boston Surgical and Gynecological Society; died at his home in Hudson, Mass., April 22, aged 67.

Richard E. Johnson, M.D. Miami Medical College, Cincinnati, 1856; a member of the American Medical Association and a life member of the Ohio State Medical Association; president of the First National Bank of Lima; died at his home in Gomer, April 24, aged 76.

Lewis S. Brown, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1873; a member of the Missouri State Association, and for several years president of the Knox County Medical Society; died at his home in Edina, April 21, from arteriosclerosis, aged 75.

Vesley Marvin Newcombe, M.D. University of Vermont, Burlington, 1884; a member of the New Hampshire Medical Society; a physician of Somersworth, and a numismatist of note; died at his home, April 25, from cirrhosis of the liver, aged 50.

Cameron Piggot, M.D. University of Maryland, Baltimore, 1882; dean of the academic department and professor of chemistry and geology in the University of the South, Sewanee, Tenn.; died at his home in that place, April 30, aged 55.

George Bruce Thomas, M.D. University of Alabama, Mobile, 1898; of Maysville, Ky.; died in the Hord Sanitarium, Shelbyville, Ind., April 8, from the effects of corrosive poison believed to have been self-administered with suicidal intent, aged 45.

Alfred H. Caviness, M.D. Baltimore University School of Medicine, 1901; a member of the Medical Society of the State of North Carolina; died at his home in High Falls, April 29, from septicemia, the result of a carbuncle of the neck, aged 53.

Lewis H. Kirk, M.D. University of Pennsylvania, Philadelphia, 1877; a member of the American Medical Association and local United States pension examining surgeon; died at his home in Oxford, Pa., April 26, from heart disease, aged 60.

John Worthing Hurlbert, M.D. Cleveland University of Medicine and Surgery, 1877; formerly a member of the American Medical Association; died at his home in Uniopolis, Ohio, April 24, from carcinoma of the stomach, aged 58.

Thomas Jefferson Largen, M.D. Texas Medical College, Galveston, 1874; of San Antonio; formerly a member of the State Medical Association; a Confederate veteran; died at the home of his son in San Antonio, April 23, aged 70.

John Clayton Abernathy, M.D. University of Nashville (Tenn.), 1866; a prominent practitioner of East Tennessee and a Confederate veteran; died at the home of his son in Chattanooga, April 20, from senile debility, aged 87.

Robert I. Bowie, M.D. Royal University of Munich, Bavaria, 1880; formerly a practitioner of San Francisco, but for many years a resident of Nagasaki, Japan, where he founded a hospital; died in the latter city, April 24, aged 52.

George M. Covert, M.D. University of Louisville, Ky., 1873; local surgeon for the Missouri Pacific Railway at Arkansas City, Kans., and one of the directors of the Arkansas City Hospital; died at his home, April 22, aged 70.

Horace T. Cooper, M.D. Hahnemann Medical College, Chicago, 1867; a pioneer resident of Colorado Springs and a veteran of the Civil War; died at the home of his son in Denver, April 23, from senile debility, aged 82.

Archibald Alexander Terhune, M.D. Jefferson Medical College, 1888; a member of the State Medical Association of Texas; died at his home in Jefferson, April 22, from accidental poisoning by phenol, aged 50.

Fannie L. Draper, M.D. Chicago Homeopathic Medical College, 1902; formerly a missionary of the Methodist Episcopal Church in China; died recently and was buried in Jackson, Mich., April 23, aged 78.

Roland Augustus Davis, M.D. Boston University School of Medicine, 1893; a member of the homeopathic staff of the Somerville (Mass.) Hospital; died recently at his home in that city, aged 64.

Frederick Gelwicks Strock, M.D. Jefferson Medical College, 1886; of St. Thomas, Pa.; a member of the Franklin County Medical Society; died in Johns Hopkins Hospital, Baltimore, April 25, aged 48.

Henry Slosson, M.D. Cleveland University of Medicine and Surgery, 1861; for many years a practitioner of Youngstown, O.; died at his home in that city, April 23, from cirrhosis of the liver, aged 75.

Joseph Warren Cadwell, M.D. Jefferson Medical College, 1863; Bellevue Hospital Medical College, 1866; of Chandler City, Mo.; was suffocated by smoke in his room in that city, May 2, aged 72.

Carl Lebrecht Rudolph Zimmermann, M.D. University of Breslau, Germany, 1857; a practitioner of Campbellsport, Wis., since 1858; died at his home, March 28, from heart disease, aged 81.

Joseph Brockway (license, Iowa) a practitioner of Iowa and Oklahoma since 1864; who retired in 1901; died at his home, Aline, Okla., April 26, from senile debility, aged 84.

Lyman Monson Nichols, M.D. Geneva (N. Y.) Medical College, 1858; for thirty-five years a practitioner of Pulteney, N. Y.; died at his home in that village, April 24, aged 75.

John Wright, M.D. University of Louisville, Ky., 1857; surgeon in the Confederate service throughout the Civil War; died at his home in Sardis, Miss., April 26, aged 76.

R. Russell Martin (registration Seventeenth Judicial District, Texas, 1901); of Burleson; died in a hospital in Fort Worth, April 11, from septicemia, aged 33.

Jesse Mitchell Seabrook, M.D. Howard University, Washington, D. C., 1908; of Washington; died in Asheville, N. C., Nov. 12, 1910, from tuberculosis, aged 30.

Gustav Fuchs, M.D. Missouri Medical College, St. Louis, 1873; surgeon of volunteers during the Civil War; died at his home in St. Louis, April 19, aged 74.

Francis Stephen Winter Cook, M.D. Eclectic Medical Institute, Cincinnati, 1896; died at his home in Toledo, O., March 13, from chronic nephritis, aged 56.

William Wallace Runkel, M.D. Wisconsin College of Physicians and Surgeons, Milwaukee, 1898; died at his home in Milwaukee, April 6, aged 38.

Roderick Kennedy, M.D. Queen's University, Kingston, Ont., 1863; of Bath, Ont.; died in the General Hospital, Kingston, Ont., recently, aged 88.

Hans Treskow, M.D. New York University, New York City, 1882; of New York City; died in the Lebanon, N. Y., Hospital, April 18, aged 56.

Gilbert H. Tollington, M.D. College of Physicians and Surgeons, Chicago, 1885; died at his home in Clearwater, Minn., February 12, aged 49.

William Reilly, M.D. University Medical College of Kansas City, Mo., 1874; of St. Louis; died in St. Mary's Hospital in that city, April 24.

Clarence Spahr (license, Allegheny County, Pa., 1881); for thirty-five years a practitioner of Ridgeville; died at his home, April 22, aged 67.

Walter Howard Muchmore, M.D. New York University, New York City, 1894; died at his home in Brooklyn, April 19, aged 48.

Davis H. Richardson, M.D. Jefferson Medical College, 1885; died at his home in Calvert, Md., April 25, from pneumonia, aged 60.

Henry B. Speitel (license, Indiana, 1897); died at his home in Radnor, April 14, aged 80.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

TUBERCLECIDE

Another Consumption Cure Humbug

Tuberclecide is a consumption cure fake exploited by the Tuberclecide Company with headquarters at Los Angeles, Cal. The reputed discoverer of this remedy is one Charles F. Aycock, formerly of Oklahoma. Tuberclecide is brought to the attention of newspaper readers not only by display advertisements, but by means of advertisements in the form of news items. Its method of exploitation differs little from that of similar fakes—the inevitable "follow-up letters" and other paraphernalia of the mail-order medical quack being used. Some of the claims made for this nostrum are:

> "The discovery of the age—Tuberclecide."
>
> "Consumption can be cured by Tuberclecide."
>
> "Tuberclecide is an unfailing Germicide for all Tubercle Bacilli."
>
> "Tuberclecide is a specific that eliminates tubercle bacilli from the human body."
>
> "This treatment will cure tuberculosis in anyone who has enough vitality to survive twelve weeks independent of our treatment."

Tuberclecide, which is a pale yellow, oily liquid, comes in a 2-ounce bottle, for which $15 is asked. The instructions are to take eight drops on a raw egg, followed with a glass of milk. It is to be taken three times a day during or after each meal, the dosage to be increased until fourteen drops has been reached. An original sealed bottle of this nostrum, sent in by Dr. Edward P. Fick of Seattle, was submitted for examination to the Association Laboratory. The Association's chemists reported:

"Examination of the contents of a sealed, original bottle of Tuberclecide shows it to be essentially a solution of creosote or guaiacol in some bland oil, probably olive oil."

This is but another verification of the statement so often made, that practically all nostrums that contain any medicinal ingredients whatever, consist of drugs that have been used for years by the medical profession. The "patent-medicine" manufacturer, for the purpose of deceiving the purchaser, invests such drugs with virtues they do not possess.

In the case of Tuberclecide, we find, as indicated by the chemists' report, that the tuberculous patient, after being instructed as to diet and hygiene, is given as an accessory treatment small doses of creosote or guaiacol, remedies that have been in use for years. It is easily conceivable that a consumptive who should strictly follow the rules regarding the methods of living, which every intelligent person now knows to be the essential treatment in tuberculosis, would in all likelihood be benefited, whether he took minute doses of creosote or not. The viciousness of the Tuberclecide treatment is twofold: First is the fact that individuals taking it will be led to rely on the medicine—which has no curative value—rather than on the dietetic and hygienic treatment which, while really the all-important part of it, is made to appear as incidental and subordinate. Second, it is little less than robbery to charge anyone, well or ill, $15 for a mixture of olive oil and creosote that is not worth 15 cents. In the preposterousness of the claims and in the inordinate price charged for it, Tuberclecide is typical of the many cruel consumption cure frauds with which the country is afflicted.

GLORIA TONIC

This rheumatism "cure" is exploited by John A. Smith, Milwaukee, Wis., and is advertised extensively on both sides of the Atlantic. Some of the claims made for this preparation are:

> "The world's greatest rheumatism and gout remedy."
>
> "Gloria Tonic has conquered the demon rheumatism in many cases."
>
> "Has cured many cases of thirty or forty years' standing."
>
> "No remedy is surer—none quite as sure—as Gloria Tonic."

The preparation has been analyzed by the British Medical Association's chemists, who reported:

"Analysis showed the presence of potassium iodid, guaiacum resin, extract of licorice, powdered licorice, starch, mineral matter—apparently a mixture of talc and kaolin—a resinoid substance, and a trace of alkaloid. . . . The quantities of the various ingredients are estimated as accurately as possible, and the following formula was indicated:

"Potassium iodid	1.8 grains
"Guaiacum resin	0.8 grain
"Extract of licorice	1.0 grain
"Resinoid (phytolaccin?)	0.9 grain
"Powdered licorice	1.7 grains
"Rice starch	2.0 grains
"Talc and kaolin	2.1 grains"

The variability of nostrums of this type is well illustrated by the fact that a sample of Gloria Tonic analyzed by Dr. Aufrecht of Berlin showed a different composition from those tablets analyzed by the British chemists. Aufrecht, in an article that appeared in the *Pharmazeutische Zeitung*, June 8, 1910, reported: "The Gloria Tonic Tablets examined consisted essentially of 26.76 per cent. potassium iodid and 2.81 per cent. iron (probably in the form of iron saccharate)."

The price charged for a box of fifty tablets of Gloria Tonic is $1; the estimated cost of the ingredients in these fifty tablets is 16 cents.

Correspondence

The Railroads and Human Safety

To the Editor:—In The Journal, April 15, 1911, p. 1113, after citing the list of accidents shown by the accident bulletin of the Interstate Commerce Commission for July, August and September, 1910, you refer to "the deliberate, cynical disregard of human safety which foreign observers are prone to consider an American characteristic," and say: "When the people are awakened to the possibilities and the necessities of the whole situation, there will be a change."

I beg to call your attention to the Act of Congress, passed April 14, 1910, prescribing the kind and location of safety appliances on all cars engaged in interstate commerce, which, as testified in hearings before the Interstate Commerce Commission, will involve expense on the railroads of $55,000,000. When the commission held hearings preliminary to determining what regulations should be enforced under this law, the railroads offered no objection to the essential features of plans proposed for fully equipping all cars with uniform safety appliances, notwithstanding the enormous expense involved.

J. W. Watson, chief inspector of safety appliances of the Interstate Commerce Commission, in his report for 1909, says:

> "As showing the care with which the safety appliances demanded by the law are being maintained, it may be noted that while the railroads dispensed with the services of a great many employees to meet the economies necessitated by falling off of business in 1907, the force of men employed to maintain safety appliances suffered the least curtailment of any. As a result the condition of equipment continued to improve during the slack period of 1908-09, the year just closed showing the least percentage of defective equipment of any years since the law became operative, notwithstanding that the number of cars examined by our inspectors was 125,000 greater than in any previous year. As indicating the great improvement that has taken place within the past five years, it may be stated that the defects per thousand cars inspected in 1905, numbered 309.56, while for the year 1909 the figure is 74.65.
>
> "It is only proper to say that the attitude of most presidents and general managers of railroads has contributed greatly to the good results accomplished. As a rule such officials are in thorough sympathy with the aims and purpose of the law. They have earnestly striven to meet its requirements and have cheerfully cooperated with the commission to secure its effective enforcement."

In his report for 1910 Mr. Watson states that the average of defects found per 1,000 cars had decreased to 65.33 during the year.

The Interstate Commerce Commission's reports show that while in 1900, 67.6 per cent. of the total railway equipment of the United States was fitted with train brakes, in 1910, 99.1 per cent was so fitted. In 1900, 94.3 per cent. of the total equipment was fitted with automatic couplers, while in 1909, 99.3 per cent was so fitted.

The large railroads of the United States paid out for injuries to persons in their transportation departments for the year ending June 30, 1909, $17,705,333. Even were railroad managers controlled by a "deliberate, cynical disregard of human safety" this large payment, which does not fully represent the cost of railway accidents, appears sufficient to cause them to exercise every precautionary measure of safety.

Statistics of the Interstate Commerce Commission will show that a large percentage of railroad accidents are due to the carelessness of employees. Although much railroad legislation has been enacted during the past several years, and a great deal of it in favor of the railway employees at their initiative, no act has ever been passed making it a crime for a railroad employee to disregard a signal or to disobey a rule.

During the railroad rate hearings held by the Interstate Commerce Commission last autumn, many representatives of railroads cited the need of safety appliances, abolition of grade crossings and more substantial construction in general as leading to future increase of expenditure.

While the number of railroad accidents in the United States is greatly in excess of accidents in European countries, yet the conditions of construction here and abroad are very dissimilar. The railroads of Europe were constructed through thickly settled regions and substantial construction was necessary from the beginning.

In the United States the railroads have been largely pioneer enterprises in advance of traffic. The need to get the track down so that the commerce might be served was paramount. So rapid has been the growth of railroad construction that the single track mileage operated in the United States has grown from 192,556 miles in 1900 to 235,402 miles in 1909. At the same time, the rapid growth of population in this country has tended everywhere to render inadequate systems of railroads constructed in comparatively recent years. Vast sums are now being spent in the elimination of grade crossings and for other improvements to promote safety of operation.

In view of these facts, is it quite fair to refer to "deliberate, cynical disregard of human safety" as the attitude of the railroads? Is not the showing that the railroads have made in the interest of greater safety an indication that railroad men are awake to the necessities of the whole situation?

Charles E. Kern, Assistant to Director,
Bureau of Railway Economics, Washington, D. C.

[Comment.—We are glad to give space to this letter, since, as our correspondent has misapprehended our intent, others may have done the same.

We did not impute "deliberate, cynical disregard of human safety" to the interstate railroads, as a class. It will be remembered that the instance cited was one of disregard of human safety by an urban street railway, which, in spite of warnings, since amply justified, laid its tracks so close together that any one caught between two moving cars was almost certain to be crushed and killed. No words can be too strong to characterize the conduct of a road operated under conditions such that the presumption is, from the outset, that loss of life must result. Such conditions exist and they endanger the public. We are glad to believe, however, that such conditions have grown very rare among the railroads to which our correspondent refers.

Our correspondent will doubtless admit that even here there is still much room for improvement. We fear that the weak point in the defense of these railroads is indicated in the statement that "a large percentage of railroad accidents are due to the carelessness of employees." Before the carelessness of employees can be urged as an excuse, it must first be shown (1) that the discipline is such that the railroad has every right to expect obedience and carefulness in general; (2) that the proved character of the employee in any responsible post is such that the road has every right to expect faithfulness from him; and (3) that the conditions of operating are such as, on the one hand, to leave as little room as possible for disaster resulting from carelessness, and, on the other, to place no undue strain on the employee's strength and capacity.

It is gratifying to see that the reputation of these roads, with respect to their care of human life, is highly valued. This augurs well for the improvement of whatever conditions may still remain to be improved.—EDITOR.]

Who Should Apply the Wassermann Test?

To the Editor:—This week I was approached by one who styles himself a chemist asking me to instruct him in the Wassermann reaction. The following copy of the reply which I mailed to him is self-explanatory:

"*My Dear Sir:* Your inquiry yesterday, in regard to my willingness in teaching you the details of the Wassermann reaction, has received the most earnest consideration by me. Heretofore I have refused no one who wished to know this work. All such applicants, however, have been physicians.

Personally I should like to teach each one who is interested. The prevalent opinion in Germany to-day is that only trained serologists should do this work. In a recent number of the *Münchener med. Wochenschrift*, K. Taege asserts that only his ability as a physician has enabled him to interpret difficult reactions, made by himself, satisfactorily in given cases.

To avoid being personal and prejudiced in this matter, however, I determined to place your letter in the hands of Dr. Paul G. Woolley, director of the laboratory of the Cincinnati Hospital, and to be guided by his decision. Dr. Woolley is of the opinion that I could not give you a certificate, after a period of instruction in this work, stating that you are fully competent to make a correct reading in every case which may come to you for analysis, because of your lack of medical training.

Since you asked me at the end of a period of instruction to give you a certificate stating that at such time you would be fully competent to do this work, and inasmuch as, according to the opinion of Dr. P. G. Woolley, a recognized authority in pathology, I would be unable to do so, I must refuse the offer you so kindly made me."

I am a staunch supporter of the medical profession, and I believe that none but a physician is capable of passing judgment on the question as to whether a given patient is luetic or not. Experience has shown us how difficult this reaction may become in many instances. The physicians of this state are busily engaged in trying to have the optometry bill vetoed, and I think that we all should be equally active in trying to prevent laymen from practicing medicine in any other of its branches. Furthermore no physician ought to give a certificate to any one certifying to his competency to practice any branch of medicine, and least of all in a case of this kind in which a man absolutely without a knowledge of general medicine and its ethics might affiliate himself with the advertising "venereal quack," and become a harpy to prey on the people.

This man now intends to go East with the hope of finding some physician willing to instruct him, and then to return here with a certificate announcing his fitness.

OSCAR BERGHAUSEN, B.A., M.D., Cincinnati.

An Observation Bearing on the Causation of Sex

To the Editor:—I noticed in THE JOURNAL (April 22, 1911, p. 1228) an abstract of a paper by W. W. Kain, "Can the Sex of the Family be Controlled at Will by the Parents?" Kain is said to agree with E. R. Dawson that the supplying ovary is in reality the essential factor in the causation of sex, the right ovary producing the male and the left ovary the female. I believe that a study of the chromosomes with their adjunct sex chromosomes, etc., will dispel any such notions. But that is too big a subject for this letter. I wish at this time only to report a case that came under my observation last October. A girl married at the age of 14; at the age of 15 she gave birth to a boy, and at 17 to a girl, following which she had three miscarriages produced by herself with a catheter. About two weeks following her last miscarriage she died of lobular pneumonia, at the age of 19. Necropsy revealed a tuberculous cavity in the right apex the size of an English walnut, a serofibrinous pleurisy of the right side, a pericarditis with effusion, no inflammation of the pleura of the left side but the pneumonic condition as bad on the left side. The pelvic area showed no evidences of the miscarriages. There was, however, a congenital absence of the left tube and ovary, of which there was not even a remnant, the broad and round ligaments being apparently normal. The right ovary and tube were perfectly normal. Dr. A. E. McDowell assisted me.

W. O. WISNER, Spokane, Wash.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

VENTILATION IN THE PUBLIC SCHOOLS

To the Editor:—I wish to get some information about ventilation of public schools. The system in use in our school, and in a large number of schools in New Jersey, is based on the idea that carbon dioxid is heavier than air, which is correct at a certain temperature. The inlet for pure air is placed near the ceiling, in the expectation that the vitiated air will be forced downward to the outlet near the floor. To my mind this reverses the laws of Nature. Gases will expand when heated, volume increased, specific gravity lessened. Just imagine a class of little children seated in a kindergarten on little chairs having the impure air forced down on them in order to get it out through the outlet! When the room is heated to about 70 F. (the transoms and windows and doors closed with this system), does the carbon dioxid rise to the ceiling? If so, why not let it out there? Being a medical inspector, I would like some light on the subject. JOSEPH PAYNE, Midland Park, N. J.

ANSWER.—You will find much information about ventilation and heating in the following books:

Shaw, W. N.: Air Currents and the Laws of Ventilation, 1907. Cambridge Univ. Press.

Monroe, W. S.: Steam Heating and Ventilation, 1902, New York, Engineering Record Series.

Harrington: Practical Hygiene, 1902, Lea Brothers.

Notter, J. Lane: Treatise on Hygiene, 1908, Blakiston.

You state that the inlet for pure air is near the ceiling but do not say whether the incoming air is warm or cold. The problem is one of heating as well as ventilation. If the incoming air is warm it will tend to remain near the top of the room. If the outlet is high in the wall the warm air will tend to pass out without either warming the room or materially changing the air of the room. If the outlet for air is at the floor the warm air after raising the temperature of the room will sink and pass off at the bottom.

Carbon dioxid itself in the quantity ordinarily found in rooms is harmless. It is simply taken as an indicator of vitiated air. The amount of carbon dioxid added to schoolroom air by respiration is slight, seldom more than 10 parts per 10,000. Experiments have shown that people confined in small, tight compartments endure without any symptoms of illness or discomfort an atmosphere containing 150 parts of carbon dioxid per 10,000, provided the temperature and moisture are kept low. Tests in crowded schoolrooms under similar conditions show that the pupils are unaffected. Results are different if the temperature is allowed to rise to 70 F. and the humidity is high. It seems well established that results commonly attributed to poor ventilation are not due to any change in chemical composition of the air but to physical changes. The solution of the problem of ventilation lies in the maintenance of the normal heat interchange between the body and the surrounding air.

Whether expired air will rise or sink depends on several factors, its temperature, amount of CO_2, moisture content and the temperature of the surrounding air. Taking what is perhaps an average density for expired air, if the temperature of the surrounding air is below 81 F. the expired air will tend to rise. The expired air will tend to sink if the temperature of the surrounding air is above 81 F. and neither rise nor fall if the surrounding air is at this critical temperature. The expired air will sink to the floor after rising and cooling, as it will tend to do in a room temperature of 70 F. unless the flow of air downward made by forced draught is overpowering.

THE POSSIBILITY OF DUPLICATION OF THE APPENDIX

To the Editor:—In THE JOURNAL (Jan. 21, 1911) Dr. W. G. Young reported a case in which he had at one operation removed two appendixes. The story raised my doubts. Nevertheless, when I was a medical student we made no study of embryology, or of comparative anatomy, and I had made no special investigation of the appendix along either of these lines. Dr. G. K. Dickinson of Jersey City published an article on "Appendicitis and Its Moving Pathology" in the *Journal of the Medical Society of New Jersey*, March, 1911, which showed careful study of the morphology of the appendix. I wrote asking him if it were a physical possibility for one cecum to have two appendixes, and referring him to the report in question. He replies that he had felt surprised that the editor of THE JOURNAL had allowed the article to be published. He says that embryologically it is "impossible for a cecum to segregate into two appendicular portions. There is nothing in comparative embryology which would permit us to expect such an anomaly. So for as I know, no surgeon of reputed careful observation has seen the human cecum with two appendixes." He says that he thinks that in the reported cases a colonic tab or a diverticulum of the small intestine (Meckel's), has been mistaken for a real appendix.

I have on at least three occasions, perhaps four, removed an appendix from a patient, from whom a previous operator asserted that he removed one, but the previous operators were all men of very limited experience, and their failure to find the appendix was not surprising. One of them, indeed, brought his patient to me a few months after the operation, and admitted that he had "failed to find" it.

It seems to me that it would be well to bring up in some way an issue in this instance, and not allow this reported case to go unchallenged. There may be ignorant surgeons and dishonest surgeons, but I do not believe that any human cecum ever had two appendixes.

B.

ANSWER.—Supernumerary appendices are very seldom seen. Indeed, Heineck (*Chicago Med. Times*, 1908, xli, 197) who studied over 3,000 cases failed to observe a single instance. Nevertheless there is found in Verheyn's "Anatomy," 1704, but not in the 1710 edition, a cut showing an "ordinary" and an "extraordinary" processus vermiformis. Fleischmann and Meckel are quoted by Strengel ("Appendicitis," 1906, p. 7) as having observed double appendices. But Kelly ("Vermiform Appendix," 1905, p. 105) states: "In regard to misplaced and supernumerary appendices most of these can be accounted for on other grounds." More recently McCook (referred to in *American Practice of Surgery*, 1910, xliv, 624) has reported an appendix having a bifid base. Rosenberger (*Proc. Path. Soc.*, Philadelphia, 1902, vi, 205) describes a processus vermiformis having two distinct lumina each with its mucosa, lymphnodes and muscularis; and Prentiss (*Washington Med. Ann.*, 1906, p. 25) under the title, "A Double Appendix" says: "I wish to present a microscopic slide of an appendix having two distinct lumina."

From the meagerness of the literature it is plain that anomalies as to number in this organ are exceedingly rare and that most careful observations should be made in cases of apparent duplications so as not to mistake Meckel's diverticulum or other formations for an appendix.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 6, 1911.

Wallace, George S., M.R.C., reported for duty at Presidio, Texas.

Napier, Edward L., lieut., reports for duty at Yuma, Ariz.

Frick, Euclid B., lieut.-col., will, in addition to his present duties, assume the duties of medical supply officer, Provincial Brigade, Point Loma, Cal.

Freeman, Charles E., captain, relieved from duty as medical supply officer, Provisional Brigade, Point Loma, Cal., and ordered to duty with troops designated to proceed to Yosemite National Park, Cal.

Johnson, Thomas H., lieut., relieved from duty with Provisional Brigade, Point Loma, Cal., and ordered to duty with the troops designated to proceed to Sequoia National Park, Cal.

Fisk, Owen C., sick leave of absence extended one month.

Maloney, James E., M.R.C., honorably discharged from the service of the United States, his services being no longer required.

Griflis, F. G., M.R.C., reported for temporary duty at Fort Mackenzie, Wyo.

Long, C. J., reported for temporary duty at Fort McKinley, Maine.

Grubbs, Robert B., major, granted thirty days' leave of absence when his services can be spared, with permission to apply for thirty days' extension.

Medical Corps, U. S. Navy

Changes during the two weeks ended May 6, 1911.

Payne, J. H., acting assistant surgeon, appointed acting assistant surgeon from April 20, 1911.

Stalnakeer, P. R., P. A. surgeon, detached from the naval station, Culebra, P. R., and ordered home to await orders.

Shepard, G. W., asst.-surgeon, detached from the naval station, Culebra, P. R., and ordered home to await orders.

Hayden, R., P. A. surgeon, detached from the naval hospital, Norfolk, Va., and ordered to duty at the Naval Medical School Hospital, Washington, D. C.

Dickinson, D., Jr., A. A. surgeon, appointed acting assistant surgeon from April 28, 1911.

Hale, G. D., P. A. surgeon, ordered to duty at the naval hospital, Las Animas, Colo.

Sutton, D. G., P. A. surgeon, detached from the *Des Moines* and ordered to the *Indiana*.

Rose, M. E., asst-surgeon, resignation accepted, to take effect on arrival of *Celtic* in the United States.

Jacoby, A. L., asst.-surgeon, detached from the *Mayflower* and ordered to the *New Hampshire*.

Hough, F. P. W., asst.-surgeon, detached from the *New Hampshire* and ordered to the *Des Moines*.

Miller, O. J., A. A. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the marine recruiting station, Buffalo, N. Y.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 3, 1911:

Irwin, Fairfax, surgeon, directed to proceed to Nagasaki, Japan, on special temporary duty.

Lavinder, C. H., P. A. surgeon, granted twenty-one days' leave of absence from May 3, 1911.

Vogel, C. W., P. A. surgeon, directed to report to the Bureau, Washington, D. C., for conference.

Bryan, W. M., asst.-surgeon, granted twenty days' leave of absence from May 1, 1911.

Porter, Joseph Y., quarantine inspector, directed to proceed to Tampa Bay Quarantine Station on special temporary duty.

Fisher, C. E., acting asst.-surgeon, granted seven days' leave of absence from May 1, 1911.

Medical Economics

LEGISLATIVE SUMMARY

The following summary indicates the situation in the various state legislatures, many of which have adjourned.

ALABAMA

The legislature has adjourned. The only important medical legislation enacted was to amend the medical practice act, making it unlawful for physicians to advertise so as to mislead the people in regard to health matters, and granting the right of appeal to the supreme court in all cases involving the revocation of license, right of appeal being granted to either party.

CONNECTICUT

The legislature is still in session. The senate optometry bill has been rejected by both houses. The house optometry bill is before the senate. An antivivisection bill has been rejected by the house.

ILLINOIS

The legislature will adjourn May 19. The senate bill regarding common drinking-cups has passed the senate. Other bills of medical interest are practically in the same position as when last reported. Senate bill 235, to amend the medical practice act, has passed the senate and is in the judiciary committee of the house. The vital statistic bill is on third reading in the house. The sectarian bills are in committees, as previously reported.

IOWA

A bill to appropriate $2,000 for antitoxin, a bill to appropriate $2,000 for the vital statistics department, a bill to authorize the sterilization of criminals and a bill requiring disinfection of premises previously occupied by cases of tuberculosis or infantile paralysis, have become laws. The osteopathic bill was defeated. A bill to reorganize the state board was also defeated.

KANSAS

The state legislature has adjourned. A vital statistic bill, modeled on the American Medical Association bill, became a law. A tuberculosis sanatorium was established and money was appropriated to carry on campaign of education against tuberculosis.

MAINE

The state legislature has adjourned. A revised medical practice act was passed and an osteopathic bill was defeated in both houses. A bill to prohibit physicians from insuring themselves against damage suits for malpractice was also defeated.

MICHIGAN

The legislature has adjourned. The following bills have become laws: A bill to require physical training to be taught in the city schools; a sane Fourth of July bill; a bill placing all maternity hospitals under the state board of health and a bill to require local boards of health to report all cases of tuberculosis. The chiropractic bill was defeated.*

MISSOURI

The legislature has adjourned. No bills of special interest to the medical profession have been enacted. The optometry bill was defeated.

NEBRASKA

The legislature adjourned April 2. A bill was passed to establish a board of control for state institutions, also bill to establish a state tuberculosis hospital and appropriating $40,000 for its maintenance. An appropriation of $75,000 was made for the enlargement and maintenance of the state orthopedic hospital. An appropriation of $100,000 was made for new buildings for the state hospital for the insane.

NEW HAMPSHIRE

The legislature has adjourned. A bill to consolidate the three existing boards of medical examiners into one, failed to pass. An optometry bill became a law. An osteopathic bill was defeated. A bill to forbid the use of common drinking-cups became a law.

OHIO

The legislature is still in session.

OKLAHOMA

The state legislature has adjourned. An optometry bill became a law.

OREGON

The legislature has adjourned. A bill to empower the state board to prosecute illegal practitioners failed to pass.

PENNSYLVANIA

The legislature is still in session. No laws of special interest to physicians have been adopted. A bill to provide for a single board of medical examiners has passed the senate and is now in the house. A midwifery, a neuropathic and an optometry bill are in committees.

TEXAS

The legislature has adjourned. The sanitary code drafted by the state board of health was enacted as a part of the statutes. A state tuberculous sanatorium and a state leprosarium were established.

UTAH

The legislature has adjourned. A new medical practice act was passed, also a bill to require physicians and midwives to report all cases of blennorrhea in new-born children within six hours of its appearance.

WISCONSIN

The legislature is still in session. No laws of interest to physicians have as yet been passed.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—Third Weekly Meeting

Causes of Sudden Death (Continued)

Death from Cold: Symptoms. Post-mortem appearances.

Death from Heat: Symptoms. Post-mortem appearances.

Death from Starvation: Acute and chronic. Symptoms. Post-mortem appearances.

Death from Electricity: From electric current, from lightning, or by electrocution. Post-mortem appearances.

Infanticide: By commission or by omission. Evidences of live birth. Appearances of lungs, hydrostatic test. Other organs and tissues. Duration of child's life. Cause and manner of death.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

American Assn. of Genito-Urinary Surgeons, New York, June 1-3.
American Academy of Medicine, Los Angeles, June 23-26.
American Dermatological Association, Boston, May 25-27.
American Climatological Association, Montreal, Canada, June 13-14.
American Gynecological Society, Atlantic City, May 23-25.
American Laryn., Rhin. and Otol. Society, Atlantic City, June 1-3.
American Laryngological Association, Philadelphia, May 29-31.
American Medico-Psychological Association, Denver, June 19-20.
American Neurological Association, Baltimore, May 11-13.
American Orthopedic Association, Cincinnati, May 15-17.
American Otological Society, Atlantic City, June 26-27.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Proctologic Society, Los Angeles, June 26-27.
American Society of Tropical Medicine, New Orleans, May 18-19.
American Surgical Association, Denver, June 19-21.
American Therapeutic Society, Boston, May 11-13.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Connecticut State Medical Society, Hartford, May 24-25.
Illinois State Medical Society, Aurora, May 16-18.
Iowa State Medical Society, Des Moines, May 17-19.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Missouri State Medical Association, Kansas City, May 16-18.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Rhode Island Medical Society, Providence, June 1.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

MISSISSIPPI STATE MEDICAL ASSOCIATION

Annual Meeting, held at Jackson, April 10, 1911

The President, Dr. J. W. Young, Grenada, in the Chair

A list of the officers elected was given in The Journal, April 29, page 1271.

Delegates to the Los Angeles Session of the American Medical Association were instructed to vote against the proposition to make membership in the state associations include membership in the national organization.

Addresses of welcome were made on behalf of the city of Jackson by Hon. A. F. Crowder, mayor of Jackson, and on behalf of the Hinds County Medical Society by Mr. W. H. Watkins. These were responded to by Dr. H. M. Folkes of Biloxi.

President's Address: Value of a Good Physician to the Public

Dr. J. W. Young, Grenada: I thank God that every real true physician is a gentleman; and an optimist, and an altruist, a "jolly good fellow," and an all-round good citizen—loyal to the flag, loyal to the courts, loyal to his patrons, loyal to everything that is good and true—but, alas, in so many instances he is not loyal to his fellows, or his state and county medical societies. We are altruists for everything and everybody except each other. Why can we not be colleagues rather than competitors? Instead of knocking, why can we not occasionally, at least, take a fellow-doctor by the hand and say: God bless you, my brother, I wish you well and hope you are prospering? No man in any community is more valuable to the public than a good, reliable physician. Others may bring personal comforts, wealth and material conveniences, but on the physician the people must rely to guard their physical welfare, without which wealth would be of little value. In mere money, the value of his services can never be counted.

Medicine in all ages has attracted to its ranks the most self-sacrificing members of society. Medical men stand alone on the earth, they only are striving with their whole might to extinguish their own business. They preach temperance, virtue and cleanliness, knowing well that when people come to follow their advice their occupation, like Othello's, is gone. The time has come when the medical profession must wake up to the fact that it has been largely ignored in the past. The heroism displayed and martyrdom suffered in the medical profession will never be known. There is a quietness about it that distinguishes it as true heroism. We hear little of the many instances of blood poisoning from treating a septic wound; of the brave stand against the most deadly epidemics, of physicians courting death in the most loathsome forms, away from the comforting touch of loved ones, that the sick and dying may not have to fight alone their battle with the pestilence. What a true physician could not be hired to do for all the money the world could offer, he will do joyfully and without expectation of reward, from the higher sense of duty and his love for mankind.

Physicians all over the land have given up their lives in efforts to save others, often leaving loved ones in penury and want. Has anyone ever said that they were heroes, or has any one ever proposed that their dependent ones should share in a hero fund? Nay, verily. The physician walks amid the ruin and desolation of pestilence; he goes forth to dare and do in a supreme effort to save the lives of his fellowmen. Think of the thousands who are being saved from untimely graves by and through the recent discoveries of medical and sanitary science. Think of what Reed and Carroll and Lazear did for mankind in subjecting themselves to the deadly virus of yellow fever to prove the mosquito origin of that disease. Think of what Jenner and Simpson, and Marion Sims, Crawford W. Long and Ephraim McDowell and Koch and others have done for the world. Nearly every organization of any kind has a pension fund. All Christian denominations provide funds for their aged and superannuated preachers. A fund is provided to pension all college professors after twenty-five years of service. All United States judges, from highest to lowest, and all army officers, whether they have seen any service or not, are permitted to retire on a pension at the age of 65. Every Union soldier is the recipient of a monthly stipend from Uncle Sam's treasury. A good physician who has literally worn himself out toiling and working to save the lives of others, when he is no longer able to work, has any one ever been heard to even suggest a pension for him? Nay verily. "Earth's heroes who have gone down in battle or who have been sacrificed to maintain their solemn convictions of duty to country or religion, deservedly receive the honor and praise given them. The hero dead who sleep in the National or Confederate cemeteries of the land are rightfully held in loving remembrance by the people of the sections for which they fought and died, and no one calls in question the homage paid them in holding them dear to memory," but there are other heroes just as deserving of praise, the many true and noble physicians who have died in the line of every-day duty, and gone down to death in the fulness of loyalty to that duty.

This is the life and character of a true physician, and this leads me to the inquiry: Why is it that we as physicians, individually and collectively, have so little influence, and fail so often to get the ear of our legislators? We have never asked for anything for our own personal benefit. All that we have ever asked for was looking to the general welfare of the commonwealth, and rather to our financial detriment than otherwise. It is because of the petty jealousies and the knocking in our own ranks. We are never a unit on anything. As an instance: Several years ago this association passed a resolution declaring that we would not examine for any of the old line insurance companies for less than $5.00, and only a few weeks ago an agent of one of these companies told me that they have an examiner in nearly every city and town in Mississippi and are only paying a minimum fee of $3.00. We always agree to disagree, and hence a house divided against itself must—as a matter of course—fall. Thus by our own action are we discredited by the public at large.

It is usually possible to get an appropriation from the legislature for the study and cure of animal diseases, but when physicians go before the legislature and state that 3,000 Mississippians are annually dying from the great white plague, and half as many from typhoid fever—both preventable diseases—and ask for an appropriation to stay the spread and ravages of these diseases, the door is slammed in our faces and we are charged with the fact that as physicians we cannot agree as to what we want.

On this occasion, therefore, I plead for harmony in our ranks. I plead for better feeling toward and more love for each other—I plead for a fuller exercise of the virtues and graces which should characterize the life of every true physician—I plead for a greater interest in our county and state associations. The very youngest of us has but a very few years on earth; then how much better we must feel when we come to die to know that we have always loved our fellows—to know that we have been kind and loving colleagues, rather than ugly and mean competitors.

Treatment of Chronic Tuberculous Sinuses with Bismuth Paste. Removal of Birth-Marks by Carbon-Dioxid Snow

Dr. S. H. McLean, Jackson, reported a case of tuberculous abscess treated with bismuth paste and one of nevus treated with carbon-dioxid snow. He described in detail the methods of using these remedies.

DISCUSSION

Dr. J. H. Fox, Jackson: Dr. Beck in treating tuberculous sinuses always administers the paste in liquid form to allow it to enter all cavities. He advises that it be applied warm. He also advises the placing of an ice pack over the sinus to prevent the bismuth paste running out. My attention was first called to carbon-dioxid snow by Dr. Gaskell. I have had splendid results with this treatment. I collect the snow in a manner similar to Dr. McLean's method. The time of application varies. In the case of black moles it must be applied longer than in some other cases.

Dr. W. C. Campbell, Memphis: These abscesses are better not opened. The treatment should not be begun until the sinus is three months old. About once a week or five days I fill the cavities. I have seen harm done by giving too much of this paste—with a little care this can be avoided.

Lobar Pneumonia in Infancy

Dr. B. H. Booth, Drew, living in a malarial district, is accustomed to use quinin in all cases of pneumonia and believes it shortens the course of the disease and lessens its severity. He discusses the variations in pathology and treatment in the disease in children as compared with these in adults.

DISCUSSION

Dr. S. S. Carother, Duck Hill: In my opinion, the danger in giving quinin during the progress of pneumonia is too great.

Dr. J. G. Gaither, Oxford: I use no turpentine, but petrolatum and mustard, 1 part mustard to 16 parts of petrolatum. The patient is anointed daily.

Dr. G. W. Wallace, Arbo: I keep these patients in bed and not in their mother's arms. They are allowed to nurse. The child should be kept very quiet.

Dr. B. S. Waller, Silver Creek: I have noticed great difficulty in breathing. I usually make a plaster with a few drops of turpentine, sometimes a little glycerin.

Dr. F. M. Brougher, Belen: It is necessary to keep the lungs warm. I have found quinin of no value in treatment of pneumonia.

Dr. B. H. Booth, Drew: I use quinin because it is a stimulant to a certain extent. In regard to keeping the child in bed, I should like to know how one can keep the child quiet so easily as in its mother's arms.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF NEW YORK

One Hundred and Fifth Annual Meeting, held at Albany, April 18-19, 1911

(Continued from page 1354)

Discussion on Salvarsan (Concluded)

Dr. V. C. Pedersen, New York: I want to warn against the indiscriminate use of the intravenous injection of salvarsan; this is a surgical procedure of no small importance. It was my misfortune recently to have a case of nearly fatal collapse after the intravenous injection of this drug. Three weeks before the injection the man was examined very carefully as to his heart and arteries and kidneys and they were found to be normal, so far as one could judge in a man who had had syphilis for twenty-one years.

Dr. J. M. Swan, Watkins: I have recently had a patient with an infected antrum in whose case the infective organism was supposed to be the *Treponema pallidum* and in whom the

Wassermann reaction was said to be positive. The blood had been taken three times, twice from a finger puncture, and once from wet cupping of the back. In my opinion a Wassermann test made in this way is valueless and should not be interpreted as an indication for administration of salvarsan or any other antisyphilitic remedy.

Dr. Edward D. Fisher, New York: Mercury has a curative effect on syphilis, and so has salvarsan. Mercury is not supposed, by most of us, to have any curative effect on parasyphilitic conditions, such as general paresis or tabes. A few of the manifestations that may occur in tabes, such as ptosis, or ocular muscle paralysis, which have been shown to disappear by the use of salvarsan have been known also easily and quickly to disappear with the use of mercury. My position at present in reference to the use of salvarsan in organic nervous diseases is that probably this drug will be as ineffective as mercury. In view of its tendency to induce degeneration, and especially in certain nerve fibers, it is too dangerous a drug until we get further reliable information to use it in these diseases.

The Relationship of Tabes Dorsalis to General Paralysis; Are They the Same Disease Differing Only in Situation of the Lesion?

Dr. Edward D. Fisher, New York: While both diseases are parasyphilitic or metasyphilitic manifestations of a primary syphilis, tabes in its classical or typical form rarely or never presents mental or cerebral symptoms characteristic of general paresis. Tabes is a chronic progressive disease, confining its esions to the posterior spinal nerve ganglion, posterior nerve roots, posterior columns and meninges of the spinal cord, and he cranial nerves, especially the oculomotor and optic. General paresis is a disease comparatively acute, as compared with tabes, running its course in three years, while the former may continue for twenty years or longer. Its lesions are chiefly cerebral, involving the meninges and cerebral neurones, to a slight degree the cranial nerves, as the optic nerve and the superior nucleus of the oculomotor nerves. The pinal lesions are rarely systemic in type, but fall under the head of a diffuse or combined sclerosis of the spinal columns. n 100 cases of general paresis of the optic or cerebral and abetic type, only one resembled a classical case of tabes. Clinically the symptoms from cases observed in hospital, dispensary and private practice, while approaching each other in a minor degree, essentially differ in intensity in the more marked symptoms. In tabes, the ataxia is much more extreme, nd the lightning pains and crises are much more frequent nd disabling. The ocular manifestations are much more onstant than in general paresis, whether of the cerebral or abetic type. It is impossible to believe that a disease essenially spinal in its symptomatology and lasting usually at east twenty years can be the same, differing only in the site f the lesion, as a disease limited usually to three years or ven in the unusual or extreme cases to ten years.

DISCUSSION

Dr. E. B. Angell, Rochester: The tendency seems to be o disregard the so-called systemic manifestations of degenrative diseases, and ultimately, so far as possible, to include hem under one general classification. Clinically, Dr. Fisher s right, and I believe, so far as treatment and recognition of methods of treatment are concerned, that his views are perectly sound, but it is rather early yet to come to a definite onclusion regarding this matter.

Dr. W. W. Kidder, Oswego: Tabes is a disease of a definite ract and associated clinically with a definite set of functions hich are less general than the functions of the parts affected y general paresis; and from the limitation of the original abetic affection we would naturally expect it to trespass less n the tissues which are involved in paresis than we would xpect the paretic affection to trespass on the tissues affected y tabes.

Paralysis of the Upper Extremity Due to Nerve Injury

Dr. N. Jacobson, Syracuse: This paper is based on four ases: Two involve the musculospiral nerve, one is a complication of fracture of the humerus, the other is the result of a lacerated wound in the lower part of the arm. The third patient sustained a fracture of the neck of the scapula, implicating the brachial plexus, and the fourth case was due to a penetrating wound of the neck severing the fifth cervical nerve. In each instance more or less complete paralysis resulted which was improved or entirely cured by surgical operation.

Experience of the Army With Vaccination as a Prophylactic Against Small-Pox

Col. John Van R. Hoff, Medical Corps, U. S. Army: Wars have taught us that the mobilization of military resources promotes the incurrence of small-pox in armies, and all experience has shown that efficient vaccination and revaccination absolutely control it. We of the medical department would be loath to return to conditions under which one-tenth of mankind died of small-pox, and which obtained up to the beginning of the nineteenth century. These conditions ceased with the application of Jenner's discovery and since have been effectually controlled by vaccination. In spite of all these facts, it is asked: Does vaccination really grant immunity from, or lessen the severity of, small-pox? Is not the gradual disappearance of this infection due to isolation and sanitation? The answer is obvious. Of isolation Chapin writes:

> Small-pox is less likely to escape detection than is any other disease. Yet epidemics grow in the face of the most rigid isolation. Unrecognized cases, even in this disease, are so numerous that the isolation of the recognized cases often seems to be a complete failure. The state board of health of Minnesota, realizing this, has had the boldness to advise that no attempt be made to isolate, and that entire reliance be placed on vaccination. It was hoped that this would lead to more complete vaccination. There has been no alarming increase in small-pox in Minnesota.

A century or more ago tuberculosis and small-pox shared almost equally the unenviable reputation of being the most potent causes of mortality in the human race. To-day tuberculosis still maintains its evil reputation, but among enlightened people the mortality from small-pox is negligible. While sanitary standards and practice have measurably advanced since 1797, they have not yet greatly changed the mortality rate for tuberculosis. Why should they have so marvelously affected that for small-pox? They have not, and we are forced to the conclusion that to vaccination and revaccination alone are we indebted for power to control this formerly devastating and deadly infection. The great blessings of vaccination are not bought for nothing, though they are purchased at a very trifling cost.

Diagnosis of Common Tropical Infections

Dr. S. M. Shook, U. S. N.: New York furnishes a large number of cases of the tropical infections, two of the most important of which, malarial fever and amebic dysentery, may be acquired in the state. Diagnoses of the intestinal infections due to animal parasites may be easily made by examination of a fluid stool. Blood examinations for malarial parasites may be readily made with a good polychrome stain which is stable.

Fracture of the Tarsal Bones

Dr. F. H. Albee, New York: Direct trauma to the plantar surface of a foot is likely to cause a fracture of the tarsal bones. In every case diagnosed as flatfoot, whenever a slight injury has occurred, the patient should be examined for fracture of the tarsal bones. This should include an *x*-ray examination. An important feature in treatment of fresh fractures, is to keep patients from weight-bearing, for at least six weeks, and then only with the aid of an arch support for two or three months longer. The best results are obtained in the treatment of fresh tarsal fractures. One of the essential features in the management of these fractures is attention to the changed fatty conditions. This is especially true in the old neglected cases.

Arteriosclerosis or the Cardiovascular Disease

Dr. L. F. Bishop, New York: In treatment of cardiovascular disease the Nauheim methods are of much value, although it is not easy to define the route by which improvement is brought about. By Nauheim method I mean change of mode of life, environment, change of diet, removal from work and worry, carbonated baths and resistance exercises. It has seemed to me that possibly the carbonated baths in some way promote the elimination of indol and its allied products through the skin. The most important thing in treatment of a case depending on intestinal putrefaction is the regulation of food, the use of suitable cathartics, and the encouragement of the germs of lactic acid fermentation by the use of the less fermentable carbohydrates. Recently I have been using milk sugar. Abdominal conditions, such as enteroptosis and gastroptosis must be attended to. Alkaline mineral waters by counteracting the natural acidity of the intestinal tract often do great harm which appears as a most intense auto-intoxication, after a course of such treatment. I saw a patient this winter in whom, following a severe alkaline reduction cure, there was such intense poisoning of the heart muscle from auto-intoxication that chronic fibrillation of the auricle resulted. The question of alcohol and tobacco must be decided according to the individual case.

DISCUSSION

DR. D. AYERS, Fort Plain: The principal cause of trouble in these cases is intestinal putrefaction, a general condition of auto-intoxication. It is estimated that about 90 per cent. of the general practice in my section of the state is in connection with conditions dependent on auto-intoxication. I have under observation a woman, aged 74, whose blood-pressure was 260 plus; I do not know how much more than that it was because the scale does not run any higher. She is dizzy most of the time. She has been very toxic for years, and has been constipated ever since she can remember. She has always been a good eater and is jaundiced most of the time. Occasionally she has hemorrhage from the nose. The retinal vessels are very much engorged and varicosities appear. Recent treatment reduced the blood-pressure below the point mentioned, but it is still very high.

DR. E. B. ANGELL, Rochester: I am not yet ready to say whether it is intestinal putrefaction or inefficient elimination of the nitrogen material through the kidney that is the cause of most of the symptoms in these cases. However, there is no doubt but that the over-ingestion of meat, or the over-ingestion of nitrogenous food, has more to do with cardiovascular disease than any other one thing. We must bear in mind that meat tends to putrefactive conditions in the intestinal tract.

DR. J. M. SWAN, Watkins: Arteriosclerosis is not an inflammation, but a degenerative change dependent on a great many varying causes, the intemperate use of alcohol and tobacco being among them. But a great many people who have never used alcohol and tobacco, who have had the acute infections diseases, and who have indulged in the overeating of proteid food as well as carbohydrate foods, have improper elimination of the end-products of these substances on account of insufficient exercise. The disease is a general one, but its symptoms may be manifested in one of three main places: in the kidneys, producing nephritis; in the heart muscle, producing fibromyocarditis, and in the brain, producing the various brain symptoms of arteriosclerosis.

DR. H. SCHOONMAKER, Clifton Springs: When we resort to the so-called starvation treatment, that is, putting these patients to bed and keeping them on a milk diet, cleaning the bowels out and giving them rest and sufficient water to drink, it is surprising how much better they get. It has been my observation that the carbon dioxid bath, the so-called Nauheim bath, unless it is materially modified, does not do so well for the patient as the sweating bath.

DR. F. D. REESE, Cortland: Patients with arteriosclerosis should be put on a restricted diet. I do not care so much what a man eats as I do the amount he consumes. If you can get the confidence of a patient, you will gain one point, then tell him to fast every other day. This seems harsh treatment, but it is the most effectual treatment in arteriosclerosis or high blood-pressure of anything I have prescribed.

(*To be continued*)

Medical Education and State Boards of Registration

COMING EXAMINATIONS

KENTUCKY: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

LOUISIANA: Regular, New Orleans, May 18-20. Sec., Dr. A. B. Brown, 108 Baronne St.

NEBRASKA: State House, Senate Chamber, Lincoln, May 24. Sec., Dr. E. Arthur Carr, 141 S. 12th Street.

NEW YORK: May 23-26 and June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

WISCONSIN: Milwaukee, May 24-26. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

New Board in Oklahoma

The Oklahoma State Board of Medical Examiners, as at present constituted, consists of Dr. F. B. Fite, Muskogee, president; Dr. R. E. Sawyer, Durant, vice-president; Dr. F. A. Englehart, Oklahoma City, treasurer; Dr. John W. Duke, Guthrie, secretary; Dr. M. Gray, Mountain View; Dr. Leroy Long, McAlester; Dr. J. O. Wharton, Duncan; Dr. W. L. Bonnell, Chickasha, and Dr. Philip Herod, Alva. The first examination under the new board was held April 13, when thirty-two applicants were examined.

Iowa January Reciprocity Report

Dr. Guilford H. Sumner, secretary of the Iowa State Board of Medical Examiners, reports that at the meeting held at Des Moines, January 24, 1911, twenty candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1910) (1896)	Illinois Nebraska
Northwestern University Medical School	(1906) (1907) (1898)	Illinois Wisconsin
Coll. of Med. and Surg., Physio-Medical, Chicago	(1886)	Wisconsin
College of Physicians and Surgeons, Chicago	(1906)	Illinois
Hahnemann Med. College and Hospital, Chicago	(1909)	Illinois
Chicago College of Medicine and Surgery	(1909)	Illinois
State University of Iowa, College of Medicine	(1908)	Illinois
University of Louisville	(1910)	Illinois
College of Physicians and Surgeons, Baltimore	(1904)	Illinois
St. Louis College of Physicians and Surgeons	(1909)	Kansas
American Medical College, St. Louis	(1903)	Missour
St. Louis University	(1906)	Missour
University Medical College, Kansas City	(1910)	Missour
Starling-Ohio Medical College	(1909)	Ohio
Jefferson Medical College	(1909)	Delaware
Woman's Medical College of Pennsylvania	(1907)	New Jersey
Medico-Chirurgical College of Philadelphia	(1898)	New Jersey

Utah April Report

Dr. G. F. Harding, secretary of the Utah State Board of Medical Examiners, reports the written examination held at Salt Lake City, April 3-4, 1911. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 5, of whom 3 passed, including 1 osteopath, and 2 failed. Five candidates were licensed through reciprocity. The following colleges were represented:

College	Year Grad.	Per Cent
PASSED		
Georgetown University	(1908)*	
Jefferson Medical College	(1910)*	
FAILED		
Gross Medical College	(1895)	56
Keokuk Medical College, Coll. of P. and S.	(1905)	73

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocit with
College of Physicians and Surgeons, Keokuk	(1898)	Iow
Michigan College of Medicine and Surgery	(1895)	Michiga
Northwestern Medical College, St. Joseph	(1892)	Iow
Kansas City Hahnemann Medical College	(1904)	Kansa
Albany Medical College	(1908)	New Yor

* No percentage given.

Medicolegal

License and Proof Required to Recover for Services—Evidence Against Charge of Malpractice—Wealth of Patient Cannot Be Shown to Justify Fee

The Court of Civil Appeals of Texas reverses, on the appeal of Swift vs. Kelly (133 S. W. R. 901), a judgment obtained by the latter party, a physician who brought the action to recover for professional services. The court says that the defendant insisted that the lower court erred in overruling his general demurrer to the plaintiff's petition, in that it failed to show that the plaintiff was authorized by law to practice as a physician and surgeon and to maintain a suit to collect for such professional services. That contention is sustained.

By the Texas statute, as amended by the legislature in 1901, boards of medical examiners were established, a license from which was required as a condition precedent to the right to practice medicine and surgery in the state; and one article provides that any person who shall practice medicine, surgery or midwifery in the state in violation of the statute shall be fined or imprisoned, and it shall not be lawful for him or her to recover by action, suit, motion or warrant, any compensation for such services. It is well settled that a physician practicing in Texas without the license required by the statutes cannot recover for his services. A compliance with the requirements of the law regulating the practice of medicine and surgery having been made a condition precedent to the right to so practice, it is necessary for one suing to recover for such services to allege and prove such compliance, and a failure to so allege in the petition is fatal on general demurrer thereto.

It is also well established that, in the absence of proof to the contrary, it will be presumed that the laws of other states are the same as the laws of Texas on the same subject. The plaintiff failed to allege in what state his services were performed. If they were performed in Texas, then the Texas statutes would apply as a matter of course. If performed in some other state, then the presumption would obtain that the same statutes had been there enacted and were in force. It was not sufficient that he alleged in his petition that he resided in a certain other state, was a physician and surgeon, practicing his profession in such state, and was a professor in a university in such state.

Then, over the defendant's objection, the plaintiff was permitted to introduce in evidence the defendant's promissory note in the plaintiff's favor for $500 of the amounts sued for, and also letters and telegrams from the defendant to the plaintiff requesting an extension of time for its payment. The ground of the defendant's objection was that, as the suit was to recover on a promise to pay the reasonable value of the services, evidence showing a contract to pay a specific sum was irrelevant and incompetent. The evidence was not admissible to prove the value of the services rendered by the plaintiff. But, among other defenses, the defendant alleged unskilful and negligent treatment of him by the plaintiff, and offered evidence in support thereof. As against that defense, the court thinks the evidence to which the objection was made was admissible as the same would be in the nature of an admission at variance with the defendant's plea of unskilful and negligent treatment.

Lastly, this court is of the opinion that the lower court erred in permitting the plaintiff to show the reasonable value of his services by proof that the defendant was wealthy, coupled with further proof of a custom among physicians to graduate their charges according to the financial condition of the patient, and to charge a wealthy patient a higher fee by reason of his superior ability to pay. The suit was to recover the reasonable value of professional services rendered by the plaintiff. In 30 Cyc. 1600, it is stated that there is a conflict in the authorities on this question, and the announcement seems borne out by the decisions there cited. In Robinson vs. Campbell, 47 Iowa, 625, one of the cases cited, it was held that such testimony is not admissible, and the reasoning there advanced this court thinks is sound. Certainly no court would hold that the value of ordinary labor could be determined by such a test, and on principle this court can see no distinction between such a claim and one of the character now under discussion. If the recovery sought in this suit for professional services had been on an alleged implied contract by the plaintiff to pay such fees as are customarily charged for the same character of services performed for a patient of like financial ability to pay a fee therefor, then a different question would be presented, but, as the same is foreign to the record, the court foregoes a discussion of it.

Book Notices

Manual of Diseases of Women. By W. E. Fothergill, M.D., Assistant Gynecologic Surgeon, Royal Infirmary, and the St. Mary's Hospital. Cloth. Price, $3 net. Pp. 433, with 144 illustrations. New York: William Wood & Co., 1910.

Certain parts of this compendium will be found useful for the general practitioner, more especially the student and the nurse. The anatomy and embryology are handled exceptionally well. It is to be regretted that, in the chapter devoted to physical examination, the author has practically ignored asepsis. He has not even remotely suggested the use of rubber gloves, the sterilization of hands and instruments, or in any way recognized the need of protecting the examining physician, or emphasized the danger of infecting the patient with dirty technic. Several methods mentioned of preparation of the field of operation could well be relegated to the antiquities of surgery. In discussing the treatment of infections, the author warns against washing out the protective lactic acid bacilli in the vaginal secretions with the vaginal douche; yet further on, in contradiction to these views, he recommends the treatment of acute pelvic infections with the hot douche. Although the author intimates his belief in the radical removal of the glands and perimetric tissue in uterine carcinoma, he fails to recommend specifically or in any way to describe the radical Wertheim operative procedure.

An Introduction to Surgery. By Rutherford Morison, M.A., M.B., F.R.C.S., Edin. and Eng., Professor of Surgery, University of Durham. Cloth. Price, $2.50 net. Pp. 162, with 151 illustrations. New York: William Wood & Co., 1911.

As its title indicates, this work is intended as a preliminary course for students in the study of general surgery. The author states in the preface that it is his aim to direct the student toward the main principles of diagnosis and treatment, thereby simplifying and making rational the treatment of the various surgical affections. In some particulars this object has been admirably realized. The chapters dealing with inflammation and sepsis are good, treating the subject in a practical and lucid manner. The same may be said of the treatment of the surgical diseases of the hollow viscera, the diagnosis of syphilis, tuberculosis and malignant disease, and also of the chapter on ulcers and gangrene.

On the other hand, it appears that comparatively too much space, which might better have been given to some subjects treated briefly, has been allotted to others of minor importance. Also, some subjects have been introduced which today are not ordinarily included in a course of general surgery. A little more accuracy in the definition of certain terms might have been exercised and the use of some obsolescent terms avoided.

The work is profusely illustrated with well-executed sketches, diagrams and photographs, which add not a little to its value as a students' text-book.

The Influence of Storage and Various Preservatives on the Dissolved Oxygen in Waters. By Dr. Arthur Lederer. Paper. Pp. 14. Sewage Disposal Investigations, the Sanitary District of Chicago, 1910.

The conclusion is drawn from a considerable number of chemical analyses that the addition of 1 c.c. per 8 ounces will preserve the content of dissolved oxygen in both unpolluted and polluted water for sufficient length of time for samples to be transported to the laboratory for examination. The percentage reduction of dissolved oxygen in stored samples is believed to constitute a "fair index of appreciable pollution."

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Southern Medical Journal, Nashville, Tenn.

April

1 Aneurysm of the Arch of the Aorta. J. B. Murfree, Murfreesboro, Tenn.
2 Cancer of the Cervix Uteri—Its Treatment. A. G. Payne, Greenville, Miss.
3 Pathology and Treatment of Ununited Fractures. J. N. Baker, Montgomery, Ala.
4 *The Artificial Leech in Acute Mastoiditis. U. S. Bird, Tampa, Fla.
5 *The Heath Mastoid Operation. M. M. Cullom, Nashville, Tenn.
6 *Operative Treatment of Fractures. C. W. Allen, New Orleans.
7 *Operative Treatment of Fractures of the Long Bones. J. L. Crook, Jackson, Tenn.
8 *Radical Cure of Painful Halux Valgus (Bunion). H. P. Cole, Mobile, Ala.
9 *Occurrence of Intestinal Parasitic Infections Among the White Patients at the Florida Hospital for Insane. R. N. Greene, Chattahoochee, Fla.
10 *Carbonic Acid Baths in Treatment of Heart Disease. J. H. Honan, Bad-Nauheim, Germany.
11 *Collapse of the Trachea While Performing Thyroidectomy. T. C. Witherspoon, Butte, Mont.
12 Anterior Poliomyelitis. O. H. Wilson, Nashville, Tenn.
13 Id. C. M. Nice, Birmingham, Ala.
14 Treatment of Anterior Poliomyelitis. A. W. Harris, Nashville, Tenn.
15 Certified Milk. D. T. McCall, Mobile, Ala.

4 and 5. Abstracted in The Journal, Nov. 26, 1910, p. 1920.

6. Abstracted in The Journal, Dec. 3, 1910, p. 2005.

7. **Fracture of the Long Bones.**—Crook reports four recent cases of fracture of both tibia and fibula in which he operated, and in all of which he secured good results, a result which, he says, could not have been obtained without operation.

8. **Painful Halux Valgus.**—Cole reports one case in which he used Mayo's method—resection of the head of the first metatarsus, removal of exostosis; restoration of joint by inserting flap of synovial tissue between stump of metatarsus and base of first phalanx. The result was perfect.

9. **Occurrence of Intestinal Parasitic Infections.**—Among 220 white men in the Florida Hospital for the Insane, Greene found ninety-two cases of uncinariasis, or a percentage of nearly 42. The 187 women examined showed a total of 87 cases of uncinariasis, or a percentage of nearly 47; 4 per cent. more women than men showed uncinariasis in this series. These examinations show for the total number of cases in the white departments of the hospital a percentage of nearly 44. Forty-two patients not showing hookworm infection, or a percentage of over 10, were infected with other forms of intestinal parasites, namely, trichocephalus trichiuris, oxyuris vermicularis and ascaris lumbricoides. Taking these other forms of intestinal parasites into consideration in the computation of the percentages would reveal the surprising result, that among the 407 persons examined, there were found 221 cases of intestinal worm infection, or a percentage of 54. Round worms were found associated with hookworms in two cases, one of these being in each sex. *Trichocephalus dispar* infection was noted with uncinariasis in twenty-six cases, sixteen among the women and ten among the men. Triple infection was noted in three patients, all men, the parasites present being *Uncinaria americana, Ascaris lumbricoides* and *trichocephalus trichiuris.* Greene advocates that every county and municipality appoint a physician for special work along this line, and that he should, under the direction of the State health officer, make at frequent intervals an examination of the feces of every individual within the limits of his prescribed area.

10. Abstracted in The Journal, Dec. 3, 1910, p. 2006.

11. Abstracted in The Journal, Jan. 14, 1911, p. 141.

New Mexico Medical Journal, Las Cruces

March

16 The Internal Ear in the Light of Recent Investigations. I. E. Friedman, Carlsbad.
17 The Medical Service and the Law. E. L. Medlar, Albuquerque.

Journal of the Delaware State Medical Society, Wilmington

April

18 Exophthalmic Goiter. H. F. Smythe, Odessa.

Journal of the Missouri State Medical Association, St. Louis

April

19 *Colon Bacillus Pyelocystitis in Infancy and Childhood. D. E. Broderick, Kansas City.
20 Experiences with Tuberculin Therapy in Dispensary Practice. S. T. Lipsitz, St. Louis.
21 *Teaching Medicine Aright. R. H. Jesse, Columbia.
22 Common Abuses of Surgery. W. F. Grinstead, Cairo, Ill.
23 Transposition of Appendix. B. B. Parrish, Kirksville.
24 What is the Key to the Permanency of a Voluntary Association of Individuals in a Common Cause? A. B. Freeman, Joplin.
25 Salvarsan in Syphilis. J. L. Boehm, St. Louis.
26 Relation of the Physician to the Dentist. J. Miller, Maryville.

19. **Pyelocystitis.**—Six cases are reported by Broderick, five of them occurring in females, in each of which there was a preceding history of ileocolitis within six months of the urinary infection. In only one of the cases was there a rigor; it lasted twenty minutes. There was slight vulvitis in two cases. Broderick adopted Thompson's method of treatment. It consists in the administration of potassium citrate (from 48 to 60 gr., increasing to from 120 to 180 gr. in the twenty-four hours). There will be noticed a rather marked change as the urine becomes alkaline. Hexamethylenamin, in doses of from 3 to 5 grains, is frequently administered. Broderick combines the two methods, giving the citrate in increasing doses, every two hours, until the urine is alkaline. He then gives hexamethylenamin, in doses of from 3 to 5 grains, three times daily. The remaining treatment is that of any infection of the urinary tract.

21. **Teaching Medicine Aright.**—The experiences and the sober thought of thirty-three years—thirty of them (from 25 to 55 years of age) spent as dean or professor or president in three universities, each with a medical department, are laid bare by Jesse. He says that people need not have much knowledge of anatomy or physiology to understand that to learn medicine aright one must have considerable previous training; nor is it necessary to know the length of the alimentary canal to see that professors who spend most of their time in private practice, devoting only spare time to teaching, cannot give the best instruction. If any professional school aims at excellence, it should admit no students that have not had at least four years of good high school training and two years more in a college. In preparation for medicine these two years should be devoted to general chemistry, physics, zoology botany, French, German and English. Moreover, no school can now give good instruction in medicine unless it has a library, a museum and a number of laboratories, all well-equipped, and each occupying several rooms. How many laboratories are indispensable? The most modest estimat would surely include (1) anatomy, (2) physiology, (3) physiologic chemistry, (4) bacteriology and pathology, (5) pharmacology and materia medica. The equipment of these laboratories is expensive and each must be in charge of a professor who gives all his time to teaching and research. Moreover, h must have one or more paid assistants, according to the number of students. Large income from endowments or othe sources is absolutely necessary; fees alone will not pay th bills. Work in these laboratories should occupy the whol time of every student in the first eighteen months of hi course.

The last two years (eighteen months) of the four years course (thirty-six months) are given, in good institutions, t preventive and curative medicine—clinics, so-called. For thi instruction there must be a sufficient hospital, a dispensary, number of laboratories, clinical teachers and, in Jesse's opinio much revision of modern methods in America. As to whethe the clinical teachers should have a private practice, Jess states that no man can meet the demands of a large privat practice and at the same time give the best instruction i any professional school. Success in practicing a professio comes rather late in life for a man to pick up skill in teaching, and attainment in the technic of an art does not of itsel bring ability to instruct others therein. Every medical schoo should have its principal chairs for clinics filled by men wh devote their entire time to teaching and research—men wh are not for hire by individuals. They should receive adequat salaries, say from $3,000 to $7,500 a year, according to the value of the man and the costliness of the living in the locality. They should practice in the college hospital of course. but the fees, if there be any, should go to the institution. The hospital, furthermore, should be absolutely under the control of the college. Jesse considers that at least these five cairs, filled in this way, are necessary: (1) surgery, (2) theory and practice of medicine, (3) gynecology, (4) therapeutics and (5) eye, ear, nose and throat surgery.

Revision is needed also in the management of college hospitals. They should accept only, or chiefly, at least, carefully selected patients useful for clinic or research. Only in this way can the best material be obtained for illustration in teaching and for discovery through research, Another false notion. in Jesse's opinion, is that the larger the number of cases the better the clinics, even for undergraduates. Vast clinics and various cases are not necessary for the undergraduate, or even good for him; but rather clinics graded and selected. The undergraduate might spend his summer vacations in larger hospitals, as young engineers spend theirs in field or mine or factory. Moreover, in every state university, at least, the hospital ought to be practically free. In this way it can be made far better, both for teaching and for research.

Another fundamental error found everywhere, he says, is that good clinics are obtainable only in large cities. This notion is far wide of the truth. A hospital of 150 beds, by carefully selecting its patients, can give the best instruction for undergraduates in reasonable number. Every state university in a small town, with a hospital of 150 beds, by accepting without charge cases curable, or incurable, but interesting for illustration or research or both, can have all its beds regularly occupied. It has only to support one good traveling lecturer on hygiene—personal, household and municipal—and to employ one collector of cases in every large city of the state. The collectors (who would not give all their time to this work) might be obtained for $500 a piece annually, and the lecturer for $3,000 or $3,500 with (say) $1,500 more for traveling expenses—about $5,000 a year. What would be the results? The lectures, all free, would illuminate the people and thus promote public health; the physicians of every locality visited might be brought into hearty cooperation with the state university and thus serve as collectors of patients. Jesse points out that state universities, nearly all in small towns, have a rich opportunity through their medical departments, to raise to right notions on this subject the people about them, if only they will go boldly forward toward traveling lecturers, free campus hospitals, selected clinics, investigations into the causes of diseases and right ways of preventing and of ejecting them. Their chief aim should be preventive medicine.

Journal of the South Carolina Medical Association, Charleston

March

27 Cancer of the Face. A. E. Baker, Charleston.
28 Cancer. LeG. Guerry, Columbia.
29 A Plea for the Intravenous Method of Administering Salvarsan. C. W. Barron, Columbia.
30 A Plea for the More Rational and More Energetic Care of the Insane. J. H. McIntosh, Columbia.

Bulletin of the American Academy of Medicine, Easton, Pa.

April

31 *The Hospital and the Young Physician. W. E. Darnall, Atlantic City, N. J.
32 The Economic Influence of the Hospital as Shown on the Profession. W. F. Waugh, Chicago.
33 *Hospital's Recompense to the Staff. T. D. Davis, Pittsburg, Pa.
34 *The Economic Influence of Hospital Administration on the Medical Profession. A. Vander Veer, Albany, N. Y.
35 *Influence of Hospitals on Their Respective Communities. P. V. Eisenberg, Norristown, Pa.

31. **Hospital and the Young Physician.**—Speaking of the value of hospital training to the recent graduate, Darnall says that it brings him in intimate contact with the best of the profession, enabling him to be started along right paths. The ability to apply practically what he has learned is developed within him, besides a systematic way of doing things. And he learns that not all of medical lore is to be found in printed books or prosy lectures; he sees something of the personal relation between physician and patient, which, sociologically, is a most important thing. If afterward he acquires a position in some hospital it will stimulate him to put forth his best efforts in scientific attainment. If he has ability along any certain line it will give him the opportunity to demonstrate it. The hospital becomes for the young man a finishing school in which the mind is trained to accurate methods and correct reasoning. The daily habit of thoroughness, diagnostic accuracy and the ability to go straight to the point, laying aside the non-essential and unimportant, after a time become habitual. His work is all charted, and is an open book. He must submit to the criticism not only of men of older and richer experience, but also of the younger men with newer methods and even the interns themselves fresh from the laboratories and the schools. It behooves him, therefore, that his work should be of the highest grade and the pride of his reputation cannot afford that it be otherwise. His position demands that he should stand for all that is best and most scientific in medicine. This critical fire to which he is subjected, however, brings out whatever qualities he has and stimulates him to give the best that is within him. The greatest good the hospital does in any community is not so much what it does for the individual as the good it does in sending out men trained to the scientific habit of mind, and whose influence and authority as leaders is reflected in the general diffusion of sanitary knowledge in the community.

33. **Hospital's Recompense to the Staff.**—In Davis' opinion, the indirect compensation to a doctor on a hospital staff has been greatly exaggerated. If the same amount of time spent in hospital work were spent in study and investigation, and attention to one's office and practice, he thinks that much more benefit would ensue. He says that it is only the small hospitals and some church institutions that do not now pay their physicians for attending patients who occupy private rooms. Of course, the amount of these fees varies much, but it is becoming more and more a recognized principle that the physician laborer is worthy of his hire.

Davis asks whether a hospital patient who is able to pay should not have the choice of his medical attendant, and, also, should hospitals receiving state aid distribute their favors to only a few physicians, or should all have an equal chance? He believes that the answer to these two questions will lead, sooner or later, to the establishing of two kinds of hospitals, the first, a purely eleemosynary institution where none will be treated except those who are unable to pay, and its staff will consist of men who are paid a just salary by the management for their services, in the same manner as hospitals for the insane pay their physicians now. The other kind will be, as it were, invalid hotels, open only to those who will pay according to their accommodations. Such an institution would have no staff, but would be at the service of all reputable physicians. The medical attendants would arrange for their compensation with their patients, just as they would do in private practice. The hospital would make such charges as the manager should see fit for rooms, operating rooms, nurses, etc. Such an institution could restrict its patients to special diseases, or have different departments. It could have private operating rooms to lease to special surgeons. It would supply nurses and such conveniences as a hospital should offer, but private nurses could be employed by any physician. If these two institutions should be housed in one building, the method of paying the medical men would remain exactly the same as if they were in separate buildings. This might be the type for so-called church hospitals. It would prevent hospitals from sailing under the banner of charity, when they are too often simply money-making institutions. It certainly would recompense medical attendants in hospitals, in a much more equitable way than at present. It would also keep from unduly increasing the number and capacity of hospitals and establish them more firmly on a business basis. In many cities the hospital accommodations are very much larger than are required and the expense of maintenance is urged as a reason for not giving proper recompense to the staff.

34. **Economic Influence of Hospital Administration on the Medical Profession.**—The points which Vander Veer brings out are summarized as follows:

1. Contributions for the construction of the general hospital to be received from those who are disposed to give for such a charitable purpose, thus becoming a partner with the physician in caring for patients who cannot pay for services in their own homes.

2. The care of such contributions, and the organization of the hospital to rest in a board of governors, or trustees, there being a representation on said board from the medical staff of the hospital, the object of this being a close community of interest, at their meetings, and for the discussion of subjects in which they are mutually interested.

3. Appointments on the medical and surgical staff to be made on the recommendation of the staff proper, to be confirmed or rejected by the board of governors.

4. The fee for care of patients in the semiprivate wards or private rooms to be left entirely with the attending physician or surgeon in like manner as though the attention were given in their own homes, hotels or boarding-houses.

5. The semiprivate wards, too, offer an opportunity for the younger members of the medical profession to care for a larger number of patients, when brought to the institution and who are unable to pay for services, than they could elsewhere.

6. Encouragement for every patient who can do so to pay for his board in the public or semiprivate wards, knowing they will receive the attention of the staff of the hospital, or, as is the case in many instances, of the physician or surgeon whom they themselves may select.

7. An opportunity for the public to give to the general hospital such sums as they may feel disposed for making up the deficit that so often occurs in the care of patients who pay all they can and yet are not able to meet the full charge for their expenses. In this manner the self-respect of the patient and friends is maintained, although they still require a little additional aid.

8. A most excellent method for the city to care for its sick and injured and a great protection to the taxpayers.

9. The endowment fund offers an opportunity for the benevolently inclined to place such gifts as he or she may feel disposed to give under the control of an institution that is to be lasting, and where only the interest is to be employed for the annual expenses. Few institutions in this country have endowments sufficiently large whereby the interest will maintain all expenses, and where such do exist only strictly charity cases should be admitted.

35. **Hospitals and Their Respective Communities.**—Eisenberg points out that the influence of a hospital on its surrounding community is beneficial in the broadest sense.

1. The presence of a hospital in any community furnishes prompt attention in all cases of accident or disease, especially to grave and apparently fatal ones, that might otherwise be jeopardized by transmission to some more remote point.

2. The nearness of a hospital arouses more interest and sympathy in its administration and for those cared for in its wards. Especially is this the case when those on the board of management are selected from the citizens of the immediate community.

3. The proximity of a hospital with its continual needs of assistance appeals to the benevolent heart of a community and stimulates not only giving but benevolent work for its support.

4. The location of a hospital in any community wherein its presence has created benevolent interest accomplishes much toward effacing the hard-and-fast social and sectarian lines by unifying sentiment in one common purpose.

5. In all populous centers wherein a sufficient number of physicians and surgeons are found willing to support a hospital by their gratuitous services such association with the institution is highly beneficial to that community, because of a better feeling that is thus promoted among the medical staff of the institution.

6. The medical staff of such hospital, because of the accumulation of clinical material of great value, is being constantly trained and educated for better work in the homes of their private patients and, therefore, indirectly the community itself is benefited.

7. The great advance within the past twenty-five years in methods of prevention of disease and of the necessity of more scientific care of the sick and injured has rendered a school for training nurses an essential adjunct to a well managed hospital, therefore such institution, in preparing and furnishing trained nurses for service among the sick in their homes, confers a great benefit on a community.

American Journal of Urology, New York

March

36 Salvarsan in Syphilis. E. Tomasczewski, Berlin.
37 Normal and Pathologic Posterior Urethra and Neck of the Bladder. L. Buerger, New York.

Journal of Ophthalmology and Oto-Laryngology, Chicago

April

38 Management and Treatment of Trachoma Among Indians. W. H. Harrison and D. W. White, U. S. Indian Service.
39 Inter-Relationship Between the Eyes and Nose. J. S. Weaver, Kansas City, Mo.

Chicago Medical Recorder

April

40 *Cystoscopic Findings in Early Tabes Dorsalis. I. S. Koll, Chicago.
41 The Visiting Nurse in the Municipality. W. A. Evans, Chicago.
42 Perforating Gastric Ulcer. H. F. Lewis, Chicago.
43 *Legal Rights and Liabilities of Physicians. J. E. Kehoe, Chicago.
44 *Neuralgia of the Larynx. H. Kahn, Chicago.
45 Scarlatina—Its Prevention and Treatment to Avoid Complications. G. W. Reis, Chicago.

40. **Cystoscopic Findings in Tabes Dorsalis.**—Lateral trabeculæ formation, rigidity of the ureteral orifices and hypertrophy of the interureteric ligament, according to Koll, compose the three important points which should lead to a further investigation directed toward changes in the spinal cord. Symptoms referable to the urinary tract should call for a cystoscopic examination. The bladder picture which is found, *in toto*, differs from any other seen through the cystoscope. The most striking changes are found at the ureteral orifices which, instead of showing the rhythmical, uniform, sphincter-like action with each extrusion, allow the urine to flow out without any evidence of a muscular contraction. To this condition, which he has been unable to find described anywhere, Koll has given the name ureteral-orifice rigidity. In some of the cases this rigidity may not be complete, and thus closely resemble the rigidity of the sluggishly acting pupil. There is a more or less marked hypertrophy of the interureteric ligament manifested by increased vascularization and distention of the arteries; the ridge between the two orifices is distinctly higher and stands out well above the remainder of the mucosa of the bas fond.

A third point to make up the diagnostic triad is the typical trabeculization, or the *balken* of the Germans. This differs from the picture given by an overworked bladder due to obstruction by showing the trabeculæ only on the lateral walls of the bas fond, and apparently continuous with the interureteric ligament at either end. The trabeculæ, too, are finer and more nearly resemble the papillary muscles of the heart. In no case in the class under consideration did Koll see any trabeculæ in the median line, in the fundus or extending high up on the lateral vesical walls.

43. This article appeared in THE JOURNAL, April 22, p. 1215.

44. **Neuralgia of the Larynx.**—Kahn reports five cases of non-ulcerative laryngitis dolorosa. He describes laryngeal neuralgia as being a painful non-ulcerative disease of the larynx, characterized clinically by more or less intermittent or constant pain, painful areas, dyspnea, dysphagia, disinclination to talk and fear of approaching death.

Lancet-Clinic, Cincinnati

April 22

46 *Roentgen-Ray Therapy of Enlarged Thymus. S. Lange, Cincinnati.
47 Treatment of Disease. I. O. Allen, Richmond, Ind.
48 The Reason and Purpose of the American Society of Medical Sociology. W. J. Robinson, New York.

46. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1583.

Vermont Medical Monthly, Burlington

April

49 Surgical Treatment of Empyema Without Complicating Appar atus. S. Lloyd, New York.
50 Anaphylaxis. G. S. Graham, Hanover, N. H.
51 Vaginofixation of the Retroverted Uterus in the Cure o Cystocele in Parous Women. C. W. Strobell, Rutland.

Surgery, Gynecology and Obstetrics, Chicago

April

52 The Operative and Specific Treatment of Renal and Vesica Tuberculosis. H. Kümmell, Hamburg-Eppendorf, Germany.
53 Tuberculosis of the Kidney and Ureter. A. D. Bevan, Chicago
54 Gonococcus Infection of the Kidney. P. I. Nixon, Baltimore
55 Tuberculosis of the Tubes, Ovaries and Bladder. G. Kolische Chicago.
56 *Value of Chromo-Ureteroscopy in Functional Kidney Diag nosis. B. A. Thomas, Philadelphia.
57 Malignant Papillary Adenoma of the Kidney. J. S. Eisen staedt, Chicago.
58 Congenital Epulides (Odontoblastomata). L. G. Kaempfe New York.
59 Intermittent Hydrarthrosis. V. C. David, Chicago.
60 The Radiograph Shadow and the Cystoscope. W. F. Braasc Rochester, Minn.
61 *Ventrosuspension by the Round Ligaments for Backward an Downward Displacement of the Uterus. H. N. Vineber New York.
62 *The Closure of the Abdominal Incision. S. E. Tracy, Phil delphia.
63 Acute Postoperative Dilatation of the Stomach Followin Gastrojejunostomy. M. R. Barker, Chicago.
64 Treatment of Eclampsia. L. F. Watson, Oklahoma City, Okl

56. **Chromo-Ureteroscopy.**—Conclusions as to the function sufficiency or insufficiency of a kidney, based merely on th onset of the elimination of indigocarmin, Thomas says, ma be erroneous. The intensity of the color reaction must al receive serious consideration. Therefore, the first law of th chromo-ureteroscopist is to obtain and maintain an absolutel clear fluid content in the bladder. The second law is to hav a sufficiently brilliant illumination. If these two conditio are not secured, he will frequently fail to observe the earlie

onset of the elimination of the indigo, particularly if it is a light blue coloration and merely oozes from the ureteral orifices into the bladder, instead of exhibiting the normal spurt. The first law can be best fulfilled by prolonged irrigation, if indicated, and the employment of an evacuation cystoscope, so that the bladder may be emptied quickly and refilled when necessary. The second law is not so difficult, requiring simply care in the selection of a good cystoscope and the testing of the lamp before introduction into the bladder.

Chromo-ureteroscopy based on the employment of indigocarmin is regarded by Thomas as the most valuable single test for renal sufficiency or insufficiency. The test is said to be particularly applicable for surgical affections of the kidneys and ureters and almost invariably suffices to establish the diagnosis, if, when the indication arises, it be supplemented by ureteral catheterization. It is of no value in movable kidney in the absence of a ureteral kink or hydronephrosis, pyelitis, early tuberculous and certain other forms of nephritis and small tumors not involving a majority of the parenchyma. It is of value in the differential diagnosis of hemorrhagic and hronic interstitial nephritis from other types of the disease. Supplemented by ureteral catheterization, and the Roentgen ray, it will serve to diagnose practically every case of renal and ureteral calculus. In hydronephrosis, pyonephrosis, pyelonephritis and chronic tuberculosis of the kidney involving approximately one-third of the parenchyma, chromo-ureteroscopy is of exceptional merit. In simple hypertrophy or carcinoma of the prostate, causing chronic retention of the urine, the indigocarmin test promises to be of value in the differentiation of operable and non-operable cases.

Chromo-ureteroscopy is also of great value in the differential diagnosis of obscure abdominal tumors, also in facilitating difficult ureteral catheterization. Indigocarmin is eliminated rom normal kidneys as a dark blue in from 4½ to 20 minutes; as a light blue, not later than 15 minutes. In 86.7 per cent. of normal kidneys it appears either as dark or light blue in from 4½ to 15 minutes. If the indigo does not appear at the expiration of from 15 to 20 minutes, it is evidence of erious insufficiency of the renal function. If the elimination of the dye does not occur at all, the kidney or ureter is ravely diseased. The intensity of the color reaction (dark blue or light blue) depends on the concentration of the urine nd the individual secretory power of the organ. A surgically iseased kidney eliminates the dye less intensely than its ormal sister organ, or not at all. The test is very simple nd by alternate observation of the two ureteral orifices, ifferences between the two kidneys are readily and speedily oted.

61. **Ventrosuspension in Displacement of Uterus.**—In Vineerg's method, four sutures are used to suspend the uterus y means of the tubes, two on either side. One suture passes round the tube 4 cm. from the uterus, the other at its inserion into the uterus. The sutures pass through the rectus muscle and fascia and are tied on the fascia. The wound is losed in the usual manner.

62. **The Closure of the Abdominal Incision.**—Overlapping of he cut edges of the rectus fascia is the end aimed at by racy. The peritoneum is sutured with catgut, and the same uture is used to whip together the muscle. On the right ide of the wound, the fascia is separated back from the muscle, for from 1 to 3 cm.; likewise on the left side. Tenon sutures are then introduced through the skin about 3 cm. rom the edge of the wound, passing through the fat and the ascia about 1 cm. from the edge, then in and out through he fascia on the left side from 1 cm. to 3 cm. from the edge, nd back through the fascia on the right side, then out hrough the fat and skin on the left side. The sutures are laced from 4 to 5 cm. apart. Next the edge of the overpping fascia is whipped down with chromic catgut, and the kin sutured with a buttonhole stitch. If the ends of the ension sutures are drawn taut, the fascia will overlap, and e whipping down of the edge will be facilitated. Gauze aturated with 70 per cent. alcohol is placed over the wound nd the tension sutures are tied over the gauze. The tension utures are removed in from ten to fourteen days.

In patients in whom there is a wide separation of the recti muscles and marked relaxation of the abdominal wall, the fascia is overlapped to the extent the recti muscles are separated. In cases of marked relaxation, the recti muscles are dissected out and sutured from an inch above the umbilicus to the pubic bone. It is not considered advisable to constrict the upper abdomen as such a procedure has a tendency to increase the visceroptosis, which is usually present. If the peritoneal cavity is opened when separating tissues about the umbilicus, the peritoneum is sutured transversely as there is less tension and the approximation is better. After the recti muscles are sutured, the edge of the fascia on the left side, which is slid under the fascia on the right side, to the extent the muscles were retracted, is anchored with mattress sutures of chromic gut, and the edge of the fascia from the right side is sutured in the usual way. In order to make a good approximation and to avoid any infolding of the fascia at the upper end of the wound, this fascia on the right side is cut transversely, and the vertical incision carried slightly upward, and to the left. The upper segment (above the transverse cut) is then slid under and the lower segment over the fascia on the left side. The free edge of the fascia is then sutured. When it is necessary to leave one end of the wound open for drainage, the same technic is employed, except that no gauze is interposed between the skin and the tension sutures. By employing this method the separation of the fascia in the part of the wound not closed is less, and the abdominal wall is stronger than if closed by through-and-through sutures; dead spaces are eliminated; the fascia is overlapped and approximated accurately and remains overlapped even if the catgut is absorbed in a few days. No dead space is left in the fat and the necessity of suturing this layer is eliminated. In cases in which there is an excess of serum or slight oozing in the skin or fat immediately after the operation, the pressure from the tension sutures tied over the gauze will force the serum or blood through the skin incision, where it will be taken up by the gauze. If primary union of the wound takes place, it is practically impossible for a hernia to follow, and if the technic is proper, suppuration will seldom result.

Northwest Medicine, Seattle, Wash.

April

65 Neurasthenia Gastrica, or the Nervous Dyspepsia of Leube. A. A. Robinson, Ogden, Utah.
66 The Principles of Chemotherapy, and the Relation of the Wassermann Reaction to Syphilis. R. W. Matson, Portland, Ore.
67 Laboratory Methods in Diagnosis of Syphilis. C. Snow, Salt Lake City, Utah.
68 Salvarsan, Its Place in Medicine To-Day and in the Future. G. S. Peterkin, Seattle, Wash.
69 Significance of Jaundice in Gall-Stone Disease. F. Hinman, Spokane, Wash.
70 Origin of the Various Constituents Found in Urinary Calculi. G. S. Gordon, Vancouver, B. C.

Therapeutic Gazette, Detroit

April

71 Diseases of the Skin. J. W. Miller, Cincinnati.
72 Results of Gall-Stones. J. A. McGlinn, Philadelphia.
73 Exostoses of the Os Calcis. A. J. Davidson, Philadelphia.
74 Puerperal Infection. E. P. Davis, Philadelphia.
75 *A Modified Vaccine Therapy Based on the Theory of Multiple Infections and Quantitative Reaction. A. F. Schafer, Bakersfield, Cal.

75. **A Modified Vaccine Therapy.**—The vaccines used by Schafer are neither "bacterial vaccines" nor "serums" as ordinarily understood, but are solutions in sterile water (to which approximately 0.5 per cent. phenol has been added) of the soluble substances generated by the organisms when grown in suitable culture media. The product is sterile and contains neither live nor dead bacteria, all organisms having been removed by filtration through porcelain. The "mixed-infection vaccine," which is used in the treatment of infections of any character whatever (except where the diagnosis has been clearly established and the predominating causative organism is known) is made from a large variety of pathogenic bacteria. This is a polyvalent preparation, since the organisms are not confined to any one strain of a given species. Two

hundred patients ill with pneumonia have been treated with the special pneumococcus vaccine. A series of fifty-six patients with lobar pneumonia treated with the special vaccine without a single death included two infants, seven children whose ages varied from two to eleven years, eight adults who were chronic alcoholics (three of whom had delirium tremens), sixteen complicated with measles, three with peritonitis, three with virulent peripheral lesions; two obstetric patients; five with typhoid infection, six with double lobar pneumonia, and fourteen individuals over 60 years of age, one being 92. One hundred and fifty patients with typhoid were treated, and of these four died, two from perforation and one from hemorrhage. The average time from the treatment to recovery was ten days. Good results were obtained in several cases of acute articular rheumatism. Considerable improvement followed the use of tuberculosis vaccine in a series of ten cases exhibiting a variety of tuberculous lesions. In gonorrheal infections the results were such that definite conclusions are unwarrantable.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

April 15

76 Brain Tumors. H. W. Jones, Minneapolis.
77 Practical Use of Tuberculin in Diagnosis. G. E. Brown, Brainerd.
78 Two Cases of Conservative Amputation. J. H. Rishmiller, Minneapolis.
79 A Plan for the Establishment of Local Routine Epidemiologic Work in Minnesota. H. W. Hill, Minneapolis.
80 Evil Effects of Small Adenoids. C. F. Coulter, Wadena.

Archives of Pediatrics, New York

April

81 Diarrhea in Children, with Especial Reference to Pods of Cesalpinia Corriaria (Divi-divi) as a Drug, and to Banana Flour and Plantain Meal as a Food. A. E. Vipond, Montreal, Canada.
82 Value of Prophylaxis in the Early Life of the Exceptional Child. S. V. Haas, New York.
83 A Record of the First 500 Cases Cared for at the Nathan Straus Infants' Milk Depots of Washington, D. C. L. Tayler-Jones, Washington, D. C.
84 Malarial Fever in Children. E. G. Wherry, Newark, N. J.
85 Tuberculous Peritonitis in Children, With Report of Cure Following Two Operations in a Dry Non-Exudative Form of the Disease. J. H. Bradshaw, Orange, N. J.
86 Infant Mortality in Summer: How to Conduct a Successful Campaign Against It. A. Stern, Elizabeth, N. J.
87 *Treatment of Typhoid with Special Reference to the Use of Hydrochloric Acid. A. McAlister, Camden, N. J.

87. **Hydrochloric Acid in Typhoid.**—It is McAlister's uniform practice to use the acid in every case just as soon as the alimentary tract has been well prepared for systematic feeding by the use of eliminatives, preferably broken doses of calomel followed by a saline or castor oil. He gives the acid well diluted, in doses ranging from 2 to 15 minims, according to age and the needs of the individual case, three or four times a day. Pepsin may be added when it seems especially indicated, particularly in the very young or very delicate, and the mixture may be made especially palatable by giving it in the form of an artificial gastric juice. This McAlister regards as being the ideal mixture for pediatric use. The treatment calls for water, both for pleasant administration of the acid and to satisfy the thirst it tends to excite. This in itself is a noteworthy advantage in the treatment of this particular febrile condition in which patients almost never, without special and constant urging, imbibe enough water. But the greater value of the acid lies in its effect on gastric digestion and the tone of the digestive processes generally. He urges more extensive use of this treatment.

Ohio State Medical Journal, Columbus

April

88 Treatment of Hip Disease as Based on its Pathologic Mechanics. H. O. Feiss, Cleveland.
89 The Fergus Advancement Operation for Ptosis. E. Lauder, Cleveland.
90 The Facial Expression and Posture of Disease. S. Loving, Columbus.
91 Tracheobronchoscopy. S. Iglauer, Cincinnati.
92 Diagnosis and Treatment of Puerperal Sapremia and Septicemia. F. Fletcher, Columbus.
93 Review of the Theories of Etiology of Cancer. R. L. Bidwell, Toledo.
94 Treatment of Carcinoma and Sarcoma. H. M. Freeman, Toledo.
95 Further Reasons Why a Natural History is Needed in Ohio. O. V. Huffman, Cincinnati.

Medical Record, New York

April 22

96 Present Day Health Activities. W. Wyman, Washington, D. C.
97 Treatment of Epithelioma, Lupus, etc., with Thorium Paste. L. D. Bulkley, New York.
98 Teaching School Hygiene. J. Burnet, Edinburgh, Scotland.
99 *Serotherapy of Pneumonia in Infants and Young Children. E. M. Sill, New York.
100 *Treatment of Diabetes Mellitus, with Table of Carbohydrate Equivalents. H. S. Carter, New York.
101 *Spontaneous Disappearance of Malignant Growths. J. W. Gleitsmann, New York.
102 Diagnosis of Duodenal Ulcer. M. Gross, New York.
103 Reactions to Tuberculin. L. C. Rouglin, Atlanta, Ga.

April 29

104 *Pulmonary Symptoms as Premonitory Signs of Venous Thrombosis. L. A. Conner, New York.
105 Street Sanitation in New York. W. Van V. Hayes, New York.
106 *A Case of Multiple Myeloma with Albumosuria. C. K. Austin, Paris, France.
107 Drugs in Gastric Therapeutics. J. W. Weinstein, New York.
108 Significance of a History of Alcoholic Addiction. T. D. Crothers, Hartford, Conn.
109 Short Talks with My Students and Others: Being Random Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.

99. **Serotherapy of Pneumonia in Infants.**—About a year ago Sill became interested in a polyvalent composite serum obtained from diphtheria-immune horses for use in pneumonia. The serum was injected subcutaneously, in doses of 10 c.c., at varying intervals, depending on the symptoms and the effect it had on the patient. In some cases one injection seemed t be sufficient to relieve the symptoms and check the disease while in others repeated injections of 10 c.c. were given ever day or at longer intervals, although not always with favorabl results. Sill thinks that, perhaps, in these latter cases, i larger doses had been given or the serum had been injecte at more frequent intervals, it might have made a differenc and given a more immediately favorable result. In all twelve patients were treated by means of the serum, eigh males and four females. Their ages ranged from 5 months t 3 years; all but two were under 2 years, and three of thes were under 1 year. There were three cases of lobar pneumonia and nine cases of bronchopneumonia. Two patient died, one of empyema and one of extensive double pneumoni marasmus and cardiac failure (mortality 16.6 per cent.). Tw other patients besides those who died were not helped by th serum, but the other eight were all more or less improved an in some of the patients the effect of the serum seeme marked. Those patients who received the serum early in th disease seemed to be most benefited by its use.

100. **Treatment of Diabetes Mellitus.**—Carter calls attentio to the fact that the only real success comes through a prop dietary regulation, and as the chief symptom, glycosuria, dependent on the incomplete metabolism of carbohydrates, an plan for efficient treatment must center about the prop training of the organism to reacquire, to some extent, the lo power of properly burning the carbohydrates. In other word it is the partial re-education of the individual to the prop digestion of starch and the sugars, a power which has bee lost through some defect in the physical economy of t secretions, notably the pancreatic internal secretion.

101. **Spontaneous Disappearance of Malignant Growths.** Attention is directed by Gleitsman to the fact that this ph nomenon does occur, and he urges that the subject be ma one of more intensive study.

104. **Venous Thrombosis.**—The chief points to which atte tion is called by Conner are the following: Pulmonary sym toms are, not infrequently, the first indication of a beginni venous thrombosis, preceding often by several days the lo evidences of such thrombosis. Such symptoms are the res of the lodgment in branches of the pulmonary artery emboli derived from the newly formed, friable thrombi in t peripheral veins. These early pulmonary emboli are usua of small size and the symptoms arising from them are f quently slight and transient. The symptoms of pulmona embolism and infarction by no means always correspond the classical descriptions of them. One or more of the car nal symptoms are frequently lacking. This is especially t of hemoptysis, which is often absent entirely, and at ot times appears only several days after the onset of the ot symptoms. The physical signs are usually either those o more or less extensive plastic pleurisy or of a small area

pneumonic consolidation which lasts only for three or four days. Venous phlebitis and thrombosis, in very many instances, begins in the small peripheral veins, especially in those of the calf, where it may exist for some days before the symptoms of thrombosis of the large veins appear. The chances of pulmonary embolism seem to be much greater at the beginning of a venous thrombosis than later on in its course. Some of the obscure chills in typhoid, Conner says, are related to the lodgment of pulmonary emboli. He cites nine cases to illustrate the points made by him.

106. **Case of Multiple Myeloma.**—The disease that carried off Austin's patient was a myeloma, that is to say, a tumor of the bone-marrow, whose point of departure was in the substance of the twelfth dorsal vertebra, which collapsed through total disappearance of its bony substance. There were metastatic nuclei in the neighboring vertebræ, and in the ribs. This myeloma was characterized by the predominance of lymphocytes. The lymphnodes had undergone a form of atrophy, and a radical change of structure such as is sometimes observed in anemia. There were evident traces of old and healed tuberculosis of the lungs. There were likewise traces of former inflammation of the pleuræ and peritoneum, which was no doubt also tuberculous. It was to this inflammation that the renal lesions appeared to have been due. The points in this case that seem to be of particular interest are the following: A long period of preliminary silence, which probably covered the entire winter. The period of increasing pains, lasting three months, ending in a big crisis, and followed by six months of uninterrupted improvement resulting in a condition that the patient considered practically a normal one. The apparently favorable action of the atoxyl treatment; the fact that with a whole vertebra entirely destroyed, and without the slightest artificial support, the patient suffered no inconveniences whatever from this pseudoarthrosis, while at no time were there paralytic symptoms of any sort.

Journal of the Oklahoma State Medical Association, Muskogee

April

10 The Repair of Fracture. J. H. Scott, Shawnee.
11 Antityphoid Vaccination. J. W. Riley, Oklahoma City.
12 Tuberculosis of the Fallopian Tube. C. N. Ballard, Oklahoma City.
13 Duty of the Physician to Himself. L. H. Huffman, Hobart.
14 Electricity and the Nervous System. T. A. Williams, Washington, D. C.
15 Lacerated Cervix-Uteri. J. H. Hansen, Grandfield.
16 Pyloric Obstruction Due to Extrinsic Causes. G. A. Beedle, Kansas City, Mo.

Boston Medical and Surgical Journal

April 27

17 Men, Manners and Medicine. R. M. Green, Boston.
18 *Climatic Treatment of Tuberculosis. G. Hinsdale, Hot Springs, Va.
19 *Common Colds. J. A. Honeij, Boston.
20 Analysis of Forty-six Cases of Prostatectomy. L. Davis, Boston.
21 Pemphigus Chronicus Vulgaris of the Oral Cavity and Larynx. R. A. Coffin, Boston.
22 Acute Toxemia Caused by Infection of the Throat by the Colon Bacillus. C. B. Faunce, Jr., Boston.

118. **Climatic Treatment of Tuberculosis.**—Hinsdale is firm in the belief that for the majority of incipient cases, when the atient can well afford it, life in a selected locality in the West offers the best prospect of cure; but that for eastern atients a period of training in an eastern sanatorium is ighly desirable—the first and most important stage in beinning any climatic treatment. He believes that dryness, unshine and altitude are features of the best climate, but hat they decidedly disagree with some patients when preented in extreme doses as in some of our southwestern esorts. Hinsdale agrees with others that given simple pulmonary tuberculosis (not far advanced), somewhat over 60 er cent. of such patients will do better and live longer in the West than they would in the East, supposing every other onsideration to be equal; also that nearly 40 per cent. of the otal will do better and live longer in the East than in the West, similar conditions prevailing in both places. Of course hose comprising this latter 40 per cent. in the East may not o quite so well proportionately as those of the 60 per cent. n the West, but in the East they will be doing the best that ey can, and a small majority of the 40 per cent. can be cured under eastern conditions that would probably fail utterly in the West. In other words, conditions other than money, nostalgia, etc., should enter into the question of cases of tuberculosis being treated and remaining West or East. Doubtless every patient who is able to afford it easily should try the West; the first and essential part of the western trial being a period of regulated régime in the East.

119. **Common Colds.**—This is a statistical paper. Honeij details the results of an investigation of the prevalence of common colds and the economic loss due to them, together with a study of the various types of colds, sources of infection, the vocations most affected and other facts of more or less interest and importance.

Virginia Medical Semi-Monthly, Richmond

April 7

123 Diagnosis and Treatment of Tumors of the Breast. J. S. Horsley, Richmond.
124 Late Methods in the Diagnosis and Treatment of Gastric Diseases. J. R. Verbrycke, Jr., Washington, D. C.
125 Hydronephrosis. K. Ruffin and L. Gwathmey, Norfolk, Va.
126 Some Interesting Mastoid Cases. J. R. Winslow, Baltimore.
127 Appendicitis—Review of 130 Operative Cases. W. L. Peple, Richmond.
128 Treatment of Advanced Cases of Appendiciais. J. N. Lewis, Roanoke.

Long Island Medical Journal, Brooklyn, N. Y.

April

129 Status of the Radical Mastoid Operation for Cure of Chronic Suppurative Otitis Media. W. C. Braislin, Brooklyn, N. Y.
130 Salvarsan. J. M. Winfield, Brooklyn, N. Y.
131 Correction of Paralytic Deformities in Young Adults. W. Truslow, Brooklyn, N. Y.
132 Treatment of Movable Kidney. T. B. Spence, Brooklyn, N. Y.
133 Some Pelvic Pathology and Reflexes. R. T. Morris, New York.

Medical Fortnightly, St. Louis

April 10

134 Aphonia. L. D. Brose, Evansville, Ind.
135 Supplying Anatomic Material. G. H. Bogart, Brookville, Ind.
136 Personal Experience with Specific Vaccines. E. E. Clark, Danville, Ill.
137 Important Difference Between the Opsonic Negative Phase and the Clinical Negative Phase in Bacterial Therapy. F. E. Stewart, Philadelphia.

Annals of Ophthalmology, St. Louis

April

138 The Chemistry of Metabolism in its Relation to Eye Disease. S. L. Ziegler, Philadelphia.
139 Relation of Cerebral Decompression to the Relief of the Ocular Manifestations of Increased Intracranial Tension. G. E. de Schweinitz, Philadelphia.
140 Ocular Complications of the Acute Exanthemata. J. M. Griscom, Philadelphia.
141 Vaccine Therapy and Serotherapy in Disease. W. Zentmayer, Philadelphia.
142 Restoration of Contracted Sockets After Enucleation of the Eyeball—Advantages of Thiersch's Skin Graft Over Other Methods of Treatment. V. L. Raia, Providence, R. I.
143 A Modified Pterygium Operation. P. B. Wing, Tacoma, Wash.
144 Ocular Symptoms of Infantile Scurvy. J. H. Dewey, Philadelphia.
145 Elephantiasis of the Eyelids. W. B. Weidler, New York.
146 Papilloma of the Conjunctiva. F. Krauss, Philadelphia.
147 Gumma of the Brain, with Absolute Blindness and Complete Recovery. E. O. Winship, New London, Conn.
148 Vertical Imbalance (Hyperphoria and Hypophoria) and the Value of the Vertical Prism in Ophthalmic Practice. W. Reber, Philadelphia.
149 An Improved Astigmatic Axis Finder. E. B. Coburn, New York.
150 The Scientific Versus Method by Rule, for Converting Cross Cylinders into Compound Lenses. W. C. Langhorst, Aurora, Ill.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 15

1 Arteriosclerosis and the Kidneys (to be continued). Sir C. Allbutt.
2 *Heart Failure. J. Mackenzie.
3 *Surgical Treatment of Chronic Colitis. D. Power.
4 *Vaccines in Acute Mastitis. T. H. C. Benians.
5 *Erythema Nodosum Following Measles. E. P. Joynt.
6 *The Value of Surgical Treatment of Pulmonary Cavities. J. D. Harris.
7 Scopolamin-Morphin Anesthesia in Labor. D. Corbett.
8 Evidence of Recent Severe Illness Afforded by the Nails. N. Flower and Sir S. Wilks.

2. **Heart Failure.**—The point is emphasized by Mackenzie that an individual affected by a heart lesion which diminishes

his working force must live within the limits of his powers. This can only be done by the period of rest being sufficient to restore the exhaustion of the work force. In this way alone will heart failure be avoided, and a reasonable prospect of longevity be attained. Treatment need not be given in the presence of any abnormal conditions unless there is distinct evidence of heart exhaustion. Where there is such evidence, then the treatment, in the first place, must consider the possibility of diminishing the amount of daily effort. From the point of view that heart failure arises because the period of work is so great that the period of rest cannot restore a sufficient amount of work force, the essential principle of treatment becomes self-evident—namely, rest. The success of the treatment depends entirely on the amount of rest the heart has procured. Mackenzie thinks it probable that drugs which have such a potent and beneficial effect on the heart as those of the digitalis group owe their good effects mainly to the amount of rest procured by the slowing of the heart's rate. At all events, in the researches Mackenzie has been carrying on for some years, the patients who have obtained the greatest benefit from digitalis were those in whom the heart's rate was decreased by the digitalis. He has repeatedly seen relapse of patients coincide with an increase in the pulse-rate when the digitalis was diminished or left off.

The vast majority of patients in whom digitalis acts with such marvelous effect in slowing the rate and improving the condition are those affected by auricular fibrillation. Hearts with the normal rhythm are seldom so sensitive to digitalis, and in them there is not the same tendency to slowing of the rate. Mackenzie says that it is a matter of every-day experience to find individuals with a murmur or an irregularity, who for years have been subjected to treatment and made to visit health resorts, for a condition which neither indicates heart failure in the present nor its likelihood in the future. The fact that heart failure did not arise has probably been attributed to the precautionary measures. From this comes the belief in the efficacy of many of the drugs and methods in use to-day. When many of the vaunted remedies are carefully investigated, their uselessness becomes evident. There are many conditions in which rest alone fails to benefit the heart, as when the heart is invaded by a toxin, or rendered irritable from some lesion in the organ itself, or when the ventricle in heart-block contracts so seldom as to endanger life. For these and many other conditions, we are absolutely without any means of meeting the impending and actual danger, and yet we are kept in ignorance of this fact because writers pour forth a stream of remedies for any and every kind of heart trouble. Were we more alive to our own limitations, we should be more industrious in the search for real and valuable remedies.

3. **Chronic Colitis.**—Appendicostomy is favored by Power in these cases of ulcerative colitis. The products of the ulceration are very abundant, and their absorption is one of the most serious dangers of the disease. It is important, therefore, to cleanse the bowel and to keep it free from putrefying products. Drainage through the appendix enables this to be done in the most satisfactory manner. The operation of appendicostomy is not so serious as that required for removal of the appendix during the quiet stage. It is very effective, and the fistula can afterward be closed without trouble; indeed, in some cases the difficulty is to prevent spontaneous closure. On the other hand, Power emphasizes that it must be clearly understood that appendicostomy will not cure ulcerative colitis, and the friends of the patient should have this clearly explained to them at the time of the operation, or they will be disappointed. The object of the operation is to keep the bowel clean and to prevent the absorption of toxic products. The ulcerative process continues until the patient becomes immune either by a natural process or by artificial means. Appendicostomy, therefore, prolongs the life of the patient, and thus gives him a better opportunity to be cured.

In the cases which have come under Power's observation (ten) the first effect of appendicostomy has been a material improvement in the condition of the patient, even in the most advanced cases. The temperature falls, the appetite returns and may remain good permanently. The improvement in the general condition, however, is not maintained in its full extent, and a relapse occurs after a week or two. These relapses are a cause of great anxiety, but, so far as he has seen them, they have only been temporary, and the net result of the operation has been a slow but interrupted progress to recovery after months of illness. Power has tried many different drugs as local applications in these difficult cases of ulcerative colitis. Phenol in all its forms, however disguised, has caused carboluria so often that he has ceased to use it. Bismuth salicylate, perchlorid of mercury, biniodid of mercury and boric acid caused irritation in the earlier stages and were discontinued. Bismuth carbonate (15 grains to 1 pint) and potassium permanganate (1 in 30,000) were some of the drugs which proved most useful and were soothing. In the later stages of the disease irrigation with perchlorid of mercury (1 in 20,000), zinc sulphate (4 drams to 3 pints) and silver nitrate in the strength of 5 to 10 grains to the pint of sterilized water gave the best results when they were used alternately. Ionized irrigations were employed on several occasions, but he could not satisfy himself that there were any marked improvements.

4. **Vaccines in Acute Mastitis.**—Benian cites a considerable number of cases of acute mastitis and chronic suppurating sinuses of the breast in which the vaccine treatment was eminently successful.

5. **Erythema Nodosum Following Measles.**—In 9 out of 300 cases of measles erythema nodosum developed. In most of the cases about ten to fourteen days had elapsed since the first onset of measles before the erythema nodosum made its appearance. In half the cases the first symptom was pain in the joints, followed by the erythema in about twenty-four hours There was no history of rheumatism or contact with rheumatic fever in any of the cases, and no rheumatic or cardiac lesions were found in any of the patients. The question of sore throat before or at the time of the measles rash was carefully gone into by Joynt, but it was present in one case only. So far as h knows no other case of erythema nodosum has occurred in th sphere from which these cases have been collected. Seven o the cases occurred among the poorer class attending the hospital, and two were private patients in fairly good circumstances.

6. **Surgical Treatment of Pulmonary Cavities.**—Harris reports another case (his second) in which opening a pulmonary cavity and treating it surgically seemed indicated. H regards the procedure as being useful and fairly safe in nontuberculous cases in which the cavities are but few in number. The result was all that could be desired. This case presented one or two special points of interest. Thus there wer no adhesions found strong enough to prevent the lung fro retracting from the wound. Neither was there anything t guide the palpating finger to the dilated bronchus. Again, th movements of respiration, so much exaggerated anteriorly a compared to the movements of the ribs posteriorly, repeatedl pulled out the tube from the bronchiectasis, for although th latter was carefully mapped out prior to operating, as soo as air entered the pleura the bronchiectasis was drawn upwar and toward the mediastinum. The operation was therefor divided into three stages. When efficient drainage of t bronchiectasis was established, the temperature fell to norma and remained so with cessation of all sweatings. Lastly, t collapsed lung and injured pleural cavity were subjected t Roentgen rays for twenty minutes on four occasions.

Lancet, London

April 15

9 *Heart Failure. J. Mackenzie.
10 *Indications for and Technic of Cesarean Section. A. Routh.
11 *Nature of the Skeleton Changes in Acromegaly. A. Keith.
12 *A House Epidemic of Typhoid Fever Due to a Carrier of Atypical B. Typhosus. W. J. Wilson and J. A. Sinton.
13 Three Hundred Cases of General Anesthesia Combined wi Narcotics. G. Brown.
14 *Prolapsus Uteri: Ventrofixation. J. O'Conor.
15 Common Forms of Deafness. W. H. Kelson.
16 An Improved Drainage Tube for Suprapubic Cystotomy, Liv Abscess and Abdominal Cysts. L. McGavin.

9. Also published in the *British Medical Journal*, April 1911.

10. Also published in the *Journal of Obstetrics and Gynecology of the British Empire*, February, 1911.

11. **Skeleton Changes in Acromegaly.**—After having examined a considerable number of skulls, Keith concludes that the changes in acromegaly are of the nature of true growth, and are apparently due to the circulation through the body of a substance formed in the pituitary. This substance seems only to sensitize the tissues, the actual cause of their growth being mechanical stimuli arising from muscular action and mechanical movement. The growth changes seen in the acromegalic are of the same nature as those which occur normally in anthropoids and in the Neanderthal race, and both are probably due to a condition of hyperpituitarism.

12. **A House Epidemic of Typhoid.**—A house epidemic consisting of seven cases of typhoid is reported by Wilson and Sinton. The first patient was the mother who had eaten cockles a fortnight before her illness and who became a bacillus-carrier. The infecting bacillus was at first immotile when grown on agar, and was somewhat inagglutinable. The mother gave birth to a healthy full-term child, and her milk was very rich in agglutinins.

14. **Prolapsus Uteri: Ventrofixation.**—As experience has tended to prove that permanent reliance cannot be placed on any method of suturing the fundus, O'Connor adopted the following procedure with, so far, most promising results. The abdomen having been opened by a low central incision, the uterus is drawn forward with the left hand, and a small transverse cut is made at the site of the reflection of the peritoneum on the anterior surface of the uterus (exactly similar to the preliminary peritoneal incision in hysterectomy). With the handle of a knife or with the right index finger, the peritoneum with the bladder is pushed downward and forward, until a space of about an inch square is left on the anterior surface of the cervix. The peritoneum on each side of the exposed area is seized with pressure forceps, and is retracted out of the way, while he passes three strong catgut sutures, about one-third of an inch apart, through the denuded surface of the cervix, deep enough to get a firm grip of the cervical muscular coat. The needles having been removed, he draws the ends out, respectively, on each side through the recti muscles, by the aid of Childe's ligature forceps. Thus the peritoneum is excluded, and the exposed cervical connective tissue is brought into direct apposition with the recti. Before tying these three fixation sutures, O'Connor always closes the peritoneal layer of the parietal wound by a continuous catgut suture, the first few loops of which he passes also through the uterine peritoneum just above the denuded area, in order that no raw surface may be left for the omentum or the intestine to adhere to. The three cervix-recti sutures are next tied, and the muscles are approximated through the remainder of the incision by another catgut suture, the rectus sheath is similarly closed, and the skin is united by a subcuticular silk thread.

Clinical Journal, London

April 5

17 *Dyspnea in Nephritis and Diabetes Mellitus. N. Tirard.
18 Acute Intussusception. E. S. Bishop.

April 12

19 *A Fatal Case of Acute Suffocative Catarrh of Pneumococcal Origin (Pneumococcus Bronchitis). A Second Case of Pneumococcus Bronchitis (Unilateral) of Long Duration and Not Fatal, with Other Analogous Cases and Remarks. S. West.
20 Mixed Morbid Conditions in the Chest. J. W. Carr.
21 Acute Bronchial Affections in Young Children. T. D. Lester.

17. **Dyspnea in Nephritis and Diabetes.**—Urgent dyspnea, Tirard says, is always of grave import in nephritis and diabetes. In nephritis, when dyspnea is found, one must determine the cause, and to which of these categories of dyspnea the case belongs. It is essential for the purpose of treatment. The treatment should be hot-air baths and purgatives. Diaphoretics may do good in one group, and in another group it may be necessary to withdraw the fluid from the legs, the abdomen and the chest. In yet another group of cases, success may be obtained by stimulants and by expectorants. In diabetes, when dyspnea develops, one must examine the chest very closely for evidence of tuberculosis or other pulmonary trouble, and must also examine the urine closely for evidence of acetone or diacetic acid, remembering that this may be present even when, or particularly when, the sugar has shown signs of diminishing. When the sugar diminishes and dyspnea is worse, it is almost always certain that acetone or oxybutyric acid or diacetic acid will be present. Another practical conclusion is that when this symptom of air-hunger develops in patients who are not known to be diabetic, or who are known not to be diabetic, or when there is marked apathy or drowsiness in patients who are being fed by the rectum, it is advisable to examine for acetone and diacetic acid, and when these substances are present, whether one is dealing with diabetics or non-diabetics, it is always a safe rule to give alkalies and carbohydrates.

19. **Acute Suffocative Catarrh of Pneumococcal Origin.**—West regards the association of bronchitis with pneumonia as being always serious, but the gravity depends on the relation between them. Pneumonia occurring in the course of an ordinary bronchitis is an awkward complication, but not necessarily fatal. If, however, the signs of bronchitis develop in the course of a pneumonia, the result is almost invariably fatal. The meaning of the bronchitis in the two cases is different. In the first it is merely an association of two independent diseases. In the second the bronchitis is a sign of pulmonary failure, the result of the strain thrown on the lungs by the pneumonia; the lungs having done all they could to cope with the pneumonia, but failed, the signs of the failure being those of bronchitis. This is sometimes called secondary congestion of the lung. But the congestion of the lung may be primary. It may be coincident with the onset of pneumonia, and produce very grave symptoms. It may even be associated with hemoptysis, which is sometimes considerable. Yet as the consolidation develops in some part of the lungs, the primary general congestion may subside and the physical signs gradually limit themselves to those of ordinary consolidation. This may be compared to the widespread initial swelling which occurs in the subcutaneous tissue precedent to the development of a boil, and which rapidly disappears as soon as the infection localizes itself. If, when the pneumonia localizes itself, this general congestion still continues, it constitutes a very grave complication. This general congestion, bronchial as well as pulmonary, may also exist independently of any, or of anything but slight, consolidation. It is then a condition of the greatest gravity.

Medical Press and Circular, London

March 29

22 *Rheumatic Manifestations in Childhood. R. O. Moon.
23 Congenital Cystic Kidney. K. E. L. G. Gunn.
24 The Senile Heart: Prognosis and Treatment. J. Hay.
25 Primary Pneumococcus Peritonitis. T. G. Moorhead.
26 A Case of Acute Visceral Syphilis. T. Bushby.

April 12

27 Salvarsan in Syphilis. S. Taylor and R. W. Mackenna.
28 *A Case of Anomalous Cutaneous Eruption. W. K. Wills.
29 Paratyphoid Fever. G. Peacocke.
30 Fractures of the Patella and Their Surgical Treatment. C. B. Lockwood.

22. **Rheumatic Manifestations in Childhood.**—In Moon's opinion, there is one thing more important than all else in the treatment of rheumatism, and that is rest. Thus the rheumatic nervous children should have their school hours reduced, and in particular should not be allowed to work in the evening; in addition, an hour's enforced rest in the middle of the day is often advisable in such cases. But it is above all in the cardiac manifestations that rest is of such sovereign importance; a couple of months or more in bed is none too much when a cardiac lesion has been detected, and when the child first gets up, great caution must be exercised for some months longer. In the present state of knowledge this is far the most important thing to be done in order to save the heart from an entire breakdown of compensation. It is important that these children be warmly clad, but there is no reason why they should not eat the same food as ordinary healthy children. Care should be taken that they are not overworked at school or over-fatigued by too much exercise; any indication of this, such as headache, restlessness at night or general nervousness should be promptly treated by stopping school work, resting at home for two or three weeks, and, perhaps, it may be well to give small doses of arsenic and iron or cod-liver oil and iron, always bearing in mind the insidious attack which rheumatism so often makes on a vital organ.

28. **An Anomalous Cutaneous Eruption.**—The patient whose case is reported by Wills was a boy, 6 years old, who had had tonsillitis, cervical adenitis and sore throat. The skin eruption followed. The skin over the shoulders became scaly, and this condition spread in a couple of weeks to the whole trunk, and to a lesser extent to the thighs, arms, neck and face, but did not involve the hands, feet or scalp. By the end of the month, while the scaly condition was extending, the parts first involved were showing more inflammatory changes, and a small amount of serous discharge appeared, and the scales were shed, leaving a raw surface. At the end of three weeks, the whole of the trunk had become "raw," the conjunctiva had become involved, the gums and lips were also ulcerated, and the condition of the child most pitiable. The discharge had soon become purulent and offensive, but no local treatment seemed in any way to allay the symptoms. The temperature was of a septic type, but did not run very high. He presented the appearance of a profound toxemia. Cultures were made from the throat lesions, from the nose, eye and the skin lesions, and all were returned "positive Klebs-Loeffler." Almost immediately after injecting diphtheria antitoxin improvement began to set in. The local treatment had comprised boric ointment and zinc and mercury applied on lint.

Annales de Gynécologie et d'Obstétrique, Paris

March, XXXVIII, No. 3, pp. 129-192

31 *Myelitis and Polyneuritis During Toxic Vomiting of Pregnancy. L. Job.
32 Carcinoma of the Uterus. G. Rossier.
33 Superheated Air in Treatment of Gangrene, etc. (Quelques résultats de l'aéro-thermo-thérapie.) R. Dupont.
34 Transient Retention of Nitrogen During Protracted Delivery. A. Couvelaire.

31. **Polyneuritis During Pregnancy.**—Job has compiled sixteen cases of myelitis or polyneuritis occurring in the course of toxic vomiting in pregnant women. In each case in which the pulse is recorded the rate had been over 100 before the signs of paralysis developed, confirming the necessity for active measures whenever the pulse runs over 100 in the vomiting of pregnancy. Five of the women died; six were delivered at term but most were left with severe functional disturbances. In five cases the gravity of the symptoms led to early interruption of the pregnancy and the outcome was by far the most favorable in this group. In a case reported in detail, abortion was not induced until nearly two months after the first symptoms and the patient did not long survive. The auto-intoxication seemed to follow a regular course in the entire sixteen cases, affecting first the vomiting center, then the cardiac center and, finally, the peripheral nerves. The nervous symptoms may continue to develop after all the gastric symptoms have subsided and, once installed, they show scarcely any tendency to subside so long as the pregnancy persists. The prognosis is better with abortion or premature delivery induced in time.

Annales des Maladies des Org. Génito-urinaires, Paris

March 15, XXIX, No. 6, pp. 481-576

35 *Calculus in Kidney or Ureter in Children. (De la lithiase rénale et urétérale chez l'enfant.) M. Rafin.
36 Action of Colon Bacillus on the Kidney. (Action du "Bacterium coli" sur le rein.) F. Cuturi.
37 *Technic for High Incision of the Bladder. (Taille hypogastrique.) O. Pasteau.

35. **Calculus in Kidney or Ureter in Children.**—Rafin has been able to collect thirty-nine cases of this kind in children in which the stones were found in the kidney or ureter at an operation or necropsy. He has also operated in two cases. The symptomatology seems to be the same for children as for adults, but radioscopy is even more instructive with children. The knowledge that there are stones located at different points through the urinary apparatus is important, as the gravity of the condition is enhanced by the multiplicity of the localizations. Nephrotomy seems to be even less injurious in children than in adults. The immediate results were good in all the cases after the operation; the four fatalities were all in cases with severe infection and multiple concrements. The end-results are known in only very few of the children. It is more than probable, he thinks, that in many cases of urinary calculi in adults, the concrements had commenced to form in childhood, as in a case cited in which a stone, weighing 25 gm., was removed from the ureter of a girl of 16, who for ten years had had occasional kidney colics and hematuria. Five of the thirty-nine children were under 5, eighteen between 5 and 10, and twelve between 10 and 15. The lithiasis was exclusively on the right side in twenty-one cases and bilateral in six of the thirty-five in which the localization is mentioned; the concrements were in the right kidney alone in seven, right ureter alone in eleven, both kidney and ureter in two, while both were involved on both sides in three cases and in another bilateral case the bladder was also involved, as also in another case exclusively on the right side. In one of Nicolich's cases, radioscopy showed a stone in the right kidney, three in the left, and five in the left ureter. The latter were spontaneously expelled and the kidney stones removed by operation, after which radioscopy showed the entire urinary apparatus clear of concretions. In conclusion Rafin reiterates the comparative harmlessness of operations on the urinary apparatus in children and the necessity for keeping watch over the little patients so as to institute medical measures to ensure a permanent cure of the infectious process; it is liable to persist in a latent form unless diligently sought and eradicated.

37. **Technic for Suprapubic Incision.**—Pasteau stands on the left side of the patient and raises the pelvis before opening up the prevesical space. Then, when ready to incise the bladder, he has the pelvis raised still higher, as much as 35 or 40 degrees, not lowering it until the bladder has been sutured again. He distends the bladder with air and makes the incision in a part of the wall lifted up by two catgut threads run into the wall on each side of the median line, these threads aiding later in the suture.

Bulletin de l'Académie de Médecine, Paris

March 28, LXXV, No. 13, pp. 415-462

38 Sixteen Years of Antitetanus Serotherapy. Vaillard.
39 Preliminary Medical Education in France. (Nos écoles préparatoires.) Motais.
40 *Syphilitic Jaundice. (Ictère syphilitique—Ictère hémolytique ou sanguin.) E. Gaucher and Giroux.

40. **Syphilitic Jaundice.**—Gaucher and Giroux report two additional cases of syphilitic jaundice accompanying the secondary manifestations and developing with the clinical and blood findings of acquired hemolytic icterus. There was no general reaction nor signs of biliary intoxication, pruritus or bradycardia. The destruction of the red corpuscles was due to their abnormal fragility in one case and in the other to the presence of hemolysins in the circulating blood. Both types differ entirely from catarrhal jaundice which is an ordinary icterus with no syphilitic features.

Journal de Chirurgie, Paris

February, VI, No. 2, pp. 137-248

41 *Treatment of Extensive Phlegmon of the Synovial Sheaths in the Hand. (Remarques sur le traitement des phlegmons graves des gaines synoviales de la main.) P. Lecène.

41. **Extensive Phlegmon of the Synovial Sheaths in the Hand.**—Lecène has never obtained any benefit from Bier's method of inducing hyperemia in these serious cases, and quotes Forsell's actually disastrous experience with it. He adds that even in Germany this method is comparatively littl used now in this class of cases. The best results are obtained he asserts, by a long incision following the tendon sheath and extending the whole length of the infected segment According to its location, the incision starting above the wris was carried to the tip of the thumb, of the little finger o the second finger in the four cases reported. The grave lesio healed without impairment of the functioning of the wrist i each case, and the fingers regained normal functioning in al except two of his patients, in whom the little finger was lef stiff, the tendon in this finger having been totally destroye by the suppurative process. His patients were two men an two women, all in the forties.

Lyon Médical, Lyons

March 26, CXVI, No. 13, pp. 553-592

42 Growth of the Long Bones. (Note sur la croissance des longs.) Galloid and Latarget.

Presse Médicale, Paris

April 1, XIX, No. 26, pp. 253-268

43 Inaugural Lecture in Neurology. Dejerine.
44 Abdominal Cavity from the Surgical Standpoint. H. Hartmann.

Semaine Médicale, Paris

April 12, XXXI, No. 15, pp. 169-180

45 *Rupture and Perforation of Pyosalpinx. F. Lejars.

45. **Rupture and Perforation of Pyosalpinx.**—Lejars reports another case of this kind to supplement five others he has previously reported. He also reviews what Bonney and others have published on the subject, emphasizing the necessity for bearing in mind the possibility of rupture of a pyosalpinx when confronted with menacing peritonitis of unknown origin. The history of the case generally shows some acute flare-up of an infectious process just before and a slight contusion afterward inducing the rupture or perforation. The pyosalpinx may also rupture during delivery or measures to induce abortion. Chevassu recently reported a case of this kind; a woman introduced a long bone cannula supposedly into the uterus and during the night abdominal symptoms developed with fever; pulse was weak and 130, and the abdomen was found flooded with pus traced to one tube containing several small interstitial abscesses. The tube was removed, as the condition of the patient did not permit hysterectomy. She died in less than five days. Mary has encountered three similar cases in lying-in women. All succumbed and one tube was found perforated. Puerperal infection was the presumptive diagnosis and the flaring up of a puerperal process may lead to rupture of a hitherto latent pus tube. Galliard has reported a case in which a woman convalescing from typhoid suddenly developed severe colic, vomiting and tympanites, high fever and pulse of 160. When the abdomen was opened no perforation could be found in the intestines but the right tube was swollen and perforated and it was excised; the patient rapidly recovered. Typhoid bacilli were cultivated from the pus in the excised tube. Lejars found streptococci exclusively in the pus in one case of diffuse peritonitis from rupture of a left pyosalpinx, and death speedily followed. Latzko and Cotte have each reported a case of ruptured abscess in an ovary. Lejars has also encountered two cases in which the tube had perforated and had become gangrenous, the conditions resembling exactly those in a gangrenous appendix. The peritonitis following perforation of a pus tube is, as a rule, unusually grave and rapidly progressive; the pains are localized in the pelvis, and are severe from the first; the findings with vaginal palpation may give the clue to the suppurating focus in the uterine adnexa. The condition is frequently mistaken for appendicitis or a ruptured tubal pregnancy. Differentiation is important on account of the necessity for prompt operation without temporizing; removal of the diseased tube and possibly the uterus with the adnexa is the safest course.

Berliner klinische Wochenschrift

April 10, XLVIII, No. 15, pp. 653-696

46 Experimental Syphilis in Rabbit. (Experimentelle Impfsyphilis der Kaninchen.) P. Uhlenhuth and P. Mulzer.
47 Transportable Apparatus for Inhalation of Radium Emanations. A. Bickel and W. Engelmann.
48 Excision of a Liver Cavernous Angioma. (Fall von Exstirpation eines Lebercavernoms.) J. Israel.
49 Development of a Sarcoma on Floor of a Lupus Carcinoma. E. Senger.
50 *Diagnostic Importance of Laryngeal Paralysis. (Kehlkopflähmung.) H. Grabower.
51 *Control of Strychnin Poisoning by Intratracheal Insufflation and Ether. T. S. Githens and S. J. Meltzer (New York).
52 *Improved Method of Artificial Respiration. G. Meyer.
53 *Flat-Foot Disturbances and Deforming Arthritis. P. Ewald.
54 Anaphylaxis of Pregnancy. (Die Ueberempfindlichkeitserscheinungen in der Schwangerschaft.) A. Hirschberg.

50. **Diagnostic Importance of Paralysis of the Larynx.**—Grabower insists that examination of the larynx is as important as that of the fundus of the eye in all nervous affections, and should be a routine procedure. Paralytic conditions in the larynx may exist without causing appreciable symptoms; they may even be the earliest sign of tabes dorsalis and possibly permit effectual treatment before irreparable lesions are installed. The laryngeal disturbance with multiple sclerosis may be merely a tremor of the vocal cords or a twitching movement, but laryngeal symptoms deserve to rank as a diagnostic measure with nystagmus and temporary blanching of the papilla. Paralysis in the larynx is, further, characteristic of syringomyelia, especially unilateral recurrent paralysis. Grabower's research has shown that the posterior crico-arytenoid muscle has only 230 nerve fibers in comparison with the 680 fibers of the inner portion of the thyro-arytenoid muscle; it is thus less resistant and becomes paralyzed more readily. As tuberculosis frequently begins in the bronchial glands and these compress the recurrent laryngeal nerve, paralysis of the posterior crico-arytenoid muscle controlling the vocal cords may be observed in the very earliest stages of incipient tuberculosis. The right recurrent nerve is more liable to be compressed in this case than the left, as the right bronchus is higher than the left and thus closer to the right inferior laryngeal nerve. The left is more liable to suffer from compression by aortic aneurysm as the left nerve encircles the arch of the aorta and is thus liable to be compressed quite extensively. The right inferior laryngeal nerve may be compressed with an aneurysm in the subclavian artery. Enlargement of the thyroid may also compress this nerve, and signs of paralysis in the larynx indicate extension of the goiter into the depths. The same is true of tumors in the esophagus, the posterior crico-arytenoid muscle feeling the effects first but the rapid growth of the carcinoma soon involving the recurrent laryngeal nerve. Another cause of peripheral paralysis of the recurrent nerve is a healed inflammatory process in the right apex of the lungs. Nerve substance may be found embedded in the cicatrix at necropsy; there probably had been recurrent paralysis during life causing moderate hoarseness for which no cause could be discovered. The hoarseness may have subsided and yet the unilateral recurrent paralysis must have persisted throughout life, the sound vocal cord vicariously acting for the paralyzed one. The right inferior laryngeal or recurrent nerve passes close to the right apex of the pleura, and is thus naturally drawn into the retracting cicatricial tissue as the inflammatory process in this region heals. Mitral stenosis is sometimes accompanied by paralysis of the left recurrent nerve. In regard to laryngeal paralysis with brain tumor, he says that unless the medulla oblongata is investigated, the examination cannot be regarded as complete. Among other symptoms in the larynx mentioned is the twitching of the vocal cords liable to be noticed with a tumor in the frontal lobe. Twitching of the vocal cords, Grabower states, is presumptive evidence that the tumor is in the base of the frontal lobe and that it is actively growing.

51. Summarized in THE JOURNAL April 22, 1911, p. 1224.

52. **Improved Method for Artificial Respiration.**—Meyer has modified the Silvester method, drawing the arms upward but pressing them down toward the floor, the body thus assuming the opisthotonous attitude, the head and heels bent backward, the body bowed forward, over the cushion under the shoulders. Another point is that the arms are held with the four fingers above the elbow, on the inside, the thumbs on the outside of the arms. This permits a stronger control of the arms in pushing them toward the floor. This modified technic floods the lungs much more profusely with air.

53. **Flat-Foot and Arthritis.**—Ewald presents evidence to show that the changes of flat-foot leave disturbances such as in all other joints are known as deforming arthritis.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 1, XLI, No. 10, pp. 337-384

55 Medicolegal Aspect of Induced Abortion. (Mutterschutz und Strafrecht.) A. Goenner.

Deutsche medizinische Wochenschrift, Berlin

April 6, XXXVII, No. 14, pp. 625-672

56 Ulceration in the Intestines. (Diagnose und Behandlung der Darmgeschwüre.) C. A. Ewald.
57 *Operative Treatment of Phlegmon in Stomach Wall. (Ueber Magenwandphlegmone im subakuten Stadium und eine Heilung durch Magenresektion.) F. Koenig.
58 *Subacute Patches of Myelitis with Recurring Endocarditis. H. Lewy and F. H. Lewy.
59 Arsenic Necrosis. L. Geyer.
60 *Kala-Azar in Greece. A. Christomanos.
61 Differential Manometer. (Das logarithmische Differentialmanometer—ein neuer Apparat für physiologische und klinische Druckmessungen.) T. Christen.
62 Permeability of Glass for Ultraviolet Rays. A. Bieber.

57. **Phlegmon in Stomach Wall.**—Koenig's patient was a woman of 28 whose illness had commenced with high fever, headache and vomiting; typhoid had been assumed at first. After subsidence of the acute symptoms pains in the stomach, independent of intake of food, persisted, with oppression and vomiting at times of brownish yellow masses but there was no blood in the stool and no diarrhea and the gastric chemistry was approximately normal. The appetite remained good but the woman grew constantly thinner, losing over 50 pounds in weight; palpation revealed a soft, transverse, long tumor which slid about under the fingers. The trouble proved to be a suppurative inflammation of the stomach wall, a purulent gastritis, which had passed into a subacute stage. The mucosa was perforated in various places, almost like a sieve, while the serosa showed signs of peritonitis and adhesions were forming. It is the first case on record in which the process was inspected at such an early stage and excision of the lesion restored the patient at once to health. The case shows that even after the phlegmon has emptied itself and the pus has been vomited up, yet the lesion does not necessarily heal but may persist in a subacute form, and progressively debilitate the patient. A gastro-enterostomy would not have mended matters, while resection without preliminary opening up of the stomach proved a complete success, the soft tumor-like mass into which the phlegmonous part had been transformed being readily excised.

58. **Myelitis with Recurring Endocarditis.**—Lewy's patient was a woman of 37 with chronically recurring endocarditis and an inflammatory affection of the spinal cord and meninges located at three different points. The affection ran a separate course at each of these points, each being preceded by a recurrence of the endocarditis. During the year and a quarter before the final fatal termination the symptoms had suggested the most various and erroneous diagnoses until microscopic examination cleared up the mystery except in regard to the puzzling behavior of the reflexes. Lewy has not been able to find any similar case on record. The foci in the spinal cord were of a chronic degenerative character in the anterior horns of the sacral segment of the cord, while the process in the upper dorsal segment was a circumscribed meningitis, and the final trouble was an acute disseminated encephalomeningitis.

60. **Kala-Azar in Greece.**—Christomanos recently found the Leishman-Donovan bodies in two hospital patients at Athens, and he thinks that kala-azar is probably prevalent in Greece although it has hitherto been diagnosed as a form of malaria, rebellious to quinin. A certain disease described by Hippocrates as endemic in Greece seems to have been kala-azar, which thus is shown to be not a new importation. No benefit was derived in Christomanos' cases from either atoxyl, arsacetin or salvarsan. Forty-eight hours after an intravenous injection of 0.35 gm. salvarsan the parasites were found still numerous and unmodified in the blood taken from the spleen. Quinin and change of climate gave no relief. The first patient, a girl of 18, has had fever constantly twice a day for nine months; the reactions for syphilis, Malta fever and tuberculosis are negative. The blood shows 1,700,000 reds, hemoglobin 30 per cent. The other patient is a man of 30 and he has had a chill and fever every evening for thirteen months. The spleen is enormously enlarged in both patients and the parasites can be readily detected in blood obtained by puncture of the spleen.

Medizinische Klinik, Berlin

April 9, VII, No. 15, pp. 559-596

63 *General Principles for Treatment of Uterine Myomas. H. Peham.
64 *Formation of Concrements in the Urine and Means to Influence It. (Die steinbildenden Prozesse des Harns und die Wege ihrer Beeinflussung.) H. Schade.
65 *Recurrences in the Nervous System After Salvarsan Treatment of Syphilis. (Zur Neurotropie und Depotwirkung des Salvarsans.) K. Heuser.
66 Potassium or Sodium Bromid? (Bromnatrium oder -kalium?) P. Jödicke.
67 Technic for Intravenous Salvarsan Treatment of Syphilis. (Injektion oder Infusion bei der intravenösen Salvarsanbehandlung?) H. Assmy.
68 *Improved Technic for Saline Infusion. (Kochsalztransfusion.) H. Hellendall.
69 Cataract Operations. (Die moderne Technik der Staroperation.) W. Feilchenfeld.
70 Syphilis of the Bronchi. A. Posselt.
71 Etiology of Trachoma. C. H. Sattler.

63. **Uterine Myoma.**—Peham dreads the general anesthesia for a debilitated patient with myoma more than an operation. He comments on the bread-like consistency of myomas and the symptoms liable from pressure and traction on the uterus and on the adjacent organs. There may be no pains but when they exist they may be intensified during menstruation, the hyperemia of the myoma itself adding to the disturbances. Ascites is not unusual as a complication and thrombosis is favored by the pressure. In respect to palliative treatment, he remarks that the cures that have been reported after a course of baths must have been due to an erroneous diagnosis or to the approaching menopause in which the myoma retrogressed. Iodin and its salts promote absorption of inflammatory products and stimulate the circulation so that the general health is favorably influenced. The history of operative treatment of uterine myoma, he says, is one of the most brilliant chapters in gynecology, the mortality having dropped from 36.2 per cent. in 1878 (Gusserow), and 23.1 per cent. in 1891 to 3.8 per cent. in Döderlein's 388 cases of the last six years. Peham's mortality has been 5.4 per cent. in 164 laparotomies and 0.5 per cent. in 180 vaginal hysterectomies for myoma.

64. **Chemical Processes in Urinary Lithiasis.**—Schade's announcements in regard to the share of the colloids, especially fibrin, in the production of concrements in the body are reviewed below in abstract 75. He comments here on the new horizons opened for therapeutics and prophylaxis by means to prevent precipitation of colloids or to dissolve their precipitates when already formed. It is easy to do this *in vitro* and the task now is to discover some substance which will do this harmlessly in the body. He calls the attention of physicians at watering places, in particular, to this task as many of the problems involved can, perhaps, best be studied with mineral waters.

65. **Nervous Disturbances during Salvarsan Treatment of Syphilis.**—Heuser reports a case of papulous iritis a few days after intramuscular injection of 0.2 gm. salvarsan, followed by an intravenous injection of 0.4 gm. salvarsan. Then epileptiform seizures developed. The patient was a painter but there were no signs of lead poisoning; it is possible, however, that the lead might have created a predisposition. In a second case a young workman had paralysis of the vocal cords and soft palate three days after an intravenous injection of 0.5 gm. of salvarsan. No paralysis of this kind had ever before been observed at the clinic in the early stages of syphilis. No improvement was observed under calomel for several weeks but recently slight improvement has become manifest. This patient also presented occasional outbreaks of profuse perspiration during the two months he was in the hospital, suggesting a possible general injury of the nervous system. In a third case, ten weeks after a subcutaneous injection of salvarsan, severe symptoms on the part of the brain developed including choked disc, intense headache and facial paralysis with epileptiform seizures. Heuser is convinced that the cases of cerebral syphilis with these peculiar tonic-clonic spasms are encountered more frequently under salvarsan treatment than corresponds to our previous experience. He tabulates further the findings in regard to the presence of arsenic in the urine after salvarsan treatment; they show that from six to nine months after intramuscular injection arsenic can be detected in the urine (twenty-three cases) and three months after intravenous injection. In one case the arsenic was refound in the blood, also, two months after the intravenous injection. The experiences related apparently confirm, he thinks, Buschke's view in regard to the special affinity of salvarsan for nervous tissue. This neurotropic action of salvarsan is confirmed further, he adds, by Walterhöfer's case of peroneus paralysis, the cases of epileptiform seizures reported by Spiethoff, Gilbert and others, Jorgensen's fatality, and the disturbances in the auditory and optic nerves reported by Stern, Rissom and Bettmann.

68. **Saline Infusion in Emergencies.**—To save time, Hellendall carries in his obstetric bag a concentrated solution of chemically pure salt (8 to 30), so that all that is necessary is to dilute it with boiling water and cool to the desired temperature by standing in a jar of running water.

Monatsschrift für Kinderheilkunde, Leipsic

March, IX, No. 11, pp. 593-632

72 Research on the Colostrum. (Zur Physiologie des neugeborenen Kindes.) W. Berk.
73 Pathology and Therapy of the Secreting Breast. (Die laktierende Mamma.) A. Schiller.

Münchener medizinische Wochenschrift

April 4, LVIII, No. 14, pp. 721-776

74 Present Conception of Diatheses and Dyscrasias. (Die Diathesen und Dyskrasien im Lichte unserer wissenschaftlichen Erkenntnis.) H. E. Hering.
75 *Laws Regulating Formation of Concrements in the Body. (Allgemeine Gesetzmässigkeiten betreffs der steinbildenden Prozesse im Körper. II.) H. Schade.
76 Pancreatitis with Cholelithiasis. (Entstehung der Pankreatitis bei Gallensteinen.) L. Arnsperger.
77 *Hemolytic Test with Cancer. (Ueber Komplementablenkung bei Karzinom.) A. Caan.
78 *Recurrences in the Nervous System After Salvarsan Treatment of Syphilis. (Zur Statistik und Therapie der Neurorezidive unter Salvarsanbehandlung.) J. Benario.
79 Instantaneous Skiagraphs. (Ueber Röntgen-Blitzaufnahmen.) W. Alwens.
80 *The Tourniquet Sign of Scarlet Fever. (Zur Bestätigung des Rumpel-Leedeschen Phänomens bei Scharlach.) H. Bennecke.
81 Juvenile Criminals and Attenuated Responsibility. (Straffällige Jugend und psychopathische Minderwertigkeit.) Rupprecht.
82 Value of Epidural Injections in Treatment of Idiopathic Vulvar Pruritus and Other Sacral Neuroses. G. Schubert.
83 Conflicting Formulas for Albumin Milk in Infant Feeding. (Die Eiweissmilch.) F. Siegert.

75. **Formation of Calculi.**—Schade has continued his research on this subject and states that colloids are involved in the production of stones in the body to a far greater extent than has hitherto been realized. The colloids throw down precipitates which assume the form of strata. Fibrin, for instance, has this power of stratification-precipitation to a marked degree. If it is deposited on an unattached particle, the stratification occurs concentrically. Crystalline substances deposited with it unite to form the concrement; this applies to all calculi formed in the urinary and salivary passages, in the pancreas or in the intestines, prostate or joints and also to the bilirubin-lime stones, but cholesterin stones are formed by the confluence of droplets. The problem of stone formation is brought nearer solution by the discovery of the participation of the colloids, he declares, and the outlook for therapeutics is broadened. It may be possible to alter the medium in such a way that the colloids, especially fibrin, may be prevented from precipitating; if the medium is rendered more alkaline, the colloid remains dissolved and no precipitation occurs. Changes in the electrolytic property may also check the tendency to precipitation of colloids. The benefit from mineral waters in some cases may be explained by their influence on the precipitation of colloids. In his experiments he found that antiformin would dissolve out the colloids, leaving the crystalline elements practically unaffected; the latter dropped to the bottom of the dish as the colloid framework was dissolved by the antiformin, confirming the large share of the colloids in the stone formation. In conclusion he calls attention to the efforts of Nature in this line; in the fresh-water crab (*Astacus fluviatilis*) typical stratification stones form in accessory cavities of the stomach by glandular secretions, the stones being formed of calcium earbonate and phosphate, with organic colloids, the so-called crabstones. They serve a physiologic purpose as a deposit to be drawn on when the crab casts its shell and a new one forms. The stones then drop out into the lumen of the stomach and are rapidly dissolved by the gastric juice and ferments and are absorbed in the intestine. Nature teaches us in this example that it may be possible to influence the pathologic concrements in man in a similar way when the conditions determining the solution and precipitation of the colloid elements in the stones are better studied.

77. **Deviation of Complement with Cancer.**—Caan applied the Wassermann test in eighty-five cases of carcinoma with positive findings in 41 per cent. The reaction was positive in six out of seven cases of carcinoma of the lip, in 67 per cent. of fifteen chancroids and epitheliomas, while positive findings were obtained in only 9 per cent. of the cases of mammary cancer and in 17 per cent. of the thirty-one gastro-intestinal cancers. He applied the deviation of complement test in all its various modifications in each case, with parallel findings.

78. **Recurrence in Nervous System after Administration of Salvarsan in Syphilis.**—Benario sent out a question blank to a number of physicians to collect their experiences in this line. In 126 (147) of the 14,000 cases in which salvarsan has been applied a neuro-recurrence was observed, and he classifies these cases under various headings and compares the findings with the experiences of others with and without salvarsan treatment. The total material confirms, he says, Ehrlich's explanation of these disturbances as manifestations of the syphilis in nerves enclosed in narrow bony canals, not of a drug toxic nature but the work of the few spirochetes left after the destruction of the majority of the spirochetes by the treatment. The striking clinical symptoms are not due to the extent of the process, he says, but to the confined site. Study of the data collected shows that the early secondary stage is peculiarly predisposed to these neuro-recurrences, as also the cases in which the primary sore is extragenital. The malignant character of these extragenital primary lesions, especially those on the head, the *chancres céphaliques*, is well known; the latter being near the central nervous system are peculiarly liable to affect it. Pre-existing headache also should warn against the possibility of neuro-recurrences; there had been intense headache in thirty-six of the sixty cases mentioned in the question blanks in which the headache pointed unmistakably to the injury of the central nervous system by the spirochetes. The conclusion naturally follows that patients with these four predisposing factors should be excluded from salvarsan treatment or its dangers should be fully aired. The data presented further emphasize the advantages of treatment by an intravenous injection of salvarsan, this being followed by a vigorous course of mercury, and this in turn with another intravenous injection of salvarsan. Elderly patients and those debilitated from any cause should be excluded from salvarsan treatment. Benario adds that the attention now paid to manifestations of syphilis in the nervous system will certainly redound to the benefit of patients, as more vigorous treatment will be instituted and the syphilis will be eradicated, thus saving many who might otherwise be candidates for serious irreparable cerebrospinal disease later.

80. **Tourniquet Sign of Scarlet Fever.**—Bennecke confirms the reliability of this sign, described in The Journal, March 18, 1911, page 859. The absence of the sign seems to exclude scarlet fever, but positive findings are sometimes obtained in other diseases.

Therapeutische Monatshefte, Berlin

April, XXV, No. 4, pp. 209-268

84 *Treatment of Placenta Prævia. R. Birnbaum.
85 *Treatment of Congenital Torticollis. (Der angeborene Schiefhals.) P. Glaessner.
86 *Successful Decompressive Trephining. (Erfolgreiche Trepanationen ohne Befund.) M. Lewandowsky.

84. **Treatment of Placenta Prævia.**—Birnbaum describes the treatment he advocates for the general practitioner, emphasizing that treatment must be begun the moment the diagnosis is made. He insists on shaving the parts and on the use of ten or twenty moist cotton wads for tamponing the vagina, instead of gauze, although the latter is better for the uterus itself. His experience with the Momburg belt constriction has been unfavorable, as he had severe collapse in two cases, and one patient died; for this death he regards the constriction as responsible. Great caution is necessary in moving the woman on account of the danger of air embolism and thrombosis. Massage of the legs is necessary from the first day after delivery unless symptoms indicate that thrombosis is already installed.

85. **Congenital Torticollis.**—Glaessner severs the muscles subcutaneously in the very mild cases in young children but otherwise exposes the sternocleidomastoid muscle and resects the fibers for a stretch of 1 or 1.5 cm., afterward applying a plaster cast in over-correction.

86. **Successful Trephining without Findings.**—Lewandowsky reports two cases in which the patients were restored to health by decompressive trephining although nothing was found when the skull was opened to explain the symptoms that had been

observed. The first patient was a woman of 36 who developed intense headache and symptoms indicating disease of the left hemisphere after a slight trauma—striking the left side of her head against the edge of an open door. By the end of a month she had seizures suggesting epilepsy, with right paralysis, total aphasia and stupor. Conditions were found apparently normal on trephining but there must have been a high tension in the brain as there was prolapse of brain tissue, but the patient improved remarkably by the next day. She still has traces of paraphasia but otherwise has been well during the four years since. In the other case, intense headache and tenderness in the region of the temple persisted for six months after the young man had been kicked in the side of the head by a horse, after which he had been unconscious for four days. The trephining showed apparently normal conditions with no sign of abnormal pressure or inflammation, but the headache never returned after the operation and the patient has been in perfect health during a year since. The strict localization of the headache, its tenacity and the lack of neurasthenic or hysteric symptoms and the complete recovery after the operation suggest that the trouble must have been some traction on the dura from a possibly slight fracture of the skull.

Therapie der Gegenwart, Berlin

April, LII, No. 4, pp. 145-192

87 *Epidemic Poliomyelitis. (Akute epidemische Kinderlähmung.) P. Krause.
88 *Radiotherapy of Internal Disease. (Der gegenwärtige Stand und die nächsten Ziele der Röntgen-Therapie bei Erkrankungen innerer Organe.) H. E. Schmidt.

87. **Epidemic Poliomyelitis.**—Krause has compiled a number of tables showing the geographical and chronological prevalence of this disease. Other tables show the development of the disease by groups compiled from the replies to the question blanks he sent out to physicians in the German provinces along the Rhine. The, transmission of the disease by healthy carriers is further demonstrated by the material tabulated. A grandmother in one instance carried the disease from one grandchild to another who lived at some distance. Another table shows the ages of the patients in his compiled material. The majority were 2 years old (165); 101 were 3 years old, ninety-seven between 4 and 7, thirty between 8 and 10, three between 20 and 30, and two between 30 and 40, with eleven less than a year old. In Germany the months of August, September and October contained nearly all the cases. The mortality in all the epidemics tabulated was the lowest (5 per cent.) in the New York epidemic; it was 16.7 per cent. in Sweden; 14.56 per cent. in Norway, and 22.3 in Austria. The article is to be continued.

88. **Radiotherapy of Internal Organs.**—Schmidt refers in particular to the treatment of deep cancer and states that better results may be anticipated when we learn how to sensitize the deep-lying tissues. This is accomplished for superficial tissues by means to stimulate the metabolism, for which active hyperemia is the most effectual known to date. If we can learn how to induce local hyperemia in the deep cancers, the Roentgen rays reaching them will have their action immeasurably enhanced. He thinks that it may be possible to discover some serum or drug, which, like tuberculin, will have an elective action on the tumor tissue inducing a local reaction and thus sensitizing it for the Roentgen rays. At present the only way that this can be accomplished is by thermopenetration, that is, applying the high-frequency current, which permits the tissues below to be raised to any desired temperature while sparing the skin. He reports the details of a case of epithelioma of the nose which subsided under radiotherapy after two years but returned four years later. The patient refused operation and the ulcerating epithelioma subsided anew under the Roentgen rays applied the day after the mercury-vapor lamp had been used to induce a local erythema. Only four applications of the mercury light plus Roentgen-ray exposures were required before the lesion had entirely healed over. There has been no sign of recurrence during the three months since. The mercury light was applied again a few times to enhance the resisting power of the cicatrix. The task now before Roentgenologists is to improve the technic for inducing hyperemia in the depths to enhance the sensitiveness to the Roentgen rays, as we know that expelling the blood from a superficial lesion reduces its sensitiveness to the rays.

Wiener klinische Wochenschrift, Vienna

April 6, XXIV, No. 14, pp. 479-518

89 Pigmentation of the Skin. (Zur Kenntnis der menschlichen Hautpigmentierung.) Y. Tanaka.
90 The Lipoid of the Suprarenal Cortex. (Das Lipoid der Nebennierenrinde.) H. Albrecht and O. Weltmann.
91 *Psychic Etiology and Treatment of Arteriosclerosis. M. Herz.
92 *Paroxysmal Hemoglobinuria. A. Krokiewicz.
93 Oculomotor Paralysis in an Infant. A. Purtscher.

91. **Arteriosclerosis and the Strenuous Life.**—Herz regards the subject of arteriosclerosis as one of the most vital of all for the medical profession not only on account of their patients but because physicians, themselves, are particularly prone to acquire arteriosclerosis or at least to imagine that they are acquiring it. He says that fully 300 out of the 3,000 physicians in Vienna have consulted him on account of arteriosclerosis, and although the fears of many were groundless, yet an unusually large proportion actually show signs of arteriosclerosis. For this he is inclined to incriminate the peculiarly strenuous life of physicians, their cares and worries, the constant strain on their sympathies, the harassing feeling that perhaps if they had treated some patient along other lines he might have done better. Herz comments on the fact that life has become so much more strenuous during the last decades. All feel that they must work under high pressure and provide for the future instead of enjoying life as they go along and providing only for the immediate present. He says that life has become Americanized, and that arteriosclerosis is becoming more frequent in consequence although it is more of a chronic cardiac and cardiorenal type rather than the angina pectoris type of former decades. Treatment and prophylaxis should aim to banish worry and gloom and promote cheer. Instead of impressing on the young constantly their duties and responsibilities to others and the state, they should be taught that they have a duty to themselves, to seek cheer and joy to alternate with work. Physicians must train their patients to look on the bright side of things and stop worrying, for there is not the least doubt, he reiterates, that every persisting worry or carking care is distinctly dangerous for the heart and kidneys, and physicians must strive to cultivate cheeriness. Herz applies to the medical profession Goethe's remark in regard to German literary men, namely, that the members of the medical profession are like billiard balls; each is intent only on going its own way, and if two come into contact they bound apart and go their separate ways with even greater energy and haste.

92. **Paroxysmal Hemoglobinuria.**—Krokiewicz reports a case of this kind in a man of 48, previously healthy. The paroxysmal hemoglobinuria was first observed seven years ago and since then he has had the attacks whenever he has been much chilled; great fatigue and excitement do not bring on the attacks unless accompanied by chilling. Sometimes the hemoglobinuria occurs without other symptoms but generally there is a sense of exhaustion, pains in the muscles, restlessness and headache, then in twenty minutes a chill and fever and after half an hour the urine is as red as Burgundy wine; it clears up again in the course of from two to five hours. While under observation the hemoglobinuria could be brought on like a laboratory experiment by having the patient hold his feet in cold water for a little while. A tourniquet applied to the thighs never brought it on, and the attack could be arrested by applying heat (water bottles to the legs). The attacks could be brought on at intervals as brief as twenty-four hours. Hemolysins were found in the blood and their presence in the blood accumulating in the viscera in consequence of the exposure to cold, with the local accumulation there likewise of carbon dioxid in the blood, produce conditions similar to those of Hymans' test-tube experiments. Hemolysis follows and the hemoglobinuria results; the whole process can be broken up by putting an end to the action of cold by warming the legs. The Wassermann reaction was positive in this patient which possibly throws light on the unusual lack of resistance to carbon dioxid on the part of the red corpuscles.

Zeitschrift für Kinderheilkunde, Berlin

I, Nos. 5-6, pp. 423-572. Last indexed March 4, p. 706

94 The Work of T. Escherich. C. v. Pirquet.
95 *Histologic Structure and Bacillary Etiology of Papulous Tuberculides in Infants. M. Lateiner.
96 Research on the Parathyroids, with Special Regard to Tetany and Sudden Death of Infants. (Epithelkörperchen-Untersuchungen.) P. Grosser and R. Betke.
97 Chemical Study of Infants' Urine. (Chemische Teilerscheinungen im Harne gesunder und kranker Säuglinge.) E. Mayerhofer.
98 *Summer Heat and Temperature of the Home in Relation to Infant Mortality. (Sommerhitze, Wohnungstemperatur und Säuglingssterblichkeit.) H. Rietschel.

95. **Diagnostic Importance of Tuberculides in Infants.**—Lateiner regards the papulous or papulo-squamous tuberculides of infants as of blood-borne origin, and of diagnostic importance even when the tuberculide appears isolated. The Hamburger type is smaller, more superficial and free from a tendency to ulceration. Acid-fast bacilli can be regularly discovered in the papulous form in the various stages of its development, and the bacilli are capable of inducing fatal typical tuberculosis in guinea-pigs. In the ten infants with these tuberculides whose histories are reported, the cutaneous tuberculin reaction was the only other sign of tuberculosis in three; in six there was miliary tuberculosis. These tuberculides are encountered only in infants with tuberculosis of internal organs, and as they are so small and cause no disturbances they are often overlooked. They vary from a pinhead to the size of a hemp seed; they project very little; there is no encircling zone of inflammatory redness and no infiltration around. They are light red at first, then a livid brown, with a scab in the center, and when this is scratched off a shallow depression is left which does not bleed or weep. Some of the tuberculides may be very flat, without a scab, merely a dimple in the center. Lateiner found also, occasionally, small circular, slightly depressed scars of a livid brown color. From one to four tubercle bacilli were found in each tuberculide, and guinea-pigs inoculated promptly developed typical tuberculosis. A single tuberculide of this kind on the upper arm was the only manifestation of the tuberculosis in one case. In another there was one on the dorsum of one foot and three on the sole of the other, with signs of tuberculous meningitis. Other infants had one on the knee and one on the foot; another, several on feet and fingers; one a pin-head tuberculide on the elbow; another, several on leg and forearm, and still larger numbers on some of the others. In one of the infants the first two nodules subsided and four others developed elsewhere.

98. **Summer Heat and Infant Mortality.**—Rietschel has been examining conditions in the homes of the poor in Dresden in regard to the actual temperature of the rooms during the summer. Maximal thermometers or thermographs were installed and the findings recorded in daily visits by his aids. The research was limited to the tenements or houses in which more than one infant had died in the last five years. The summer was an unusually cold one, but the thermometers registered for weeks at a time in the rooms where the infants ived over 25 C. (77 F.) and in some days up to 35 and 37 C. (95 and 98.6 F.) with an outdoor temperature of 23.5 and 21.3 C. (74.30 and 70.34 F.). The heat in the living room is thus shown to be intense in the homes of the poor and this keeps up for weeks and months and is, he is convinced, the direct decisive factor in infant mortality during the heated term.

Zentralblatt für Chirurgie, Leipsic

April 8, XXXVIII, No. 14, pp. 489-528

99 Operation for Hare-Lip. (Zur Technik der Operation der Hasenscharte.) K. Vogel.
100 *Cholangiocystostomy. J. E. Lohse.

100. **Cholangiocystostomy.**—Lohse commends the palliative operation he performed in a case of severe cholemia from cancer of the common bile duct. The patient was thus tided past the dangerous period of cholemia and survived in comfort for nearly three months afterward. A long forceps was passed into the gall-bladder and through it into the adherent liver until the tip could be felt through the convex margin of the iver. A thick drain was inserted into the passage thus formed and the wound sutured around it. Only a little bile escaped the first day but the amount increased to 200 c.c. by the third and by the end of two weeks the jaundice had disappeared.

Zentralblatt für Gynäkologie, Leipsic

April 8, XXXV, No. 14, pp. 537-568

101 Etiology of Placenta Prævia. R. Meyer.
102 *Improved Technic for Tubal Sterilization. A. Labhardt.
103 Technic for Auscultation of Fetal Heart Sounds. (Neues Verfahren zur Auskultation der fötalen Herztöne und über die Zeit, in der sie zuerst gehört werden können.) R. Todyo.

102. **Tubal Sterilization.**—Labhardt describes a method of subserous resection of the tubes in common use at von Herff's maternity at Basel. Sterilization is regarded as a matter of course in cases of severe prolapse of the uterus in multiparæ over 40. He has applied the Asch method in thirty cases without a failure, but during the last two years he has avoided the disadvantages of this technic by drawing out the proximal tube for 2 cm. beyond its peritoneal mantle. The stump is then cut off and what is left withdraws into the depth of the empty mantle of the peritoneum which is then sutured and soon grows together, shutting off the stump of the tube entirely. This technic can be applied by the vaginal or abdominal route, and has several advantages, he declares, over other methods in vogue.

Zentralblatt für innere Medizin, Leipsic

April 8, XXXII, No. 14, pp. 345-368

104 Roentgen-Ray Diagnosis of Pregnancy. (Diagnose der Schwangerschaft mittels des Röntgenverfahrens.) R. v. Jaksch.

Gazzetta degli Ospedali e delle Cliniche, Milan

March 28, XXXII, No. 38, pp. 403-410

105 Diaphragmatic Pleurisy and Peritoneal Syndrome. G. Baglioni.

April 2, No. 40, pp. 419-434

106 Experimental Research on Castration and Parathyroidectomy. A. Massaglia.

April 4, No. 41, pp. 435-442

107 Chorea in Malaria. (Corea ed infezione palustre.) V. Fusco.

Policlinico, Rome

March 26, XVIII, No. 13, pp. 389-420

108 *Acute Infections of Unknown Origin. G. Baccelli.

April 2, No. 14, pp. 421-452

109 Eosinophil Cells in Sputum in Asthma. M. Pennetta.

108. **Acute Infections of Unknown Origin.**—Baccelli refers in particular to what Leube calls cryptogenetic infections but which he designates as infections of latent origin. He claims that the conception of toxemia resulting from bacterial invasion originated in the Rome clinic before the discovery of the tubercle bacillus. The infectious germs may be classed, he says, as those inducing fever, those inducing inflammation, neurospastic conditions, neuroparalytic conditions and abnormal conditions in the blood, or combinations of these types. Differentiation of the cause of the infectious process is frequently impossible; sometimes it invades the blood first and the tissues later, sometimes the germs localize first in the tissues and pass later into the blood, possibly intermittently. The specific reaction can never be regarded as absolute, he continues; it is merely one important symptom to be estimated in connection with others. From these and other arguments cited he concludes that the aim should be to stimulate the production and the functioning of the phagocytes in all these infections of unknown origin at least; by this means the toxic substances in the blood are rapidly neutralized, and the supreme means to accomplish this is by intravenous injection of mercury bichlorid. His formula is 0.01 gm. mercury bichlorid, 0.075 gm. sodium chlorid and 10 gm. water. This injection can be repeated two or three times in twenty-four hours in the severest cases. Immediately after the injection the temperature drops, the synthetic reaction on the part of the organism to the infectious cause reduces the intensity of the infection, and he reports a number of instances to show the benefit that follows this measure. In one case of acute infectious disease, which no one was able to explain, a turn for the better followed the mercurial intravenous injection and the patient was soon restored to health. Baccelli has collected a number of similar testimonials to the life-saving efficacy of the measure and has accumulated an imposing array of testimony during the twenty years or more since he has been advocating this heroic intravenous medication.

Riforma Medica, Naples

April 3, XXVII, No. 14, pp. 365-392

110 *Echinococcus Disease of the Spleen. (Caso di echinococco della milza.) D. Biondi.
111 Spinal Anesthesia Plus Scopolamin-Morphin. (La rachistovainizzazione combinata con "sonno incerto.") G. Bazzocchi. Commenced in No. 13.

110. **Echinococcus Disease of the Spleen.**—Biondi's patient was a country woman of 42, previously healthy. A tumor was noticed in the left hypochondrium after a childbirth, but no symptoms were felt for seven years, then high fever and intense pain in the epigastrium, radiating to the back and hypochondrium, developed, with obstinate constipation. The fever dropped by a crisis and the pain in the epigastrium subsided but that in the left hypochondrium persisted, and there was pronounced eosinophilia with slight albuminuria. The operation revealed non-suppurating, multilocular hydatid cysts in the spleen, which was adherent to the diaphragm, colon and to the wall of the vena cava, but the splenectomy was finally completed.

Norsk Magazin for Lægevidenskaben, Christiania

April, LXXII, No. 4, pp. 417-528

112 Traumatic Pulsating Exophthalmos Cured by Orbital Operation. H. Lystad.
113 Dextrocardia. H. F. Høst.
114 Necropsy in Case of Cystic Kidney Over a Year After Nephrectomy. (Videre meddelelser om et tilfælde av cystenyre. P. Bull.
115 Roentgen-Ray Diagnosis of Tuberculosis of Lungs and Bronchial Glands. S. A. Heyerdahl.
116 Rectoscopy and Sigmoidoscopy. (Rekto-romanoskopi.) N. B. Koppang.

Ugeskrift for Læger, Copenhagen

March 30, LXXIII, No. 13, pp. 443-476

117 Vibratory Massage in Treatment of Chronic Pharyngitis. G. Fanøe.
118 *Medical Organization. (Lægekunsten og Lægen i Nutiden.) V. Scheel.

April 6, No. 14, pp. 477-510

119 "Tuberculin Titer" Test in Tuberculosis. (Tuberkulintiterbestemmelser hos Ftisikere.) K. Lundh.
120 *Relief of Disturbances in Swallowing by Compression of the Ear Region. (En simpel Metode til Bekæmpelse af visse Former af Synkesmerter.) P. T. Hald.

118. **Outlook of the Medical Profession.**—Scheel discusses the prevailing tendencies in regard to medicine and the medical profession and the importance of organization, commenting on the remarkably small part taken in public affairs by physicians as a rule. This, he declares, is the more striking as logically medical men should be the leaders in the movements to improve the public welfare. He ascribes this to the fact that physicians by the nature of their work are inclined to be individualists, but he warns that this tendency should be combated.

120. **Relief of Disturbances in Swallowing by Compression of the Ear Region.**—Hald's experience has confirmed the assertions of Milligan and Horne in regard to the relief of pain in the throat by strong pressure applied to the tragus or mastoid process. In thirty-two cases he was able to relieve or banish completely the pains in swallowing with inflammatory affections in the tonsils or vicinity while in fourteen other cases no benefit was apparent. He uses for the compression a light adjustable frame with two pads to press on the tragus or mastoid process on each side. He explains the effect as due to the counter-irritation on the skin at a point where the sensory nerves are closely connected (centrally) with the sensory nerve supply of the tonsils.

Upsala Läkareförenings Förhandlingar, Upsala

N. S. XVI, Nos. 4 and 5, pp. 231-348. Last indexed Feb. 4, p. 390

121 Infantilism. A. Josefson. Continued.
122 *Salvarsan in Syphilis of the Nervous System. H. Marcus.
123 Determination of Tubercle Bacilli in the Sputum. (Jämförande undersökning öfver de nyare metoderna för påvisande af tuberkelbaciller i upphostningar.) J. Heyman.
124 Experimental Research on Behavior of the Thymus After Castration or Roentgen-Ray Exposures of Ovaries or Testicles. (Thymus efter exstirpation, resp. röntgenbestrålning af könskörtlarne.) O. Gellin.

122. **Salvarsan in Syphilis of the Nervous System.**—Marcus gives the details of a dozen cases out of a total of fifty cases of syphilis of the nervous system in which he administered salvarsan. Although the remedy is powerless against severe advanced paralysis or tabes dorsalis, yet the bladder and bowel disturbances and the pains were much ameliorated and improvement was apparent in other directions; in some patients the memory improved, others lost their apathy and difficulty in speaking. Five of the patients have died since the injection, one, eight days afterward from hemorrhage in the pons; one a month later from an accidental fall; one from recurring cerebral hemorrhage, and two from the progressive course of a glioma in the brain or of chronic pyelonephritis and cystitis with diarrhea. He states that there did not seem to be any connection between the medication and the death in any instance. But the severe diarrhea in the last mentioned case is not absolutely free from suspicion in this line, although he has never seen any mention in the literature of diarrhea following administration of salvarsan.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder. By Paul M. Pilcher, A.M., M.D., Consulting Surgeon to the Eastern Long Island Hospital. Cloth. Price, $5.50 net. Pp. 398, with 233 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Yellow Fever. A Compilation of Various Publications. Results of the Work of Maj. Walter Reed, Medical Corps, United States Army, and the Yellow Fever Commission. Sixty-first Congress, Third Session. Document No. 822. Paper. Pp. 250. Washington: Government Printing Office, 1911.

Modern Surgical Technic in Its Relation to Operations and Wound-Treatment. By C. Yelverton Pearson, M.D., M.Ch., F.R.C.S., Professor of Surgery, University College, Cork. Second Edition. Cloth. Price, $4 net. Pp. 484, with 129 illustrations. New York: William Wood & Co., 1911.

A Working Manual of High-Frequency Currents. By Noble M. Eberhart, A.M., M.S., M.D., Professor and Head of the Department of Electrotherapy, Chicago College of Medicine and Surgery. Cloth. Price, $2. Pp. 303, with 63 illustrations. Chicago: New Medicine Publishing Co.

Plaster of Paris and How to Use It. By Martin W. Ware, M.D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital. Second Edition. Cloth. Price, $1.25. Pp. 101, with 90 illustrations. New York: Surgery Publishing Co., 92 William Street, 1911.

An Introduction to Dermatology. By Norman Walker, M.D., F.R.C.P., Physician for Diseases of the Skin, The Royal Infirmary, Edinburgh. Fifth Edition. Cloth. Price, $4 net. Pp. 346, with 142 illustrations. New York: William Wood & Co., 1911.

Transactions of the American Hospital Association. Twelfth Annual Conference Held at St. Louis, Mo., Sept. 20-23, 1910. Volume XII. Paper. Pp. 413. Published by the Association Office of Secretary, Toronto, Canada, 1911.

Food and the Principles of Dietetics. By Robert Hutchison, M.D., Edinburgh, F.R.C.P., Physician to the London Hospital. Third Edition. Cloth. Price, $3 net. Pp. 615, with illustrations. New York: William Wood & Co., 1911.

The Nature of Enzyme Action. By W. M. Bayliss, D.Sc., F.R.S., Assistant Professor of Physiology, University College, London. Second Edition. Cloth. Price, $1.20 net. Pp. 137. New York: Longmans, Green & Co., 1911.

Die Hernien und ihre Behandlung. Von O. Borchgrevink, Oberarzt des Diakonenhospitals in Christiania. Paper. Price, 5 marks. Pp. 311, with 40 illustrations. Jena: Gustav Fischer, 1911.

The Fats. By J. B. Leathes, M.A., M.B., F.R.C.S., Professor of Pathologic Chemistry in the University of Toronto. Cloth. Price, $1.25 net. Pp. 138. New York: Longmans, Green & Co., 1910.

Thirty-Seventh Annual Report of the Medical Director of the Cincinnati Sanitarium. For the Year Ending Nov. 30, 1910. H. P. Collins, Secretary. Paper. Pp. 18, with illustrations.

Annual Report of the Mercy Hospital (Formerly City Hospital), Baltimore, Md. For the Year Ending Dec. 31, 1910. Paper. Pp. 72. A. C. Gillis, Medical Superintendent.

Fifteenth Annual Report of the State Medical Board, State of Ohio. For the Year Ending Dec. 31, 1910. Paper. Pp. 67. George H. Matson, Secretary. 1910.

Report of the Commissioner of Education. For the Year Ended June 30, 1910. Volume II. Cloth. Pp. 1373. Washington: Government Printing Office, 1911.

Nineteenth Annual Report of the Board of Health, City of Spokane, Wash. For the Fiscal Year Ending Dec. 31, 1910. Paper. M. B. Grieve, Secretary.

The Chemistry of Synthetic Drugs. By Percy May, B.Sc (London). Cloth. Price, $2.25 net. Pp. 229. New York: Longmans, Green & Co., 1911.

The John Crerar Library: Sixteenth Annual Report for the Year 1910. Paper. Pp. 66. Leonard A. Busby, Secretary Chicago, 1911.

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THE CAUSE OF INFLAMMATION OF CRANIAL NERVES AFTER THE USE OF SALVARSAN

A PLEA FOR THE INTRAVENOUS METHOD

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PHILADELPHIA

The new remedy, salvarsan, introduced by Ehrlich and Hata, has now been used in over 50,000 cases. It is conceded by all to be the most effective drug in syphilis known to medical science. Used properly in appropriate cases, it is as safe as most other potent remedial agents. Ehrlich regards salvarsan as less poisonous than mercury, if cases of heart disease and severe cases of paralysis are excluded.

The only disturbing results that have been reported after the use of salvarsan are occasional inflammation of cranial nerves, particularly of the optic and auditory nerves. Relative to the number of cases treated, the incidence of such complications has been very small, probably not one in a thousand.

It is probable, however, that some cases have occurred that have not been placed on record. Furthermore, the seriousness of such complications makes it imperative that their cause be thoroughly studied. Ehrlich has kept thoroughly in touch with these complications, and with all the evidence in his possession, he denies any etiologic relationship between the use of the drug and the development of the neuritis. He regards them all as cases of *neuro-recidiv,* i. e., fresh syphilitic neuritis.

There are a number of able clinicians abroad, however, who are not willing to exculpate the drug as a causative influence.

CASES OF OPTIC NEURITIS REPORTED

Professor Finger,[1] of Vienna, a noted syphilologist, has reported four cases (the first four following) of optic nerve disturbance:

Case 1.—Robust 19-year-old girl with initial lesion and beginning roseola. Infection eight weeks before. August 2, 1910, she received 0.45 gm. of salvarsan intragluteally. Prompt regression of lesions and negative Wassermann on September 20. October 5, she returned with headache, visual disturbance, vertigo, right-sided oculomotor paresis and beginning left optic neuritis. October 12, she was given 0.45 gm. salvarsan subcutaneously, in acid solution. October 28, mercury and iodids administered without result: neuritis of the right optic nerve set in.

Case 2.—Girl, 19 years old, with lues of two and one-half months' duration. July 20, 1910, she received 0.4 gm. salvarsan in neutral suspension. By August 5, regression of all lesions had occurred, but returned October 18, with visual disturbances and abducens paresis.

Case 3.—Girl, 22 years old, who had been treated for malignant lues, with mercury and iodids and thirty injections of arsacetin and eighteen of enesol. July 6, 1910, the patient received 0.4 gm. salvarsan for gummata of nose and pharynx. September 5, three months later, symptoms of beginning optic atrophy with visual disturbances, sluggish pupils and contracted fields were present.

Case 4.—Man, 28 years old, with lues of five months' duration. Aug. 8, 1910, received 0.45 gm. of salvarsan. October 3, the Wassermann reaction was negative. He returned Nov. 10 with a chorioiditis of the right eye.

Case 5.—Kowalewski,[2] of Berlin, reported the case of a 28-year-old woman, injected with salvarsan in the spring of 1910, for an early syphilid. Rapid improvement. In July symptoms of luetic meningitis and neuritis optica developed. The employment of mercurial inunctions was followed by a rapid cure.

Blaschko[3] reported before the Berliner dermatologische Gesellschaft, Dec. 13, 1910, a second case of neuritis optica which he had observed after injections of salvarsan. He stated that the cases were different from the toxic optic atrophy encountered after atoxyl.

Held, at the same meeting, likewise reported a case of optic neuritis after salvarsan.

Rille,[4] of Leipsic, reported two cases of optic neuritis in association with auditory disturbances after salvarsan, and a third case of auditory disease alone. These will be referred to later.

In the discussion following the reading of Finger's paper, November 18, 1910, before the Royal Medical Society of Vienna, the following cases were reported:[5]

Oppenheim, out of sixty-four cases, observed one case of optic neuritis treated with salvarsan for secondary lues.

Nobl saw no injurious results among seventy-two patients.

Von Zumbusch, out of 300 cases, observed one of optic neuritis, which improved under mercury and then relapsed. A short time before he had seen a similar case which occurred in a patient treated only with mercurial injections.

Dimmer treated many eye lesions, including seven cases of iridocyclitis luetica, with salvarsan, with very good results. In one case there was a recurrence with severe papilloretinitis.

Doerr had uniformly good results in 270 cases.

Carl Stern[6] reports cases of oculomotor palsy after subcutaneous injections of salvarsan. Stern has observed three cases of oculomotor paralysis in 200 patients treated with salvarsan. The patients had negative Wassermann reactions.

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[1] Wien. klin. Wchnschr., 1910, No. 47.

[2] Berl. klin. Wchnschr., Nov. 21, 1910, p. 2141.

[3] Monatsh. f. prakt., Dermat., lil, No. 2, p. 70.

[4] Berl. klin. Wchnschr., 1910, No. 50.

[5] Abstr. in Monatsh. f. prakt., Dermat., 1911, lii, No. 6, p. 308.

[6] Deutsch. med. Wchnschr., Jan. 5, 1911, p. 15.

Case 6.—Fordyce[7] reports the case of a physician with a digital chancre and secondaries, who received 0.6 gm. of salvarsan Oct. 7, 1910. In November, he suddenly developed a choked disk. Fordyce also reports a similar case which developed while the patient was under mercurial treatment and which was cured with salvarsan.

Case 7.—Schamberg[8] reported the case of a woman, aged 29, who presented herself Nov. 10, 1910, with a general macular eruption of three months' duration, with persistent headaches during this period. Wassermann reaction + + +. November 11, she received 0.45 gm. of salvarsan in neutral suspension subcutaneously. On the following day she said the "misty vision" (of which she had not previously spoken) and the headache had disappeared. Gradual disappearance of the eruption. She returned December 28, complaining of severe headaches, vertigo, vomiting and loss of vision in right eye, with some dimness in left. Dr. George E. de Schweinitz, who examined her, reported choked disk with retinal hemorrhage, and almost no vision in right eye, with beginning involvement of left. She was later vigorously treated with mercury and iodids by Dr. Howard Hansell and on discharge from the hospital was greatly improved, having 20/40 vision in right eye and 20/30 in left.

AUDITORY NERVE DISTURBANCE

Finger reported the three following cases (8, 9, 10):

Case 8.—Man, aged 22. Cutaneous syphilis and periostitis. Aug. 24, 1910, 0.5 gm. neutral salvarsan injected. Next day nystagmus, dizziness, typical falling symptoms; normal hearing. Diagnosis, vestibular nerve disturbance. Complete recovery in a few days.

Case 9.—Man, aged 25. Syphilis of six weeks' duration. Aug. 27, 1910, 0.45 gm. salvarsan injected subcutaneously. Later negative Wassermann. Nine weeks after injection, dizziness and deafness developed. Diagnosis, bilateral labyrinthine deafness. Conditions remained unchanged.

Case 10.—Girl, aged 18. Syphilis of three months' duration. Aug. 5, 1910, 0.45 gm. salvarsan injected subcutaneously. November 3, complained of dizziness and headache. Diagnosis, labyrinthine deafness, dizziness and spontaneous nystagmus. No improvement by Nov. 27, 1911. Wassermann negative.

Case 11.—Dr. H. Frey[9] reported a case of deafness and some vestibular nystagmus in a patient injected Aug. 9, and returning in October with the above mentioned symptoms. He had treated 100 patients with salvarsan.

Rille reported three (12, 13, 14):

Case 12.—Woman, aged 21, with early syphilis. Injected July 7, 1910, 0.45 gm. salvarsan. Four weeks later there developed dizziness, noises and deafness in right ear. Later partial facial paralysis. Up to Nov. 15, 1910, some improvement.

Case 13.—Girl, aged 18. Salvarsan, 0.45 gm., injected July 10. Oct. 10, headaches and dizziness, and on following day right-sided facial paralysis, followed in three days by optic neuritis. Under mercurial inunctions, the facial palsy and other symptoms disappeared. Patient cured.

Case 14.—Man, aged 32. July 7, injection of salvarsan. In middle of October, high-grade double labyrinthine disease developed.

In the discussion following the reading of Finger's paper, the following cases were reported:

Kren examined eighty-nine of 140 patients treated with salvarsan in Riehl's clinic. In one case two months after the injection there was a slight labyrinthine impairment of hearing, with a negative Wassermann.

Urbantschitsch examined the ears of sixty patients treated by Finger, Riehl and Ehrmann and observed five cases of suppression of function of the vestibular nerve, which developed shortly after the injection and rapidly disappeared.

Matzenauer had one case of auditory disturbance in 126 cases.

Ullmann treated sixty-two patients without any complications.

Rusch observed a case of severe involvement of the auditory nerve two months after the use of salvarsan.

Finger reported one additional case of auditory nerve disease, Beck a case of one-sided deafness from the clinic of Zumbusch and one case of vestibular disease was seen by Zechmeister of Sarajewo.

Alexander,[10] of Vienna, reports the following case (15) of a patient treated by Nobl:

Case 15.—Woman, aged 30, contracted syphilis in the spring of 1910, received injections of mercury and at the end of July complained of deafness and tinnitus in right ear. This was later cured. In October trouble with left ear began, which was treated with salvarsan. In November left ear grew worse and ended in complete deafness.

Case 16.—Dr. George L. Richards,[11] Fall River, Mass., refers to two patients of Dr. Daniel Kaufman, who had deafness and labyrinthine symptoms some time after injections of salvarsan. Wassermann positive. Under mercurial injections, the symptoms were improving.

Case 17.—Zeissl,[12] of Vienna, saw a patient who developed facial palsy and tinnitus. The patient received salvarsan intragluteally August 7. November 7, the facial palsy developed.

Case 18.—Paul Lazarus[13] had a patient in whom left-sided labyrinthine disease with tinnitus and deafness developed three days after an injection. In some days this disappeared.

Von Zumbusch found in the literature among 7,000 cases of patients treated with salvarsan in twenty-five clinics, nine cases of auditory nerve disturbance. All were cases of syphilis between the second and the seventh month. In most cases the Wassermann reaction was negative.

There are doubtless other cases of optic and auditory neuritis that have been reported, which have escaped my search. While the detailed references to these cases give perhaps an alarming impression, it is perhaps well to state that the entire number of cases of optic and auditory disease here abstracted is not over twenty-five.

EHRLICH'S COMMENTS

In September, 1910, Ehrlich[14] addressed an inquiry to a large number of clinicians, and determined that not a single case of blindness had occurred among 8,000 patients treated with salvarsan. Since that time one case of retinal atrophy has occurred (Case 3 of Finger), and this patient had had almost a year's prior treatment with arsenical preparations, such as arsacetin, enesol, etc. Ehrlich believes that a hypersusceptibility to arsenic was thus established. A large number of observers including Deutschmann, Gross, Havan, Ogersheimer, Römer, Schanz, Wechselmann (1,400 cases) and Seeligsohn have reported good results in the treatment of luetic ocular conditions. They did not observe any bad effects even in optic atrophy. In syphilitic retinal conditions, splendid results were often obtained. Ehrlich states that salvarsan itself has no injurious effects on the eye.

In regard to auditory disease, Ehrlich made an inquiry of twenty-five clinicians who had treated 7,000 patients with salvarsan: but nine cases of auditory nerve disturbance had been encountered.

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[7] Fordyce, John A.: The Modern Treatment of Syphilis, with Reference to the Recent Synthetic Preparations, The Journal A. M. A., Jan. 21, 1911, p. 186.

[8] Univ. Penn. Med. Bull., January, 1911.

[9] Wien. klin. Wchnschr., 1910, No. 50.

[10] Alexander: Boston Med. and Surg Jour., March 9, 1911.

[11] Boston Med. and Surg. Jour., March 9, 1911.

[12] Wien. med. Wchnschr., 1911, No. 7, p. 439.

[13] Deutsch. med. Wchnschr., Jan. 26, 1911.

[14] München. med. Wchnschr., Jan. 3, 1911.

LUETIC OPTIC AND AUDITORY NEURITIS BEFORE THE USE OF SALVARSAN

A careful study of the reported cases of optic and auditory trouble following the use of salvarsan leads convincingly to the conclusion that all, or nearly all, of these cases were instances of syphilitic neuritis or *Neurorecidiven,* as they have been called abroad. In proof of this is the fact that many have been improved or cured by mercury and the iodids or a second dose of salvarsan. The important question is whether the salvarsan employed has been a determining factor in their development.

ARE CRANIAL NERVE INFLAMMATIONS COMMONER AFTER SALVARSAN THAN AFTER THE OLD TREATMENT OF LUES?

On this question there is difference of opinion. The known injurious effects of atoxyl and similar substances on the cranial nerves led Ehrlich at the outset to warn against the use of salvarsan in optic nerve conditions. With increasing experience he became convinced of the harmlessness of the new remedy.

Finger, Alexander, Rille and others feel that cranial nerve complications are more commonly seen now than under former methods of treatment. Professor Alexander, the Vienna otologist, states that in the course of six years before salvarsan, he had seen only twelve cases of ear disease in the early stages of syphilis. According to him, acute neuritis of the auditory nerve in early syphilis is very rare.

On the other hand, Professor Urbantschitsch, of Vienna, had previously called attention to disturbances of the optic and auditory nerves after the use of soluble mercury salts.

Jansen, of Berlin, stated to Ehrlich that auditory nerve trouble is by no means rare in recent syphilis. He had obtained further improvement from second injections of salvarsan in such cases.

Paul Lazarus[15] says that latent vestibular disease in luetics is commoner than is believed.

Kreibich[16] saw in Graz in one year, four cases of luetic recurrence affecting the auditory nerve, before the introduction of salvarsan; in Prague in four years he had seen only two cases.

Benario, of Frankfort,[17] in view of Finger's reports, searched through a part of the case reports sent to Ehrlich, and utilizing only those with exhaustive data, found seven cases (Cases 19 to 24, and 28) of auditory nerve disturbance before the use of salvarsan. In addition, data concerning three other cases (Cases 25, 26, 27) were communicated in letters. All were early cases.

Case 19.—Woman, aged 23. Mercury salicylate injections. Complete deafness in one ear and partial in other; oculomotor palsy. After two injections of salvarsan, complete cure.

Case 20.—Man, aged 27. Mercurial treatment. Facial and auditory palsy three months after infection. After salvarsan, disappearance of symptoms in three days. Brilliant result.

Case 21.—Woman. Received forty mercurial injections; six months after infection, facial palsy, almost complete deafness, diplopia and ptosis. (Disappearance of facial palsy under mercury). After salvarsan, improvement in hearing and disappearance of diplopia.

Case 22.—Man, aged 22. Forty mercurial injections. Five months after infection, right-sided facial palsy and deafness in right ear. No improvement in hearing after salvarsan.

Case 23.—Man. Six injections of insoluble mercury salts. One month after infection almost complete deafness. Following use of salvarsan, gradual restoration of hearing to normal.

Case 24.—Woman, aged 39. Eighteen injections of salicylate of mercury. About three months after infection, partial deafness in both ears; could not hear conversation Ten days after salvarsan, great improvement. At time of last report, hearing normal.

Case 25.—Woman, aged 34. Three months after infection, partial deafness. After use of salvarsan, rapid improvement. At present, hearing normal.

Case 26.—Woman, aged 30. Eight mercury injections. Several months later, labyrinthine disease (tinnitus, partial deafness, vertigo). Cure under mercury.

Case 27.—Complete deafness during secondary stage. Could not hear pistol shot. Mercury used without results. Improvement under salvarsan. Can now hear loud conversation.

Case 28.—Reported by Professor Unna, of Hamburg (Unna: *Monatsh. f. prakt. Derm.,* 1910, li, No. 12). Musician developed during the remission period impaired memory, failure of concentration, tinnitus and impaired hearing. Patient had previously had mercurial treatment. After an injection of salvarsan, all the symptoms disappeared except the one most important to the patient, namely, his deafness, but this was gradually cured in the course of a number of weeks.

Becker,[18] in 1907, found among 200 syphilitics in the early period, 6 per cent. of cases of optic neuritis.

Fehr, of Berlin, examined the eyes of a large number of Wechselmann's patients and stated that before treatment he found 2 to 3 per cent. of cases of neuritis, choked disk and retrobulbar neuritis without subjective disturbance.

Wechselmann says that among more than 1,400 patients treated with salvarsan, he did not observe any ocular trouble, although ophthalmic examinations were pretty generally carried out. In two cases, there were temporary "floating specks."

RESULTS OF TREATMENT

In a considerable number of cases, the optic and auditory trouble has improved or cleared up under the use of antisyphilitic remedies. Patients with neuritis occurring spontaneously or after mercury have often done well under salvarsan or further mercurial treatment, and in cases occurring after the use of salvarsan the patients have often improved under a second dose or under mercury and the iodids.

Marshalko[19] says beginning optic atrophy is no contra-indication to the use of salvarsan if the drug is otherwise indicated. After consultation with Professor Imre, director of the Eye Clinic in Klausenberg, Marshalko injected a number of such patients. No injury occurred in any case; indeed, the process became stationary in some, and in others there was apparent improvement. These results prove that the neuritis is not a primary toxic condition, but a fresh syphilitic involvement, a conclusion most pertinent to this discussion.

Another point of interest is that in all or nearly all of the cases reported the patients have been in the early stage of syphilis, between the second and eighth month after infection. This is additional evidence of the luetic nature of the process.

Furthermore, all of the cases have occurred after the subcutaneous or intragluteal use of mercury and none, so far as the reports go, after the intravenous administration.

This is most suggestive in view of the fact that the intravenous administration is the most intensive method of treatment. Furthermore, among those clinicians who have used the largest doses of salvarsan (Gennerich, Duhot, Weintraud) neuritic disturbances have not been observed.

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[15] Deutsch. med. Wchnschr., Jan. 26, 1911, p. 186.
[16] Deutsch. med. Wchnschr., Jan. 5, 1911, p. 11.
[17] München. med. Wchnschr., Jan. 3, 1911, p. 20.
[18] Quoted by Riehl: Wien. klin. Wchnschr., 1910, No. 51.
[19] Deutsch. med. Wchnschr., Feb. 2, 1911, p. 199.

THEORIES AS TO THE CAUSE OF THE COMPLICATIONS

Abstracting the views of various men, the following propositions may be formulated:

1. The optic and auditory nerve trouble is syphilitic in character and may occur spontaneously or after mercury or salvarsan, and is unrelated to the latter (Ehrlich).

2. These complications are syphilitic, but in some way related to the administration of salvarsan, perhaps due to the traumatic effect of the drug on the nerves (Finger, Rille et al.).

3. When occurring early, it is suggested that the complications may be an effect analogous to the Herxheimer reaction (Urbantschitsch, Pincus, et al.).

4. It is believed by some observers that the introduction of salvarsan in "depots" in the subcutaneous or muscular tissues, where much of it may remain and undergo chemical change, may be responsible for a toxic effect on nerve structure.

5. I believe that an important factor in many cases in the production of the neuritic complications has been the cessation of treatment after a single subcutaneous or intramuscular dose of salvarsan; so much was anticipated concerning the radical curative effects of salvarsan that no subsequent treatment was given for months. In sixteen cases in which the dates of the administration of the salvarsan and of the development of the neuritis are given, between two and three months elapsed in twelve of the cases. In a very few cases, it must be admitted, the complications have arisen within a few days. In these cases it is suggested that the condition may be analogous to the Herxheimer cutaneous reaction. If the neuritic manifestations are commoner after salvarsan than after mercury, the discontinuance of treatment may account for the difference, for mercurial treatment is continued for a much longer period of time. If subcutaneous and intragluteal injections are administered they should be followed in a short time by other treatment. It is reasonable to believe that this would in large part prevent the neuritic inflammations, as they are as a rule favorably influenced by the readministration of treatment.

A PLEA FOR THE INTRAVENOUS USE OF SALVARSAN

Not only is the intravenous administration of salvarsan infinitely less painful than the subcutaneous or intragluteal methods; not only does it obviate the liability to tumefactions, abscesses, and necrosis of tissue, but it is decidedly more effective.

Schreiber, of Magdeburg, who has used intravenous injections, and at times reinjections, in over 800 cases, has observed only four recurrences. In the early period when he employed intramuscular injections, he encountered seventeen recurrences out of a relatively small number injected.

Writing in October, 1910, Schreiber[20] said that in over 400 patients treated intravenously, he had observed no untoward effects on the eyes.

A. Frankel[21] states that an intravenous injection cured a patient with tertiary lues of the skin whose case had not been influenced six weeks before by an intramuscular injection.

In my own experience, I have found the intravenous injections to be distinctly more efficacious than the treatment by other routes. To be sure, subcutaneous or intragluteal injections will often effect a disappearance of the lesions, but this does not teach us the extent to which the underlying disease has been influenced.

It is proved that recurrences are much less early and less frequent after intravenous injections than after administration by other methods. It appears also that inflammations of the cranial nerves have only occurred after intramuscular and subcutaneous injections, therefore, the superior advantages of the blood route over other methods seem to be established.

The theoretical consideration that elimination is more rapid after intravenous injections should not weigh as an argument against the determined clinical results. Arthur Bornstein[22] has shown by experimental research on animals, that the largest part of the dose of salvarsan administered intravenously does not remain free in the blood, but is deposited in the liver, spleen and kidneys.

CONCLUSIONS

1. Inflammation of the optic, auditory, facial and other cranial nerves has developed in a minute percentage of cases after the use of salvarsan in syphilis.

2. The same complications may occur spontaneously or after the use of mercury.

3. Whether the incidence of such neuritic complications is larger after salvarsan than after mercury is a mooted question, on which foreign specialists are not agreed.

4. These inflammations have occurred almost exclusively in cases of recent syphilis.

5. They appear to have occurred exclusively after intramuscular and subcutaneous injections and not after the intravenous administration.

6. Optic and auditory neuritis have in many instances cleared up under a second dose of salvarsan or under mercury and the iodids.

7. Most of the cases of neuritis have occurred two to three months after a single injection. A risk is incurred in discontinuing antisyphilitic treatment for a long period in early syphilis, after a single injection of salvarsan, particularly when given subcutaneously or intramuscularly. It would be, of course, likewise dangerous to cease treatment after brief mercurial administration.

8. The intravenous method of treatment has many advantages over the treatment by other routes.

1922 Spruce Street.

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[20] Deutsch. med. Wchnschr., Oct. 13, 1910, p. 1899.

[21] Deutsch. med. Wchnschr., Jan. 26, 1911, p. 18.

[22] Deutsch. med. Wchnschr., Jan. 19, 1911, p. 112.

Intestinal Surgery.—The present-day success of intestinal surgery is due largely to careful observations of conservative clinicians. Great progress was made when surgeons had a fair understanding of bacteriology and biology and a clearer conception of the vital processes in connection with all lesions within the abdomen. The part played by the peritoneum in connection with infection within the abdominal cavity and the repair of wounds of the intestines is now known and has greatly modified surgical technic. The study of phagocytosis antibodies and opsonins in the blood has enlarged the surgica horizon. The elimination of all possible bacteria from th alimentary canal previous to the operation and the stric observance of asepsis at the time of operation has greatl increased the possibility of success in intestinal work.—A. E Benjamin, in *Lancet-Clinic.*

IMPERMEABLE CARDIOSPASM SUCCESSFULLY TREATED BY THORACOTOMY AND ESOPHAGOPLICATION

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The operative method carried out in the case described below may be of interest, and perhaps also of some practical value.

History.—R. M., a woman, aged 47, sick for fifteen years with typical symptoms of cardiospasm, with frequent regurgitation, became worse gradually; she was treated by a number of physicians, but the cardia was never dilated; of late the patient had been unable to swallow anything. The patient entered the medical division of the German Hospital (Dr. M. Einhorn). Neither sounds nor dilator could be made to pass into the stomach; they evidently slipped sideways into an esophageal pouch, which rested on the diaphragm. Metal sounds passed down a distance of 17¼ inches from the teeth before they met resistance (14 inches being the normal distance in grown persons); flexible tubes could be made to pass 1½ inch further down. Rectal feeding had to be resorted to, but soon had to give way to a gastrostomy according to Kader's method (Dr. M. Rehling). Operation was well borne, and the patient was instructed to chew her food, but instead of swallowing it, to spit it into a receptacle partially filled with some kind of nourishing fluid, from which it was then poured into the stomach. In spite of this she did not gain and asked to be relieved by operation.

The proposition made to her to let me try first to pass the contracted cardia with the help of the esophagoscope was refused, and was not particularly pressed in view of the unfavorable results obtained by others in cases of such long standing. An attempt was made, however, to pass the cardia from below, for which purpose the stomach was washed clean and direct gastroscopy performed with the electric cystoscope introduced through the gastric fistula. Owing to the lack of proper landmarks I did not succeed in definitely locating the cardia, an experience I had frequently had before in similar cases; nor was I able to pass a ureter catheter by means of the ureter catheterizing cystoscope, although at one time a metal probe had been introduced through her mouth down to the obstruction, and this, as well as the ureter cystoscope, had been made visible with the help of the fluoroscope, the *x*-ray tube being placed at the back of the patient for the purpose of locating the cardia. The failure was evidently due to the fact that the cardia proper could not be pressed forward by the sound.

After consultation with Dr. Einhorn I decided to perform thoracotomy under differential pressure and, if the diffuse esophageal pouch demonstrated by the *x*-rays should be found to be due to cardiospasm and not to a carcinoma which might have developed on the basis of an old ulceration, I would then try to reduce its diameter by esophagoplication. Excision of a large ellipsoid piece of the entire length of the esophageal wall with immediate suture would have been a more radical step. However, such an operation would have involved greater risk than it seemed wise to take in view of the patient's greatly reduced condition; she weighed 87 pounds.

Operation.—May 31, 1910, operation was performed under positive differential pressure by means of the positive chamber in use at the German Hospital since April, 1909. Stomach lavage was first performed, the gastric tube removed and the fistula packed with iodoform gauze and covered with zinc adhesive plaster. The patient was given a hypodermic injection of morphin ⅙ gr., atropin 1/100, and, by hypodermoclysis, 1,000 c.c. saline solution. Anesthol anesthesia was employed, with two narcotizers in the chamber, with oxygen tank and esophageal sounds. The thorax was put on the stretch by means of the new operating-table for thoracic surgery elsewhere described,[1] a curved incision was made over the sixth to the tenth ribs, exactly corresponding in direction with the lower part of the typical Schede incision, and a skin and muscle flap raised. An incision was then made in the eighth intercostal space. The lung was superficially injured on dividing the pleura because of a total adherence of the lung to the costal pleura. Careful blunt dissection was done and the incision lengthened anteriorly and posteriorly. The wound was then gently separated and the rib-spreader inserted, but, in order to avoid rib fracture, wide separation was not forced. Separation of the lung from the costal and diaphragmatic pleura posteriorly proved easily feasible. A number of double ligatures, with divisions between, were needed for firm ligamentous bands. When the lung was pushed off from the anterior mediastinum it tore at two places, which were temporarily covered with moist gauze sponge. When the loosened lung (which remained adherent inwardly) was pushed upward and inward, away from the diaphragm and aorta, a large pear-shaped swelling was seen, corresponding to the lower end of the esophagus. This evidently was the sac in which the instruments had been caught. The overlying pleura was split, the pneumogastric nerves made out and thoroughly separated from the esophagus on either side for fully five inches. The sac was loosened all around with both hands until the finger-tips met posteriorly at the spinal column. The cardia was palpated through the diaphragm and found not infiltrated and could be pulled into the thorax for a distance of about one inch without opening the abdominal cavity, a phenomenon also observed in previous cases. The cardia was surrounded by the finger, then by a piece of twisted gauze, the ends of which were clamped. This gave a good hold. The tip of a long flexible sound now introduced into the esophagus was felt in the pouch posteriorly and laterally over the spinal column. It was lifted by the left hand, which rested behind the esophagus, and met by the right in front which guided it toward the cardia, the latter resting on the gauze handle. The sound passed the cardia nicely, its upper end being gently pushed by the narcotizer. This proved conclusively that the cardia was permeable to instruments.

The sound being withdrawn, a double esophagoplication was done, the same as is done when performing gastrotomy according to Kader. Interrupted silk sutures, flat curved needles and the indispensable "Küster's swan" were used,[1] care being taken not to penetrate the esophageal wall and not to include the pneumogastric nerves. Meanwhile an intravenous injection of saline with 20 mm. of adrenalin had become necessary. The esophagus was then dropped back into its normal place and the initial lung incisions and tears stitched with a straight round needle threaded with fine silk, grasping just enough of the pleura to close the wound. Suture of the rents near the mediastinum were technically difficult or impossible and a small flap of parietal pleura just hanging handy was stitched on to the lung to cover one of the rents. Air was thought to be heard passing out of the lung now and then. Closure of the thoracic wound was then undertaken. Two pericostal silk sutures, tied, held the ribs in proper apposition until three double chromicized catgut retention sutures, made to pass through drill-holes in the middle of the lower rib and surrounding the upper one were tightened. Then the silk sutures were cut and removed. The external wound was closed with continuous catgut sutures and the dressing applied. The patient was removed from cabinet and returned to bed; pulse was 108; stimulation was employed.

Postoperative History.—On the following day at noon there was cyanosis and dyspnea, a pulse of 140 and increased respiration. Diagnosis: compression of lung by fluid or air, which latter, it was thought, might have escaped through the pulmonary tear that could not be sutured. To make sure of this, the patient was brought back to the cabinet and the pressure turned on, with everything ready to reopen the wound in case of increase of dyspnea, which would indicate the presence of a pressure pneumothorax. Fortunately, this did not happen, and, as the patient felt comfortable under differential pressure and complained of difficulty in breathing the moment it was stopped, she was left in the apparatus for almost ten hours, food being given frequently through the tube which had been reintroduced through the gastric fistula. When the head was removed from the chamber at 9 p. m. and the patient placed in an upright position, her lips were red as before, and pulse unchanged. She was then brought back to her bed and went on to recovery.

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[1] Ann. Surg., July, 1910, p. 40.

Interesting points during convalescence were:

1. Accumulation of about one pint of turbid sanguinolent serum, which necessitated drainage on the twentieth day after operation; rib resection was done under cocain, making use of the lowest part of the curved skin incision.

2. A hematogenous infection of the right (movable) kidney, with perinephritis.

3. Spontaneous return of the ability to swallow any kind of food, not only liquid, but also solid.

In the fourth week after operation in this case, sudden dysuria with fever and local tenderness over the right kidney set in; the urine contained pus. As catheterization had not become necessary at any time after operation, and patient had been free from urinary trouble before, we had to diagnose a hematogenous infection. Medicinal treatment was resorted to. Subsequently the infiltration was very much reduced, the urine clear and bilaterally normal, as proved by ureteral catheterization. Evidently a cortical abscess had perforated into the perinephritic fat.

In the third week after the operation, during a very hot night, the patient drank a whole glass of water, passing it into the stomach without any trouble. So far she had been fed exclusively through the gastric fistula and had been warned not to make use of the esophagus for feeding purposes. One week later semisolid, and soon thereafter, solid food passed through the cardia without any difficulty. This favorable condition continued unchanged since the middle of June, 1910, that is over six months, and may, therefore, be considered a permanently established feature. Later, six and a half months after the operation, the patient was absolutely well.[2] The wound remained definitely closed since the middle of July, 1910. The patient swallows her food with perfect ease; there is never any difficulty in deglutition, nor the slightest tendency to regurgitation. She weighs 118 pounds against 87 pounds before the operation, and is gaining steadily. At times there was a slight rise of temperature due to the still present perinephritic infiltration.

The cure of the impermeable cardiospasm in this case seems to have been due, first, to the forcible separation of both pneumogastrics from the esophagus, tearing the many tiny nerve fibers that enter the muscularis of this organ on either side; second, to the artificial reduction of the circumference of the pouch.

It had been the intention to sound the esophagus soon after the operation and if the tube passed the cardia, to try the dilator and distend the contracted muscular ring. This became unnecessary, as the desired condition set in spontaneously.

A direct operative attack on the cardia for spasm was first undertaken by the late von Mikulicz. He stretched the cardia with forceps through a gastrotomy wound. Wendel performed osteoplastic resection of the costal arch, following this by a plastic operation according to pyloroplasty by the Heinecke-Mikulicz method.

As an after-effect of thoracic operations on the human subject, it has been a frequent observation by other surgeons, as well as myself, that an effusion of a serous or serosanguinolent fluid takes place into the pleural cavity operated on, and that aspiration of this fluid does not overcome the dyspnea. In the majority of cases the accumulation of this fluid has been the cause of death, or at least has materially contributed to the death. This fact appears to justify the conclusion that the future of thoracic surgery rests on the development of a proper after-treatment. I have thus expressed myself in various medical societies and note from a recent article of Wendel's that he has come to the same conclusion. Air-tight closure of the thoracic cavity whenever possible after the intrathoracic work is finished, has been the advice given by other workers in this field. In the light of the experience gained in this case, however, as well as that which I have had in several other thoracic operations, it seems to me that this dictum may have to be changed or modified. Instead of using air-tight closure, I think it will be necessary for us to learn how to drain the thorax during the first twenty-four hours, perhaps even thirty-six or forty-eight hours, after a severe thoracic operation, without incurring the dangers of a pneumothorax.

Several ways of fulfilling this desideratum come to mind. One of them is the use of the chamber. The head of the patient is kept within the chamber under pressure and tubes drain the thoracic cavity or cavities into the aseptic dressing which has been applied. Relays of assistants and nurses attend to the needs immediately after operation.

Another procedure would be to apply a sort of valve dressing permitting of drainage.

Wendel, in speaking of operations for cancer of the cardia, expresses the intention of draining internally into the abdomen or through the abdomen to the surface after a combined thoracic-abdominal operation.

As soon as the patient has satisfactorily passed the first twenty-four to forty-eight hours and the pleura has ceased to secrete, the drain or drains may be withdrawn and, under increased differential pressure, the wound covered with rubber tissue and a large dressing, closing the thorax air tight.

Should equally favorable results be obtained with the above-described procedure in subsequent similar cases a new method of radical cure of impermeable cardiospasm by the most direct route would then be established.

Note: Since I wrote the above, the patient has passed through a severe attack of influenza, January, 1911. Shortly after she had recovered from this attack, the scar resulting from the empyema reopened in one place and gradually an esophageal fistula established itself, producing some leakage through the fistula. Evidently one or more of the silk sutures in the esophageal wall caused a perforation, swallowing meanwhile continuing with perfect ease. This experience teaches that chromicized gut should be used rather than silk for sutures and ligatures within the thorax, if we are unable to guarantee aseptic wound healing.

700 Madison Avenue.

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[2] The patient was presented before the New York Surgical Society, Nov. 23, 1910.

CARDIOSPASM

REPORT OF A CASE: TREATMENT BY OPERATION AND SUBSEQUENT DILATATION

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There is little about cardiospasm found in text-books, and until recently almost nothing in periodical literature. Within the past few years, however, a great deal of attention has been attracted to it, especially in Germany, and the facts stated by careful observers, there and elsewhere, who have been on the alert to detect cases of cardiospasm, would seem to justify the assertion that many of us are overlooking some, and perhaps many, patients affected with this condition.

H. S. Plummer of St. Mary's Hospital, Rochester, Minn., reported forty cases.[1] Only four of his patients were treated by operation, the simpler method of dilatation being sufficient to effect a cure.

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[1] Plummer, J. A.: The Journal A. M. A., Aug. 15, 1908, p. 549.

It might be well at this point to define cardiospasm. Cardiospasm is a condition in which there is spasm of the circular fibers of the cardiac orifice or esophageal opening of the stomach; dilatation and retention of food in the esophagus, with periodical regurgitation. This, of course, describes a fully developed case.

The causes of the disease, as collected by Plummer in his full and valuable paper, are as follows:

"First, primary cardiospasm (Meltzer); second, primary atony of the musculature of the esophagus (Rosenheim); third, simultaneous presence of cardiospasm and paralysis of the circular fibers of the esophagus, brought about by paralysis of the vagus (Kraus); fourth, congenital disposition (Fleiner, Zenker, Luschka, and Seivers); fifth, primary esophagitis (Martin); and, sixth, kinking at the hiatus esophagi."

This observer in discussing the causes of the disease says:

> In the study of a considerable number of cases the almost invariable history of a spasm at the onset, followed at a later period by the evidence of dilatation—that is, retention of food in the esophagus—is most convincing evidence that the spasm precedes the dilatation, and primary atony is relatively a rare condition.[1]

While it is true that a spasm of the cardia may be due to, or associated with, lesions of the esophagus or stomach, I do not believe that it is the cause in many cases. Certainly no lesions of these organs, and no history of their previous existence, were found in the case about to be reported.

Swallowing is divided into three acts. I shall consider only the third, in which the food passes through the esophagus. Every part of the tube, as it receives the morsel and is dilated by it, is stimulated to contract; hence an undulatory or peristaltic contraction of the esophagus occurs. If we suppose the bolus to be at one particular place in the tube, it acts stimulatingly on the circular fibers behind it and inhibitingly on those in front; the contraction, therefore, squeezes it into the dilated part in front, where the same process occurs, and this travels the whole length of the tube.[2]

The esophagus does not contract in sections, as was once thought, but there is a peristaltic wave. It is usually thought that the sphincter of the cardia is tonically contracted.[3] However this may be, it is certain that contraction of the esophagus is due to the vagi; and if it is true that these nerves supply the esophagus with motor, and the cardiac sphincter with inhibitory fibers, any disturbance or degenerative changes of these nerves would produce cardiospasm. "Division of both pneumogastric nerves gives rise to paralysis of the esophagus and stomach and firm contractions of the cardiac orifice. These nerves, therefore, normally supply the esophagus with motor, and the cardiac sphincter with inhibitory fibers. If food is swallowed after these nerves are divided, it accumulates in the gullet and never reaches the stomach. While it is true that peristalsis is an inherent property of the muscle, which is normally controlled by nervous agency, it must be remembered that the nervous control is especially marked in the esophagus. . . . It seems probable that the peristaltic contractions of the esophagus, to be efficient, must be supported by nervous influences from outside. In this respect the esophagus is different from the remainder of the alimentary canal."[2]

REPORT OF CASE

History.—M. S., aged 18, unmarried, a farmer, was seen by me Jan. 20, 1910, at the request of his physician. His father had died thirteen years previously with "white swelling" of leg; his mother, brothers and sisters were living and in good health. The patient had measles in early childhood; otherwise had never been ill, and had enjoyed perfect health until the present trouble began, in 1906. He had always been in the habit of eating his meals very rapidly. One morning in 1906, having just finished eating, he suddenly experienced a choking sensation, with considerable pain, in the region of the cardia. He described it by saying that it felt as though part of his breakfast had stuck in his chest. In a short time this passed off and he ate his dinner, about three hours later, without discomfort. Attacks occurred after this about once a week, gradually increasing in frequency, with marked difficulty in swallowing. At first he was able to force all the food into the stomach, but finally part of it seemed "to stop just below the lower end of the breast-bone." The condition gradually grew worse until it would take him from two to three hours to get any considerable amount of food into the stomach. After filling the dilated esophagus, part of the food was forced into the stomach and part was regurgitated. The patient had been treated by a number of physicians without any relief whatever; was compelled to stop working on account of weakness, and because most of his time was taken up trying to eat; had lost weight slowly at first, but very rapidly of late. For the previous month or two the patient had devised a method of getting a certain kind of food into the stomach, and on this alone he had subsisted. A syrupy mixture was made by mashing a few crackers and then adding sugar and water. This was eaten, but did not enter the stomach. After this the patient would swallow solid food until he was conscious that he would regurgitate it if more were taken; then, after taking a sip of weak coffee, he would take a deep inspiration, close his mouth, shove his head forward and with slow pumping motions force the syrupy mixture into the stomach. When this method was successful he had a distinct sensation of food entering the stomach; but when it did not, the air compressed in the throat and mouth, rushed back through his mouth and nose. At other times some of the air gained entrance into the larynx, giving rise to coughing, such as is caused when one has, as is said, "swallowed the wrong way." The solid food would remain in the esophagus until regurgitated, or could be, and usually was, washed out immediately after passage of the syrupy mixture into the stomach. Living in the country, where modern plumbing facilities were not at hand, he had learned that the most convenient method of doing this was to lie on the ground beside a running stream, and after taking several swallows of water allow it to regurgitate and be carried down the stream. In this way he would wash all the retained food from the esophagus.

The difficulty of getting food into the stomach could easily be seen when the patient ate. He could easily swallow liquids or solids up to the amount of two and one-half glassfuls, or about 20 ounces, when, as he stated, he could swallow no more without regurgitating it. This material left in place for three hours could be regurgitated without difficulty, by simply stooping over until all ran out. Of course, during this time a certain amount of the liquid would seep through the cardiac orifice by gravity.

Physical Examination.—The patient was a thin but otherwise healthy-looking youth, about 5 feet 10 inches in height, and weighing 109 pounds. No abnormality could be detected by ordinary examination; urine normal; blood deficient in hemoglobin.

Diagnosis.—The two cardinal symptoms, the difficulty of getting food into the stomach, with frequent regurgitation of food and mucus, at once called attention to some obstruction above the stomach. After the history of the patient was taken, syphilis and the swallowing of caustics and foreign bodies excluded, and a general examination made, a stomach-tube was stiffened with a large esophageal bougie and introduced. The distance from the incisor teeth to the obstruction was measured and found to be 42 cm. At times the tube would pass through the cardia, not very easily on gentle pressure; at other times with great difficulty, if it could be made to pass at all. The times when it could be made to pass were very few, and then the end of the tube had to be held against the cardia for some time and considerable pressure used. That it could be made to enter the stomach, however, was proved by the entirely different character of food obtained, which showed hydrochloric acid present, and which contained partly digested food with a sour odor. After having thoroughly washed out and entirely emptied the esophagus, a thorough examination was made with the esophagoscope, which revealed no evidence of a diverticulum, new growth, ulcer, fissure or foreign body; the mucous membrane appeared normal, the esophagus large and the walls rather flaccid. Twenty ounces of potato soup containing 20 per cent. of bismuth subnitrate was given and a radiograph of the chest was made. This showed a greatly dilated esophagus, tapering to a point near the cardia. Examination of the contents of the esophagus, two days after eating meat and hard-boiled eggs, showed large pieces of undigested meat and egg and considerable mucus; there was no odor; the reaction was alkaline. There was no evidence of pepsin or hydrochloric acid. From this there seemed to be no doubt that the contents removed were from the esophagus only. Photographs of pieces of solid food were taken. The patient complained of dyspnea and slight discomfort when the esophageal sac was full, which entirely disappeared when the contents were regurgitated, or washed out.

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[2] Kirk's Handbook of Physiology, Ed. 21.
[3] Gray's Anatomy, Ed. 17.

As there seemed to be no doubt as to the diagnosis, it was decided to operate, first, in order that the patient might be fed through a tube fastened in the stomach, thereby permitting the patient to gain strength and weight; second, to allow the dilated esophagus complete rest and to contract as much as possible; and third, that the sphincter might be stretched at the same time that gastrostomy was performed.

Operation.—Jan. 28, 1910, gastrostomy was performed under ether. Witzel's method was used, except that the incision was made longer than four inches, as described in his operation. After opening the peritoneal cavity the stomach was seized, brought out of the wound, and gauze packed around it. An incision was made into the stomach wall large enough to admit the hand. One finger was introduced into the cardiac opening of the stomach and the contraction of the hypertrophied sphincter could easily be felt, resembling the contraction of the uterine cervix before thorough dilatation, preliminary to curettage. Under the control of two fingers a curved intestinal clamp, the blades of which were guarded with rubber tubing, was introduced with some difficulty into the esophageal opening. The blades of the forceps were gradually opened and closed until the cardia was fairly well dilated. No measurement of the distance between the blades was taken; the amount of force used was determined by muscular sense, care being taken not to use sufficient force to tear the esophagus. The forceps was then withdrawn, the opening in the stomach closed in the usual way, except for a hole large enough to introduce a tube with diameter equal to a number 25 French bougie. The operation was then completed according to Witzel's method.

Subsequent Treatment and Course.—Nothing worthy of note occurred immediately after the operation. Rectal alimentation was not resorted to, the patient being fed through the tube in the stomach by introducing a funnel and removing the clamp from the tube. For the first twenty-four hours nothing was given except normal saline solution, by proctoclysis, to relieve thirst. On the ninth day the superficial sutures were removed. The wound had healed by primary union and nothing remained except the fistulous opening into the stomach. In a short time the tube was withdrawn from the stomach and introduced through the fistula each time the patient was fed. At the end of two weeks the patient was up and around, and had learned to introduce the tube and feed himself, but he was not permitted to introduce any food into the stomach other than the amount and kind prescribed. During twenty-four hours the patient was allowed 3 liters of milk, 30 gm. of sugar, 60 gm. of cream and 240 gm. of thick potato soup, with 4 gm. of sodium chlorid. Tincture of ferric chlorid in water (30 minims) was also administered. Up to this time the patient had taken nothing by mouth. This diet was prepared as follows: each morning 3 quarts of milk and six eggs were thoroughly mixed, strained through cheese-cloth and put in a cool place, ready for use at regular intervals; 8 gm. of lactose, 8 gm. of sugar and 30 gm. of cream in 270 gm. water were given morning and night. Potato soup was prepared in the usual manner, and to it the sodium chlorid was added.

Regardless of this liberal diet the patient continually complained of hunger and in order to be sure that he did not increase the amount of food allowed, the tube and funnel were kept by Miss Decou, the chief nurse, who prepared his food and saw that he received it at intervals of about two hours, and to whom much credit is due for the boy's progress and ultimate recovery.

I now began to pass daily an ordinary stomach-tube which in a very short time the patient learned to pass himself without the least difficulty. Three weeks after operation the patient had gained eight pounds, felt strong and no longer complained of being hungry.

Dilatation of the cardia was then begun with an esophageal dilator made by cementing a rubber-dam balloon to one end of a non-elastic rubber tube in such a way that the tube just passed through the balloon. The end of the tube was closed with a rubber plug and a number of holes so punched in it that its lumen communicated with the interior of the balloon. A silk bag was fastened over the balloon in order to preserve its shape, when distended, and a second rubber balloon over this to facilitate the passage of the dilator. The dilator was constricted at its center, by tying silk around it, to lessen the tendency for it to slip into the stomach. The distance to the cardia having been previously found and a mark made on the tube, the dilator was then passed and the balloon distended by water forced in by an ordinary Davidson's syringe. The force used was determined by the tolerance of the patient, care being taken not to increase the size of the dilator by forcing in more water after pain was experienced. The principle of this dilator is essentially the same as that described by Plummer, from whose writing I received the idea, though his is more complete and scientific.

During the fourth week the dilatations were continued every other day, and milk and water were given by mouth, most of which readily passed into the stomach. Five weeks after the operation soft diet was permitted, by mouth, and the fistula in the stomach was allowed to heal. The esophageal sac at this time would hold only a few swallows instead of 20 ounces, which was its capacity before operation.

A radiograph showed the esophagus contracted down to nearly normal. From this time on diet was steadily increased in variety, solids being gradually added. The dilator was introduced every few days.

March 22, 1910, the patient announced that he was well and desired to return to his home in West Virginia, and, on being refused, attempted to prove, as so frequently occurs, that the doctors were not so wise as the patient. That night he celebrated a grand feast on fresh pork, potatoes, etc. At 2 o'clock the following morning I was hurriedly called and informed that "Sandy" was dying. On arriving at his room I found him in great pain, frightened, unable to speak above a whisper, abdomen rigid and greatly distended, rapid pulse, flat on his back, bathed in cold perspiration and evidently suffering from acute dilatation of the stomach. A stomach-tube was passed and the stomach was thoroughly washed out, considerable gas being set free and quantities of large pieces of undigested food were removed; in fact, some of these pieces were so large that the stomach-tube often became clogged and had to be removed to be cleared, and then reintroduced. Washing of the stomach gave almost immediate relief. An enema was then given, which was expelled soon afterwards with considerable quantities of gas.

The patient rested well for the few remaining hours of the night and arose late the next morning a sadder but a wiser boy. He stated that he had gone to the hospital kitchen the previous night and had eaten an excessive amount of food and had "bolted" it, fearing that someone would come in before he had finished.

From this time on patient improved rapidly, dilating the cardia himself about once a week.

April 11, 1910, the patient was discharged as cured. He then weighed 150 pounds and was eating all varieties of solid food. After that time I saw the patient twice and there had been no return of the disease.

I cannot assign any definite cause for this boy's trouble, unless it was some disturbance or possible degenerative changes in some of the fibers of the pneumogastric nerves. Again, it will be remembered that the patient was in the habit of bolting his food, which, it seems to me, might have caused a stretching of the lower end of the esophagus, producing a relative increase in the obstruction of the cardia. At the same time the suddenness of the onset, with intervals of absence of symptoms and increasing frequency of attacks, would point to primary spasm of the cardia with resultant dilatation of the esophagus. However this may be, the fact remains that the condition existed and has apparently been cured by operation.

The apparent rarity of this disease, the few cases reported in the literature, and especially the small number that have been operated on, seem to justify the report of this case.

In conclusion I wish to express my appreciation of the valuable assistance given me by Assistant Surgeon George F. Cottle, U. S. N., Miss Decou, Nurse Corps, U. S. N., and Hospital Steward C. P. McGarr, U. S. N., who did the radiographic and photographic work.

THE TREATMENT OF COUGH IN THE CONSUMPTIVE

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No symptom in pulmonary tuberculosis is more obvious or more annoying than the cough; now rasping and ineffectual, now milder but continuous, now paroxysmal, or again, remarkably periodical. Each variety has in its turn a rational means for relief, if its cause is but patiently sought. No symptom, probably, in any disease receives more perfunctory or rule-of-thumb therapy than this,[1] at least from others than specialists long skilled in its treatment. And yet by the simplest means the most complete and lasting benefits are often gained.

The types of cough are generally pretty well defined. Thus, in the earlier stages of the disease, most patients complain of the attack of coughing directly after getting out of bed in the morning. Here is where most practitioners err, in starting too soon their sedatives. In nearly every case, this morning clearing-up process, due probably to the change in posture, and to the change in temperature from bed to that of dressing-room, is beneficial. Unless inordinate, followed by exhaustion, or retching, which destroys all appetite for breakfast, this type may best be let alone. Where a moderate amount of secretion has collected over night, and the morning's paroxysm is unique in the twenty-four hours, it is wiser to follow the *laissez-faire* method and conserve the weapons of offense for later use. They are pretty sure to be needed.

Retching is often due to excessive pharyngeal mucus, which, hanging suspended, acts reflexly to set up vomiting. A simple gargle kept beside the bed, and used immediately on waking to cleanse the walls of the pharynx, will often clear up the condition entirely. This procedure worked remarkably well in an adult German woman in the tuberculosis ward of St. Luke's Hospital, who had coughing fits ending in vomiting every morning for months prior to her admission. Some such bland gargle as this may be used:

℞

	gm. or c.c.		
Ac. borici	30|00		℥i
Phenolis	|12		gr. ii
Glycerini	8|00	or	ʒii
Aq. rosæ	4|00		ʒi
Aq. dest.	ad 240|00		ad ℥viii

M.

Sig.—Use half and half in tepid water as a gargle.

It is sometimes of advantage to have a comfortably warm dressing-room, into which the patient can step quickly before the temperature of the body, on getting out of bed, is too rapidly lowered.

Most of all, however, should be done through instruction. Mental suggestion may play a real part. The will to hold in check the cough often does more than a prescription. This is not easily inculcated in all the sick, and the end accomplished is often an excellent index of the team-work between doctor and patient. Carefully regulated breathing exercises, mild calisthenics, a series of deep, full inspirations, holding the breath several seconds, etc., are all useful aids.

In the constant dry, nagging cough which lasts off and on all day, a prolonged, systematic search should be made for local causes in the nares, pharynx and larynx. A long uvula is a prime offender.

This has often been carefully pointed out in the standard books, but is still curiously overlooked in many cases. Recently a negro presented himself for a constant cough and spitting of blood-streaked mucoid expectoration. He had a typical infiltration of the right apex; but the inordinate amount of sputum, always streaked with bright blood, demanded an explanation. He had been treated in two other dispensaries with small doses of morphin and absolute rest in bed, presumably under the notion that he was having a mild continued hemoptysis. He was found to have a long, edematous uvula which had irritated the epiglottis till it was twice the normal size. The lower pharynx, and upper larynx were deeply congested, and the sublingual tonsil was enormous. Amputation of the uvula gave him prompt relief, and checked the cough and amount of sputum briskly.

Large turbinates, adenoids, hypertrophied tonsils, and ulcers of the larynx, all demand local treatment. Occasionally cough appears to be due solely to fever. It leaves with the lowering of the temperature. Simple rest in bed generally turns the trick. Again, it is curious how much trouble a small patch of pleuritis can raise. Counter-irritation with mild (1 to 5 or 1 to 6) mustard plasters, repeated every four hours, or better still, strapping the chest for five or six days, is quite efficient. The actual cautery to the subclavicular region, a method formerly employed, is probably not used now by most practitioners; but in some cases it certainly has given relief in the past. The following has been suggested to check excessive secretion in the nasopharynx:

℞

	gm. or c.c.		
Iodini pur	0|1 to 0|3		gr. 2 to 10
Potassii iodidi	1|0 to 3|0	or	gr. 15 to 45
Glycerini	10|		℥ 3

M. Sig.—Paint the nasopharynx every day or every other day.

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[1] Brown, L.: A System of Medicine (Osler), iii, 400.

Often no obvious local cause can be found which will account for the incessant, dry cough. Here again, suitable occupation and stimulation of mental interest should be tried. This can be carried out exceptionally well in sanatoriums or day camps. It is a matter of daily observation, let us say in the theater or lecture room, that as soon as the interest of the audience lags for a few moments, short irritable fusillades of coughing can be heard in all parts of the room. They disappear, as by magic, with renewed excitement or heightened interest. A similar phenomenon can be observed at any time when numbers of consumptives are sitting together. While a visitor or nurse reads aloud from an absorbing story there is complete and grateful quiet. This can be maintained ordinarily at will, by skilfully contriving to occupy the attention and imagination of the sick. It is no small task to keep renewing their flaccid energies, through diverse means of manual employment (puzzles, knitting, the jig-saw, sloyd, etc.).

Another distinct type of cough is that which occurs after eating. This is presumably due, reflexly, to the dilatation and sudden activities of the stomach walls. Its most obvious and most efficient means of control is in small, more frequent meals. The dietary should depend wholly on the general conditions present. But a more concentrated meal repeated as often as the digestion will stand, or the general needs seem to warrant, will obviate the seizure which in a large percentage of cases succeeds in setting up enough vomiting to remove most of the meal. In some cases the assumption of the upright posture for eating, after reclining all the morning, seems to be the cause. It is a good plan to have a tray taken to these patients, and the small meal eaten slowly, avoiding carefully any change in position. A little regulation will serve to keep the day's intake constant, and the calorific value need not suffer.

Sudden changes of temperature, such as that experienced on leaving a warm church or theater, often start vicious attacks of coughing. A slower progress and more careful gradation should be tried. Standing in the entry for a few moments and, protecting the face with a handkerchief until several full inspirations of cooler air are drawn, may prevent the attack.

Again, the local conditions of the patient's work must be looked into minutely. A glance over the records of any clinic will show (especially in the men's histories) a surprising number who have worked for a long time in some dusty pursuit. Of course this should cease, and new employment be found at once. But this change is not always (or indeed often) feasible. Yet through the cooperation of the social service departments and the bureaus for organized charity, a great deal of very real help may be obtained. This simple change in surroundings has been sufficient to produce genuine comfort in a good many cases.

There remain to be considered two other types of common cough, "depending sometimes on the amount of expectoration, sometimes on its quality."[2] Here drug therapy would seem to be clearly indicated. But one must even now approach the Pharmacopeia with caution. Austin Flint[3] taught that "expectorants have no place in the treatment of phthisis. An expectorant remedy that includes nauseants must do harm by interfering with alimentation and digestion. Cough palliatives, containing opiates are allowable only when the violence or frequency of cough causes fatigue and prevents sleep."

A number of methods are advocated to allay hypersecretion. Foremost; probably, stands the use of the perforated inhaler, suggested early in England by Sir W. Roberts of Manchester, and Dr. I. Burney Yeo,[4] and long championed in this country by Dr. Beverley Robinson. This simple apparatus is worn easily by patients, and with judicious periods of rest can be kept on most of the time. At night many wear it without annoyance. There is one real objection here, during the colder months. The warm expired air rapidly condenses and finally drenches the face and pillow repeatedly. This is a very genuine drawback to some, disturbing their rest, and it is far better then to discard the apparatus while sleeping. Its beneficial results are often striking. Recently in an adult, who had a rasping cough and profuse expectoration, the constant use of the inhaler over a period of only six weeks, practically eliminated the cough, greatly reduced the amount of sputum, and cleared the chest of all large, moist râles. He had the added benefit of rest at a day camp.

The principal drugs used on the inhaler are creosote or formaldehyd solution in some combination. The former is used at the Vanderbilt Clinic thus:

℞
Creosoti .....
Chloroformi ..
Spts. vini rect. āā p. æ. [i. e., equal parts of each].
M.

The latter is used in this combination:

℞

	gm. or c.c.		
Formaldehydi (40 per cent.).....	1|00		ℳ xv
Chloroformi	2|00		ʒss
Mentholi	0|30	or	gr. v
Ol. pini	0|75		ℳ x
Spts. vini rect.................ad	15|00		ad ʒiv

M. Sig.—Use drops x on inhaler.

In Quincke's clinic, the attempt has been made to check excessive secretion by induced hyperemia. The foot of the bed is raised from 9 to 12 inches in the early morning, for two or three hours, and again at night. The patient lies flat on the back, the face turned toward the side.

Kuhn's suction mask[5] is still another means to a similar end. It is a device worn over the nose and mouth, like the perforated inhalers, so constructed by a series of valves that inspiration is forced and at a raised pressure (*Einatmungsbehinderung*), while expiration is accomplished naturally. This has been used by Kuhn, even in advanced cases with cavity formation, without accident. He is enthusiastic over the results.

Creosote, administered internally as recommended by Sommerbrodt, must be watched with great care. Its facility for upsetting the stomach is considerable.

Guaiacol (see Sahli's report)[6] has proved milder and safer. But in very few cases is it advisable at all to medicate much by mouth. The inhaler seems to serve every purpose.

Care must be taken not to dry up the secretions to a point where a thick and viscid sputum, almost incapable of being dislodged, makes miserable a patient who formerly enjoyed reasonable comfort. If this complication occurs, which, as pointed out by Hughes Bennett,[7] happens at times during the process of healing and of drying out a large cavity, a mixture containing the syrup of hydriodic acid may be used cautiously for a few days.

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[2] Fox, W.: A Treatise on the Diseases of the Lungs and Pleura. Edited by Coupland, 1st edition, 1891.

[3] Flint, A.: Phthisis, p. 400, et seq.

[4] Yeo, I. Burney: Lancet, London, clxxx, 4558, p. 16.

[5] Kuhn, E.: Deutsch. med. Wchnschr., 1906, xxxii, 1486.

[6] Sahli: Lancet, London, 1887, ii, 1287.

[7] Bennett, H.: Reynolds' System of Medicine, iii, 585.

The nauseants (squills, senega, antimony, ipecac, etc.) may best be wholly discarded.

Preissnitz[8] recommends hot, wet compresses to the throat and neck.

Of the depressants, codein, heroin, and finally, morphin, given in dry, tabloid form upset the alimentary tract, taken all in all, less than when in some syrup-like combination. To codein is given the preference, as it tends less to constipation.

In the terminal, hopeless stage, free use of morphin seems imperative. The general discomfort and suffering otherwise, is appalling. An excellent combination suggested by Dr. H. S. Patterson is this:

℞

		gm. or c.c.		
Morph. sulph.		005		gr. 1/12
Tinct. belladonnæ		30	or	♏ v
Ammon. chlorid.		30		gr. v
Aquæ dest.	ad 4	00	ad	ʒi

M. Sig.—Such a dose every four hours, if necessary.

Or this of Dr. S. W. Lambert:

℞

		gm. or c.c.		
Ext. opii				
Ext. Belladonnæ āā		12		gr. ii
Chloroformi	1	3		♏ xx
Syrup. tolutani	30		or	℥i
Aquæ dest.	120		ad	℥iv

M. Sig.—A teaspoonful every four hours, if necessary.

For a short time heroin (grs. ⅛ to ½) seems to work well; but its efficiency is short-lived, and in the very advanced cases soon must give way to morphin, which at last is the sole means of comfort, scant at best.

16 Central Park West.

MENINGISMUS FROM ACUTE CERVICAL ADENITIS AND PERITONSILLAR INFILTRATION

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BOSTON

Some unusual features in this case, which so closely simulated some form of meningitis, make it of enough interest to report.

Patient.—A. L., a boy aged 4, was seen June 23, 1910.

Family History.—Father is living and well. Mother has pulmonary tuberculosis, now quiescent. The mother's tuberculosis was first diagnosed while she was nursing this child; she was fairly well advanced in the second stage at this time and undoubtedly had the disease when pregnant.

Personal History.—The patient was an only child and had always been well except for bowel upsets and slight tonsillitis in March. On May 17, a severe attack of coryza came on, and the boy was alternately better and worse for two weeks with more or less constant nasal discharge and slight cough. Then this trouble seemed to clear up and he was all right for a time. The mother had an attack of scarlet fever in May, and the child was exposed on May 6; the mother was promptly isolated. Three weeks after this exposure a slight transient erythema was noticed across the chest, of not more than two or three hours' duration. The boy felt perfectly well at this time. He had eaten fish for the first time in his life the day before this erythema was noticed. After the first week in June the cold which had been much better still persisted. On June 15, the cervical glands were swollen, bilaterally, more on the right than on the left. June 16, 17, 18, the glands were less swollen and the child seemed better at this time. June 19, there was stiffness of the neck on the right side. Temperature 99.6, the tongue coated and the throat clear.

Examination.—June 23, I first saw the boy. Examination showed him to be well developed and nourished. Examination of the heart and lungs revealed nothing abnormal. The throat showed chronically enlarged tonsils; it was perfectly clear, no membrane or exudate was visible. The teeth were good. There was bilateral cervical adenitis. The glands were the size of filberts and slightly larger, discreet, tender, not fluctuant; the skin over them was not reddened. Temperature was 101.2 F. The child felt languid.

Course of the Disease.—Next day, after a restless night, the temperature and pulse were normal. In the morning, the child was sleeping quietly and breathing easily. The glands were somewhat less tender. The condition gradually changed for the worse.

June 25: The child was more listless and weak. Examination showed the pupils equal and reacting to light. No Babinski or Kernig sign was present. Nothing abnormal was found in the examination of the lungs. Examination of the left ear showed the drum slightly reddened. Pulse was 120, temperature 100.2 F. The throat was clear; the tonsils were much enlarged, boggy and pale pink. Gradually the general condition grew much worse. The child's condition was much weaker despite stimulation with salt solution, whisky, caffein and small doses of digitalis.

June 26: The child was apathetic and stupid. The pulse was markedly irregular and somewhat intermittent and would drop suddenly from 120 to 80. The child answered questions only when aroused. Stiffness of the back of the neck was noticed for the first time. At 2 a. m. the condition was alarming. The breathing was stertorous and the child was markedly apathetic, the pulse being weak and irregular. The cervical glands had markedly increased in size. The nose seemed obstructed and the clinical picture resembled that seen in the last stages of nasal obstruction in diphtheria. The child was given antitoxin, though careful and repeated examination of the throat had shown nothing. The result of the cultures taken the day before had not been heard from. Later these cultures showed staphylococcus and streptococcus growth. The child was stimulated with brandy and salt solution and rallied from the acute collapse. The breathing was not quite so obstructed. There was a leukocytosis about 30,000.

In the afternoon, the condition was as follows: General condition about the same as before collapse of early morning, cervical glands markedly swollen, head and neck absolutely rigid, moved with body as a whole, like an iron rod, knees rigid, Kernig sign more marked (a suspicion at a previous examination). Examination of the throat showed a marked bulging shelf over the left tonsil. There was no exudation. Digital examination of the throat was unsatisfactory.

Consultants' Opinions.—The child was seen in consultation by two specialists in children's diseases, one of whom thought, with me, that the condition was tuberculous meningitis. The other thought that there was a possibility of the symptoms being due to the infiltration around the left tonsil and the markedly enlarged cervical glands. These glands had at no time showed fluctuation or softening. It was thought possible that there was pus around the tonsil, but expectant treatment was decided on for a while.

Termination of Case.—That night the child was somewhat better. Next day the shelf over the left tonsil had disappeared; the throat was more easily inspected, the right tonsil was very much enlarged and a condition similar to the shelf-like projection on the left side was present, only not so marked. This quickly subsided. From this time on, the improvement was rapid. The pulse became regular, stiffness of the neck gradually disappeared and the cervical glands became smaller. When the rigidity of the head and neck had almost subsided it was possible to feel enlarged cervical glands as far back as the occiput. Save for a slight irritability of the heart, the boy convalesced quickly, and this irritability soon subsided.

Remarks.—Some weeks after the boy was up and around, there was peeling of the palms of the hands. Desquamation was not noted in any other part of the body. The treatment consisted of digitalis, whiskey, salt solution and caffein. As soon as possible the child was put out of doors for all day, with great benefit.

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[8] Preissnitz: Quoted by Cornil in Nothnagel's Practice: Tuberculosis, p. 609.

Two interesting points in regard to the case are: 1. Had the child recovered from a mild case of scarlet fever and were the glands sequelæ? None of those who saw the case believe this to be a fact. 2. The fact that the mother was tuberculous, and was undoubtedly so when pregnant with this child, influenced me to a great extent in arriving at a diagnosis of tuberculous meningitis. Dr. Hunter Dunn, one of the consultants, pointed out the possibility of the glands and throat being responsible for all the marked meningeal symptoms, which proved to be the case.

261 Beacon Street.

GOOD AND BAD CORSETS

GEORGE B. SOMERS, A.B., M.D.
SAN FRANCISCO

In preparing a paper on "The Use and Abuse of Corsets" read in the Lane Course of Popular Lectures at Cooper Medical College Feb. 10, 1911, I had the following diagrams drawn. They represent the chief points which seem to me characteristic of the good as contrasted with the bad corset.

While the diagrams are in themselves sufficiently explanatory, and afford a formula for judging the good and bad points of any corset, it may not be amiss to add a few words on the subject in general.

Every practicing physician recognizes the evils resulting from improperly worn or improperly shaped corsets and yet few take pains to investigate a patient's habits in this regard. I venture to say that still fewer have any fixed ideas as to what constitutes a good corset.

FUNDAMENTAL PRINCIPLES

In considering the basic principles on which a corset should be built, the method of support is of first importance.

In that region of the body covered by the corset, the pelvic bones and spinal column afford the best opportunities for rigid fixing of the framework.

At the hips, the space between the crest of the ilium and the prominence of the trochanter extended as a zone about the body, lends itself admirably to tight lacing, without danger of injuring internal organs. Lacing here affords a means of holding the corset firmly in place.

Along the back, following the contour of the spine, we may run a more or less rigid piece forming the rear elevation of the structure.

The strength and supporting properties of the corset rest in this back piece and in the hip zone.

To complete the skeleton framework, a front piece less rigid than the back, but straight, should run up as high as the bust. The other main points are sufficiently explained by the diagrams.

LACING

A separate short lace string should be inserted at the hip zone and this part firmly laced first when adjusting the corset. The upper part should be more loosely laced by one or two strings. Whether the corset should be front-laced or back-laced is not of great importance. Each method has its advantages and disadvantages. The choice should be left to the corset-maker, as the situation of the lacing involves problems in the mechanical construction of the corset. The back lacing allows of the simplest construction.

The good corset is shown in Figure 1:

1. It is fixed by lacing about the hips and holds its place entirely independently of garters or straps.
2. It supports the lower abdomen and reduces the hips.
3. It has a straight front.

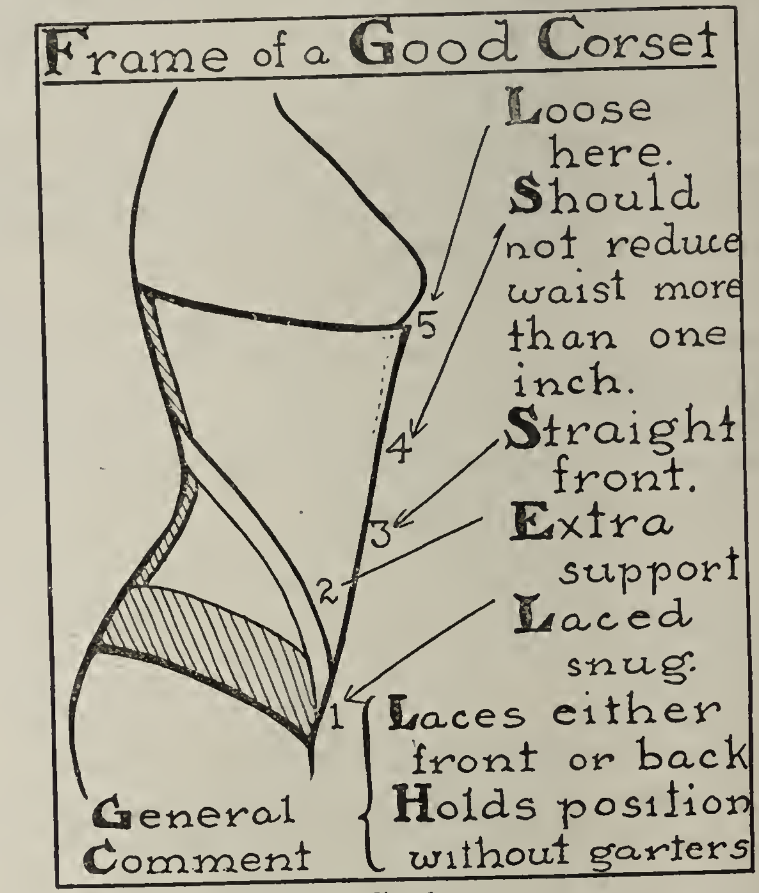
Frame of a Good Corset
Loose here.
Should not reduce waist more than one inch.
Straight front.
Extra support
Laced snug.
Laces either front or back
Holds position without garters
General Comment
1
2
3
4
5

Fig. 1.

4. It is only form-fitting or loose about the waist and bust.
5. It diminishes the waist measure not more than one inch.
6. It laces from below upward by means of two or more lace strings.

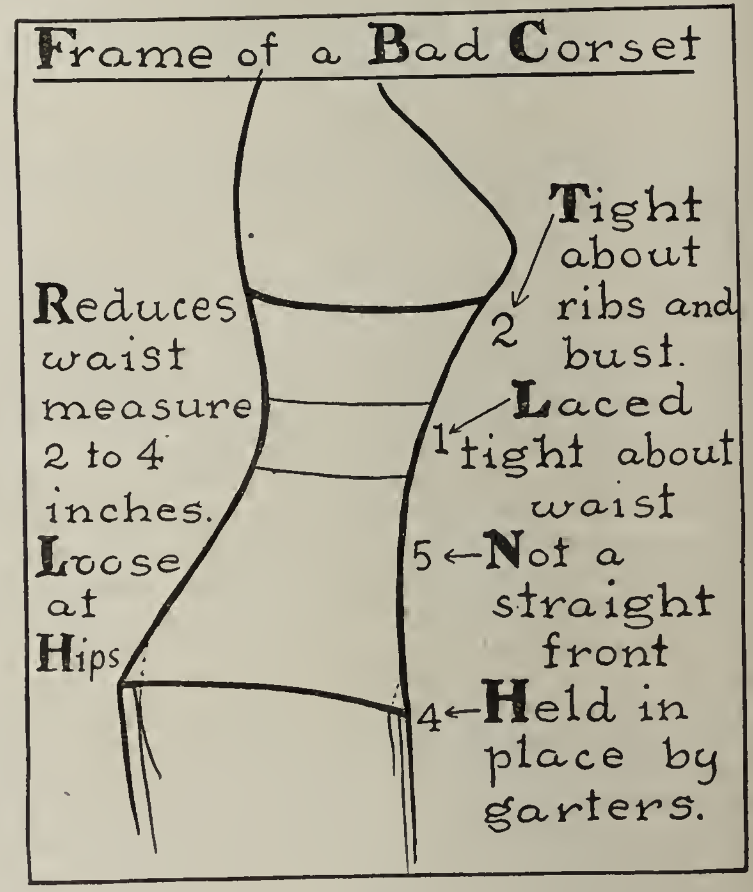
Frame of a Bad Corset
Reduces waist measure 2 to 4 inches.
Loose at Hips
Tight about ribs and bust.
Laced tight about waist
Not a straight front
Held in place by garters.
1
2
4
5

Fig. 2.

The bad corset is shown in Figure 2:

1. It shows the zone of greatest compression about the waist.
2. It is loose about the hips.

3. There is no provision for fixing it about the hips.
4. It is held down by garters or fixed by tight lacing in the upper portion.
5. It diminishes the waist measure from two to four inches.
6. It laces by a single lace.

In the selection of a corset the first consideration should be its conformance to the natural form. Secondly, the mechanical device for keeping the corset in place should depend on means which are not injurious. Finally, the corset should be comfortable without being sloppy. If it tends to produce the normal form it cannot do serious harm even if quite snug. Loose corsets are worse than no corsets. The worst corsets made are loose about the hips, giving them no true basis of support.

906 Butler Building.

A NEW CLAMP FOR END-TO-END INTESTINAL ANASTOMOSIS

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DENVER

The uncertainty of perfect approximation of the mesenteric border of the intestine has, no doubt, been the greatest objection to the suture method of end-to-end intestinal anastomosis. Because of the apprehensive postoperative period, the ingenious button device of Murphy has been largely superseded by the suture method of Connell.

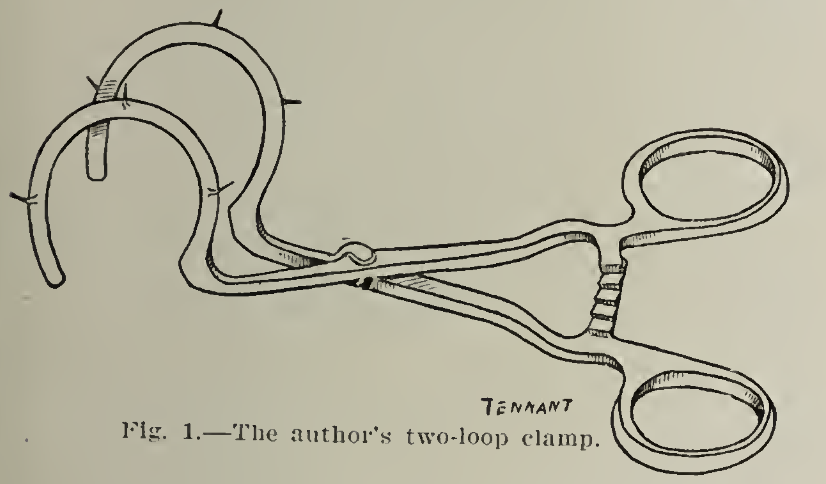

Fig. 1.—The author's two-loop clamp.

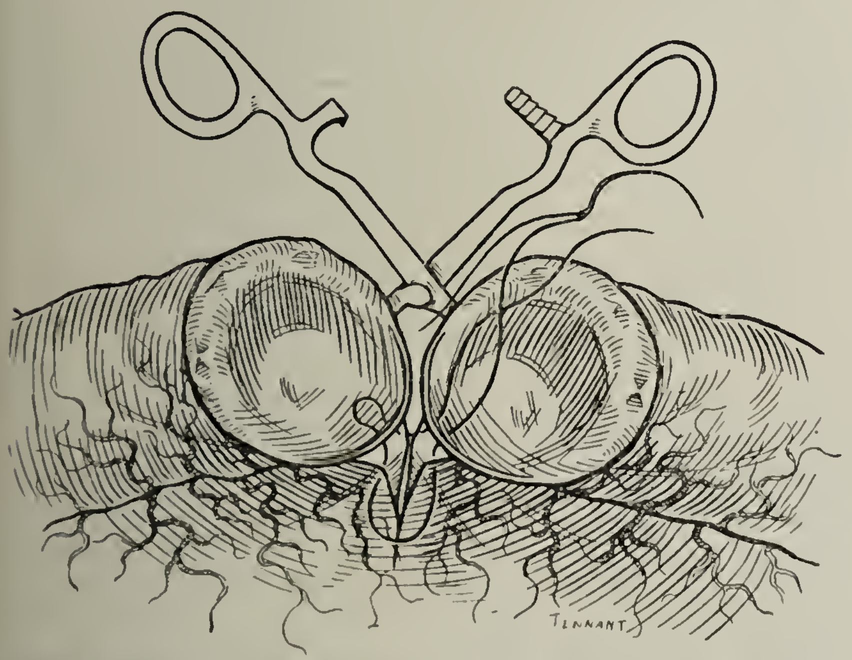

Fig. 2.—Ends of bowel grasped by loops. Mesenteric border very accessible.

The last-named method seems to have proved most satisfactory in side-to-side intestinal anastomosis. The objections to the end-to-end anastomosis are first, as stated above, the difficulty of securing perfect approximation of the mesenteric border, and second, the awkwardness of the method, necessitating as it does, considerable practice on the part of the surgeon before it can be successfully performed.

To work from the inside of such a cylindrical body as the intestine, closed with no free ends, is at first a serious mechanical difficulty. The object of the Connell method, as of all others, is of course to secure an inversion of the free ends of the intestine, thereby approximating the peritoneum. This is satisfactorily secured by the Connell method, but only after considerable practice.

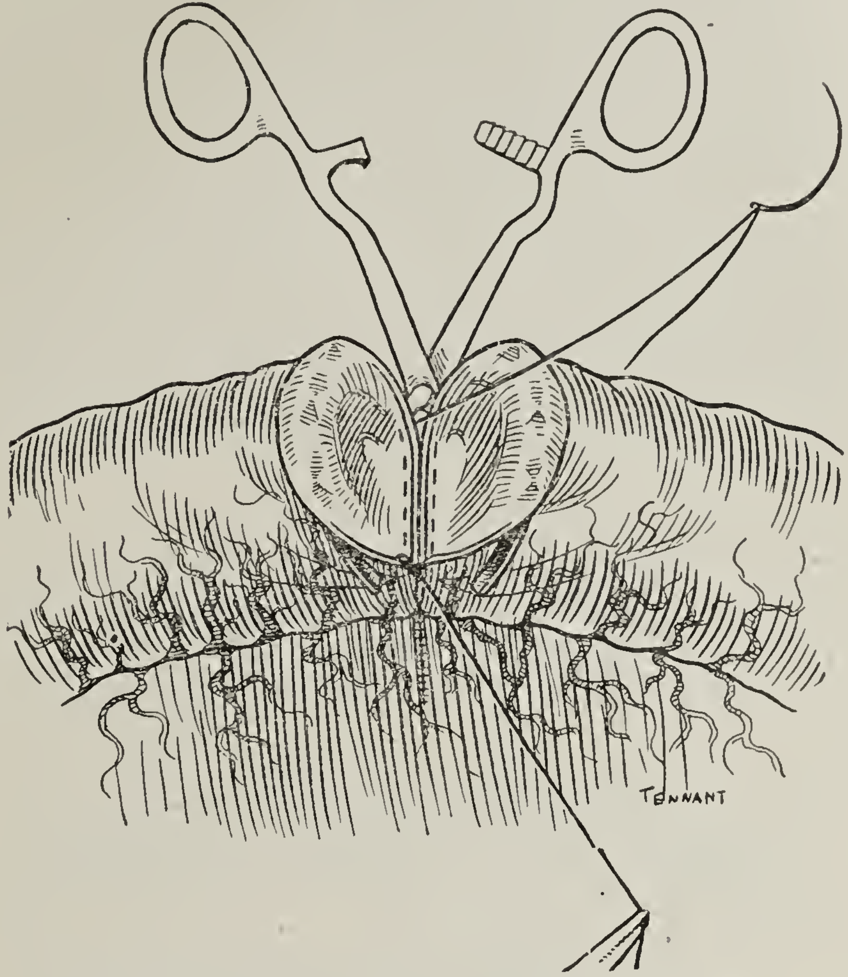

Fig. 3.—Suture half way up on each side of the intestine.

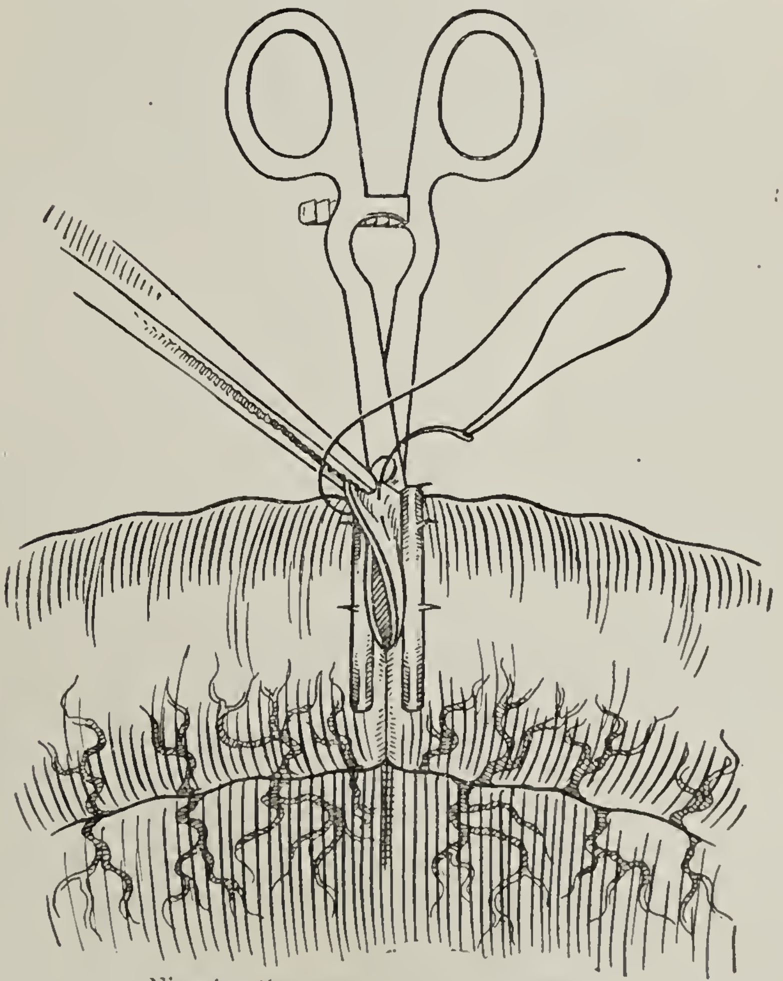

Fig. 4.—Suture of dome of intestine.

To simplify this method and, at the same time, to add to the security of the mesenteric approximation, I have devised the simple two-loop clamp here illustrated. (Fig. 1.) The clamp has a Collins lock, and is easily separated so that each end of the intestine may be engaged in its respective loop (Fig. 2), although the ends may at first be inches apart. The mere locking of the blades brings the ends of the intestine into close apposition with the mesenteric border well drawn up into the operating field. Before the clamp is completely closed, this mesenteric border is securely approximated by suture, and the continuous suture is then carried one-quarter way around each side (Fig. 3), commencing at the mesenteric border and continuing according to the Connell method.

The first tie is made at the mesenteric border with sufficient linen thread left at each end to continue around the intestine. The instrument being placed with its handles away from the operator, the suturing is continued well up on the side nearest the operator first, with the last suture entering the lumen of the intestine. The curved round needle is then transferred to the distal side of the intestine and the same Connell method is pursued as long as necessary.

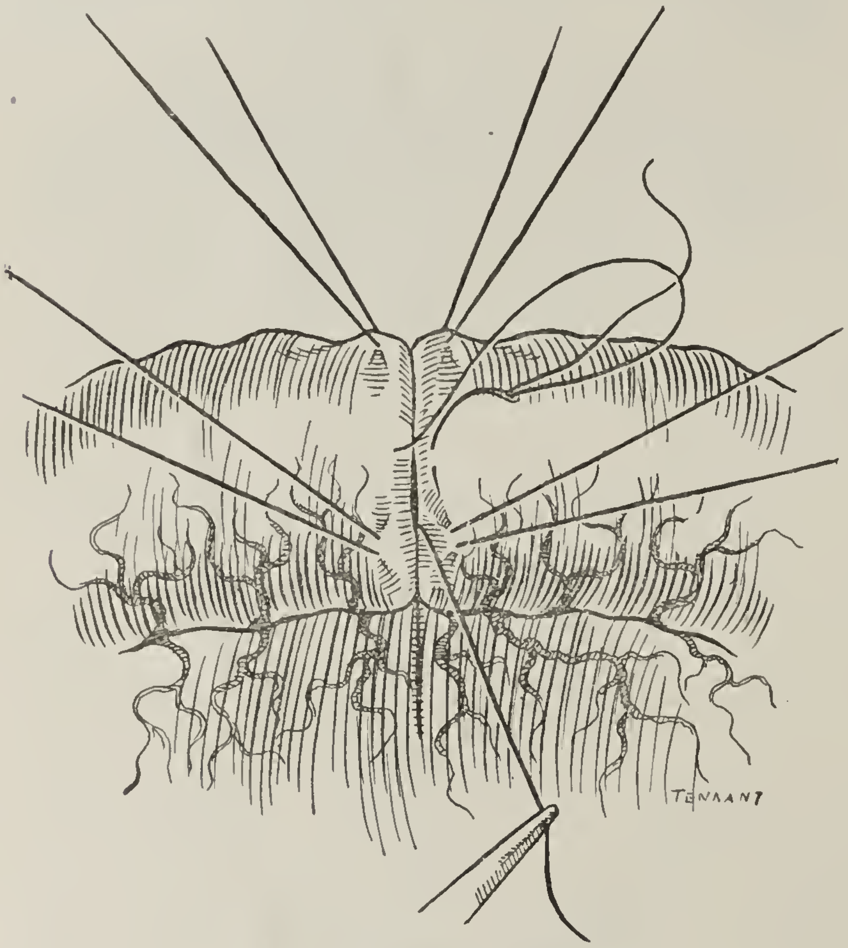

Fig. 5.—Introduction of guy stitches.

As the dome of the intestine is reached, the suture is made to emerge on the outside (Fig. 4). The clamp is then either closed and the ends of the intestine freed from the retaining pins, or the clamp is removed altogether and guy stitches introduced about 1 cm. from the free edge, as illustrated (Fig. 5). These sutures when raised tend to invert the edges of the intestine.

A Cushing parallel deep suture, including all coats of the bowel, is then commenced; this is practically the Connell suture, only right side up, and consequently very much more readily introduced.

As the two ends of the suture meet, the last is made to enter the lumen of the bowel with the final stitch. Both ends are now together, and are accordingly threaded into the eye of the needle as in the Connell plan, and the knot tied inside the bowel. A few Lembert sutures may then be applied about the sites of the guy sutures (Fig. 5), or where the ends of the intestine were impaled on the pins of the clamp.

Criles' technic of end-to-end blood-vessel anastomosis first suggested this idea, and the recent report by Pollock and Spiedel[1] deserves mention in this connection.

612 Empire Building.

A CASE OF MENINGOCOCCUS SEPTICEMIA WITH DEMONSTRATION OF THE MENINGOCOCCUS IN THE BLOOD-SMEAR

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Simon[2] reported a case of meningococcus septicemia in which the meningococcus was demonstrated in the blood-smear. Since then he has found the same conditions in a second case and he has told me that two or three other men have reported similar findings to him. So far as I have been able to ascertain, these are the only cases which have been observed up to the present time, and hence it may not be out of place to report briefly the following instance in which the same findings were observed.

Patient.—A boy aged 12, was in good health until February 24, when he complained of pain over the mastoid region on both sides with some swelling and tenderness.

General Examination.—The patient was first seen on February 27 by Dr. Beck. His pulse was 100; temperature 104 F. There was neither headache nor vomiting, but slight ptosis of the left eyelid and some rigidity of the muscles of the neck and the extremities were present. On lumbar puncture, 25 c.c. of turbid fluid escaped under pressure. Smears made from the centrifugalized spinal fluid showed the menigococcus in small numbers both free and enclosed in polynuclear neutrophilic leukocytes which constituted the cytological picture.

Blood Examination.—A blood specimen gave the total leukocyte count as 7,500, 85 per cent. of which were polynuclear neutrophilic leukocytes, 4 per cent. small mononuclear leukocytes, 11 per cent. large mononuclear leukocytes, while eosinophilic and mast cells were absent. Fully 1 per cent. of the leukocytes contained diplococci, the majority only one pair, but a few contained two pairs; the organisms occurred both in the mononuclear and polynuclear cells. Extracellular organisms were not seen, although they were present in Simon's case. The number of organisms calculated per cubic centimeter in this instance was 7,500. Simon calculated 7,500,000 per cubic centimeter in his case, one neutrophilic cell alone containing over 50 pairs of diplococci.

Many of the neutrophilic cells contained vacuoles which perhaps represent empty digestive vacuoles.

CONCLUSIONS

It is possible that the occurrence of the meningococcus in the leukocytes is much more common than is generally supposed, but owing to the relatively small number of cocci in the blood and the difficulty of finding them, they have no doubt been overlooked. The positive findings in the few cases which have been carefully examined indicate, however, that in doubtful cases careful search in this direction should not be neglected.

Character.—Men build on the rocks, not on the treetops. So do nations. America owes more to the cabin than to the palace; to the man with a calloused palm than to the man with a diamond stickpin.—*United Presbyterian.*

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[1] Surgery, Gynecology and Obstetrics, xi, 612.
[2] Simon, C. E.: The Journal A. M. A., June 8, 1907, p. 1938.

VENOUS ANASTOMOSIS FOR CURE OF VARICOSE VEINS: VENOVENOSTOMY *

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SAN FRANCISCO

In this paper is described briefly the technic of an operation devised by H. A. L. Ryfkogel and myself in these laboratories, and then practiced in the San Francisco Polyclinic and Post-Graduate School.

After working one year in the laboratory on the subject of vascular surgery, with comparatively uniform results, we felt that our technic was worthy of being put into practice in the clinic. Accordingly we performed Delbet's operation on several patients.

As Delbet's operation carries with it a certain amount of danger, by the possibility of thrombus formation in the femoral vein, we concluded to make an end-to-end anastomosis of a branch of the superficial femoral vein with the internal saphenous vein. By so doing, we obviate the danger from a thrombus, for if by error in technic one forms, it will be remote from the femoral vein.

The object of this operation is to reestablish a normal flow of blood in the internal saphenous vein, and in its tributaries. This is accomplished by changing the current of blood from the upper end of the saphenous vein into the superficial femoral vein. Thus the valves of the femoral vein are utilized to support the heavy column of blood which in the normal subject is supported by the valves of the saphenous. The lower part of the saphenous is relieved of all backward pressure from the inflow of blood into it from the superficial external pudic, superficial epigastric, superficial circumflex iliac, and other smaller tributaries. When this vast pressure is released the valves of the saphenous are often competent to sustain the remaining saphenous blood column.

The branch of the femoral vein that we are wont to make use of may be absent. If this should occur one has recourse to three other operations, viz., Delbet's, Trendelenburg's, or Ferguson's.

Delbet's operation, as is well known, consists of a terminal implantation of the proximal end of the distal fragment of the internal saphenous vein into the side of the superficial femoral vein. The operation is not difficult of execution for one skilled in vascular surgery, and is worthy of due consideration. Its chief fault lies in the possibility of a thrombus forming and occluding the lumen of the femoral vein.

Trendelenburg advises ligature of the saphenous in the upper part of the thigh.

Ferguson removes a section of the saphenous near its upper end and, after making a circular skin flap, removes the varicosed veins from the lower part of the thigh and those from the inner aspect of the leg.

The favorable results of venovenostomy depend almost entirely on asepsis and freedom from injury to the veins by mechanical, chemical, and thermal means. There is no danger of leakage in the suture line as the method employed is competent to obviate its occurrence.

The science of surgery is deeply indebted to Alexis Carrel, whose ingenious mind gave it this very efficient and simple technic, which is entirely adequate for any anastomosis of blood-vessels, whether it be arteries or veins, irrespective of size. At the same time, this technic is so uncomplicated and easy of execution that it can be utilized by any surgeon. The only special materials needed are China bead silk, No. 16 cambric needles, and weak clamps (tapes may be used in place of the clamps).

PREPARATION OF SUTURES

The manner in which the suture material is prepared is of vital import. We have tried many methods with much dissatisfaction, but now employ the one here described with entire safety and little inconvenience.

The needles are threaded with China bead silk as it comes from the market, or it may be split. Then the threaded sutures are sewed into a piece of gauze bandage. They are rolled so as to avoid bending the fine needles, and put into a wide-mouthed ounce bottle. The bottle is filled with warm petrolatum, and put into the autoclave for sterilization. When removed from the autoclave, the bottle is sealed with wax and so kept until needed. At the time of operation, the bottle is washed with pure liquor cresolis compositus. After the bottle has been washed free from all the antiseptic it is opened by sterile hands which are covered by gloves.

PREPARATION OF PATIENT

The evening prior to the operation the patient is given 2 ounces of castor oil, the leg is washed with soap and water from hip to knee, and covered with sterile gauze. One half hour before operation the patient is given $^1/_6$ grain of morphin sulphate and $^1/_{100}$ grain of atropin sulphate hypodermatically.

When the patient is on the operating table three coats of iodin are applied to the field of operation. Along the proposed line of the incision the iodin is removed with alcohol immediately preceding the beginning of the operation. Nitrous oxid and oxygen, or ether, is administered in the smallest amount that is sufficient to keep the patient quiet.

OPERATION

An incision 3 inches in length is made along the inner edge of the sartorius muscle and over the lower part of Scarpa's triangle. The linen is sewed to the skin at the edge of the wound with closely applied interrupted sutures, so as to avoid as nearly as possible any contamination from the skin, either chemical or bacterial. The wound is retracted inwardly and the internal saphenous vein immediately found lying buried in fat external to the fascia lata. It is freed from fat and adventitia. The vein is then ligated in the upper angle of the wound. Two inches distal to the ligature it is clamped with a Langenbeck serrefine, which clamp must have a soft spring, and the vein is severed with a sharp knife. We never employ scissors for cutting the vessels, on account of the crushing effect. The distal part is washed clear of all blood remaining in its lumen with Locke's solution, or normal salt solution. The vein is then heavily coated with petrolatum, and it is ready for anastomosing. The next step is to seek the branch of the femoral that is to be anastomosed to the saphenous.

By opening the fascia lata over Scarpa's triangle the internal cutaneous and long saphenous nerves are seen crossing the vessels from without inward. The crural branch of the genitocrural nerve lies in the sheath of the vessels, slightly external and anterior to the artery. The artery lies anterior to the vein, leaving only a slight margin of the latter to be seen on inspection. The vein is separated from the artery and a large branch is sought. When found it is ligated about 2 inches from the femoral vein. Then a Langenbeck serrefine is placed on the branch near the femoral vein. The branch is then cut about 2 inches from the femoral and treated as was the saphenous.

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* From the Laboratories of Experimental Research, State University of California.

The distal end of the saphenous is then joined to the proximal end of the branch of the femoral in the following manner:

Three guy sutures are placed so as to unite the two veins, and so as to divide their circumference into three equal parts. When made taut, the circumference of the veins forms a triangle which has a guy suture at each angle. For descriptive purposes these guy sutures will be labelled I, J, and K. If traction is made on I and J by an assistant, the surface I J of the triangle will be brought anterior and made accessible for the introduction of the continuous suture which is to be used to unite the vessels permanently. If traction is at the same time made on K by a weight (we employ an artery clamp for this purpose) the sides of the vessels are drawn away from the surface that is being sutured, and thereby are prevented from becoming injured by the passing needle. These guy sutures have another function, viz., they elevate a slight collar at the margin of the vessels which is equal in depth to the distance they are placed from the free edge of the veins. This facilitates the introduction of the stitches of the permanent suture which is to be placed.

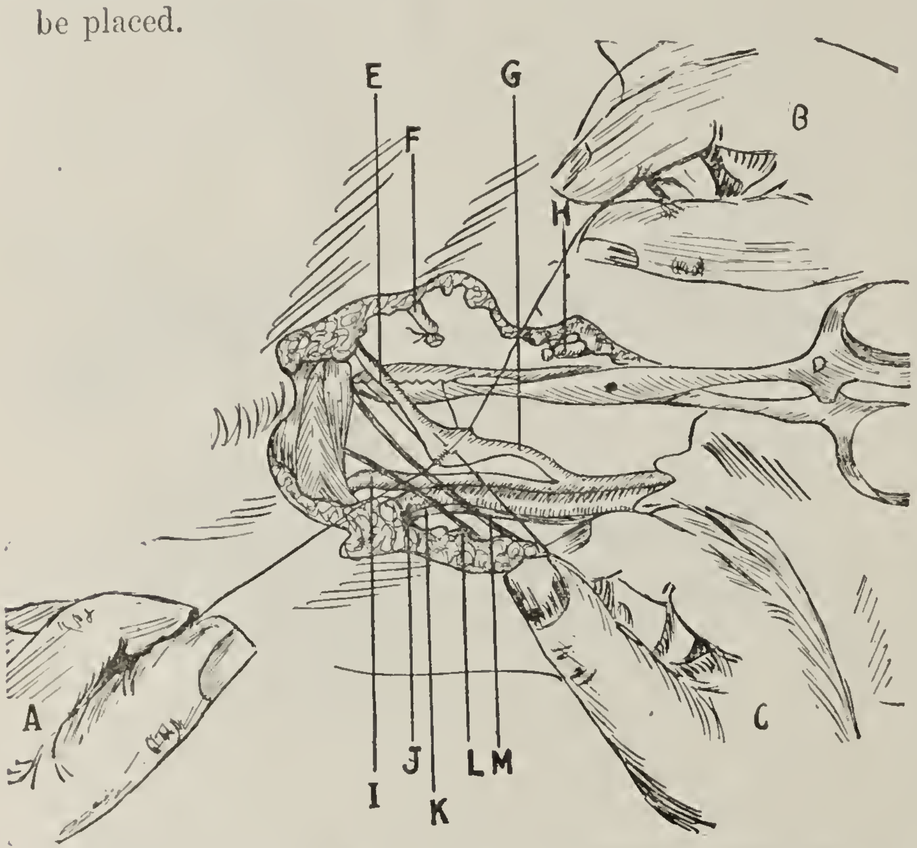

Diagram to illustrate the procedure of venous anastomosis for varicose veins: A and B, hands of assistant making traction on anterior guy sutures; C, hand of surgeon passing continuous suture; D, weight on posterior guy suture; E, distal end of saphenous vein; F, distal end of branch of femoral vein; G, proximal end of branch of femoral; H, proximal end of saphenous; I, femoral vein; J, femoral artery; K, crural branch of genitocrural nerve; L, internal cutaneous nerve; M, long saphenous nerve.

We now begin a continuous suture at guy suture I, including in the grasp of the stitch only the fine collar raised by the traction on the guy sutures, and placing the stitches as closely together as possible. This suture is responsible for the prevention of all leakage, therefore, it must be accurately applied. It passes through the entire walls of the vessels, and brings intima into contact with intima. It is important to avoid any adventitia being drawn into the lumen of the vessels, as blood is prone to clot when in contact with foreign tissues. This continuous suture is carried completely around the vessels and tied to its free end when the latter is reached. The assistant changes the weight and his hands to the proper guy sutures when the continuous suture reaches the consecutive angles of the triangle.

The anastomosis is thus completed and when the serrefines are removed the veins fill at once with blood. There is no bleeding if the suturing has been executed properly, but if there be a bleeding point an interrupted suture will suffice to stop it. The deep tissues are closely and carefully adjusted around the area of the anastomosis to avoid as much as possible any dead space, and sutured with No. 0 iodized catgut sutures. The sartorius is allowed to fall back into place, and the integument is closed with the fine artery needles.[1]

The patient is put into bed, and his leg kept elevated for two days; after this length of time he is permitted his freedom.

1820 Sutter Street.

RESUSCITATION BY CARDIAC MASSAGE

CHARLES H. FRAZIER, M.D.
PHILADELPHIA

Cardiac massage was first suggested by Schliff in 1874, but not until 1898 was it applied to man. Since then, and with each succeeding year, an increasing number of cases have been recorded with a fair measure of success.

This extraordinary power of the heart to resume its function after death under certain physical conditions is well known to the laboratory worker. I think that it was Kuliabko who first demonstrated that the isolated heart could be made to contract by injecting Locke's solution into it under pressure, and that too after the heart had remained in a frozen salt solution for a period of twenty-four hours. The essential factors for the resumption of the cardiac mechanism are the presence of a certain amount of fluid in the ventricles and the necessary pressure in the coronary arteries. In the laboratory, these factors may be provided by injecting into the carotid artery toward the heart normal saline solution charged with epinephrin. Spina of Prague obtained similar results by injecting 200 c.c. of saline solution into the veins of a dog; this forced the blood along before it and when the semilunar valves were reached the stream closed them and the blood was driven into the coronary arteries.

While these methods have proved successful in the lower animal they have not, so far as I know, been applied with equal success to the human subject. When, for one reason or another, the action of the heart has been arrested there remains but one practical method of resuscitation, namely cardiac massage. Although the majority of instances in which this procedure has been resorted to have been those of chloroform syncope, it has been recommended when the syncope is the result of drowning or asphyxia, and when due to the suspension of function from simple exhaustion or injury.

The following case recently came under my observation:

Patient.—R. T., male, aged 55, reg. No. 2840 (P. E. H.) was admitted to the hospital Oct. 3, 1910. The diagnosis was hydrocele. There was nothing of significance in his family or personal history. He was a moderate user of alcohol. There was no lesion of the lungs and the heart sounds were clear, rhythmical and of good quality.

Operation.—The patient was prepared for operation for the radical cure of hydrocele. The anesthetic at the beginning was ether; difficulty was experienced in its administration, however, and as the patient had taken an unusual amount without the desired result, chloroform was substituted apparently with satisfactory results.

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[1] Wound Closure with Minimum Scar, THE JOURNAL A. M. A., April 24, 1909, p. 1333.

Collapse and Treatment.—The operation had just begun, the incision was made, when it was observed that the patient had become intensely cyanosed. In a moment he was pulseless and soon afterward respiration ceased. The head of the table was rapidly lowered and artificial respiration at once resorted to. Realizing the otherwise hopeless situation, the abdomen was rapidly opened and with one hand on the chest wall and the other against the diaphragm I massaged the heart at the rate of from 15 to 20 movements to the minute. The actual time was not recorded in the excitement of the moment, but in approximately 2 minutes feeble but irregular fibrillary contractions were felt. Gradually the impulses became more forcible and more regular, and after an interval of 8 minutes, during which time massage was continued, resuscitation seemed assured. At this time the pulse-rate registered 130.

Result.—The abdominal wound was closed, the operation on the hydrocele completed and the patient returned to the ward. The subsequent history was uneventful.

In a series of forty-six cases, reports of which are collected by Cockovic,[1] in seventeen the results were classified as positive and in twenty-nine as negative. Of the former, in only nine was the effect permanent; in the other patients survived for from five to twenty-seven hours. Thus there was only 20 per cent. of successes.

Perhaps the most important practical consideration is the method of procedure. Shall the heart be massaged directly through a thoracoplastic opening, by the transdiaphragmatic or by the subdiaphragmatic route? Dismissing any theoretical considerations, we find the best results are obtained by the subdiaphragmatic route. In sixteen instances of the latter there were ten positive results, in twenty-four of the thoracic route only seven; and in the six cases by transdiaphragmatic route there were no resuscitations.

The following table[2] shows the relative value of the various methods:

	Successful.	Partially Successful.	Failures.	Total.
Direct	2	8	18	28
Transdiaphragmatic	0	1	2	3
Subdiaphragmatic	8	5	6	19
Total	10	14	26	50

Because of its greater simplicity and higher percentage of recoveries the subdiaphragmatic route should be adopted as the conventional procedure, except perhaps in children in whom the elasticity of the chest wall enables one to make adequate pressure on the heart without opening either chest or abdomen. How long one is justified in waiting before resorting to massage may be judged from the fact that there have been no recoveries when the syncope has been of more than ten minutes' duration; and the largest measure of success was obtained when the interval did not exceed five minutes. The sooner the massage is begun, therefore, the brighter the prospects. As the proper oxygenation of the blood is indispensable to resuscitation, artificial respiration should at the same time be practiced, or direct insufflation by the Auer-Meltzer method.

In a case reported by Rehn,[3] failing to resuscitate the patient by subdiaphragmatic massage and Sylvester's method of artificial respiration, he opened the diaphragm, practiced direct massage, and at the same time established positive pressure with the Brauer apparatus. The result was almost instantaneous on both heart and respiration. In two hours the respirations failed again and further attempts at resuscitation were ineffectual. The secondary collapse was attributed by Rehn to a pneumothorax, which developed when the pleura was torn in opening the diaphragm.

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[1] Cockovic: Arch. f. klin. Chir., lxxxviii, No. 4, p. 917.
[2] Progressive Medicine, March, 1911.
[3] Rehn: München. med. Wchnschr., Nov. 30, 1909.

NOMA (CANCRUM ORIS) IN AN ADULT, WITH REPORT OF A CASE

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NEW ORLEANS

Noma in the aged is of such unusual infrequency, compared with its occurrence in children, that I am induced to record a case which came under my observation in the summer of 1910. Considering the rarity of the condition as well as the scarcity of the literature dealing with the disease, especially as relates to its presence in the aged, I believe that I am justified in offering a brief account of the nature of noma.

Noma is a rapidly progressive and probably specific infectious process of a gangrenous type, causing extensive tissue destruction and usually having its origin on the mucous membrane of the vulva, gum or cheeks, and sometimes, though seldom, the ear or anus. Noma affecting the region of the cheeks or gums is known as cancrum oris; involvement of the vulva is termed noma pudendi.

Children between the ages of 3 and 8 years are most frequently attacked; the disease occurs more frequently in girls than in boys. This sexual predisposition continues throughout life and is not due to any peculiar susceptibility, but to the fact that the female genitalia offer a more suitable field for infection. Text-books on pediatrics are almost unanimous in declaring the condition to be one essentially of childhood and that the disease is not seen in nurslings or adults. That this impression is somewhat erroneous will be seen from the case reports below.

Between the years 1848 and 1903, an interval of fifty-five years, several cases in the aged have been recorded in medical literature. Tourdes[1] 1848, reported nine authors who had seen noma in persons between 15 and 72 years of age; von Bruns[2] 1859, from 413 cases collected by him, found only eleven in persons whose ages ranged between 15 and 70; Struch[3] 1872, reports a case of his own in a patient aged 30, and calls attention to a case observed by Vogel in a youth of 18; Hildebrand[4] 1873, collected a series of cases numbering twenty-two in persons over 15 years of age; Brydon[5] 1882, one case; Herman[6] 1883, one case; Murillo[7] 1886, one case; Herff[8] 1890, one case; Masterman[9] 1891, two cases; Koster[10] 1892, one case; Stephenson[11] 1892, seven cases; Ziegler[12] 1892, one case; Le Count[13] 1898, one case; Mangubi[14] 1898, one case; Zusch[15] 1901, one case; and Reale[16] 1903, one case.

Poorly nourished, cachectic subjects and those living under vitiated environments are said to be the types most frequently affected. That filth, squalor and tenement life are not alone responsible for the disease has been conclusively demonstrated in more than one instance, especially in the epidemic of noma which occurred in an orphanage at Albany, N. Y., where good practical sanitary, hygienic and dietetic conditions prevailed. It also occurs very frequently as a complication of the exanthemata, notably measles.

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[1] Tourdes: Thèse de Strassburg, 1848.
[2] Von Bruns, V.: Handbuch der practischen Chirurgie, i, Part 2.
[3] Struch: Inaugural Dissertation, Gottingen, 1872.
[4] Hildebrand: Quoted by Ziegler, *vide* reference 12.
[5] Brydon: Brit. Med. Jour., 1882, p. 838.
[6] Herman: Trans. Obst. Soc., Lond., 1883, xxv, 141.
[7] Murillo: Noma (*a proposita de un caso en un adulto.*) Rev. med. de Chile, Sant de Chile, 1886-87, p. 312.
[8] Herff: Deutsche med. Wchnschr., 1890, xvi, 949.
[9] Masterman: Two Cases of Spreading Gangrene Around the Mouth Occurring in Adults, St. Bartholomew's Hosp. Rep., London, 1891, xxvii, 2055.
[10] Koster: Ett fall af noma hos 44-arigivinna, Förh., Gotesborg Läk. Sällsk., 1892, p. 74.
[11] Stephenson. Cancrum Oris in Adult Life, Brit. Guiana Med. Ann., Demerara, 1892, p. 127.
[12] Ziegler: München. med. Wchnschr., 1892, xxxix, 107.
[13] Le Count: Tr. Chicago Path. Soc., 1898, iii, 180.
[14] Mangubi: Sluchai nomi u. vzroslavo. Vrach. zapiski, Mosk., 1898, v, 18.
[15] Zusch: Ein Fall von Noma mit ausgedehnter Soorbildung in hohen Alter, München. med. Wchnschr., 1901, xvii, 785.
[16] Reale: Un caso di noma in adulto. Policlinico, Rome, 1903, ix, 1431.

In the above-mentioned cases of noma the underlying conditions have been most varied. Thus, we see the disease, according to the case reports, following erysipelas, typhoid fever, amebic dysentery, pleuritis and nephritis. Stephenson[11] regards renal disease as an important factor in the causation of cancrum oris in the aged.

The exact status of the disease as to etiology has not been definitely established and is further rendered confusing by the multiplicity of the terms used in the description of the malady. Noma, at all events, is a rare condition, but its assumed rarity was very probably due to the difficulty experienced in recognizing an exact causative organism. At the present time, even, it is by no means certain that the organisms described by investigators of the past have anything to do with the disease. The frequent use of the term "noma" synonymously with "gangrenous stomatitis" is to be regretted, as the latter term is purely a generic one and of no precise significance, nor does it furnish us with any adequate idea of the existing pathologic condition. The following terms have been used and are to-day employed to describe noma: gangrenous stomatitis, gangrena oris, gangrenopsis, stomato-necrosis, necrosis infantilis, buccal anthrax, water canker, cancer aquaticus, and sloughing phagedena. *Wasserkrebs*, a term originally coined by A. Richter in 1828, in his initial treatise on noma, is the name given the disease by the Germans. The French use the phrase *gangrène de la bouche*. The foregoing terms are a source of confusion and of no importance save from a symptomatic standpoint.

Reverting to the etiology of the disease, it was once believed to be the manifestation of some neural disturbance, owing to the almost invariable occurrence of the disease in a certain part of the cheek. Whether the disease is some form of mycotic necrosis, as first claimed by Froriep[17] or of bacterial origin, is still an open question. Lingard[18] found in the tissues long, thread-like growths, the individual threads being composed of small bacilli. He reported also finding a bacillus similar to the above in a calf suffering from what was apparently cancrum oris. Ranke[19] found in noma tissues certain cocci, the specific nature of which have never been recognized. As a result of his findings, Ranke concluded that different forms of gangrene resulting from noma unquestionably occur in children who have a tendency to disease of this character; i. e., without infection from contact.

The endemicity of the malady in public institutions coupled with the seeming choice of the disease for localization on the mucous membrane of the different openings of the body suggest that the causation may be looked for in the invasion from without of microorganisms. Schimmelbusch,[20] as a result of his bacteriologic study of one case, found bacilli often in shortened pairs and sometimes in long filaments.

An extremely good digest of the subject of noma is given by Blumer and McFarlane,[21] who have reported a series of sixteen cases occurring in epidemic form which they accepted as undoubted noma. As a result of thei investigations, they concluded that the disease began a a simple infection and terminated in a mixed infection and that the mixed infection was not always due to th same organism, but was usually due to a long organism of a leptothrix type. In a most elaborate and highl interesting treatise on noma by Weaver and Tunnicliffe[2] is incorporated the results of the bacteriologic researche concerning noma as undertaken by Grawitz, Bartels Guizetti, Babes, Zambilovici, Foote, Nikolaysen, Schmidt Petruschky, Freymuth, Saft, Krahn, Seiffert, Perthes Braun, Matzenauer, Elder, Ranke, Rosenberger, Brunning, Rona, Buday, Pollard, Herrman, Passini an Leiner, Walsh, Sailer, Strueh, Schimmelbusch, Longe Hofmann, and Kuster. In the majority of the cases o the above observers the superficial parts of the sloug showed mixed cultures; in the deeper parts, the section often showed almost a pure growth. The organism most frequently found were slim, thread-like bacteria decolorizing rather easily by Gram and not growing o ordinary media.

REPORT OF CASE

History.—June 4, 1910, I first saw Mrs. E. M. F., a hous wife, aged 59, whose family history was of no material valu The patient was the mother of eight children; had one mis carriage; menstruated at 14; climacteric reached at the ag of 43 without any untoward results. For the last eightee or twenty years previously the patient had had very po health, being almost constantly ill with gastric and inte tinal disturbances. As the patient tersely stated it: "A my life I have been a sufferer from loose bowels and heartburn." Within the past five years the patient has bee afflicted with articular rheumatism. Queries as to previou treatment revealed the fact that during the previous fi months the patient, at seven different intervals, had take large amounts of calomel in broken doses. She declared tha her former physician advised her when feeling unwell to tak a dose of calomel. A daughter of the patient aptly terme her mother a "calomel fiend."

Examination.—Patient looked at least ten years older tha she really was. She was wrinkled and emaciated, and bo all the earmarks of a woman who had had a strenuous strugg with life. Evidences of insufficient nourishment and ha work were most striking; personal hygiene very bad; livin environments wretched. On going over the patient very tho oughly I found that I had to deal with a chronic interstiti nephritic condition, complicated with endocarditis.

Treatment and Course of Disease.—As it was apparent th the patient's span of life was drawing to a close, only simp palliative measures were resorted to. Under this mode treatment the patient maintained her balance for a fortnigh when early on the morning of the fifteenth day of her illne my attention was directed to a slight swelling on the le side of the face. Examination of the mouth revealed an ulce ated patch on the mucous membrane of the gum covering t outer aspect of the mandible. The teeth were carious a disgustingly dirty; the lower teeth were artificial; there w a limited amount of exudation. The odor was most fetid. prescribed an oral antiseptic and promised to call again t same evening.

On my second visit the swelling had increased and h extended more to the middle line. There had been a slig hemorrhage at this time and the exudation had increase Within the short space of seven hours the ulcerative proce had become a dark and dusky red, which was soon follow by a circumscribed area of dead exudate. There was also slight sloughing which the patient was trying, in vain, expectorate. It was at this juncture that Dr. Stephen Stafford kindly consented to see the patient with me. As result of his examination, he concurred in my diagnosis a immediately pronounced the condition cancrum oris. The di ease was now spreading rapidly and there was a well-mark line of sloughing tissues following the imprint of a set alse (lower) teeth. The frenum of the lower lip soon became nvolved and it seemed that that portion of the mouth between he outer mucous membrane of the alveolar process and the nner side of the cheek was literally rotting away. The odor t this time had become so bad that it appeared to invade he whole household. It was most disgusting and the deodorants employed proved of little value.

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[17] Froriep: Chirurgische. Kupfertafeln, 1844, p. 458.

[18] Lingard: Lancet, London, 1888, ii.

[19] Ranke: Zur Aetiologie und pathologischen Anatomie des nomatosen Brandes, Jahrb. f. Kinderh., Leipsic, 1888, xxvii, 309.

[20] Schimmelbusch: Deutsche med. Wchnschr., 1889, xv, 516.

[21] Blumer and McFarlane: Am. Jour. Med. Sc., xxii, 527.

[22] Weaver and Tunnicliffe: Jour. Infect. Dis., 1907, iv, 8.

On the morning of the third day the frenum of the lower ip began to split from within outward and the whole of the nner aspect of the mucous membrane of the left cheek was one black, greenish and garnet mass, attended with a slight emorrhage. The tongue was swollen beyond its natural size nd deglutition was very difficult. Speech was painful and equired great effort.

Later the same day the tissue destruction had progressed o such an extent that the inner angle of the cheek began to break down. The patient's condition at this time was most erious and death was but a question of a few hours. There was profound prostration, feeble pulse and retention of urine. The patient's condition rapidly grew worse, she soon went into typhoid state and died that night at 11 o'clock. Only twice uring her illnes did the temperature go beyond 100 F.

June 21, tissue scrapings and oral secretions were submitted for bacteriologic study to Dr. William H. Seeman, who made the following report:

Slide 1.—Leishman (Romanowsky) staining. *Spirochæta dentium* present in considerable numbers. Great quantities f pus cocci. Organism of a leptothrix type plainly discernible. Fusiform bacilli present, but not to any marked extent.

Slide 2.—Weak carbol-fuchsin staining. Innumerable spirochetes easily demonstrable. Bacilli also present which seem o be the early stage of some form of spirillum. In no way oes the latter resemble Vincent's spirilla.

Anaerobic culture yielded practically negative results. Pus occi and non-pathogenic bacilli found. The culture failed to how any thread-like organisms.

It was fortunate that during the above examination Dr. Seeman had at the same time submitted to him ecretions from a case of Vincent's angina and he made omparative examinations between the specimens of the wo cases. As a result of this comparative bacteriologic tudy, Dr. Seeman was able to determine very distinctly he morphologic and cultural differences between the ausal organism of Vincent's angina and the organism which probably causes noma. The essential difficulty of ecognizing a certain and definite causative organism is usually obscured by the great number of bacilli of uncertain character which are always found in nomatous issue. Moreover, it must be noted that in the mouth of he normally healthy person bacteria are always present in large numbers and the following have been found: *Spirochæta dentium, Spirillum sputigenum, Bacillus uccalis maximus, Iodococcus vaginatus,*[23] *Leptothrix uccalis innominata* and the *Leptothrix buccalis maxima.* n all likelihood, they are non-pathogenic. The existence f dental caries always proves a most favorable nidus for microorganisms. Aside from this, it is interesting to note that the following pathogenic microorganisms may lso be present in the mouth under apparently normal nditions: the *Diplococcus pneumoniæ, Diplococcus nceolatus, Micrococcus septicæmia sputi, Streptococcus yogenes, Micrococcus tetragenus, Bacillus crassus sputigenes,* and the *Bacillus coli communis.*

From a consideration of the case just recorded it is ossible to obtain a clinical picture of the disease. The iagnosis does not present difficulties when the disease is ell established. However, noma, when affecting the enitalia, might be mistaken for ulcerating granuloma of e pudenda. The symptoms are similar in some respects to those encountered in infectious submaxillary angina (Ludwig's). In fact, in many cases it is impossible on clinical grounds alone to distinguish angina from noma. Ludwig's angina differs from noma in that it displays more of a tendency to destroy loose tissues and avoid the denser ones. It often happens that Ludwig's angina terminates in gangrene.

The symptoms produced by noma in the aged do not differ materially from those seen in childhood. It can be readily seen that the predisposing factor in the foregoing case was a frail human economy whose vital powers were lowered by chronic renal and cardiac disease, to which were added insufficient nourishment and vitiated environments. It may be asked if the heavy calomel medication just prior to the last illness may not have played its part in aiding the condition. While it is possible that there may have been a condition bordering on mercurialism, it must be borne in mind, says Reisman,[24] that mercury as a causative factor in this condition has been absolutely disproved, quoting Coates[25] in support of this view. Dr. Benjamin Rush[26] cites an instance in which a colleague of his, Dr. Stewart, was in the habit of giving 20 grains of calomel three or four times a day and continuing this as routine treatment for five or six days without any ill effects. It is to this same Dr. Stewart that modern syphilographers owe the idea of mercury medication by inunction, as he was the first to compel patients to wear socks containing mercurial ointment in the treatment of luetic conditions. Dr. Stafford, who saw the case in consultation, also rejects the idea of calomel medication having anything to do with the production of the disease.

The condition of the patient at all times precluded the possibility of ever doing anything except to institute palliative measures. The drastic treatment so necessary for a cure in these cases was entirely out of the question.

CONCLUSIONS

1. Noma does exist in the aged, but its occurrence is remarkably rare.

2. Noma in the aged does not differ materially from the disease as seen in childhood. The supposed predilection of this malady for the female sex is due alone to the fact that the female genitalia offer a more suitable field for infection.

3. No certain and definite organism has been definitely established as the causative factor; the indictment of the long, thread-like bacillus, so frequently regarded as the cause of the disease, is on purely conjectural grounds. While in the realms of the hypothetic metabolic retrogression brought about through previous illness, vitiated environment and bad hygienic conditions may effect a change in the pathogenicity of the previously harmless microorganisms of the mouth to such an extent as to cause an overwhelming of the tissues of the cheeks and jaws, and thus produce gangrene and a condition of general sepsis.

4. Infectious submaxillary angina may be the forerunner of noma, and once the gangrene arises it would be difficult, indeed, to say whether the condition was due to Ludwig's angina or noma. This, too, despite bacteriologic observations, as it is more than probable that the two conditions could be coexistent. It is highly probable that noma is a process caused by more than one type of organism.

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[23] *Iodococcus vaginatus* (Miller) is found in unclean mouths; ives a peculiar reaction with iodin, the sheath being stained yellow, e cocci dark blue

[24] Reisman: Osler's Modern Medicine, ed. 5, 48.

[25] Coates North American Med. and Surg. Jour., ii, 1826.

[26] Rush, Benjamin: Medical Inquiries and Observations, 1815, iii, 234, Philadelphia.

THE CHEMISTRY OF NEPHRITIS*

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The purpose of this paper is to present, as concisely as is consistent with clearness, the chief points in the chemical changes which occur in an organism suffering with nephritis. The aim is to confine the remarks to those non-suppurative forms of nephritis, which are termed Bright's disease, rather than the various suppurative or other focal lesions due to localization of bacteria. If, throughout the paper, many of the statements seem dogmatic, the necessity for brevity must be held accountable. Lengthy argument would only seem to render less clear a subject which, at best, is but in its developmental stages. The point of view presented is taken to represent that which is most modern and most widely accepted.

It is proposed to take up the subject in this sequence:

I. Review of normal metabolism of proteins, fats, carbohydrates and salts, in reference to excretion of intermediate and end-products by the kidneys.

II. Metabolism, excretion and retention in (a) acute nephritis, (b), chronic nephritis of interstitial and parenchymatous varieties.

III. Metabolism, excretion and retention in nephritis with uremia, with a consideration of the theory of internal secretion.

IV. Metabolism, excretion and retention in nephritis with edema.

V. The relation of chemistry to vascular hypertension and cardiac hypertrophy.

I. NORMAL METABOLISM OF PROTEINS, FATS, CARBOHYDRATES AND SALTS

The foods ingested are in the form of proteins, fats, carbohydrates, inorganic salts and water. The end-products of fats and carbohydrates are carbon dioxid and water, the former excreted chiefly through the lungs, the latter through lungs, skin, intestine and kidney. If for some reason the metabolism of the carbohydrates is incomplete, the intermediate products can be excreted by the kidney for a long time with little disturbance in this organ, as may be seen in diabetes. Late in the course of this disease one often sees a large, pallid kidney which, however, may possibly be caused by other factors than the mere excretion of glucose, beta-oxybutyric and diacetic acids. In the case of fats the intermediate products, and even the emulsified fat itself, as in cases of lipemia and lipuria, may be excreted without apparent influence on the kidney. Inorganic salts and water apparently pass through the organ with no difficulty in health. The end-products of protein metabolism, urea, carbon dioxid plus water, also are eliminated with no difficulty, but in those diseases in which the necessity for the elimination of intermediate products appears, the universal incidence of some form of chronic nephritis would seem to indicate that these bodies, the purins, ammonia, carbamic acid and uric acid, have a distinct irritative effect on the kidney.

It is believed to-day that urine depends for its water and inorganic salts on the activity of the glomerules, and for its organic constituents on the activity of the epithelial cells of the tubules; but the nature of the changes in the materials passing through the epithelium has been incompletely studied and is vaguely understood. It is known, however, that the epithelium has synthetic power, as is seen in the building up of hippuric acid from benzoic acid, the latter a metabolite of intestinal putrefaction. Anabolic activity is evidenced in the formation of creatinin from creatin. Aside from this meager information the chemical changes in the kidney itself form a chapter for investigation that can only be opened with newer and more exact methods of experimentation and observation.

II. METABOLISM, EXCRETION AND RETENTION IN ACUTE NEPHRITIS AND CHRONIC INTERSTITIAL AND CHRONIC PARENCHYMATOUS NEPHRITIS

In nephritis the elimination of the end products of metabolism has been studied extensively with the idea of learning to what degree the disease may cause retention of final or intermediate products and what influence the disease may have on metabolism in general, either directly or through the retention of injurious metabolites.

For the purposes of this paper it is sufficient to classify nephritis as acute, chronic interstitial and chronic parenchymatous.

In the course of acute nephritis the retention of the products of protein metabolism, as shown by the determination of the total quantity of nitrogen eliminated, in relation to the total nitrogen ingested, usually is very considerable. This is especially evident in the earlier stages of the disease when the total excretion of urine is almost *nil*. Later in the disease, however, as the amount of urine increases, the output of nitrogen increases and may be relatively excessive for several days, apparently in the attempt to get rid of that stored up in the organism during the preceding period of depressed excretion.

A very important feature, that of sodium chlorid excretion, which will be discussed more fully in connection with edema, may be dismissed at this point with the statement that in a general way in acute nephritis it parallels that of nitrogen. Exceptional cases have been described in which the ability to excrete sodium chlorid was very much less than the ability to excrete nitrogen and, indeed, any other urinary constituent, even including water. Experimentally it has been found that in those forms of nephritis in which the tubules especially are affected, the nitrogen output is diminished, whereas this is not the case where the glomeruli are affected almost to the exclusion of tubular disease.

In the chronic nephritis of both interstitial and parenchymatous forms the nitrogen elimination is variable. For periods of days and even weeks there may be well-marked retention of nitrogen amounting to as much as 4 gm. a day, but this cannot persist for a great length of time and usually is followed by a period in which the elimination of the retained nitrogen becomes evident in an amount of urinary nitrogen far in excess of the intake. This relation is not peculiar to the one form of chronic nephritis rather than the other, nor does prolonged retention necessarily excite uremic attacks. Particular kinds of diet have little influence on the condition; nor does the amount of water ingested give rise to considerable differences in the nitrogen excretion. Up to the present time these striking variations in nitrogenous output cannot be definitely explained. Attempts are being made to differentiate chronic parenchymatous and interstitial nephritis by the use of phenolsulphonephthalein but the work at the present time is insufficiently controlled by autopsy findings and is not to be accepted as final.

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* Presented before the County Medical Society of Philadelphia as part of a Symposium on Nephritis, March 8, 1911.

Before discussing the chemistry of the accidents or omplications of nephritis it may be well to briefly conider the variations in the normal constituents of the rine caused by the nephritic process and to consider the lements new to the urine as a result of the disease.

It is but natural to expect that the amount of urea in he urine of nephritics is subject to the same variations s have been indicated in discussing nitrogen. Not only lo the amounts of urea and nitrogen excretion parallel ne another, but in addition the amount of ammonia folows the same curve. Most recent observations lead to he belief that much of the ammonia in the urine, either ormal or pathologic, is the result of decomposition; but rine preserved under uniform conditions would show ariations in ammonia dependent largely on the variaions in the amount of urea. Uric acid and the purins how very much less variation than the urea, although ccasional cases occur in which retention of uric acid ccurs; in such cases, however, the retention of urea is onsiderably greater than that of the uric acid. Under ormal conditions the amount of creatinin in the urine s quite constant. In nephritis, however, it is said to be ubject to considerable variation, but the question is one hat is by no means settled. The most important feature n connection with this phase of the subject is that the lder theory holding creatinin retention to be the cause f uremia has been abandoned. In the same way, the uestion of the amount of hippuric acid in the urine is nsettled.

Turning to the inorganic salts, we find that phoshates and sulphates are retained and eliminated in mounts parallel to that of nitrogen. This is not true, owever, as regards the chlorids for, although numerous ases can be found in which the chlorid output is fully qual to that of the normal patient, yet in other cases onsiderable deviations from the normal may occur. These deviations may be of three types: (1) a marked laily variation, even with a uniform diet; (2) a marked xcess of chlorid output, in which case the patient is sually one recovering from a period of retention, such s might be seen in an acute or subacute attack of nephitis or in patients with a disappearing edema; (3) a otable retention of chlorids. In the last group some nstances are those of more or less permanent disability o excrete chlorids on the part of the kidney, a condition ot especially relieved by dietary restriction; whilst, on he other hand, some instances represent a temporary mbarrassment of the kidney, due to relative or absolute xcess of chlorids in the diet, a condition which is elieved by diminishing the dietary chlorid intake for a hort period, during which time the organ often regains ts normal power of chlorid excretion.

Of great importance in connection with the variations n these normal urinary constituents is the excretion of vater by the kidney. The bearing that this has on the hemistry of the organ is that excesses of water excretion id in excretion of solids, and diminution of water excreion hinders the output of solids. The question of water xcretion in this connection, however, seems more that f the physiologist than of the chemist.

Of the abnormal constituents of the nephritic urine, lbumin is of most importance and interest. The lbumins found are especially serum-albumin, serum-lobulin and nucleoprotein. In dietary excesses in the resence of a normal kidney the albumin found in the rine is that which has been ingested. In kidney disase the same phenomenon, with but slight modification, nay be observed. The identity of these proteins has been roved by the precipitin test. The serum albumin is almost always found associated with globulin in the urine and various attempts have been made to attach diagnostic importance to the relation between the two. This has failed, however, except possibly in the case of amyloid kidney, in which the amount of globulin is said to exceed that of the serum-albumin. It has also been claimed that in cases of cyclic albuminuria the albumin present is largely in the form of a protein, very much like, or identical with, one of the serum-globulin fractions. Nucleoprotein is of especial significance in connection with acute nephritis and fever cases. Albumose has no direct bearing on nephritis and when present in this disease represents a hydration of the urinary albumin present as a result of the disease. Why the kidney is impervious to the serum-proteins in health and pervious to them in nephritis remains an open question. Nor is it helped by the reflection that cell-proteins (e. g., hemoglobin) and protein-products (albumose) pass through the normal kidney without apparent resistance on the part of the organ.

III. METABOLISM, EXCRETION AND RETENTION IN NEPHRITIS WITH UREMIA

The accidents of nephritis, particularly uremia and edema, present much for study by chemical and physiologic methods. Uremia is certainly a toxic condition and many attempts have been made to identify the particular toxic agent responsible for it. Theory after theory has been discarded, with the result that the problem still remains unsolved. Nevertheless, certain phenomena of metabolism in the process have been worked out very concisely. Nitrogen excretion in uremia is usually low, but that it is the cause of the condition is combated by the fact that many nephritics show depressed excretion of nitrogen and are quite free from symptoms of uremia. Much more insistent claims have been made for intermediate products of protein metabolism, such as uric acid, carbamic acid and ammonia, as the etiologic agents in uremia, but more careful research has shown that even though these substances are retained they are not responsible for the condition. Inorganic salts have been held responsible for uremia and the discovery that the urine of uremics is of higher molecular concentration than normal led to the inference that the increase was due to salt concentration.

The fact was soon discovered, however, that increased molecular concentration appears in other diseases than nephritis and without uremia, and further, that the increase cannot be due to inorganic salts, because the urinary electrical conductivity remains the same as for normal urine. Alterations in the supposed internal secretions have been held accountable for the phenomenon and many experiments have been brought forward to support the view, but the most recent work indicates that the kidney in all probability has no internal secretion and the older work in partial nephrectomy, ligation of ureters and administration of extracts of kidney, has been held to be insufficient to prove the point.

That some toxic agent is at work cannot be denied, and numerous recent writers consider that it is in the nature of a specific lysin for kidney substance—a nephrolysin. That nephrolysins can be produced by artificial immunization of animals is quite true, but that they are absolutely specific for the kidney is open to grave doubt, and according to most observers their administration is attended by distinct lesions of other tissues, including the blood. The production of autonephrolysins, that is, by the animal for its own kidney, fails of conclusive demonstration. Nevertheless, it has been shown that the serum of nephritic dogs contains a substance which on injection into other dogs produces a true nephritis. It is suggested, however, that this fact be applied to the pathology of nephritis only after further evidence has been adduced to support it. As material accumulates on this subject it seems evident that if the toxin is a nephrolysin, it probably is not identical with the nephrolysin obtained by artificial immunization. That seen in nephritis must have a much higher degree of specificity than the experimental product.

The relation of uremia to gastro-intestinal conditions frequently is brought forcibly to the attention of the clinician. Whether the gastro-intestinal condition, or the uremia, is the primary event is as yet an unsolved problem. Some experimental workers think that uremia produces toxins that are excreted into the intestinal tract and that these are of irritant nature. Recent work in nitrogen metabolism indicates that a large percentage of nitrogen is eliminated into the intestine and reabsorbed, but as yet there is no definite evidence to indicate that this process is associated with any distinct toxic elements. If intestinal conditions can produce the toxemia which we know as uremia, no acceptable evidence has been adduced to prove it.

IV. METABOLISM, EXCRETION AND RETENTION IN NEPHRITIS WITH EDEMA

Explanations of edema in connection with nephritis call into play physical, physiologic and chemical observations. Of great importance to the clinician are hydremia and chlorid retention, for these two factors are capable of control in the diet of the patient. Experimentally, hydremia appears to be absolutely necessary to the production of edema, and clinically it is generally conceded that some degree of hydremia plays an important part.[1] Lesions in the vessel walls, whether depending on the hydremia or on some toxic substance, possibly an endotheliotoxin, also influence the condition. From the standpoint of chemistry the question of chlorid retention comes more prominently to the fore than in any of the other phases of nephritis. That chlorids are retained in cases of edema and that increased elimination of chlorids appears at the time of disappearance of the edema are well-established facts.

The chief point under discussion at the present time, as to whether the retention of chlorids or the retention of water is primary, remains an open question. If the retention of water be primary, it requires sodium chlorid to balance the osmotic pressure in the blood. If the sodium chlorid retention is primary, the same need for balance of osmotic pressure is felt and water is retained. If the sodium chlorid occurs particularly in the tissues, then the attraction of water to the tissues is easily explained by the same necessity for equalization of osmotic pressure. Numerous views have been expressed pro and con, and experiment has been adduced for and against, but the matter remains in a somewhat chaotic and distinctly unsatisfactory state.

V. VASCULAR HYPERTENSION AND CARDIAC HYPERTROPHY

From the chemical point of view, so little has been done on the question of heart hypertrophy and vascular hypertension in chronic interstitial nephritis that it requires little discussion. Granting that the internal secretion of the kidney is a problematic factor we must turn to retained toxic substances or to the influence of other internal secretions, particularly that of the adrenal, for the explanation. Experimental, anatomic and physiologic work have appeared to throw some light on this phase from time to time, but as new facts have been brought out old ones have been controverted or minimized and to-day none of these branches of pure science can offer much for the satisfaction of the eage clinician.

What has been presented in this brief communication represents the results of years of ardent and careful work on the part of clinicians and laboratory men, working either separately or hand in hand. If there remains much to be learned, that does not minimize what has already been well established. As methods are improved and observation and deduction become more accurate, the results will become more applicable to the living human patient.

In this review I have drawn freely on the works of Von Noorden, Pearce, Bainbridge and Beddard and others, in addition to the most recent articles in current medical literature.

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[1] Edema has been produced recently without introduction of excess of water into the animal, but this does not exclude hydremia as an essential factor in the development of the condition.

CLASSIFICATION OF DIPHTHERITIC CONJUNCTIVITIS

REPORT OF A CASE WITHOUT MEMBRANE FORMATION *

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The following case is reported because of the very severe catarrhal conjunctivitis due to diphtheria bacilli, which ran its course without the development of a membrane.

History.—The patient, a physician, aged 56, consulted me Jan. 25, 1908, for a very mild conjunctivitis of the right eye, the left being unaffected. The eye had been uncomfortable since the day before and he feared that some irritant like formaldehyd solution had caused the trouble. The irritation was chiefly in the inner canthus.

Course of Disease.—A 5 per cent. solution of argyrol was ordered but the condition did not improve and rather increased in severity.

January 27: Some of the secretion was sent to a bacteriologist, who reported that it contained bacilli but he was unable to determine them from the slide specimen.

January 29: The lids became greatly swollen and the eyes teared profusely. There was no purulent solution. The patient now complained of some discomfort of the nose and throat and a prominent rhinologist examined them and reported congestion of the pharynx and tonsils. The right tonsil was more prominent and there was an indistinct yellowish line near the posterior pillar in the long axis of the tonsil. Two prominent colleagues were called in, who likewise were unable to account for the ocular condition and its resistance to treatment.

January 30: The condition remained almost the same, the temperature being slightly elevated to 100 F. The patient wa somewhat depressed, which was attributed to worrying abou his condition. The pathologist suggested that the organism which had been handed to him was suggestive of diphtheri and he requested a smear from the edge of the lid. This wa taken, as was one from the pharynx, and I may say tha while the smear from the edge of the lid did not develop an organisms, the pharyngeal smear gave a typical growth of th diphtheria bacilli, and the pathologist was convinced that th organisms in the first slide were identical with these. Th membranous rhinitis and pharyngitis meanwhile increased an large masses were subsequently thrown off.

January 31: The condition was as follows: There was n membrane formation in the conjunctiva of either lid. Th ema of the conjunctiva of the eyeball was very marked, as ıs also that of the lids. The cornea showed considerable egularity of the epithelium without any ulceration. This d been noticed a day before. Along the intermarginal space ıen examined with a magnifying glass a few very fine gray ots were seen which could not be rubbed off with a cotton dget. On this day, 2,000 units of antitoxin were given and the evening 5,000 more. Within the next two days addi- onal quantities of antitoxin were injected, making a total 40,000 units.

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* Read at the joint meeting of the Sections on Clinical Medici and on Ophthalmology, Baltimore City Medical Society, Jan. 2 1911.

February 1: Cultures taken from the eye were negative to htheria but showed staphylococci. The patient's condition proved after the use of antitoxin.

February 6: The temperature was normal; there was minution of the secretion.

February 7: The nose began to give trouble and there was sebleed; at this time the eyes again became more painful.

February 9: On this date I observed a faint superficial acity running across the anterior of the cornea. The patient ıs now treated locally with argyrol and later with dionin, d the cornea became clearer though the central opacity mained. In the meantime the vision became almost half rmal.

Subsequent History.—During the following June, the eye came congested and painful, and there was again breaking wn at the side of the ulcer. The inflammation became rather tense and some hypopyon developed. Several weeks were quired for recovery.

The peculiar course of this disease and the finding of e diphtheria bacillus in the fauces and the discovery the same bacillus in the smear, though at first not cognized as diphtheria, with the undoubted diphtheritic pearance of the nasal and pharyngeal inflammation, em to establish this as a case of diphtheritic conjunc- itis without membrane formation, in spite of the sence of the more convincing tests.

The inflammation in this case, while resembling the njunctivitis due to the Koch-Weeks bacillus or to eumococci, differed clinically, especially at first, in the sence of mucous or purulent secretion, in the resistance ordinary treatment and in the appearance of the mi- ite spots along the intermarginal border. Later, mixed fection occurred, as is not uncommon. The age of the tient is exceptional. Noll[1] has reported a patient aged , but he was able to find only a very few reported cases adults (Kasztan, whose patient was 23 years old; Zur edden, whose patient was 17 years of age; Jessop,[2] ose patient was 29 years of age; and Schanz).

In the case here recorded it seems probable that the e was the primary seat of infection, for the earliest sal and pharyngeal symptoms made their appearance veral days after the onset of the conjunctival disease.

A number of attempts have been made to substitute a cteriologic basis for that of the clinical appearance in e classification of conjunctival diphtheria. Schirmer[3] eads that we call all conjunctival inflammations due diphtheria bacilli, diphtheritic conjunctivitis, it mat- rs not what the clinical picture. Fuchs[4] in his text- oks takes the same view, distinguishing between super- ial and a deep necrotic form. Luedde[5] contends ainst the old classification. Jessop[2] goes further and ggests that all cases of conjunctivitis with membrane ould be merged into one class called "membranous njunctivitis" or "membranous ophthalmia." . . . e would "like to see the term diphtheritic conjunc- itis disappear, as it is most confusing." On the other nd, many writers still hold firmly to the old classification, foremost among them being Saemisch[6] in his monumental work.

It is clear that accurate diagnosis and treatment as well as prophylaxis demand that we do away with the confusion. There is no possible reason why we should use one nomenclature for the pharynx and another for the conjunctiva. The term "diphtheritic" should in the future be applied only to inflammations produced by the diphtheria bacillus.

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CARBON MONOXID POISONING RESULTING IN GANGRENE OF BOTH LEGS

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DETROIT

The ordinary clinical picture of carbon monoxid poisoning is almost too well known to demand description. Carbon monoxid is a gas which, being colorless and tasteless, is usually inhaled unconsciously. Most cases of poisoning occur during sleep. It is an exceedingly poisonous gas. The method by which it produces its direful and fatal effects is by forming with the blood coloring-matter a compound which is more stable than oxyhemoglobin.[1] The affinity of carbon monoxid for hemoglobin being 200 times greater than that of oxygen, it causes asphyxia by destroying the power of the blood-corpuscles to carry oxygen from the air to the tissues.

The symptoms encountered when a considerable amount of this gas has been inhaled are vomiting, languor, headache, debility, etc., leading to deep unconsciousness, with shallow breathing, rapid pulse, cold, clammy perspiration and, finally, death. With active treatment patients in extreme conditions often recover, but on account of the stability of the carbon monoxid compound formed with the blood coloring-matter, the symptoms of languor, etc., often are very persistent, lasting until the coloring-matter, rendered useless by the carbon monoxid, is replaced by a new formation. This time is very variable and may last from several days to several weeks, when the condition of the patient again gradually becomes normal. This gradual return to normal is not, however, always uneventful. Nervous symptoms, even simulating insanity,[2] cerebral hemorrhages,[3] usually occurring in the caudate nucleus and optic thalamus, hemiplegia,[4] nutritive changes in the brain and skin,[5] etc., all have been recorded as occurring after carbon monoxid poisoning in persons apparently normal up to the time of the accidental inhalation of the gas.

I report herewith a case of carbon monoxid poisoning, followed by a very stormy convalescence, characterized by a clinical picture which is rare—indeed unique, for nowhere in the literature of the last decade have I been able to find a similar report. The case is one in which the carbon monoxid poisoning was followed by gangrene of both legs, necessitating amputation. The history of the case is as follows:

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[1] Noll: Arch. f. Augenh., lix, 14.
[2] Jessop: Tr. Ophth. Soc. U. Kingdom, 1902, xxii, 58.
[3] Schirmer: Arch. f. Ophth. (Graefe's), 1894, xi, No. 5, p. 161.
[4] Fuchs: Augenheilkunde, sixth German ed., p. 96.
[5] Luedde: Am. Jour. Ophth., 1907, p. 231.

[6] Saemisch: Graefe-Saemisch Handbuch der gesamten Augenheilkunde, v, Part I, p. 332.

[1] Ueber symmetrische Gangrene, Ztschr. f. Heilk., 1882, iii; Wien Klin., 1882, Nos. 10 and 11.

[2] Certain Alterations in the Blood and Lungs in CO Poisoning, Kharkow Med. Jour., 1908, v, 447.

[3] Hirnblutung bei CO Vergiftung, München. med. Wchnschr., 1909, lvi, 1211; Gehirnblutung im Folge einer Kohlenoxydvergiftung, Aertzl. Sachverst-Ztg., Berl., 1908, xiv, 135.

[4] Fall von Hemiplegia nach Kohlendunst, München. med. Wchnschr., 1903, i, 757.

[5] Ueber Ernährungstörungen des Gehirns und der Haut nach CO Vergiftung (Haufgangrene), Wien. med. Wchnschr., 1905, lv, 1621.

J. H., male, aged 22, American by birth, was admitted to Harper Hospital Dec. 20, 1909. The patient's family and previous history were unimportant. There was no specific history. On the morning of Dec. 20, 1909, the patient was found unconscious in his bed in a room in which there had been burning a small gas-burner, from which the flame had become extinguished during his sleep. He was immediately sent to the hospital and on admission at 11 a. m. there were present profound unconsciousness, slow, shallow respiration and a rapid, thready, uncountable pulse. He had involuntary evacuations from his bladder and his body was covered with a cold clammy perspiration. Shortly after admission his temperature was 102 F. The leukocyte count, differential and absolute, was normal. The red blood-count was normal, but there was present a marked degeneration of red blood-cells, with a striking tendency to clumping, each clump with a nucleus of débris taking a deeper stain. The hemoglobin index was 40 per cent. The diagnosis was carbon monoxid poisoning. From inquiry at the chemical laboratory of the City Gas Company, it was determined that the gas inhaled by the patient was illuminating gas and that the most actively poisonous ingredient, carbon monoxid, was present in the proportion of 7 per cent. A lesser percentage will readily produce poisoning.[1] Forty-eight hours after admission, during which time stimulation, artificial respiration and oxygen inhalation had been resorted to almost continuously, the patient had regained sufficient consciousness to speak. His pulse and temperature gradually approached the normal. By the end of the fourth day he was able to sit up; on the fifth day he walked about a little. He was dismissed on the evening of the fifth day apparently in good condition, complaining, however, of pain in the feet and legs.

December 27, two days after leaving the hospital, he was again admitted on account of the increasing pain in the feet and legs. Examination showed that the legs and feet were swollen and slightly discolored in patches, the discoloration extending below the knees, somewhat higher on the right than on the left side. The limits of the discoloration were rather sharply defined. The discolored portions were cold, and sensation was practically absent. During the next two weeks the pain in the legs continued, at times being so severe that it necessitated the administration of opiates. The discoloration increased to gangrene, the dorsum of each foot being seemingly attacked last. The legs became edematous.

January 7, longitudinal incisions were made to determine the condition of the deeper tissues. These were found to be necrotic, with all the appearances of moist gangrene. Culture showed pure growth of *Staphylococcus aureus*. Up to this time the patient's condition was extreme; he was delirious at times, with an irregular temperature curve ranging between 101 and 105 F.; pulse 130 to 160, systolic blood-pressure 110 mm. The blood-picture showed a marked leukocytosis with 85 per cent. polymorphonuclear leukocytes.

January 9, the right leg was amputated, and January 13 the left leg. For the remaining part of January the patient's condition was very critical. Bed-sores developed over the sacrum and on either buttock. The flaps of the left stump sloughed away. There was profuse sweating practically all the time. January 16, the blood examination showed hemoglobin 55 per cent. The red cells numbered 4,376,000, but were degenerated and very pale. The leukocytes were diminished in number. The blood itself was very watery and showed practically no tendency toward clotting.

About the middle of February the patient began to improve generally and the stumps showed evidences of granulations around the skin margins. On March 19 he was anesthetized (ether narcosis) and the stumps were trimmed; the right tibia and fibula were disarticulated at the knee-joint, and a portion of the condyles of the left femur were removed. From this time convalescence was uneventful; the stumps made good progress, being almost completely closed over at the time of his dismissal one month later.

The patient was dismissed April 15, 1910, practically four months from the time he was asphyxiated.

This case demonstrates that the effects of carbon monoxid poisoning are more far-reaching than is generally supposed. It also demonstrates that although recovery may be apparently complete, yet after the lapse of a few days or (as in some cases reported in the literature, reference to which will be appended below), even a few weeks the most startling and irreparable damage to the human organism may become evident as a result of the inhalation of this gas.

The question naturally arises: What is the exact pathologic condition which occasions such a wide-spread destruction of tissue, as, for instance, gangrene of both legs in the case above reported? In this case diabetic gangrene, chemical gangrene, senile gangrene and gangrene from exposure to extremes of temperature can all be excluded. Thrombotic and embolic gangrene, too, can be excluded, at least in this case, as after a careful search for thrombi and emboli our findings were negative. Some writers; however, report cases of thrombosis[6] following carbon monoxid poisoning. Such a cas occurred in the practice of Dr. William J. Seymou some years ago.

A man aged 45, entered St. Mary's Hospital, Detroit, unconscious from carbon monoxid poisoning. He remained unconscious for about twenty-four hours, afte which he complained of headache, stupor and a genera languid feeling. On the fifth day he complained o considerable pain in his left arm, after which the han and forearm became immensely swollen and edematous This condition of pain and swelling persisted for abou four weeks; then it gradually subsided. The diagnosi here was thrombosis of the axillary vein.

There certainly was no such picture in my case Besides, if due to thrombosis, the gangrene would mor probably have been unilateral. What then was the condition to which the gangrene in this case could b attributed? Was it an angioneurotic gangrene—th poison having affected the trophic nerves or the trophi cells in the anterior part of the cord, causing degenerative changes, thus disturbing their functionating powe which became manifest first by an angiospastic anemia or, as Weiss[7] calls it, a "regional ischemia," resultin finally in gangrene? Or was it due to the constitutional or rather the general, altered condition of the blood the nutritive powers of which had been so enormousl diminished by the sudden formation of the carbo monoxid-hemoglobin compound, that the parts in whic normally the circulation is poorest, i. e., the lowe extremities, would naturally become affected first?

Of the first proposition I can say but little definitel for I had no way of determining whether or not th degenerative changes really did take place in the trophi nerve-cells or their fibers. Any conclusion I could dra from this as to the primary pathologic condition causin the gangrene in the extremities would, therefore, at bes be but problematical.

As to the second proposition, the altered nutriti value of the blood, we know that the hemoglobin is th oxygen-carrier of the blood, and that this oxygen carrie by the blood is absolutely essential to the life of the bod tissues. If, for some reason or other, the normal suppl of oxygen is disturbed and a sufficient amount prevente from coming into contact with the tissues, these wi suffer and, depending on the amount of oxygen of whic they are deprived, gangrene or other nutritive chang vill result. Such is the condition which it seems we had o contend with.

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[6] Hirnblutung und Erweichung bei CO Vergiftung, Stras med. Ztg., 1909, vi, 165.

[7] Korsakoffsches Syndrom bei CO Vergiftung, Berl. kl Wchnschr., 1908, xlv, 1621.

Hemoglobin, once converted into carbon monoxid emoglobin, is useless for the body economy. This com- ound is stable and for this reason oxygen can never lisplace the carbon monoxid. After carbon monoxid oisoning, the normal oxygen supply to the body will ake place only when a new supply of hemoglobin has een furnished; in other words, the tissues must wait or their normal oxygen supply until such a time as the ody will again be able to furnish or manufacture, if you vill, a sufficient supply of hemoglobin to carry the xygen to its different parts. If, in the first place, the mount of carbon monoxid inhaled is so great as to com- ine with all the hemoglobin of the blood, the condition esulting (i. e., 100 per cent. carbon monoxid hemo- lobin, 0 per cent. hemoglobin or oxyhemoglobin), is ncompatible with life and the patient dies immediately. f, on the other hand, the amount of carbon monoxid nhaled is such that it combines with only part of the emoglobin of the blood, the condition resulting (say, 0 per cent. carbon monoxid hemoglobin and 50 per ent. hemoglobin or oxyhemoglobin), is such that the atient will live, but the tissues will not receive the ecessary supply of oxygen for the performance of their ormal functions. This insufficient supply of oxygen vill continue until the time when the new formation of emoglobin can take place. During this time, the hemo- lobin which is free from carbon monoxid must supply he oxygen to the tissues as best it can. The amount hus supplied may be sufficient to sustain life in every art of the organism. If it falls short of this, the parts n which circulation normally is poorest will first show he effects of insufficient oxygenation. This condition, think, is well illustrated in the case reported. Here, emoglobin, sufficient to cause grave constitutional dis- urbance and death of both extremities (the parts nor- nally sparingly supplied with blood), but not sufficient o cause the death of the organism, was rendered inert y the formation of the stable carbon monoxid hemoglo- in compound.

According to experiments by Nasmith and Graham[8] nade on guinea-pigs, the time for the new formation of emoglobin is variable, three to four weeks usually elap- ing before the oxygen-carrying power of the blood again ecomes normal; i. e., before compensation takes place y an increased number of red blood-cells and hemoglo- in content. At the end of this time the irreparable amage, as in the case reported, will have been done and he best that can then be expected from the compensation to improve the vitality of those parts which have not een starved beyond repair; in other words, which have ot gone on to the stage of gangrene.

This explanation of the gangrene following carbon onoxid poisoning seems plausible to me. Sufficient roof, however, is not at hand to determine this fact efinitely. Yet, on considering the exact mode of onset this case—how the gangrene did not commence at the es and travel progressively upward, but how islands of omparatively healthy tissue were left in which vitality emed to persist longer than even some more proximal arts—on considering other cases of gangrene of the kin reported, in which the gangrenous patches were sually distributed irregularly over the body where the ctivity of the peripheral circulation is often impaired en normally, I feel more than ever that the diminished nutritive value of the blood brought about by the formation of carbon monoxid hemoglobin is the most probable cause of the localized gangrenous condition.

57 Fort Street, West.

NOTE.—References additional to those numbered in the text of the article are as follows:

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A NEW METHOD OF COUNTING THE BLOOD-PLATELETS FOR CLINICAL PURPOSES

AND SOME OF THE RESULTS OBTAINED WITH IT *

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A number of methods[1] have been employed for estimating the number of blood-platelets per cubic millimeter of blood, but none of them has seemed to us practical or satisfactory for clinical purposes. A new method has therefore been devised, and it is as follows:

The blood is mixed with a diluting fluid in the proportion of 1 to 100 by means of the pipette used for counting red blood-corpuscles, and the counting is done in an ordinary blood-counting chamber with a high power dry objective. In order to render the platelets more clearly visible, the specially thin cover-glass of Zeiss, with central excavation, is used (cover-glass No. 146, Zeiss catalogue). This may be obtained from Eimer & Amend, 205 Third Avenue, New York. The diluting fluid consists of two parts of an aqueous solution of "brilliant cresyl blue" (1:300) and three parts of an aqueous solution of potassium cyanid (1:1,400). These two solutions must be kept in separate bottles and mixed and filtered immediately before using. Of course, the pipette should be well shaken before withdrawing the sample for counting. After the counting chamber is filled it is left at rest for ten or fifteen minutes in order that the blood-platelets may settle to the bottom of the chamber and be more easily and accurately counted.

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[8] Jour. Physiol., 1906-7, xxv, 32

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[1] The methods and observations of most other workers in this field are well described and summarized in the papers by J. H. Pratt (A Critical Study of the Various Methods Employed for Enumerating Blood-Platelets, THE JOURNAL A. M. A., Dec. 30, 1905, p. 1999), and by Kemp, Calhoun and Harris (The Blood-Plates: Their Numeration in Physiology and Pathology, THE JOURNAL A. M. A., April 7, 1906, p. 1022, and April 14, 1906, p. 1091).

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The platelets appear as sharply outlined, round or oval, or elongated, lilac-colored bodies, some of which form a part of small spheres or globules of hyaline, unstained substance.

The red cells are decolorized and appear only as "shadows," so that they do not obscure the platelets. The nuclei of the white cells are stained a dark blue, the protoplasm light blue. If the technic is correct there should be no precipitate in the preparation.

The cresyl blue solution is permanent, but should be kept on ice in order to prevent the growth of yeasts. The cyanid solution should be made up at least every ten days. It is, of course, necessary that the solution be made from pure potassium cyanid, which has not undergone decomposition. As already stated. the two solutions must be mixed and filtered immediately before using, because after filtration, if the mixture is allowed to remain exposed to the air for a short time, a precipitate will form in it. After the diluting fluid has been mixed with the blood in the pipette, however, no precipitate forms and, as the platelets do not quickly break up in the mixtures, the counting may be done after some hours, if necessary. For example, a count immediately after filling the pipette was 258,000, and another count from the same filling of the pipette made eighteen hours later was 253,000.

A proper technic yields a remarkably even distribution of the platelets in the chamber. For all practical purposes the counting of the platelets in 100 small squares is sufficient, but for greater accuracy all 400 small squares should be counted, or 200 small squares in each of two fillings of the chamber.

Table 1 is a sample count showing the even distribution of the platelets in the counting chamber:

TABLE 1.—PLATELETS COUNTED IN A ROW OF TWENTY SMALL SQUARES

—Chamber 1.—		—Chamber 2.—	
22	21	21	25
27	28	21	23
27	24	27	22
23	30	22	25
21	21	23	31
120	124	120	126

By our method the platelet count of normal adults is found to vary from 226,000 to 367,000 per cubic millimeter, the general average being 297,000. Table 2 is a table of counts of normal individuals, all adults males.

TABLE 2.—COUNTS OF BLOOD-PLATELETS IN NORMAL INDIVIDUALS

Normal Individuals.	No. of Counts.	Over period of	Average.	Highest.	Lowest.
A	23	1 year	272,000	328,000	226,000
B	5	2 weeks	336,000	367,000	297,000
C	2	1 week	305,500	319,000	292,000
D	4	10 days	263,500	272,000	252,000
E	2	1 week	332,000	347,000	317,000
4 individuals, 1 count each..........			273,250	330,000	224,000

The objection has been made to the methods of platelet enumeration involving the use of a mixing pipette, that the counts obtained by them are too low because many of the platelets stick to the glass of the pipette and thus escape observation. We do not think that this objection applies to our method, for the following reasons:

1. When blood and, immediately afterward, the diluting fluid are drawn up into a capillary pipette, microscopic examination does not reveal any platelets sticking to the glass.

2. Our normal counts range higher than those of all other observers who have employed methods involving the use of a pipette, except one. Thus, the highest count among the large number of counts contained in the reports of Cadet and others is only 310,000. The exception is the count of "*kaum ½ million*" stated by a reviewer to have been found by Prus for normal blood in contrast to 2,000,000 for leukemic blood. This inexact numerical expression might very well mean a count, or counts, for normal blood not greatly in excess of our own. Van Emden, however, used Prus' method and obtained normal counts which do not range as high as our own. He attributed Prus' apparently high normal figure to fragmentation of the blood-cells by too much shaking of the pipette.

3. Our normal counts do not differ significantly from those obtained by several observers who used methods based on the determination of the ratio between the platelets and the red corpuscles. Thus; Pizzini obtained figures varying from 250,000 to 370,000 among fifty-seven counts made on seven healthy persons to determine the possible effect on the numbers of the platelets produced by digestion, heat, cold and fatigue; Determann among twenty-five normal bloods found counts varying from 180,000 to 250,000, if we assume that the red corpuscles count for each was 5,000,000; and Cadwalader, in nine counts on two normal persons, found 259,360 to 400,000 the average being 348,000.

Certain other observers, however, working with ratio methods, have reported higher normal counts than those just mentioned, but we believe that their methods were erroneous and that their results are not reliable.

Thus, Brodie and Russell used a diluting fluid consisting largely of glycerin, which is destructive to red corpuscles, and therefore the ratios which they obtained are obviously not to be relied on as being the true ones.

Kemp and Calhoun report twenty counts from thirteen normal persons, ranging from 730,000 to 962,000. In a later paper, however, they report that they found fifteen ratios of platelets to red corpuscles in five norma men, determined on the same three successive days, t vary from one to eighteen to one to twenty-three, which on the basis of 5,000,000 red corpuscles to the cubi millimeter, would represent counts of only about 217.00 to 270,000. Such a marked discrepancy between thes two sets of counts seems to us to be sufficient to discredi their method and the high counts which they obtaine with it.

J. H. Pratt found in seven normal individuals count agreeing with ours (226,000 to 377,000), but in eightee others his counts vary from 416.000 to 725,000. In vie of the results of other workers, this seems to us to be wider degree of variation in normal individuals than ca be accounted for by any supposed superiority in hi method, and we therefore believe that these higher count should not be accepted.

4. The closeness of successive counts from the sam individual and the high counts obtained in certain dis cases are also good evidence. For example: 257,00 271.000 and 263,000 from a normal individual; 698.00 and 708,000 from a case of hemophilia; and 1,130.00 and 1,077.000 from a case of anemia after hemorrhag These results seem to us to be incompatible with an important loss of platelets by sticking to the glass. I there be a loss of platelets, it must be a constant facto which does not vitiate the usefulness of our method f determining the fluctuations in the numbers of the bloo platelets.

We have counted the platelets by this methods in considerable variety of diseases, studying especially thei numbers in anemia, in typhoid fever and in pneumoni d the results obtained are summarized below. Our servations fully confirm those of Hayem and others the three diseases mentioned.

In secondary anemia we have found the blood-plate unt to be generally high, while in pernicious anemia e have found it to be always low at some period of the sease. Thus, in seven out of nine cases of secondary emia, counts above 400.000 were obtained, while in ne of the cases was a count below normal found. The ghest counts were 1,130,000 and 1,162,000 obtained in o cases due to hemorrhage. On the other hand, in ne cases of pernicious anemia the twenty-three counts ade varied from 20.000 to 161,000 while the tenth case owed a count of 381.000, which fell to 172.000 ten ys later.

In view of these observations, it would seem that the atelet count will prove to be of material assistance in stinguishing between the two forms of anemia in ubtful cases.

This contrast between the two forms of anemia in the atelet content of the blood is readily explained by the llowing considerations: It is well known that in condary anemia an hyperplasia of the red marrow of e bones takes place sooner or later and thus an increase brought about in the number of the marrow giant lls, the megakaryocytes, which have been shown by one us.[2] to produce the blood platelets by the fragmentaon of their cytoplasm. Consequently, the number of e platelets in the blood is increased. On the other nd, the diminution in the number of the platelets in e blood of pernicous anemia is explained by the servation of one of us that the peculiar red marrow of is disease, although greater in amount than normal d marrow, regularly does not contain as many giant lls as does normal red marrow or the hyperplastic red arrow of secondary anemia.

In two cases of chlorosis, normal counts were noted, ile in a case of splenic anemia a count of 75,000 was tained.

In three out of four cases of lymphocytic leukemia, e being of the large cell type, the counts were lower an normal. ranging from 37,000 to 130,000. We tribute the low counts to lymphomatous transformation the bone marrow, with consequent reduction in the mber of marrow giant-cells.

In two cases of myelocytic leukemia the counts were gh, varying from 595,000 to 860,000, while in one case e count was normal. In this connection it is of terest to note that while the leukocyte count in one se fell from 385,000 to 161,000 under *x*-ray treatment, e blood-platelet count, which had been 860,000. mained high, 771,000. This observation constitutes ditional evidence that the blood-platelets are not sely related to the leukocytes, or to their parent cells the bone marrow, the myelocytes.

Forty-four counts in all were made in seventeen cases typhoid fever. The results show that in the beginning the disease the number of the blood-platelets is below rmal or a low normal, but as the disease progresses eir number increases and during convalescence may be ry high, in one case reaching 759,000. In two cases relapse the platelet count became low after having en normal or high, becoming again normal or high in nvalescence.

In lobar pneumonia during the progress of the disease the number of the platelets may be low, normal, or slightly above normal, but at or soon after the crisis it increases very rapidly and in one case reached 944,000. In a case in which empyema developed the counts rose to 714,000 and 813,000 during this complication, while during the pneumonia they were 229,000 on two occasions.

In two cases of malaria there were low counts. In one of them the count was 143,000, but six days after quinin treatment had begun it had risen to 449,000.

In a case of hemophilia with persistent epistaxis and purpura, the count was 125,000 on July 2 and 337,000 on August 17, but fell to 27,000 three days later. Another count made after the lapse of some months was 87,000. In another case of hemophilia, however, the count was high, being 698,000, and 708,000 three days later. A case of Henoch's purpura also showed high counts (508,000 to 645,000 in five counts during sixteen days).

In a child with chronic bloody diarrhea due to ulcerative colitis, five counts made in the course of three weeks varied from 18,000 to 62,000.

The platelet counts of a man who had been drunk for about two months and had eaten but little, was of special interest. He entered the hospital with delirium tremens, bleeding from the gums and symptoms suggestive of scurvy. He also had cirrhosis of the liver. Two days after entrance the count was 136,000. Under feeding and the administration of orange juice he rapidly grew better and the counts taken at intervals of one or two days were successively, 141,000, 160,000, 187,000, 270,000, 365,000 and 350,000.

Counts made in other diseases were as follows: infectious polyarthritis, two cases, 518,000 and 641,000; pleurisy with effusion, two cases, 628,000 and 335,000; streptococcus septicemia, 456,000; chorea, 445,000; "Hodgkin's disease," 458,000; gangrene of the gallbladder, 221,000.

The relation of the number of the blood-platelets to the number of the leukocytes in the same blood has also been studied. By using a counting-chamber with a Türck ruling, we have been able to make leukocyte counts parallel with the platelet counts in the same chamber, the counting being facilitated by the staining of the leukocytes. In this way 164 leukocyte counts of widely varying figures were obtained and compared with the platelet counts in the same cases. The results clearly show that variations in the number of the platelets and in the number of the leukocytes have no constant relation to each other. This is a further evidence that the blood-platelets are not derived from the leukocytes, as some writers have believed.

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[2] Wright, J. H.: The Histogenesis of the Blood-Platelets, Jour. rphol., July, 1910, xxi, No. 2; Publications Massachusetts Gen. sp., iii, No. 1.

New and Nonofficial Remedies

The following additional articles have been accepted by the Council on Pharmacy and Chemistry of the American Medical Association. Their acceptance has been based largely on evidence supplied by the manufacturer or his agent and in part on investigation made by or under the direction of the Council. Criticisms and corrections are asked for to aid in the revision of the matter before publication in the book "New and Nonofficial Remedies."

The Council desires physicians to understand that the acceptance of an article does not necessarily mean a recommendation, but that, so far as known, it complies with the rules adopted by the Council.

W. A. Puckner, Secretary.

COLLOIDAL SILVER PREPARATIONS[1]

Under certain conditions involving a very fine state of subdivision, metallic silver and some of its compounds ordinarily insoluble appear to become soluble in water. These preparations are not precipitated by the ordinary precipitants of silver salts. Consequently they can be mixed with organic liquids or injected into the tissues or even into the bloodstream without precipitation and without causing marked symptoms or irritation. They possess to a greater or less degree the antiseptic properties of solutions of silver.

CARGENTOS.—Argenti Oxidum Colloidale, Mulford.—Colloidal Silver Oxide, Mulford.—Cargentos is claimed to be a preparation of colloidal silver containing 50 per cent. of metallic silver in the form of oxide, together with a sufficient amount of modified casein to maintain the silver oxide in colloidal form when in solution.

Cargentos is prepared by precipitating an alkaline solution of silver caseinate and silver oxide by an acid, dissolving the precipitate in an alkali, dialyzing the resulting solution against running water and evaporating the remaining colloidal solution to dryness in vacuo.

Cargentos occurs in odorless and tasteless black scales of metallic luster. It is freely soluble in water and glycerin. Solutions of cargentos are reddish brown by transmitted light and greenish black by reflected light. Solutions of cargentos should be prepared with cold water and kept in dark colored bottles.

Its solutions are not precipitated by sodium chloride nor by albumin in the secretions.

Cargentos, when assayed by the following method, should be found to contain silver equivalent to 48 to 52 per cent.

0.3 to 0.5 Gm. cargentos is weighed into a crucible, ignited gently at first, afterwards with full flame of a bunsen burner, until the ash is light in color.

The residue is treated with concentrated nitric acid and if completely dissolved the solution is diluted with 50 Cc. water, 2 Cc. ferric ammonium sulphate solution added and directly titrated with tenth normal potassium sulphocyanate. If after treating with nitric acid an insoluble residue of silver chloride remains, it is collected on a filter, washed with water, dried, ignited and weighed as silver chloride; the silver content of the filtrate is determined by titration with tenth normal sulphocyanate as before and the silver so found is added to that obtained in the silver chloride.

Actions and Uses.—Cargentos is claimed to possess considerable germicidal power and pronounced penetrating properties. It is said to be non-irritating even in 50 per cent. solution. It is said to be useful as a substitute for the ordinary compounds of silver in treatment of inflamed mucous membranes and as an intestinal antiseptic. It may be used in 50 per cent. solutions for the purpose of producing a shadow in Roentgenographic examinations.

Dosage.—For application in diseases of the eye and of the genitourinary organs 5 to 25 per cent. solutions; for application to other mucous membranes 10 to 50 per cent. solutions may be used. Freshly made solutions are always to be preferred.

Manufactured by H. K. Mulford Company, Philadelphia. Process patent applied for. Not trademarked.

Cargentos Tablets.—Colloidal Silver Oxide, 3 grains, Mulford.—Each tablet contains cargentos 0.195 Gm. (3 grains) without excipient.

To prepare a solution the tablet should be crushed and powdered, sprinkled on the required quantity of cold water and allowed t stand for about 5 minutes and then agitated until solution occurs.

Cargentos Rectal Suppositories.—Colloidal Silver Oxide Recta Suppositories, Mulford.—Each suppository weighs 1.25 Gm. (19 grains) and contains cargentos 0.130 Gm. (2 grains) in a vehicl consisting of oil of theobroma together with a sufficient quantit of yellow wax.

Cargentos Vaginal Suppositories.—Colloidal Silver Oxide Vagina Suppositories, Mulford.—Each suppository weighs about 6.4 Gm (98½ grains) and contains cargentos 0.325 Gm. (5 grains). Th vehicle consists of oil of theobroma together with a sufficient quantity of yellow wax.

Cargentos Urethral Suppositories.—Colloidal Silver Oxide Urethral Suppositories or Bougies, Mulford.—Each suppository weigh about 2.5 Gm. (37 grains) and contains cargentos 0.130 Gm. (grains). The vehicle consists of glycerite of boroglycerin, gelati and water.

OVOGAL—Albumen Cholicum.—Ovogal is a combination o bile acids with egg albumen.

Ovogal is a greenish-yellow powder, insoluble in water, dilut acids, ether, benzol, fats, etc. Alcohol and acetone do not dissolve it, but after long action remove from it small amounts o the bile acids. Alkalies dissolve ovogal, splitting it into albume and bile acids (glycocholic and taurocholic acid).

If 0.5 Gm. of ovogal is boiled with 1 to 2 Cc. hydrochloric aci until a clear green solution is produced and then diluted wit from 30 to 40 Cc. of absolute alcohol an abundant cloudy pr cipitate separates, which when washed with alcohol until th washings are colorless, gives the characteristic reactions for pr teins. On evaporation of the alcoholic filtrate, the bile acid may be recovered and identified. Ovogal on ignition should leav no weighable residue.

Actions and Uses.—Ovogal is said to pass the stomach without marked decomposition and to be dissolved and absorbed i the intestine.

For therapeutic indications see Bile Salts.

Dosage.—0.5 to 1 gm. (8 to 15 grains) several times dail in capsules with water, tea, coffee or fruit juices.

Manufactured by J. D. Riedel A. G., Chemische Fabriken, Berli Germany. (Riedel & Co., New York.) Not patented in U. S. G man patent No. 176,945. U. S. trademark No. 78,352.

Ovogal Capsules.—Each capsule is said to contain ovogal 0.5 G (7½ grains).

XERASE.—Xerase is a mixture of a specially prepared dr beer yeast 150 parts, grape sugar (dextrose) 20 parts, whit bole 125 parts and a mixture of nutritive salts 3 parts.

Xerase is a yellowish-gray powder, having a weak odor yeast and a salty taste. It is only slightly soluble in water. resists ordinary atmospheric conditions.

Actions and Uses.—This mixture is absorbent on account the bole and readily induces fermentation which is favor by the sugar and salts and it is claimed that the yeast has bactericidal action on such organisms as the gonococcus. is said to adhere readily to mucous membranes.

It is claimed that this mixture is useful in inflammatio and ulcerations of the vaginal and cervical mucous membran and in the treatment of putrid wounds, ulcers, inoperab carcinoma, etc. It may be applied as a powder by insufflati or inserted into the vagina in a gelatin capsule.

Manufactured by J. D. Riedel Aktiengesellschaft, Berlin, G many (Riedel & Co., New York). Not patented in the Unit States. U. S. trademark applied for.

Xerase Capsules.—Each capsule contains about 3 Gm. (45 grain of Xerase.

Therapeutics

TYPHOID FEVER

VACCINATION AGAINST TYPHOID FEVER

The demonstration of the important relation whi bacilli bear to typhoid fever led shortly to the query to whether by cultivation of the bacilli any product cou be obtained which might be successfully used in t treatment of the disease or in its prevention.

The studies of Haffkine, in India, with reference obtaining a substance which could be used for propl lactic inoculation in the prevention of cholera, led similar investigations in regard to typhoid fever. Th were taken up by Pfeiffer, in Germany, and in Lond by Sir Almroth E. Wright; and to Wright especially we owe the development of the present system of a typhoid inoculation.

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[1] In accepting Cargentos, the Council has voted that a general article on Colloidal Silver Preparations be inserted in N. N. R. and Cargentos and Collargol be placed under it.—W. A. Puckner, Secretary

The vaccine used for preventive inoculations is prepared by cultivating a strain of not very virulent typhoid bacilli. These are destroyed by heat and have added to hem a small amount of an antiseptic to prevent conamination with aerobic microorganisms. It is customary to standardize the solution so that 1 c.c. will contain 1,000,000 of the bacilli. This is the usual dose adminstered, although sometimes half the quantity is used. The vaccine retains its strength for at least three months, and it has been found in some cases to retain ts efficiency for fifteen months. It is used by hypodermatic, not intramuscular, injection and is usually given n the arm, but it may be given under the skin of the abdomen. It is usually advisable to repeat the dose after en or twelve days in order to get the maximum amount of protection from the inoculation. Following the first dose there is a varying amount of reaction. This may be indicated locally by redness of the skin, which may vary from a patch three or four inches in diameter to one that extends down the forearm and to the shoulder. The axillary glands may be enlarged.

Accompanying this local reaction there may be a contitutional reaction which may vary from slight indisposition in mild cases to chills, with an elevation of emperature to from 101 to 103 F., with aching throughout the body, accompanied sometimes by a headache—ymptoms such as accompany the onset of a severe cold or influenza. Rarely is there nausea or diarrhea.

After the subsidence of the local manifestations there may remain a slight nodule, which, however, disappears n about two weeks, leaving no mark to show where the vaccination has been done.

The constitutional symptoms appear in two or three hours in mild reactions, and disappear in from twelve to wenty-four hours; in severe reactions the symptoms last or from forty-eight to seventy-two hours. In children, he constitutional symptoms are usually less marked han in adults.

A great deal has been said about the so-called negative phase. This has reference to an increased susceptibility to typhoid fever during the first two or three weeks after he inoculation has been made. The alleged presence of his so-called negative phase has been used as an argument against the general adoption of the inoculations, but Wright has demonstrated conclusively that this may be prevented by avoiding a large dose, and the dose of one billion bacilli is not so large as to cause this temporary increased susceptibility to the infection.

The injections are best given in the late afternoon, so hat the patient may retire early in the evening, and the greater part of the unpleasant symptoms from the reacion, in a mild case, may disappear during the following morning.

A considerable number of statistics have been reported by various observers, and especially through Wright, of England, concerning the results of these inoculations in arious parts of the world, and especially in the British nd United States armies. Comparing, in the same egiment or groups of regiments, the men who have been noculated with those who have not been inoculated, it has been observed uniformly that fewer cases of typhoid ever have occurred among the inoculated men than mong those who have not been inoculated. Still more triking is the observation on the mortality of typhoid ever. The mortality of the small proportion of inocuated men who suffer from typhoid fever is very much less than the mortality among the uninoculated men.

These various statistics would seem to prove concluively the usefulness of inoculation in diminishing the number of cases of typhoid fever, and still more in diminishing the mortality among those affected with the disease.

What is the significance of the facts thus set forth to the general practitioner? Is it his duty to advise all who consult him to subject themselves to antityphoid vaccination? Does he not show himself guilty of negligence which is deserving of severe criticism, if he does not do so? Certainly, to-day neither the members of the medical profession nor the citizens of the country have been educated up to the point where the conscientious physician can reasonably be expected to advise his patients to submit to antityphoid inoculation, however thoroughly he may be convinced of its usefulness. With regard to certain classes in the community there can be no question of the advisability of these inoculations. It is recognized by all that the disease occurs with the greatest frequency among youths and young adults. Consequently, it is with reference to these that the problem is most urgent.

One class of young adults with regard to whom the sentiment is pretty well formed that vaccination should be done, consists of soldiers who are about to engage in war. As is well known, typhoid fever is especially prevalent in armies during military campaigns; consequently, all soldiers who are about to enter on a campaign should receive inoculations, and at present a large number of them are getting it.

Perhaps the next class in the community which is especially exposed to the danger of contracting typhoid fever includes the permanent attendants on sick people in general hospitals, viz., the nurses, the orderlies, and the resident medical staff. It may be fairly said that at present those in authority are liable to be censured if they do not insist on these individuals receiving typhoid inoculations, unless it may be those in hospitals where typhoid fever is never treated. How many such hospitals are there?

Perhaps the next classes to be considered are young men and women who leave home to go to college or boarding school, people who make long trips away from home, and people who take summer recreation trips. As is well known, typhoid fever is common among the people of these classes, and it would no doubt be wise if all such persons should submit to antityphoid vaccinations before leaving their homes. Were this done, unquestionably many cases of the disease would be prevented, and many deaths avoided.

Finally, taking up the rest of the community, there seems to be no reason to doubt that, except in those parts of the country where typhoid fever is unknown and where the people never leave their homes, it would conduce to the avoidance of the disease and the prevention of death from it, if everyone submitted to an inoculation.

The period during which the protection against the disease persists is not definitely established. It seems to be pretty well proved that the protection is effective for at least two years, and there is very strong reason for believing that a considerable degree of protection, though not so complete protection, is afforded for many years, or even during the rest of the individual's life.

When sanitation has entirely stamped out the disease, these inoculations of course will be superfluous; until that time arrives there is every reason to believe that they will be advised with increasing frequency by conscientious physicians and will be increasingly demanded by people who intend to avoid sickness and death from typhoid fever.

THE SPECIFIC TREATMENT OR SEROTHERAPY OF TYPHOID FEVER

Thirty or forty years ago, at the time when Ziemssen's monumental cyclopedia of medicine became known to American readers, the term "specific treatment" as applied to typhoid fever was used to indicate the administration of large doses of calomel during the early part of the disease. Since the discovery of the *Bacillus typhosus* and the active work of bacteriologists on typhoid fever, the term has been applied to those forms of treatment in which it was attempted to make use of a serum in the treatment of the disease.

No treatment of this character at all comparable to the serum used in the treatment of diphtheria has, up to the present, been found for typhoid fever, although great effort has been expended in trying to discover such a serum.

The one concerning which the most favorable reports have been made and which seems to have accomplished the most is that used by Chantemesse, of Paris. He began the administration of his antityphoid fever treatment in 1892, but his results were not successful until, in 1899, he produced a soluble typhoid toxin. From this he was able to produce his antityphoid serum. The serum which he employs is obtained from horses immunized by injections of the soluble typhoid toxin. This serum he uses in doses of from 10 to 12 c.c. at first, and if the temperature does not fall within a week, 4 or 5 c.c. more are injected. In connection with the serum he employs cold baths. In his reports he states that the average mortality in the other hospitals of Paris is 18 per cent., while in those under his charge among the patients treated by his serums and baths, the mortality is reduced to 4 per cent.

The manufacture of this serum is so difficult and the expense of obtaining it is so great, that it has not been extensively used in this country, and consequently American physicians are not prepared to express an opinion in regard to its use, or to administer it to patients.

Chantemesse maintains that the best results are obtained when the remedy is administered early, during the first week of the disease.

He reports that after the injection of his serum there is at first a period of reaction, when the temperature in some cases is elevated. This may last for from a few hours to several days. Subsequently, the temperature falls gradually, and the pulse is slowed, the blood-pressure raised, the quantity of urine increased, and the patient feels decidedly more comfortable. The temperature continues to fall for ten or twelve days, and the patient soon goes on to rapid convalescence. Should the patient seem to remain at a standstill, a second injection may be required.

GENERAL MANAGEMENT AND DIET

This subject was discussed in The Journal, Oct. 10, 1908, page 1233; Sept. 4, 1909, page 800; Oct. 15, 1910, page 1381.

THE PROTECTIVE TREATMENT OF THE HEART AND BLOOD-VESSELS DURING AND AFTER AN ATTACK

Everyone is familiar with the striking impression which typhoid infection makes on the heart during the course of the disease, and of the degenerative changes in the cardiac muscle which are found on post-mortem examination of that organ. It is not strange, in the case of a disease which lasts so long and which produces these degenerate changes in the heart, that during and following convalescence the heart should often be found to be profoundly affected.

The cardiac and vascular changes which are found after typhoid fever during the months and years following convalescence are of several kinds. It is well known that during the course of the disease pericarditis is a rare complication. Frequent cardiac murmurs are discovered during the later weeks of the disease. In many cases these disappear during convalescence, but if patients are examined from five to ten years after having experienced an attack of typhoid fever, it will be found that in the majority of these individuals the blood-pressure is considerably higher than in individuals of the same ag who have not had typhoid fever. It will also be found that the radial arteries are palpable in a far larger proportion of persons who have had typhoid fever than in those who have not. Further, the average size of th heart is greater among those who have had typhoid fever than in those who have not. Finally, it will be foun that a larger proportion of persons who have had typhoi fever will have organic disease of the heart than of thos who have not suffered from an infectious disease.

It is maintained by many observers of wide experienc that, with the exception of rheumatism, no infectiou disease is more likely to produce permanent damage t the heart than typhoid fever.

Bearing these facts in mind, it is the obvious duty o the physician who takes care of a patient with typhoi fever, to guard against these different forms of damag to the cardiac and vascular system. It is the realizatio of these different forms of cardiovascular damage whic gives added importance to the enforcement of rest dur ing convalescence. This rest is recognized as being im portant for the patient not only in preventing a relaps but it should also be recognized as being important i preventing the development of any of these circulator troubles. The rest should be enforced for considerabl longer than has commonly been done. This does no mean that the patient should be kept in bed for a indefinite number of weeks after convalescence has bee established, but it means that he should be limited in th amount of exercise which he takes, and that he shoul not be allowed to undertake severe physical or ment work until several weeks have elapsed after the establis ment of convalescence, and until careful examinatio fails to show any disturbance of the circulatory organ Such disturbance may be indicated by a rapid pulse an weak action of the heart, and by various disturbances the peripheral circulation such as coldness of the feet sweating at night.

As undoubtedly the food taken by an individual affec the nutrition of the heart and its action, the diet recon mended should be such as will not tend to produ arteriosclerosis or increase vascular tension. The amou of protein undoubtedly should be limited, although moderate amount of protein is essential for the restor tion of the degenerated tissues. Milk and fruit shou for a long time constitute an important part of the di

The patient should be kept in bed until the pul regains its normal rapidity, and the amount of exerci that he is allowed to take should not be such as w increase the action of the heart beyond the normal ra It is also important that the nervous system should n be subjected to unusual irritation, and he should avo cares and worries as far as possible. Protracted rest a a simple diet are the essential features of this protecti treatment.

NERVOUS, MENTAL AND SPINAL CONDITIONS

Perhaps one of the most striking results of the prog- ess which has been made during the last few decades in he treatment of typhoid, is the diminution of the fre- uency and severity of the nervous phenomena observed uring the course of the disease. The so-called typhoid ondition characterized by a dry and brown coated ongue, lips and teeth covered with sordes, dull and pathetic mind, or delirium, sometimes violent and some- imes busy, with muttering, muscular tremors, and sub- ultus tendinum, are comparatively rarely seen at the resent day. Now other nervous phenomena are demand- ng attention, and among these may be mentioned hanges in the mental condition both before and after ie attack of the fever. Cases have been reported, chiefly i patients who had a defective mental inheritance or ho themselves were not up to the average of mental evelopment, in which the attack of typhoid fever has een preceded by maniacal delirium, which subsided with ie onset of the fever. More frequently, but yet only casionally, during convalescence various disturbances f the mind have been observed which are classed gether as the psychoses of typhoid fever. In the initial elirium, motor excitement appears to be a constant fea- ire, so that when an unexplainable attack of mania, companied by this motor excitement, occurs, it is well, the patient is found to have any fever, to test his lood by the Widal method.

During convalescence, the common forms are the -called collapse delirium, in which the patient imagines iat he has been taken from his previous surroundings, iat he is somewhere other than in the place where he ally is, or there may be various forms of mania or ielancholia. In addition to these, various forms of eurasthenic phenomena are frequently observed.

With a view to avoiding and preventing these post- brile phenomena, the nervous system should be care- lly watched during the course of the disease and such easures adopted as will quiet nervous restlessness and revent loss of sleep. The most important of these ethods is cold or tepid sponging, or other cold applica- ons. When for any reason these are impracticable or ieffective, they may be supplemented by hypnotic drugs, ich as the bromid of sodium, chloral, sulphonethyl- ethane (trional), or morphin. The last in small dose often the best.

As soon as convalescence is fairly established, the itrition should be rapidly improved by the addition of ich food as the patient can digest and assimilate. The itient should maintain a condition of rest so long as iere is any evidence of irritability or nervous instability. e should not be disturbed by visitors or by having isiness cares and worries brought to his attention.

The prognosis of these conditions and even of a mild sanity is, as a rule, favorable, and treatment at home ay be continued for a greater length of time than in ses of ordinary insanity.

In connection with these nervous and mental dis- ders may be mentioned the condition described by oney as typhoid spine, which consists of an inflamma- on of the structures in and around the joint called by m perispondylitis. This condition is characterized by great deal of pain in the spine, usually in the lumbar gion, accompanied by swelling and tenderness of the ney structure of the affected region. It should be dis- nguished from a painful condition of the muscles on ch side of the spine resulting from strain from the tient lying with his back not properly supported (often too soft bed-springs), also from the hypersensitive spine seen in neurasthenic patients and other functional troubles. The pain is sharp and shooting, relieved by lying flat on the back, but aggravated by any movement of the spine. The treatment consists of rest in bed, with counterirritation and massage. The patients as a rule recover.

THE HAIR IN TYPHOID FEVER

Typhoid fever in all the aspects of its symptomatology, pathology and treatment has been so voluminously discussed by so many teachers and writers that it is surprising to find in the literature relating to this disease so little definite information in regard to the occurrence of loss of hair and its prevention. In works treating of dermatology this matter is incidentally mentioned under the head of *alopecia prematura* or *presenilis.* To the condition here to be discussed the term *defluvium capillorum* is also applied.

Naturally, during the height of the fever when the physician is exercised in attempting to prevent the death of the patient, to relieve the fever, to maintain the circulation, and to keep up the general nutrition, it is not strange that a matter of so little life and death importance as the hair should be neglected; but after the fever has left the patient, after convalescence has become established, and when the patient walks around and receives the visits of friends, one of the most annoying symptoms in a large number of cases is the impending and active loss of the hair. This causes great annoyance, especially to female patients, and its causation and prevention are worthy of careful study by the physician.

The condition is undoubtedly associated with the defective nutrition of the entire body, and one of the most important measures for combating it is by improving the general nutrition. Of course, food stands in the first place in this regard, but it may be supplemented by medicinal treatment, and especially by the addition of moderate sized doses of arsenic, which is generally recognized as having a direct action on the nutrition of the skin, perhaps four or five drops of Fowler's solution, well diluted, three times a day, after eating. Calcium glycerophosphate is also of value.

Locally, the nutrition of the skin may be improved by massage with the application of a moderate amount of some oily substance, of which the best perhaps is the official adeps lanæ hydrosus. In addition, such remedies as stimulate the scalp are of considerable importance. Among the different preparations recommended for stimulation of the scalp are various solutions containing tincture of cantharides, various cinchona or quinin preparations, sulphur either suspended in solution or in various strength of ointments, oil of turpentine combined with bland oils, or with alcohol, and solutions containing ammonia or chloroform.

When the hair commences to fall out after an attack of typhoid fever, the question of cutting the hair or shaving the scalp is frequently raised. It is, of course, of great importance, especially if the patient is a woman, to retain the hair if possible. Certainly, no physician should advise cutting off the hair when it is luxuriant, and before advising it the local applications already enumerated should be tried. In severe cases, in which these measures are not successful, it unquestionably is beneficial to cut the hair. In the majority of cases this will stop the falling of the hair, and ultimately, new hair will grow, and the new growth will be of equal thickness with the original. Occasionally, perhaps, it may be slightly coarser.

THE LOS ANGELES SESSION

THE SIXTY-SECOND ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION TO BE HELD AT LOS ANGELES
JUNE 27-30, 1911

OFFICIAL CALL

TO THE OFFICERS AND MEMBERS OF THE CONSTITUENT ASSOCIATIONS OF THE AMERICAN MEDICAL ASSOCIATION

The sixty-second annual session of the American Medical Association will be held on Tuesday, Wednesday, Thursday and Friday, June 27, 28, 29 and 30, 1911, at Los Angeles, Cal.

The House of Delegates will convene at 10 a. m., Monday, June 26, 1911.

REPRESENTATION

In accordance with the reapportionment of delegates made at the Atlantic City Session of 1909, state associations are entitled to delegates for 1911-12 as follows:

Alabama	3
Arizona	1
Arkansas	2
California	3
Colorado	2
Connecticut	2
Delaware	1
Dist. Columbia	1
Florida	1
Georgia	2
Hawaii	1
Idaho	1
Illinois	9
Indiana	4
Iowa	3
Canal Zone	1
Kansas	2
Kentucky	4
Louisiana	2
Maine	1
Maryland	2
Massachusetts	6
Michigan	3
Minnesota	2
Mississippi	2
Missouri	5
Montana	1
Nebraska	2
Nevada	1
New Hampshire	1
New Jersey	3
New Mexico	1
New York	11
North Carolina	2
North Dakota	1
Ohio	7
Oklahoma	2
Oregon	1
Pennsylvania	9
Philippine Is.	1
Rhode Island	1
South Carolina	2
South Dakota	1
Tennessee	3
Texas	5
Utah	1
Vermont	1
Virginia	3
Washington	2
W. Virginia	2
Wisconsin	3
Wyoming	1

The twelve sections of the American Medical Association, the Medical Department of the Army, the Medical Corps of the Navy and the Public Health and Marine-Hospital Service are entitled to one delegate each.

EXTRACTS FROM BY-LAWS

The following quotations from the By-Laws of the American Medical Association are given in this connection, for their bearing on the qualifications of delegates, their election and their time of service.

> "No one shall serve as a member of the House of Delegates who has not been a member of the American Medical Association for at least two years."
>
> "Delegates and alternates from constituent associations shall be elected for two years. Constituent associations entitled to more than one representative shall elect them so that one-half, as near as may be, shall be elected each year. Delegates and alternates elected by the sections, or delegates appointed from the United States Army, United States Navy and United States Public Health and Marine-Hospital Service, shall hold office for one year."—Chap. III, Secs. 1 and 2, By-Laws.

GENERAL MEETING

The General Meeting which constitutes the opening exercises of the scientific functions of the Association will be held at 10:30 a. m., Tuesday, June 27, 1911.

REGISTRATION DEPARTMENT

The Registration Department will be open from 8:30 a. m. until 5:30 p. m. on Monday, Tuesday, Wednesday and Thursday, June 26, 27, 28 and 29, and from 9 to 10 a. m. on Friday, June 30, 1911.

William H. Welch, Baltimore, President.
George H. Simmons, Chicago, Secretary.

LOS ANGELES

MEETING PLACE OF THE SIXTY-SECOND ANNUA SESSION OF THE AMERICAN MEDICAL ASSOCIATION

Only three times in the past has the American Medic Association held its meeting on the Pacific slope, the pa meeting places having been San Francisco in 1871, Portla in 1905 and San Francisco in 1894. This will be the fi time that a session has been held in Los Angeles.

For the better information of those who anticipate bei present at the Sixty-Second Session of the Association, description * of the city and its attractions, the surroundi points, coast resorts, etc., will be of interest.

Los Angeles, the City of the Angels

There are few cities in the United States that have had su a remarkable and varied career as Los Angeles, the chief ci of southern California, and the commercial metropolis of t southwest section of the United States. Few cities of t size, moreover, are so well known throughout the length a breadth of this country, as well as abroad. The rapid grow of Los Angeles, from an insignificant semi-Mexican town a metropolitan city, has been told and retold, until it familiar in a general way to millions of Americans, while t attractions offered by the city to health-seekers, pleasu seekers and tourists have been spread abroad by hundreds thousands of visitors who, after one trip to this section, usually anxious to return, frequently becoming perman residents.

Population

During the past thirty years Los Angeles has grown fr population of 11,000 in 1880, to 319,198 by the census of 19 There are three leading features that have contributed such growth. These are climate, soil and location. Any of these advantages would be sufficient to build up a la city, but taken together they insure the future of Los Ange as the metropolis of the southwest.

Name and Origin

The original name of the pueblo or town of Los Ange following the custom that then prevailed among the La races of giving religious names to places, was Nuestra Sen de Los Angeles, sometimes written Nuestra Senora la Re de Los Angeles—Our Lady, the Queen of the Angels. T has been shortened by the practical Yankees to Los Ange Los Angeles was founded on Sept. 4, 1781, by a small b of forty pablodores or colonists, who had been recruited in Mexican states of Sinaloa and Sonora, and brought here un command of a government officer, to found an agricult colony, for the purpose of raising produce for the soldiers the presidios. The first census of the little city, taken August, 1790, gave the total population as 141. They wer mixed class, composed of one European, seventy-two Span Americans, seven Indians, twenty-two mulattoes and thi nine Mestizos. As recently as 1831, fifty years after founding of the pueblo, the population was only 770. In Ja ary, 1847, the population was 1,500. It began to grow rap about 1880, and has continued until it has reached the fig quoted above.

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* Information for this article was furnished by George H. K M.D., secretary-general of the Los Angeles Committee of Arra ments.

Streets

Considering that twenty years ago it had not a single paved street, Los Angeles has made remarkable progress in street improvements. There are now over 450 miles of graded and graveled streets, 63 miles of paved streets and 320 miles of sewer. Los Angeles has a complete sewer system, including an outfall sewer to the ocean.

Lighting

At night Los Angeles presents a brilliant appearance. It was the first city in the United States entirely to abandon gas for street lighting, and to replace it by electricity, which was done twenty-five years ago, and it is now one of the best lighted cities in the Union. Many of the lamps are on high masts. Seen from one of the surrounding hills, the view of the city at night is most beautiful and striking. Broadway and Spring streets are now lighted their entire length by clusters of electric lights on handsome iron electroliers, 100 feet apart, paid for by the property owners, the city supplying the "juice." A similar lighting scheme has been installed on Main Street to Tenth, a distance of ten blocks, and also on Hill Street to Pico, a distance of thirteen blocks.

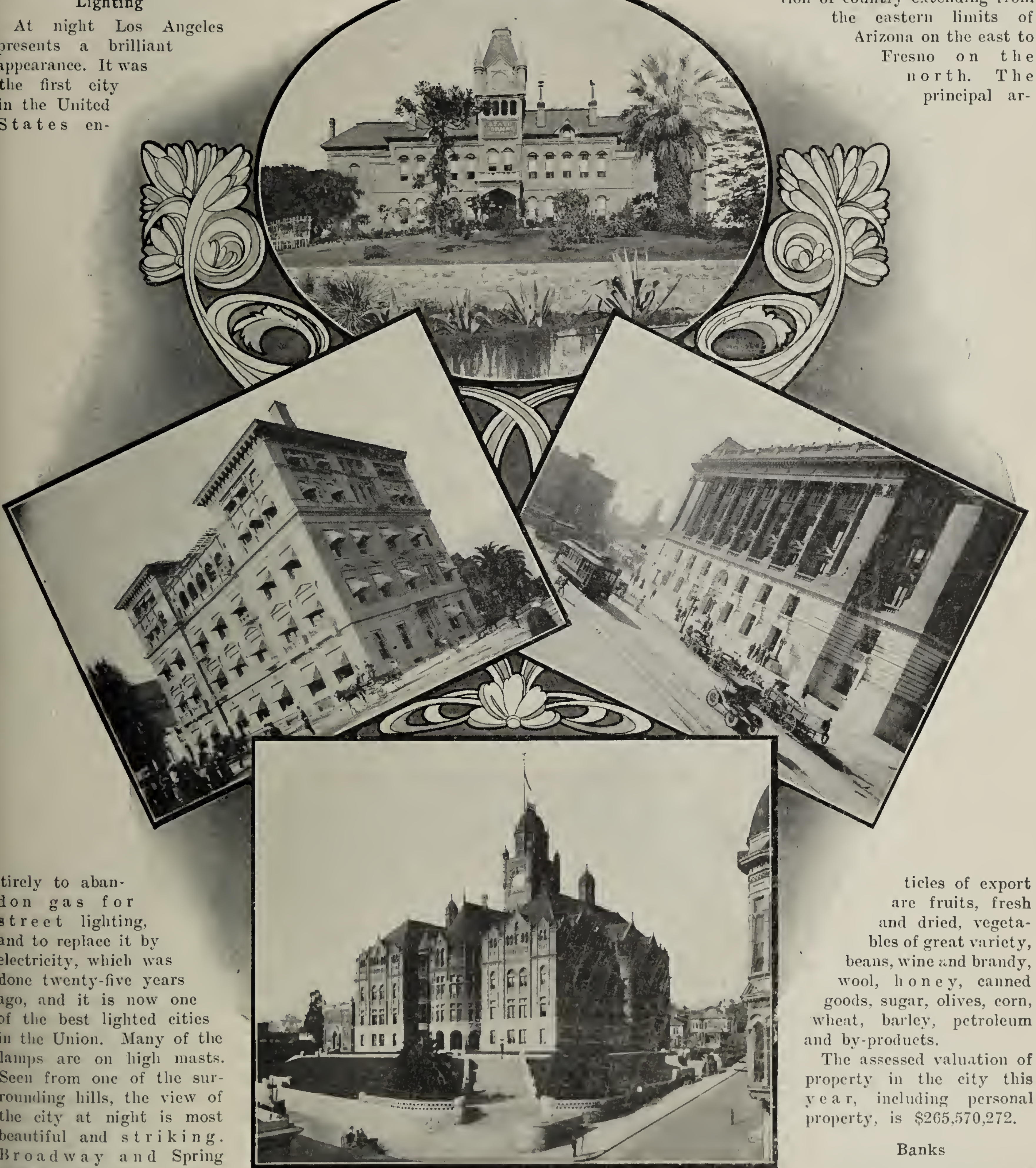

Fig. 1.—Public buildings in Los Angeles: State Normal School at the top, the Postoffice at the right, the California Club at the left, and the Court House at the bottom.

Business

That Los Angeles is and will always remain the commercial metropolis of southern California admits of no doubt. The city possesses the great natural advantage of being located on the shortest route, by the easiest grades, between the Pacific and the Atlantic oceans. The merchants of Los Angeles do a large business with a section of country extending from the eastern limits of Arizona on the east to Fresno on the north. The principal articles of export are fruits, fresh and dried, vegetables of great variety, beans, wine and brandy, wool, honey, canned goods, sugar, olives, corn, wheat, barley, petroleum and by-products.

The assessed valuation of property in the city this year, including personal property, is $265,570,272.

Banks

The banks of Los Angeles are noted throughout the country for their solid and prosperous condition, with deposits aggregating $102,000,000. The clearings of the Los Angeles city banks for the year 1908 amounted to $505,588,756. Los Angeles has been leading all cities in the United States in increase of bank clearings.

Railroads

Los Angeles possesses the advantage of four transcontinental lines. These are the "Sunset Route" of the Southern Pacific, by way of El Paso and New Orleans, the Ogden route of the same company, connecting with the Central and Union Pacific, the Sante Fe route, by way of Albuquerque, and the San Pedro, Los Angeles and Salt Lake Railroad, the operation of which began May 1, 1905, opening up a comparatively unknown section in southern Utah and Nevada, which is wonderfully rich in precious and useful minerals. The Southern Pacific has two lines between Los Angeles and San Francisco—one through the San Joaquin Valley and the other along the coast. The Santa Fe also connects with San Francisco via Barstow, in San Bernardino County. Altogether, there are over a dozen lines of railway centering in Los Angeles. The Pacific Coast Steamship Company runs vessels regularly from Los Angeles County ports to San Francisco on the north and San Diego on the south.

Harbor

Reference is made elsewhere to the work of the national government on a deep-water harbor at San Pedro. This work, when completed, will give a great impetus to foreign commerce, and Los Angeles should before long become an important point for Oriental trade.

When the Isthmian canal is constructed the coast of Los Angeles County will be on the direct course of steamships sailing from the Atlantic coast and from European to Asiatic ports. It will also furnish a greatly enlarged market for the horticultural products of this section.

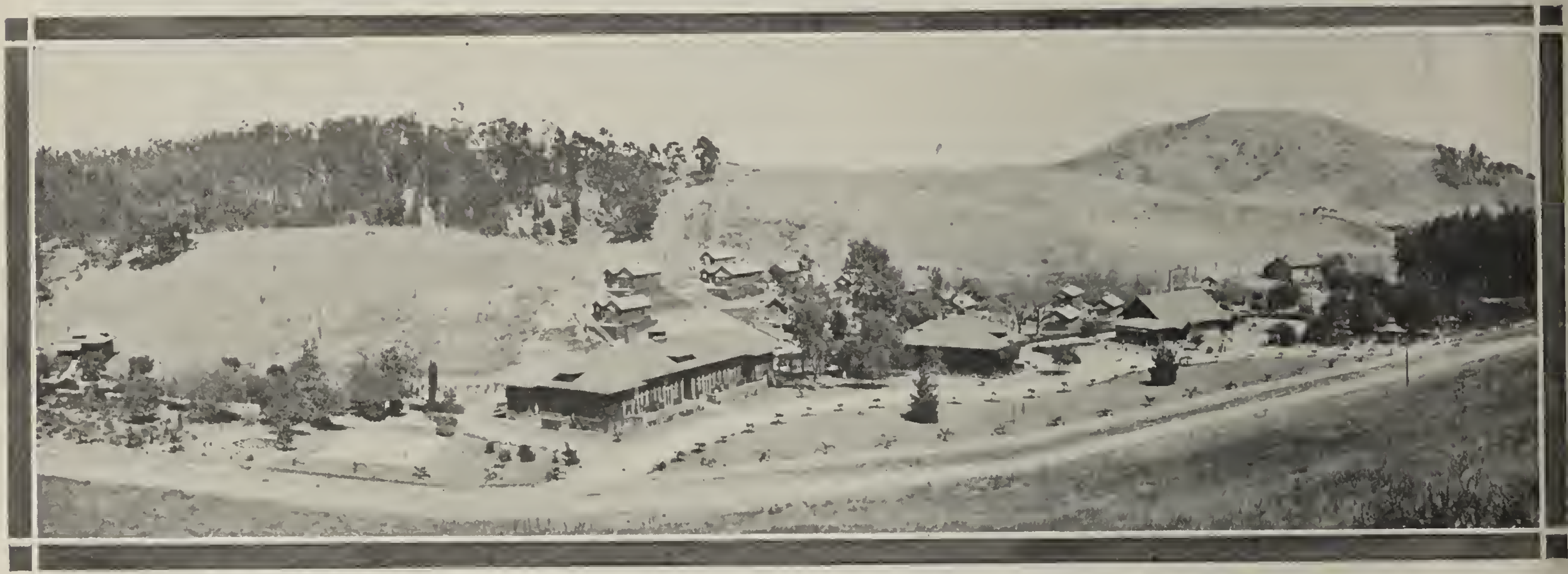

Fig. 2.—View of the Barlow Sanatorium for the Poor Tuberculous of the County of Los Angeles.

Street Railways

The street railway system of Los Angeles is excellent. There is probably no city of the size in the United States that has a more modern or a better equipped system. The total mileage of single track is over 300 miles, all electric. There are suburban electric lines to the ocean beach towns, Santa Monica, by two different routes; to Redondo, also by two routes; to Port Los Angeles, Long Beach, Newport, Huntington Beach, Naples and San Pedro, and to inland towns, Pasadena and Altadena, Alhambra, San Gabriel and Monrovia, Whittier, Azusa, Glendora, Sierra Madre, Covina, La Habra, Glendale and Santa Ana in the fruit country. The suburban electric railroads radiating from Los Angeles aggregate 767 miles of single track. They are almost all double track. Some have four tracks.

Building

For a dozen years past Los Angeles has been the scene of great activity in building operations. Scores of fine business blocks and hundreds of handsome residences have been built. The value of the building permits issued in Los Angeles during the year 1908 amounted to $10,000,000. The actual value of the buildings was much larger.

Parks

There are a dozen public parks within the city limits, aggregating over 600 acres, of which six are of considerable size. Westlake Park, 35 acres in area, on the Seventh Street car line, is one of the most popular open-air resorts, and is in the heart of a splendid residence section. It has a lake with boats, fine drives and extensive views from the adjacent hills. Eastlake Park, in East Los Angeles, covers 50 acres, and has been made attractive. Here also is a lake and the park nurseries and a menagerie. Prospect Park on Boyle Heights is a small but beautiful place, with many choice trees and shrubs. The oldest and best improved of the city parks, on Sixth Street, not far from the business center, is known as Central Park. The trees have attained a large growth. Hollenbeck Park is a tract of about 20 acres, on the east side of the river, on Boyle Heights. It has been improved with shade trees and a small lake. Echo Park, a beautifully improved tract in the northwestern part of the city, contains the largest body of water in Los Angeles.

Elysian Park, 500 acres in area, is a remnant of the thousands of acres of such land which the city formerly owned. It may safely be said that this tract offers the greatest possibilities for diversity of growths of any piece of ground within the limits of an American municipality. Much of the land is within the frostless belt. The views of mountains, valley and ocean, city and plain are grand in the extreme.

What has been said in regard to Elysian Park is true of Griffith Park, a tract of 3,000 acres, donated to the city. It is located about a mile north of the city limits, and embraces a varied assortment of mountain, foothill and valley scenery. A boulevard to connect the parks of Los Angeles has been commenced. The large tract of land in the southwest part of city, known as Exposition Park, was recently made part of Los Angeles. Plans have been prepared to make this a handsome and attractive park. A museum, an armory and a mammoth exposition hall are being erected.

Los Angeles has now seven regular public playgrounds and four vacation or summer centers. The cost of maintaining the playgrounds during the past year was $42,000. The public library maintains a branch at three of the regular playgrounds. During the winter months a series of free lectures and entertainments is given.

Homes

After all is said, the chief attraction of Los Angeles to new arrivals lies in its beautiful homes. The rare beauty of the grounds surrounding the attractive homes of Los Angeles, Pasadena and other Los Angeles County cities is a constant theme of admiration on the part of eastern visitors. Other cities may show greater business blocks, but when it comes to gardens, Los Angeles is *facile princeps*. The mildness of the climate permits the most delicate plants and trees to flourish in the open air all through the winter.

A great variety of architecture is found among the residences of Los Angeles. The picturesque and comfortable early nission style, which should have been more extensively idopted long ago by the American settlers, is at length coming nto vogue. Some of the more pretentious of these mission residences have spacious tiled courtyards, covered with glass, n which fountains splash, flowers bloom and birds warble.

Another comfortable and artistic style of residence that has ecome exceedingly popular during the past few years is the ungalow, adapted from India—a cottage of one or one and ne-half stories, with from three to seven rooms, built of lumber and shingled, with wide eaves.

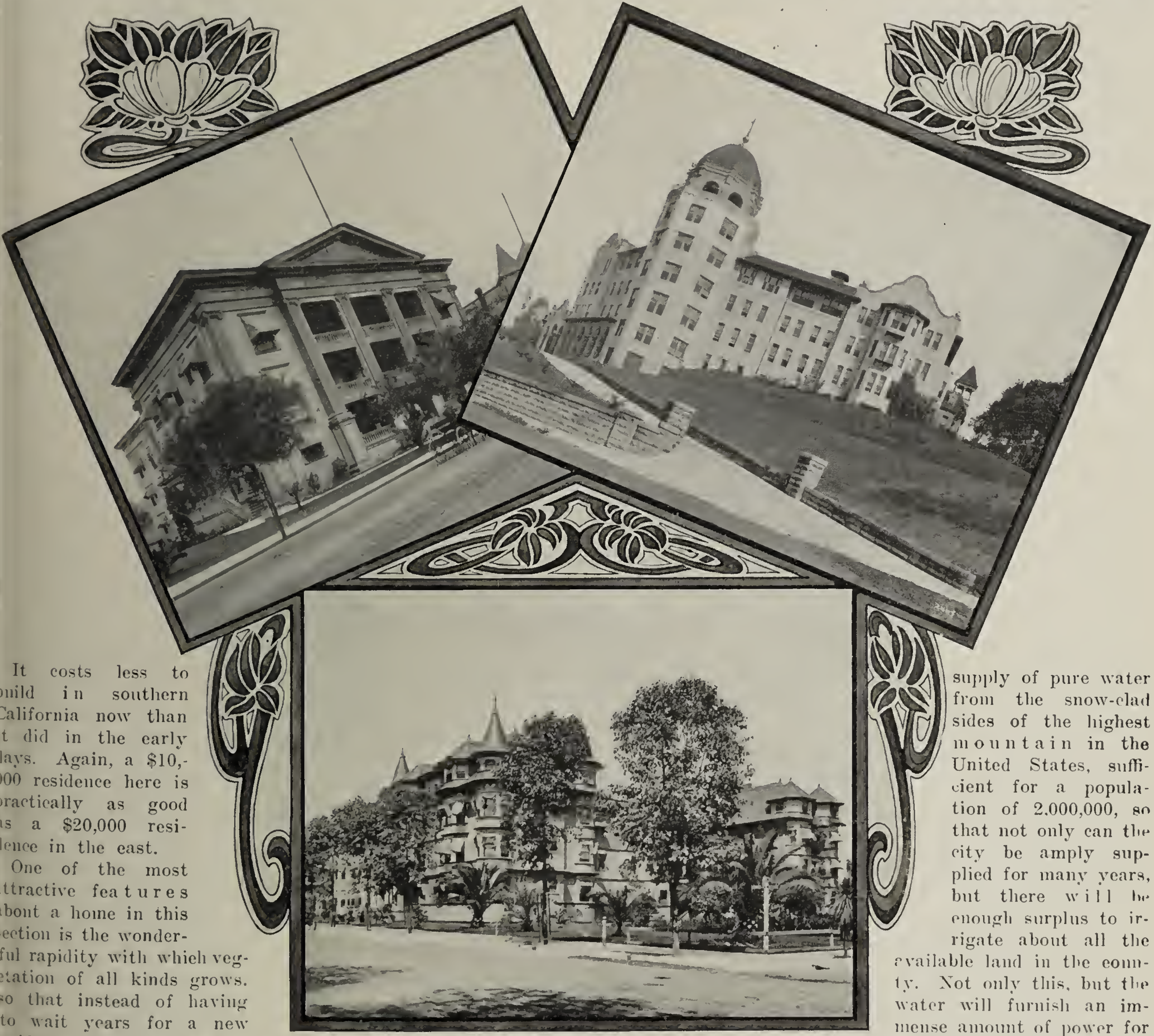

Fig. 3.—A group of Los Angeles hospitals: Pacific Hospital above to the left, the Sisters' Hospital at the right, and the California Hospital below.

It costs less to uild in southern California now than t did in the early lays. Again, a $10,00 residence here is ractically as good s a $20,000 residence in the east.

One of the most ttractive features bout a home in this ection is the wonderful rapidity with which vegetation of all kinds grows, so that instead of having to wait years for a new residence to assume a setled and homelike appearnce, the owner has to wait nly a few months until his house is surrounded with thrifty plants and climbing vines, while even some trees, such as the eucalyptus, grow to a respectable size within a year, and can be planted around the lot while less rapidly growing trees are attaining size, thus obviating the bare hard appearance attaching to new residences in less favored climates, however beautiful architecturally the building may be.

A Cosmopolitan Place

The population of Los Angeles is cosmopolitan. During the past twenty years it has received accessions to its population from every state in the Union and from almost every country in the world. For instance, a statement published in the Los Angeles *Times* showed that, a few years ago, of the 53,413 voters then on the register of Los Angeles County, only 5,244, or less than 10 per cent., were natives of California.

Water-Supply

The most notable thing that has ever happened to the city of Los Angeles is the acquirement by the city of water rights, extending for many miles along the banks of the Owens River, in Inyo County. This water will be brought to the city a distance of 220 miles, by means of an aqueduct and more than 20 miles of tunnels. Work is now rapidly progressing and will be completed in 1912. This will give Los Angeles a supply of pure water from the snow-clad sides of the highest mountain in the United States, sufficient for a population of 2,000,000, so that not only can the city be amply supplied for many years, but there will be enough surplus to irrigate about all the available land in the county. Not only this, but the water will furnish an immense amount of power for electric lighting and for power for factories. The cost of this great enterprise is estimated at $25,000,000. The bonds were carried by a vote of ten to one.

Climate

Decidedly the chief attraction of southern California is its climate. This is the feature that brings three-fourths of the eastern visitors to southern California.

Southern California—that is, the section we have indicated, especially including Los Angeles—has an "all-the-year-round" climate. This is a rare and inestimable feature, possessed by very few sections of the world. It is well to insist specially on this point, because very erroneous ideas prevail on the subject in the east, where it is generally believed, among those who have not spent an entire year with us, that the whole of California is a counterpart of hades during the summer—a veritable fiery furnace, as its name would indicate. Strangers have yet to learn that California includes within its limits almost as great a variety of climates as may be found in the world. Take, for instance, an August afternoon in San Francisco and at Indio in the Colorado desert. In the former place the inhabitants will be found attired in heavy overcoats and sealskin wraps, or seated around large open coal fires; at the latter a thin shirt and overalls are too warm for comfort. Los Angeles occupies a happy position between these two extremes, and our climate is shared, with slight variations, by the suburbs for 20 miles around, becoming somewhat moister and cooler toward the ocean, dryer and warmer toward the mountains.

The winter season is marked by the rains, which come between November and April. This is really the spring, when the grass and flowers mantle the hills. Usually the rain storms do not last more than two or three days at a time, with frequent spells of fine weather lasting ten days or more. The rainfall at Los Angeles for the past twenty-five years averaged about 16 inches, the lowest being 5.53 and the highest 38.13. Thunderstorms are very rarely experienced and cyclones are unknown. During the year an average of 316 days will be found with cloudless skies or when the sun is but partly obscured.

For a few days in summer the mercury rises high in Los Angeles, yet, owing to the dryness of the atmosphere, 100 degrees of heat is less oppressive than 80 degrees in New York. The cool trade wind from the Pacific is felt nearly all summer, and is the great modifier of the heat, rendering the hottest day bearable. In winter the modifying influences of a warm return current from the south are enjoyed, which, south of Point Conception, takes the place of the Pacific Gulf stream, the Japanese current Kuro-Shiwo, which sweeps down the Pacific Coast. This explains why the water at Santa Monica has a temperature of 61 degrees in January, while that of Newport on the Atlantic at the same time is 32 degrees.

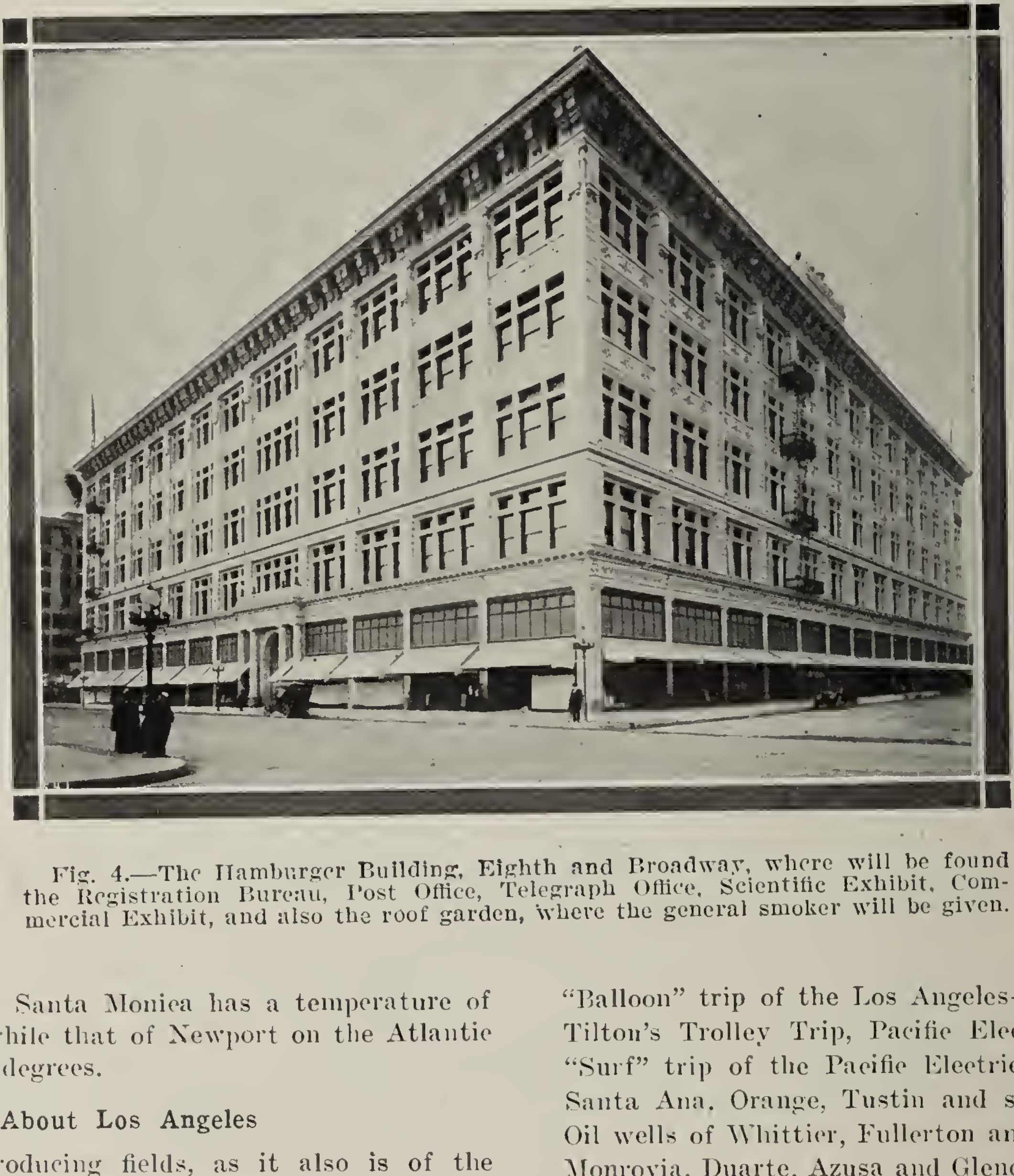

Fig. 4.—The Hamburger Building, Eighth and Broadway, where will be found the Registration Bureau, Post Office, Telegraph Office, Scientific Exhibit, Commercial Exhibit, and also the roof garden, where the general smoker will be given.

Facts About Los Angeles

Center of great oil-producing fields, as it also is of the great orange belt.

City will spend $10,000,000 on San Pedro harbor, already one of the best on the Pacific Coast.

Wholesale trade with the southwest, including Mexico, exceeds $300,000,000 a year and growing rapidly.

Shopping district compares favorably with any in the large eastern cities.

Local general colleges are the University of Southern California, Occidental College, Throop Polytechnic Institute (Pasadena), Pomona College (Pomona), and University of Redlands (Redlands).

Local medical colleges are two: the State University Medical Department (Los Angeles Branch), which gives instruction in the last two years only, the first two years' instruction being given at Berkeley; and the College of Physicians and Surgeons of the University of Southern California, which gives the regular four years' course.

Churches, all denominations, 225; public schools, 117; teachers employed, 1,440; school children census, 53,954; enrolment, 50,000; miscellaneous private schools and colleges, 40.

Public library contains 137,184 volumes, home circulation, 773,572. In addition, there are other libraries in the city with total of 103,643 volumes.

A resort both winter and summer, and one of the busiest and most enterprising cities in the United States, as it also is one of the most beautiful.

A dozen resorts on the Pacific Ocean may be reached within forty minutes by trolley and steam lines.

There are more than sixty cities and towns within two hours' ride of Los Angeles, having populations ranging from 500 to 40,000.

Short Trips from Los Angeles

The following comprise only a few of the trips that may be made from Los Angeles in a couple of days or less:

HALF-DAY TRIPS

Santa Monica, Ocean Park, Venice.

Terminal Island, Long Beach, San Pedro.

Redondo Beach, Hermosa, Manhattan, Playa del Rey.

Baldwin's Ranch, San Gabriel Mission.

Ostrich Farm, Soldiers' Home, Pasadena, Whittier, Hollywood and Cahuenga Valley.

Observation Car over the Los Angeles Railway.

ONE-DAY TRIPS

Mount Lowe; electric road and cable incline.

"Kite-Shaped Track" of the Santa Fe System, including stops at Riverside and Redlands.

"Inside Track" of the Southern Pacific, including stops at Pomona, Ontario, Redlands and Riverside.

"Orange Grove Trips" of the Salt Lake Route, with stop at Riverside and by trolley to Redlands.

"Balloon" trip of the Los Angeles-Pacific.

Tilton's Trolley Trip, Pacific Electric.

"Surf" trip of the Pacific Electric Railway.

Santa Ana, Orange, Tustin and surroundings.

Oil wells of Whittier, Fullerton and Puente.

Monrovia, Duarte, Azusa and Glendora (heart of San Gabriel Valley).

San Buenaventura, San Juan Capistrano Mission.

Santa Catalina Island, Santa Barbara.

TWO-DAY TRIPS

Wilson's Peak; railroad, electric, stage and burros; Elsinore

San Luis Rey Mission; railroad and stage.

San Diego, Coronado Beach and Mexican line.

San Diego may be reached by railroad or by the Pacifi Coast steamship line, by large, modern boats, sailing thre times a week from San Francisco, and touching at Los Angele Harbor. The distance is 120 miles and takes about seve hours.

THE SCIENTIFIC PROCEEDINGS

The Papers to Be Read at Los Angeles—The Preliminary Program and the Official Program

The following is a partial list of titles of papers to be read before the various sections. The order here is not necessarily the order which will be followed in the Official Program. This Official Program will be a pamphlet similar to those issued in the previous years, and will contain the final program of each section, with abstracts of the papers, lists of committees, programs of the General Meeting and of the meetings of the House of Delegates, lists of entertainments, map of Los Angeles, etc. To prevent misunderstandings and to protect the interests of advertisers, etc., it is here announced that this Official Program will contain no advertisements. It is copyrighted by the American Medical Association and will not be distributed before the session. A copy will be given to each member on registration.

SECTION ON PRACTICE OF MEDICINE

Chairman, Allen A. Jones, Buffalo, N. Y.; Secretary, Wilder Tileston, New Haven, Conn.

Clinical Phases of Arteriosclerosis (15 minutes).
Thomas D. Coleman, Augusta, Ga.

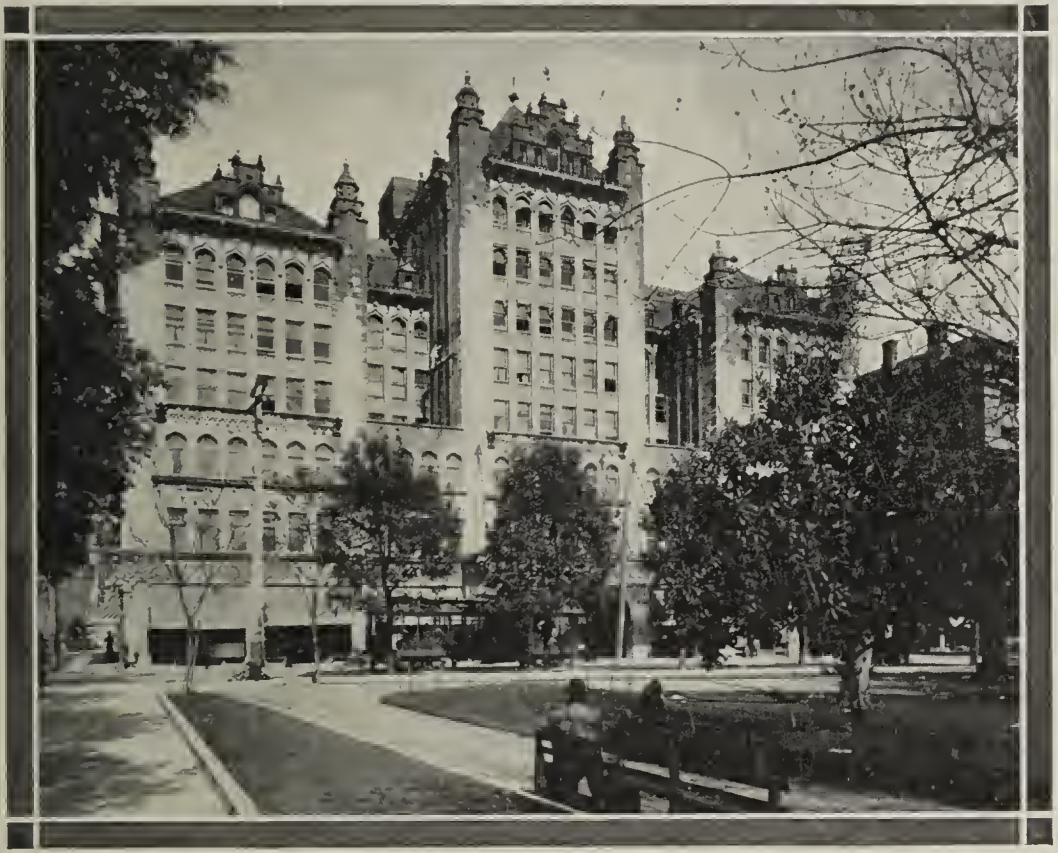

Fig. 5.—The Baptist Temple and Auditorium, Fifth and Olive Streets, where the general meeting will be held. Here also are halls for the meetings of the Section on Surgery, Section on Obstetrics and Diseases of Women, and Section on Preventive Medicine and Public Health.

Verruca Peruana or Carrion's Disease (15 minutes).
H. A. Giltner, U. S. Navy.

Epidemiology of Pneumonia (10 minutes).
C. M. Richter, San Francisco.

Successful Treatment of a Typhoid Bacillus-Carrier by Vaccination (10 minutes).
Walter Brem and F. C. Watson, Cristobal, Canal Zone.

Causation and Treatment of Fever in Tuberculosis (10 minutes).
F. M. Pottenger, Monrovia, Cal.

Streptothrix (Actinomycosis) of the Lungs (15 minutes).
Norman Bridge, Los Angeles.

Hemorrhagic Erosions of the Stomach (10 minutes).
N. W. Jones, Portland, Ore.

Immuno-Diagnostics in Internal Medicine (15 minutes).
W. J. Butler, Chicago.

The Leukocytology of Typhoid and Paratyphoid Fevers (10 minutes).
J. F. Hultgen, Chicago.

Effects on Secondary Anemia by Hypodermic Injections (10 minutes).
W. Jarvis Barlow, Los Angeles.

Reserve Renal Capacity in Chronic Interstitial Nephritis (10 minutes).
Edward F. Wells, Chicago.

Pathologic Findings in Hypertension (10 minutes).
Roger I. Lee, Boston.

Myatonia Congenita (Oppenheim); Report of a Case with Autopsy (15 minutes).
W. T. Councilman and C. H. Dunn, Boston.

New Clinical Values in the Treatment of the Gastric Neuroses (15 minutes).
Charles L. Greene, St. Paul, Minn.

Infantilism with Disease of the Pituitary Gland (15 minutes).
A. W. Hewlett, Ann Arbor, Mich.

Importance of Quantitative Regulation of Diet (15 minutes).
H. D. Arnold and R. C. Larrabee, Boston.

Pleurisy and Empyema in Pneumonia (10 minutes).
J. M. Anders, Philadelphia.

Value of So-Called Digestants in Preparation of Materials to be Examined for Acid-Fast Organisms (particularly Tubercle Bacilli), with Clinical Results of Two Years' Study of "Antiformin" (10 minutes).
Frank Smithies, Ann Arbor, Mich.

Experimental and Clinical Studies of a Modified Vaccine Treatment of Pneumococcus Infections in Animals and Man (20 minutes).
S. P. Beebe, New York, and P. K. Brown, San Francisco.

SYMPOSIUM ON SYPHILIS

Laboratory Diagnosis of Syphilis (15 minutes).
L. S. Schmitt, San Francisco.

Visceral Syphilis (20 minutes). Frank Billings, Chicago.

Value of the Wassermann Reaction and of Salvarsan (15 minutes).
Albert Keidel, Batimore.

Disadvantages Incident to the Administration of Salvarsan (10 minutes).
D. W. Montgomery, San Francisco.

Adequate Treatment of Syphilis (15 minutes).
W. T. Wootton, Hot Springs, Ark.

Salvarsan (10 minutes). E. G. Ballenger, Atlanta, Ga.

Treatment of Diabetes (15 minutes).
A. J. Hodgson, Waukesha, Wis.

Early Diagnosis of Hyperthyroidism (15 minutes).
John A. Witherspoon, Nashville, Tenn.

Bubonic Plague with Special Reference to that of Ground Squirrel Origin (15 minutes).
G. W. McCoy, San Francisco

Treatment of Intestinal Amebiasis (15 minutes).
W. E. Musgrave, Manila, Philippine Islands.

Experimental Work on Intestinal Auto-Intoxication (20 minminutes).
J. W. D. Maury, Rochester, Minn.

Some Obscure Conditions of the Digestive Tract as Studied by the Roentgen Ray (20 minutes).
G. R. Satterlee and L. T. LeWald, New York.

Availability of Roentgen Rays in the Clinical Study of the Pancreas (10 minutes).
A. W. Crane, Kalamazoo, Mich.

Oration in Medicine: A Clinical Study of Disturbances in Rate and Rhythm of Respiration.
C. F. Hoover, Cleveland, Ohio.

Relation of the Symptomatology and Pathology to Operative Mortality in Exophthalmic Goiter (10 minutes).
H. S. Plummer, Rochester, Minn.

Mobility of the Heart. Dudley Fulton, Los Angeles.

SYMPOSIUM ON POLIOMYELITIS

Joint Meeting With the Section on Diseases of Children

Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylvania (20 minutes).
Samuel G. Dixon, Harrisburg, Pa., and H. T. Karsner, Philadelphia.

Recent History and Etiology of Infantile Paralysis (20 minutes). R. W. Lovett and M. W. Richardson, Boston.

Pathology, Symptomatology, Diagnosis, Prognosis, Prophylaxis and Treatment of Infantile Paralysis (20 minutes).
R. W. Lovett and M. W. Richardson, Boston.

Infantile Paralysis as Observed in Massachusetts, 1907-1910 (20 minutes).
R. W. Lovett and M. W. Richardson, Boston.

SECTION ON OBSTETRICS AND DISEASES OF WOMEN

Chairman, H. G. Wetherill, Denver; Secretary, C. Jeff Miller, New Orleans

Chairman's Address: Retrospection and Introspection: Our Opportunities and Obligations.
H. G. Wetherill, Denver.

Carcinoma of the Clitoris and Report of Case.
Charles D. Lockwood, Pasadena, Cal.

Torsion of a Subserous Pedunculated Fibroid Complicating Pregnancy at Four and One-Half Months. Operation: Recovery with Delivery at Term.
E. M. Lazard, Los Angeles.

Adiposity of the Mammary Glands.
J. R. Guthrie, Dubuque, Iowa, and Henry Albert, Iowa City, Iowa.

The Exciting Causes, Means of Prevention and Early Treatment of Cancer of the Uterus.
A. E. Benjamin, Minneapolis.

Hemorrhagic Degeneration in Myomas.
Arthur E. Hertzler, Kansas City, Mo.

Introduction and Development of Antiseptic Surgery in America.
Henry O. Marcy, Boston.

Parametritis Posterior and its Associated Reflex Disturbances.
Fred J. Taussig, St. Louis.

Prevention of Postoperative Gynecologic Psychoses.
H. P. Cole, Mobile, Ala.

Value of Pyelography.
W. F. Braasch, Rochester, Minn.

Postoperative Urinary Retention and Cystitis.
J. H. Jacobson and J. G. Keller, Toledo, O.

Pericystitis.
M. L. Harris, Chicago.

Removal of Ureteral Calculi by Cystoscopic Methods.
Bransford Lewis, St. Louis.

Pathologic Kinks and Adhesions in the Terminal Portion of the Ileum.
Franklin H. Martin, Chicago.

Treatment of 140 Consecutive Cases of Uterine Myoma
Walter B. Dorsett, St. Louis.

Surgical Treatment of Ptosis of Abdominal Organs by Hammock Operation.
R. C. Coffey, Portland, Ore.

Essential Points in Round-Ligament Surgery.
Channing W. Barrett, Chicago.

Use of the Pessary in Retroversion of the Uterus and the Mechanism of its Support.
J. Riddle Goffe, New York.

Utero-Vaginal Prolapse in Elderly Women.
George B. Somers, San Francisco.

Relation of Appendicitis to Adnexal Inflammation of the Right Side.
H. J. Boldt, New York.

Special Considerations in the Surgical Treatment of the Female Pelvic Organs.
Henry Parker Newman, San Diego, Cal.

Proper Operative Period and Methods of Drainage in Pelvic Infections.
L. G. Bowers, Dayton, O.

The Employment in Abdominal Surgery of Two Rubber Drainage Tubes with a Single Stab Wound Exit, Instead of a Single Tube with Exit by Incision or Otherwise Wherever Drainage is Desired.
Philander A. Harris, Patterson, N. J.

Postoperative Complications.
F. F. Simpson, Pittsburg, Pa.

Two Years' Experience with Vaccine in Obstetric and Gynecologic Infections.
John O. Polak, Brooklyn, N. Y.

Primary Carcinoma of the Fallopian Tube.
E. E. Montgomery, Philadelphia.

Prolapse of the Gravid Uterus.
Palmer Findlay, Omaha, Nebr.

Pernicious Vomiting of Pregnancy.
C. B. Ingraham, Denver.

Tuberculosis and Pregnancy.
George C. Mosher, Kansas City, Mo.

A Study of Cholecystitis and Cholelithiasis in Their Relation to Pregnancy.
Laura H. Branson, Iowa City, Ia.

Axis Traction Forceps.
J. P. McMahon, Milwaukee, Wis.

Cesarean Section: Indications and Technic: Report of seventeen cases.
T. Mitchell Burns, Denver.

SECTION ON SURGERY

Chairman, George W. Crile, Cleveland; Secretary, John T. Bottomley, Boston

Brachial Palsy.
Charles H. Frazier, Philadelphia.

Results of Operations on the Gasserian Ganglion for Trigeminal Neuralgia.
Harvey Cushing, Baltimore.

The Advantages of the So-Called Decortication of the Lung for Old Empyemata.
Fred B. Lund, Boston.

The Precancerous Lesions in One Thousand Skin Cancers.
Joseph C. Bloodgood, Baltimore.

Pylorectomy or Excision of the Ulcer-Bearing Area.
William L. Rodman, Philadelphia.

A Plea for More Direct Methods in Dealing with Gastric Ulcers.
R. C. Coffey, Portland, Oregon.

Oration on Surgery: Ascending and Hematogenous Infections of the Kidney.
George E. Brewer, New York.

Treatment of Localized Appendicular Abscess.
Van Buren Knott, Sioux City, Iowa.

Subphrenic Abscess, the Result of Acute Infection of the Appendix.
George G. Ross, Philadelphia.

Diabetes, a Surgical Disease.
John B. Deaver, Philadelphia.

The End-Results of Gall-Bladder Surgery.
E. MacDowell Stanton, Schenectady, N. Y.

Typhoid Infection of the Biliary Tract.
Charles N. Smith, Toledo, Ohio.

Factors Hostile to Success in Gall-Bladder Surgery.
B. B. Davis, Omaha.

The Pathology and Treatment of Tuberculosis of the Long Bones.
Howard Stiles, Edinburgh, Scotland.

The Three Main Rules in the Treatment of Adult Joint Tuberculosis.
Leonard W. Ely, Denver.

Gonorrheal Osteoperiosteitis of the Long Bones.
Stephen H. Watts, Charlottesville, Va.

Direct Experimental Transplantation of Tendons and Fascia.
Dean D. Lewis and Carl B. Davis, Chicago.

Experimentally Produced Intestinal Obstruction.
Fred T. Murphy and Beth Vincent, Boston.

Study of Five Hundred Cases of Prostatectomy.
Edward S. Judd, Rochester, Minn.

Sensibility of the Peritoneum and Abdominal Viscera.
James F. Mitchell, Washington, D. C.

Several Unusual Joint Cases, Their Treatment and the Results.
George W. Guthrie, Wilkes-Barre, Pa.

Spinal Fractures.
A. F. Jonas, Omaha.

Thirty Years' Experience with Fractures at Minnequa Hospital.
R. W. Corwin, Pueblo, Colo.

Pinning Fragments of Bone Beneath the Fluoroscopic Screen; A Simple Procedure to Aid the Splint in Selected Cases.
Robert T. Morris, New York.

The Open Treatment of Fractures.
Edward Martin, Philadelphia.

Clinical and Experimental Work to Determine the Value of Lane's Plate in Treatment of Fractures.
Willard Bartlett and M. R. Hewitt, St. Louis.

New Methods for Closing Skin Wounds.
E. Wyllys Andrews, Chicago.

Lingual, Sublingual and Other Aberrant Thyroids.
Charles H. Mayo, Rochester, Minn.

The Theory for the Pathologic Physiology Involved in Diseases of the Thyroid and Its Therapeutic Application.
John Rogers, New York.

Factors Influencing the Safety of Surgical Treatment for Goiter.
M. B. Tinker, Ithaca, N. Y.

Lymphangiomata of the Omentum and Omental Cysts.
Stanley Stillman, San Francisco.

Tumors of the Mesentery.
H. A. Royster, Raleigh, N. C.

Rhinoplasty; a Suggestion for Preventing Contracture of the Nares After Operation.
E. Denegre Martin, New Orleans.

A New Technic for Rectopexy for Rectal Prolapse.
L. L. McArthur, Chicago.

Surgery of the First Portion of the Left Subclavian Artery, with Report of a Case of Successful Ligation.
James M. Neff, Spokane, Wash.

A Plea for Larger Incision and More Thorough Examinations in Abdominal Surgery.
James E. Moore, Minneapolis.

Membranous Pericolitis.
Jabez N. Jackson, Kansas City, Mo.

The Surgical Treatment of Megacolon.
Wallace I. Terry, San Francisco.

Wooden Phlegmon of the Neck (Reclus).
Charles A. Powers, Denver.

SECTION ON OPHTHALMOLOGY

Chairman, Albert E. Bulson, Jr., Fort Wayne, Ind.; Secretary, Edgar S. Thomson, New York City

Chairman's Address.
Albert E. Bulson, Jr., Fort Wayne, Ind.

Healing of Iridectomy Wounds and Its Influence on Glaucoma.
Adolph Alt, St. Louis.

Significance of Non-Syphilitic Retinitis, Based on a Study of the Subsequent History of 187 Cases.
F. T. Rogers, Providence, R. I.

Treatment of Purulent Ophthalmia and Simple Means for Its Prevention in Infants.
Mark D. Stevenson, Akron, O.

Further Report on Corneal Regeneration.
M. Wiener, St. Louis.

Immediate Removal of Traumatic Cataracts.
J. A. Donovan, Butte, Mont.

Medical Treatment of the Patient Before or After Cataract Extraction. D. W. Greene, Dayton, O.

A New Operation for Extraction of Cataract in Its Capsule. Vard H. Hulen, Houston, Tex.

Intrusion of the Amnion as a Possible Cause of Congenital Cataract. Otto Landman, Toledo, O.

Intra-Ocular Neoplasms, With Report of Five Cases. F. Park Lewis, Buffalo, N. Y.

Another Case of Chloroma Arthur J. Bedell, Albany, N. Y.

Distortion of the Visual Fields Observed in a Series of 200 Cases of Brain Tumor. Harvey Cushing and G. J. Heuer, Baltimore.

Subhyaloid and Vitreous Hemorrhages. Hiram Woods, Baltimore.

Report of the Committee on Collective Investigation Concerning the Ocular Muscles. Lucein Howe, Buffalo, N. Y.; Howard F. Hansell and Theodore B. Schneideman, Philadelphia.

The Optometry Question and the Larger Issue Behind it. Edward Jackson, Denver.

Shortening of an Ocular Muscle by Tucking. H. W. Woodruff, Joilet, Ill.

A New Method in Operating for Ectropion. A. Edward Davis, New York.

Fig. 6.—A group of park views, including one of the famous sunken gardens.

Report of Nine Cases of Brain Tumor. Sherman Voorhees, Elmira, N. Y.

Tuberculous Interstitial Keratitis, with Special Reference to Treatment with Tuberculin. R. S. Lamb, Washington, D. C.

Use of Tuberculin in Corneal Lesions in General, and Phlyctenular Keratitis in Particular. R. J. Tivnen, Chicago.

Tuberculous Cyclitis Occurring in a Previously Injured Eye, Simulating Intra-Ocular Tumor. Oscar Dodd and Francis Lane, Chicago.

The Venous Pulse and Blanching of Retinal Vessels, Induced by Making Pressure on Eyeball, an Index to General Blood-Pressure. Melville Black, Denver.

Fundus Lesions Associated with Alterations in the Composition of the Blood. James Bordley, Jr., Baltimore.

Plastic Surgery of the Eyelids, Using the Wolffe Graft. F. Phinizy Calhoun, Atlanta, Ga.

Ocular Discomfort, the Result of Near Use of the Eyes Under Modern Artificial Illumination. Nelson M. Black, Milwaukee, Wis.

Changes Occurring in the Refraction of Corrected Ametropic Eyes. William Zentmayer, Philadelphia.

Refraction Changes in Diabetes. Cassius D. Westcott and John B. Ellis, Chicago.

The Psychologic Aspect of Refraction. S. L. Ledbetter, Birmingham, Ala.

Nystagmus. E. R. Lewis, Dubuque, Ia.

The Ocular Conjugate and Fusion Brain Centers; Only Two Axes of Ocular Rotations, and Only Two Planes of Reference. G. C. Savage, Nashville, Tenn.

SECTION ON LARYNGOLOGY AND OTOLOGY

Chairman, Dunbar Roy, Atlanta, Ga.; Secretary, George E. Shambaugh, Chicago

Chairman's Address. Dunbar Roy, Atlanta, Ga.

Treatment of Tuberculosis by Sanatorium Method in the Southwest. E. S. Bullock, Silver City, N. M.

Histologic Examination of the Faucial Tonsils With Reference to Tuberculosis. E. C. Sewall, San Francisco.

Laryngeal Growths. J. McCoy, New York.

A Nasal Rubber Tampon. Mark D. Stevenson, Akron, O.

Symposium on Diseases of the Frontal Sinus

Pathologic Conditions Involving the Frontal Sinus. B. R. Shurly, Detroit.

Conditions in the Frontal Sinus Which Require an External Operation. C. M. Cobb, Boston.

Indications for Intranasal Operations for the Relief of Frontal Sinus Disease. Harmon Smith, New York.

Report of Twenty-Eight Killian Operations. Henry Horn, San Francisco.

Recognition of Serous Labyrinthitis. J. R. Fletcher, Chicago.

Report of a Case of Primary Infection of the Sigmoid Sinus and Jugular Vein. Sherman Voorhees, Elmira, N. Y.

Fig. 7.—View of Glenwood Mission Inn, Riverside, with pleasure parties just about to drive away.

Symposium on Relations of Nasal Accessory Sinuses and Diseases of the Eye

Anatomic Conditions which Have Practical Bearing on Relations Between Diseases of Nasal Accessory Sinuses and Diseases of Eye. W. E. Sauer, St. Louis.

Eye Complications Arising from Diseases of the Nasal Accessory Sinuses. A. H. Andrews, Chicago.

Operative Treatment of Suppurative Sinus Disease Producing Orbital Complications. J. H. Bryan, Washington, D. C.

Improved Technic for Skin Grafting in the Radical Mastoid Operation. C. F. Welty, San Francisco.

Diagnosis of Retrolabyrinthine Affections. H. B. Graham, San Francisco.

Symposium on Relations Between Middle-Ear Diseases and Conditions in the Nose and Throat

Influence of Climate on Middle-Ear Diseases. J. J. Pattee, Pueblo, Colo.

How Far May Conditions in the Nose and Throat be Responsible for Middle-Ear Diseases? W. R. Murray, Minneapolis.

What Improvement Can Rationally be Expected from Treatment Applied to the Nose and Throat in Cases of Middle-Ear Deafness? J. F. Barnhill, Indianapolis.

SECTION ON NERVOUS AND MENTAL DISEASES

Chairman, W. A. Jones, Minneapolis; Secretary, E. E. Southard, Cambridge, Mass.

Chairman's Address: The Sensory Pathway. W. A. Jones, Minneapolis.

Arthritic Muscular Atrophy, Clinical and Experimental. Charles Lewis Allen, Los Angesles.

A Year's Experience with Salvarsan in Treatment of Chronic Nervous Diseases Consecutive to Syphilis. Joseph Collins, New York.

Nervous and Mental Diseases Following Castration in Women: A Statistical Study of 237 Cases. Alfred Gordon, Philadelphia.

Recognition of the Preneurasthenic and Pre-Insane Condition in the Young, with Reference to Prevention: A Study for the General Practitioner. Ross Moore, Los Angeles.

Auto-Intoxication as a Cause of Mental Disease. L. Vernon Briggs, Boston.

A Hitherto Undescribed Symptom in Paralysis Agitans: The Cog-Wheel Movement of the Extremities. Harold N. Moyer, Chicago.

Cerebellopontine Tumors, Their Treatment and Possible Complications in Their Diagnosis. A. T. Bristow, Brooklyn, N. Y.

The Training Camp Idea in Treatment of Neurasthenic and Allied Functional Diseases. T. J. Orbison, Pasadena.

Surgery of the Nervous System. Harvey Cushing, Baltimore.

Parietal Lobe Lesions in Cortical Disease. E. E. Southard, Cambridge, Mass.

The Peripheral Nerves in Experimental Poliomyelitis. E. W. Mooers, Boston.

Voracity in Mental Diseases. J. Ralph Jacoby and Edward Livingston Hunt, New York.

Traumatic Nervous Diseases, with Special Considerations of the Prognosis. T. Diller, Pittsburg, Pa.

The Study of Tumors of the Acoustic Nerve. J. Ramsay Hunt, New York.

Tuberculous Meningitis: A Pathologic Study. John H. W. Rhein, Philadelphia.

Differential Points in Tabes Dorsalis and General Paresis. Edward Fisher, New York.

Chorea: A Study. H. A. Cotton, Trenton, N. J.

The Relationship of Drug Addicton to Neurology and Psychiatry. C. C. Wholey, Pittsburg, Pa.

State Cure of Drug and Alcoholic Habitués. Daniel Crosby, Oakland, Cal.

Distinct Neuropsychoses Common to All Cases of Inebriety and Alcoholism. T. D. Crothers, New Haven, Conn.

Recent Advances in Treatment of Narcotic Drug Addictions. C. L. Case, Oakland, Cal.

Chronic Alcoholism: What Can and What Cannot be Accomplished by Treatment. George E. Pettey, Memphis, Tenn.

Importance of Determining the Cause of Inebriety. Benjamin T. Burley, Worcester, Mass.

Neuropathologic Studies. G. Y. Rusk, Berkeley, Cal.

Defects of the Mouth and Throat and Their Relations to Cerebral Disorders. George V. I. Brown, Milwaukee, Wis.

Experimental Poliomyelitis. Drs. Lucas and Osgood, Boston.

Spinal Pachymeningitis. James J. Putnam, Boston.

Tabetiform Degenerations in a Case of Compression of the Spinal Cord by Aortic Aneurysm. J. B. Ayer, Boston.

The Diagnosis and Prognosis of the Unfit. Louise Patterson, Vineland, N. J.

SECTION ON PREVENTIVE MEDICINE AND PUBLIC HEALTH

Chairman, W. A. Evans, Chicago; Secretary, C. Hampson Jones, Baltimore

Ventilation of Cars. T. R. Crowder, J. A. Denny and C. A. Schroyer, Chicago.

Prevention of Ophthalmia Neonatorum. F. Park Lewis, Buffalo, N. Y.

Control of Venereal Disease by a Municipality. Guy L. Kiefer, Detroit, Mich., and George M. Kober, Washington, D. C.

Public Education. J. N. Hurty, Indianapolis; W. F. Snow, Stanford University, California, and Oscar Dowling, Shreveport, La.

Typhoid Fever. L. L. Lumsden, Washington, D. C.; W. C. Rucker, P. H. & M.-H. S., and A. W. Freeman, Richmond, Va.

Small-Pox. H. M. Bracken, St. Paul, Minn.

Control of Tuberculosis, Laws, etc., for Resort Communities.
G. W. Holden, Montclair, Colo.; W. J. Barlow, Los Angeles, Cal., and W. H. Anderson, El Paso, Texas.

Laws for Small Communities. B. F. Royer, Harrisburg, Pa.

Disinfectants. W. E. Post and E. K. Nicoll, Chicago.

Controlling Hydrophobia in the Human Subject.
A. M. Stimson, Washington, D. C.

Methods for Controlling Diphtheria.
C. Hampson Jones, Baltimore; M. L. Price, Baltimore, and W. C. Woodward, Washington, D. C.

Control of Bovine Tuberculosis in Relation to Milk Supply.
M. P. Ravenel, Madison, Wis.

Pasteurization. P. G. Heinemann and E. O. Jordan, Chicago.

Plague Control Methods. Rupert Blue, San Francisco.

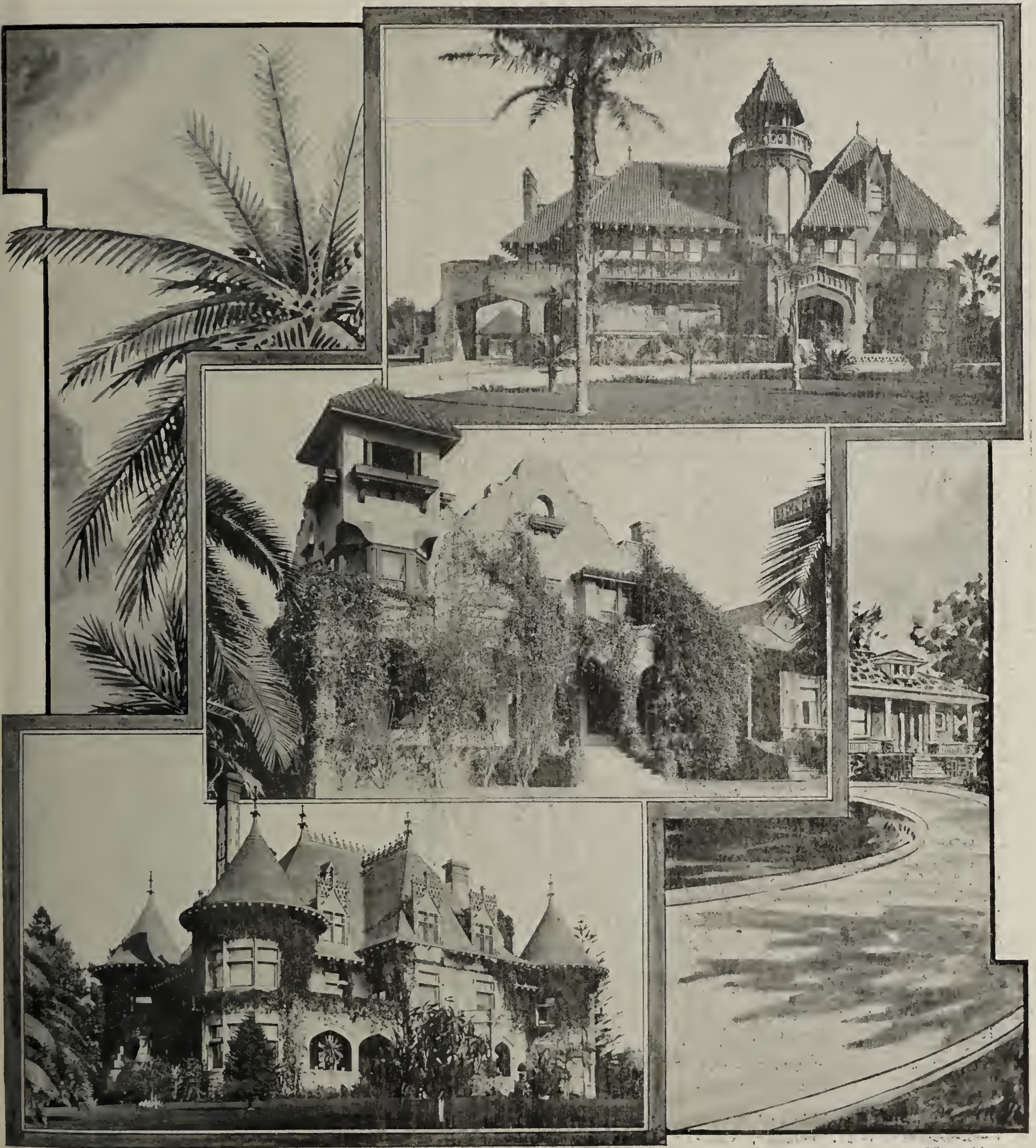

Fig. 8.—A group of residences. Note the characteristic California foliage.

Controlling Privy Vaults and Night Soil in a City. Clyde E. Ford, Cleveland, and R. G. Broderick, San Francisco.

Educating a City in Public Health.
Raymond Russ, San Francisco; D. L. Edsall, Philadelphia, and E. R. Pritchard, Chicago.

Houses for Working Men.
C. C. Browning, Monrovia, Cal., G. H. Kress, Los Angeles, Cal., and C. B. Ball, Chicago.

Purification of Sewage. Rudolph Hering, New York, and Arthur Lederer, Chicago.

Methods of Controlling a Milk Supply in Cities with a Railroad Haul. E. J. Lederle, New York.

Prompt Marketing of Milk. L. S. Mace, San Francisco.

Physical Examination of School Children.
George L. Leslie, E. C. Beach, Los Angeles, and E. B. Hoag, Pasadena, Cal.

Control of Oysters.
H. W. Wiley and Charles Wardell Stiles, Washington, D. C.
Methods for Control of Tuberculosis in a Resort State.
W. S. Godfrey and T. Y. Hull, San Antonio, Texas.
Pellagra. C. F. Williams, Columbia, S. C.; W. S. Rankin, Raleigh, N. C., and H. F. Harris, Atlanta, Ga.
Legal Principles of Police Power.
W. A. Evans, Chicago; H. B. Hemenway, Evanston, Ill., and Hon. Harry Olson, Chicago.
Efficiency Methods in Public Health Work. G. Koehler, Chicago.
Control of Contagion Through Doctors and Nurses.
Heman Spalding, J. D. Rawlings and H. Cohen, Chicago.

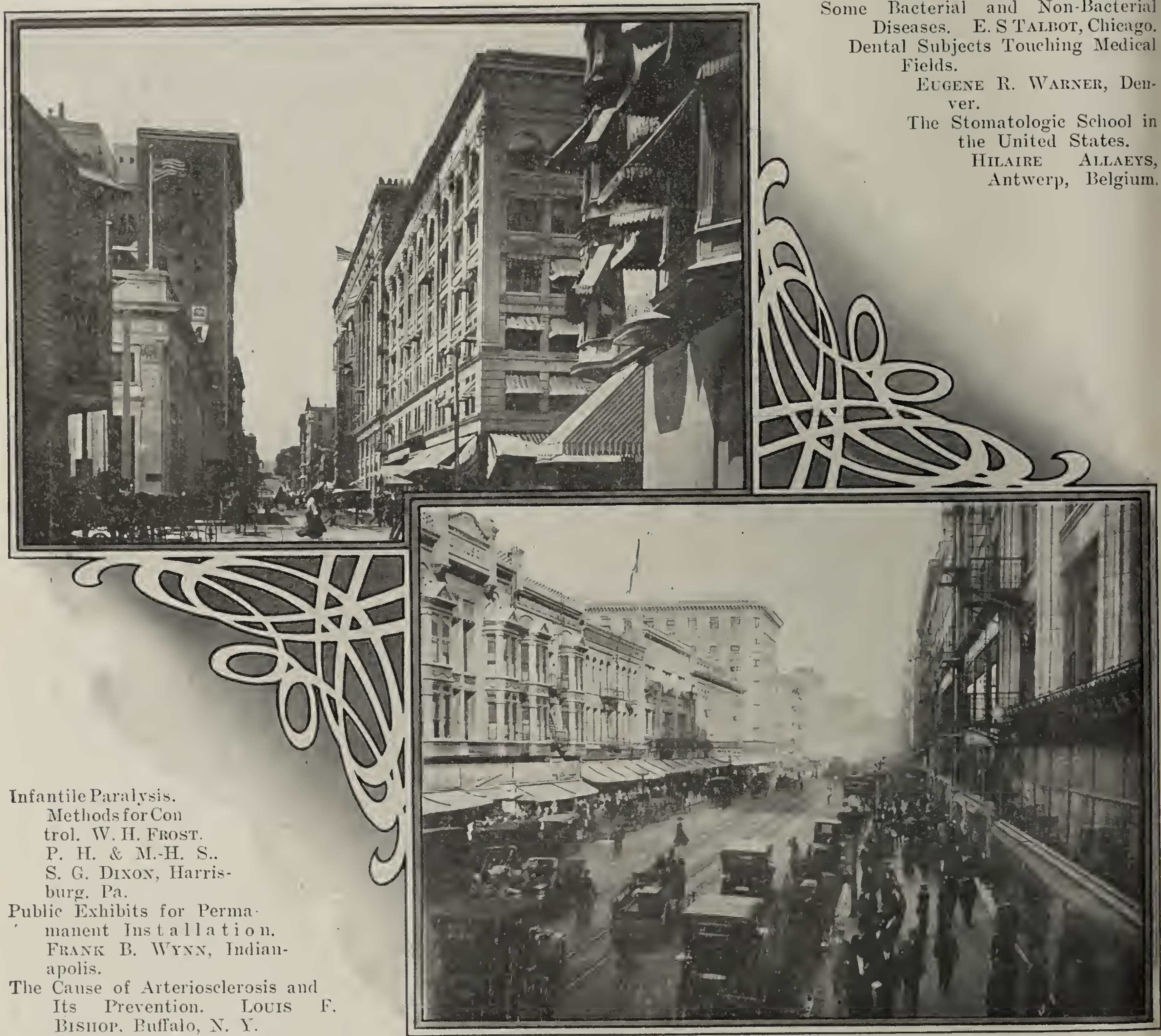

Fig. 9.—Street views. The picture above is at Fourth and Main Streets, looking west. Farmers and Merchants Bank on left. Hotel Westminster and Hotel Van Nuys on right; also H. W. Hellman Building. The tall building in the rear of the banks is the Union Trust Building, the last two being on the corner of Fourth and Spring Streets; the view below is a bit of Broadway, one of the main shopping streets of the city.

Infantile Paralysis. Methods for Control. W. H. Frost. P. H. & M.-H. S.. S. G. Dixon, Harrisburg, Pa.
Public Exhibits for Permanent Installation. Frank B. Wynn, Indianapolis.
The Cause of Arteriosclerosis and Its Prevention. Louis F. Bishop, Buffalo, N. Y.
Woman's Place in the Public Health Movement. Rosalie Slaughter Morton, New York.
The Reportability of Syphilis and Gonorrhea. Frances M. Greene, Cambridge, Mass.
Control of Drinking-Water.
W. F. Dutton, Carnegie, Pa., and G. E. Fell, Buffalo, N. Y.
Blood-Pressure and Its Bearing on Public Health Problems.
Harley E. McDonald, Los Angeles
Advisability of Government Medical Control of the Hygienic Factors of the Waters of the Great Lakes.
G. E. Fell, Buffalo, N. Y.
The Methods of Making Throat Cultures.
F. O. Tonney, Chicago.

SECTION ON STOMATOLOGY

Chairman, Stewart L. McCurdy, Pittsburg, Pa.; Secretary, Eugene S. Talbot, Chicago.

Oral Development in the Progeny Influenced by the Buccal Tissues During Pregnancy. Arthur Zentler, New York.
Importance of the Deciduous Teeth in the Development of the Child. M. Evangeline Jordon, Los Angeles, Cal.
Alteration in Nostril from Birth to Puberty: Relation to Operations on Lip and Nose. T. E. Carmody, Denver.
Speech Defects Due to Imperfect Development Without Cleft Palate. George V. I. Brown, Milwaukee, Wis.
Acute Mercurial Poisoning Followed by General Necrosis of Maxillæ and Otitis.
Adolph B. Baer, San Francisco.
Some Bacterial and Non-Bacterial Diseases. E. S Talbot, Chicago.
Dental Subjects Touching Medical Fields.
Eugene R. Warner, Denver.
The Stomatologic School in the United States.
Hilaire Allaeys, Antwerp, Belgium.
(a) Report of the Committee on the Advancement of Stomatologic Education. (b) Report from the Committee on the Advancement of Stomatologic Education from the American Medical Association to The Carnegie Foundation for the Advancement of Teaching.
Eugene S. Talbot, Chicago; Herbert A. Potts, Chicago; Frederick B. Moorehead, Chicago.
Intimate Relation Between Condition of Oral Cavity and General Health. C. Deichmiller, Los Angeles.
Osteomyelitis of Maxilla. A. B. Baer, San Francisco.

SECTION ON DISEASES OF CHILDREN

Chairman, S. M. Hamill, Philadelphia; Secretary, L. T. Royster, Norfolk, Va.

Chairman's Address: The Opportunities of the Pediatrist in Relation to Public Health.
S. M. Hamill, Philadelphia.

Report on Brain Cases in Children.
William J. Butler, Chicago.

A Study of Children in Reference to Enteroptosis.
Richard R. Smith, Grand Rapids, Mich.

Institutional Care of Young Infants.
Thomas S. Southworth, New York.

Influence of Summer Heat on Production of Gastro-Intestinal Diseases of Infants. I. A. Abt, Chicago.

Fig. 10.—Two views of the beach at Ocean Park. Does it remind you of Atlantic City?

A Statistical Investigation on the Influence of Various Methods of Infant Feeding on the Morbidity and Mortality of Infants, Occurring in New Orleans from August 1, 1909, to July 31, 1910.
W. W. Butterworth, New Orleans.

Recent Experiences in Artificial Feeding of One Hundred Infants During the First Three Months of Life.
F. C. Neff, Kansas City, Mo.

Relationship of Gastric to Pancreatic Fat Digestion in Infants.
J. P. Sedgwick and F. W. Schultz, Minneapolis.

The Neurotic Basis of Juvenile Delinquency, Based On Some Special Cases of the San Francisco Juvenile Court.
Philip King Brown, San Francisco.

Obstructions at the Pylorus Occurring in Infants.
Langley Porter, San Francisco.

Etiology and Treatment of Acute Nephritis in Children, With Report of Fourteen Cases.
H. M. McClanahan, Omaha, Neb.

Relation of Meat Ingestion to Indicanuria in Childhood.
E. C. Fleischner, San Francisco.

Rachitis in Its Early Stages.
J. W. Cokenower, Des Moines, Ia.

Leukemia in Childhood. W. F. Cheney, San Francisco.

Tuberculosis of the Bronchial Glands; Symptomatology, Physical Signs and X-Ray Appearance.
Henry Farnum Stoll, Hartford, Conn.

Joint Session with Section on Medicine

Epidemiologic and Etiologic Studies of Acute Poliomyelitis in Pennsylvania. Samuel G. Dixon, Harrisburg, Pa.

Recent History and Etiology of Infantile Paralysis.
Robert W. Lovett and Mark W. Richardson, Boston.

Pathology, Symptomatology, Diagnosis, Prognosis, Prophylaxis and Treatment of Infantile Paralysis.
Robert W. Lovett and Mark W. Richardson, Boston.

Infantile Paralysis as Observed in Massachusetts, 1907-10.
Robert W. Lovett and Mark W. Richardson, Boston.

SECTION ON PHARMACOLOGY AND THERAPEUTICS

Chairman, Lawrence Litchfield, Pittsburg, Pa.; Secretary, M. I. Wilbert, Washington, D. C.

Chairman's Address. Lawrence Litchfield, Pittsburg.

Address of Chairman of Delegation from American Pharmaceutical Association. Albert Schneider, San Francisco.

Report of the Committee on the United States Pharmacopeia, by the Chairman. Reid Hunt, Washington, D. C.

Dangers of Certain Ethical Proprietary Preparations to Both Physicians and Public. M. H. Fussell, Philadelphia.
Present Status of Treatment of Hyperthyroidism by an Antithyroid Serum. Silas P. Beebe, New York.
Pharmacology of Caffein. William Salant, Washington, D. C.
Pressor Principle of Our Eastern Mistletoe. A. C. Crawford, Stanford Univ., Cal.
Treatment of Chronic Hypertension. L. G. Visscher, Los Angeles.
Purin Content of Common Articles of Food. H. D. Arnold and Ralph C. Larrabee, Boston.
Uric Acid and Purin Metabolism. A. C. Reed and Geo. B. Wallace, New York.

Fig. 11.—View of Redlands and the orange groves, with the mountains in the background.

Experiments on Relation of Thyroid to Diet. Reid Hunt, Washington, D. C.

Symposium on Uncinariasis

Treatment of Hookworm Disease in the Individual and in the Community. Charles W. Stiles, Washington, D. C.
Relative Efficiency, as Compared with Thymol, of Certain Proposed Remedies for Hookworm Disease. W. H. Schultz, Washington, D. C.
Hookworm Infection in the Deep Gold Mines of California. E. E. Endicott, Jackson, Cal.

Fig. 12.—The famous eucalyptus drive.

Hookworm Disease. Herbert Gunn, San Francisco.
Prevention of Hookworm Disease in California. William F. Snow, Sacramento, Cal.
Therapeutics of Ulcer of the Stomach. J. R. Arneill, Denver.
Relative Value of Physical and Functional Signs in the Management of Failing Circulation. Emile Schmoll, San Francisco.
Relation of Cardiac Irregularities to Treatment. A. W. Hewlett, Ann Arbor, Mich.
Factors in Treatment of Myocardial Lesions. W. W. Kerr, San Francisco.
Choice of Diuretics in Cardiac Edema. Egbert LeFevre, New York.

Fig. 13.—Picking oranges—a pleasure to anticipate.

Effect of the Digestive Secretions on the Activity of Digitalis and Allied Drugs. Worth Hale, Washington, D. C.
Relations of the Nervous Mechanism of the Heart to Drug Effects as Indicated by Experiments on the Terrapin. Ray Lyman Wilbur, San Francisco.
Use of the Different Salicylates in Rheumatism. Alexander Lambert, New York.
Use of Salvarsan. J. O. Hirschfelder, San Francisco.
Further Experience with Salvarsan at the New York Skin and Cancer Hospital. Howard Fox and William B. Trimble, New York.

Fig. 14.—A residence at Redlands.

Treatment of Hemoptysis in Pulmonary Tuberculosis. Max Rothschild, San Francisco.
Climate in Treatment of Pulmonary Tuberculosis. W. Jarvis Barlow, Los Angeles.
Management of Endopericarditis as a Complication of Acute Tuberculosis. Frank A. Jones, Memphis.
Dietetic Studies in Sanatoria for the Tuberculous in Colorado. C. D. Spivak, Denver.
Hypodermic Use of Citrate of Iron in Secondary Anemias. E. S. Bullock and LeRoy S. Peters, Silver City, N.M.

Specific Tissue Inoculation of Vaccine.
GERALD B. WEBB and G. BURTON GILBERT, Colorado Springs, Colo.

Studies on the Treatment of Pneumonia, Typhoid Fever and Other Infections with Bacterial Vaccines.
AUGUSTUS F. SCHAFER, Bakersfield, Cal.

Report on One Hundred and Thirty Cases of Psoriasis in Private Practice on a Strictly Vegetarian Diet.
L. DUNCAN BULKLEY, New York.

The Rôle of Pharmacology and of Empiricism in the Management of Postoperative Cases.
S. T. POPE, Watsonville, Cal.

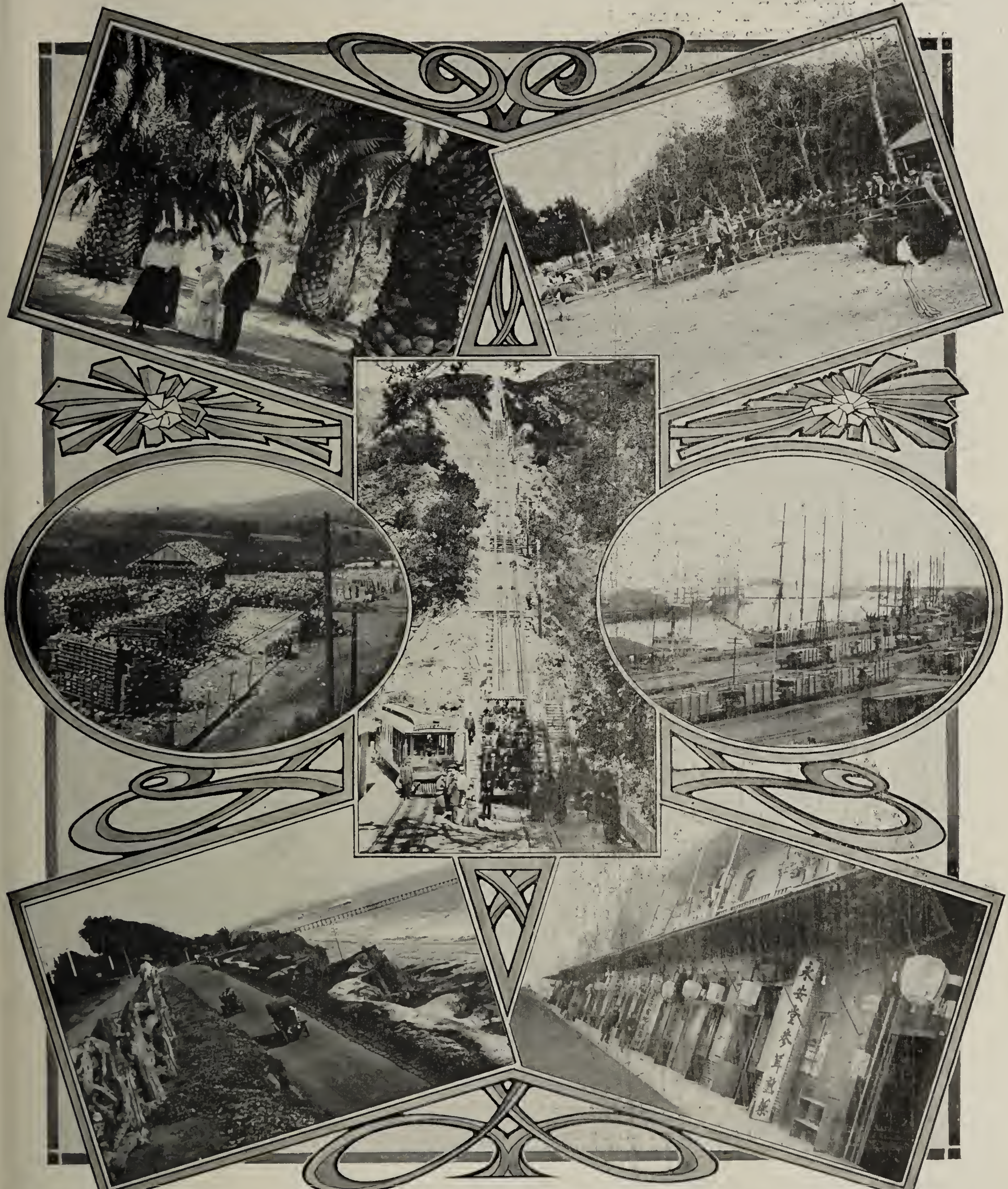

Fig. 15.—A group of views in Los Angeles and some surrounding points of interest: A view in Eastlake Park; the Cawston ostrich farm; pigeon farm in Los Angeles, 100,000 birds; the cable incline on Mount Lowe; view of the harbor and shipping at San Pedro; the cliffs at Santa Monica; street in Chinatown, Los Angeles.

Difficulties Encountered in the Therapeutic Use of Tuberculin.
F. M. POTTENGER, Monrovia, Cal.

Production of Immunity in Tuberculosis by Intravenous Injections of Tuberculin. CHARLES A. SHEPARD, Needles, Cal.

How Our Therapeutics May Be Improved.
BOARDMAN REED, Alhambra, Cal.

The Principles of Hydrotherapy in the Treatment of Diseases.
GEORGE K. ABBOTT, Loma Linda, Cal.

SECTION ON PATHOLOGY AND PHYSIOLOGY

Chairman, Yandell Henderson, New Haven, Conn.; Secretary, Leo Loeb, St. Louis.

Chairman's Address: Clinical Physiology, an Opportunity and a Duty. Yandell Henderson, New Haven, Conn.

Streptothrix and Streptothricosis. E. J. Claypole, Los Angeles.

Relation of Specific Precipitation to the Reaction of Fixation. Frederick P. Gay, Berkeley, Cal.

Specificity. H. Gideon Wells, Chicago.

Heart-Block. J. G. Van Zwaluwenburg, Ann Arbor, Mich.

Pathology of Joint Tuberculosis, with Lantern Slide Demonstration. Leonard W. Ely, Denver.

Immunity in Tuberculosis. Its Production in Monkeys and Children. Gerald B. Webb and Wm. Whitridge Williams, assisted by Alexius M. Forster and G. Burton Gilbert, Colorado Springs, Colo.

Hypertrophy and Cancer of the Prostate. Louis B. Wilson and B. F. McGrath, Rochester Minn.

Antiformin. Frank Smithies, Ann Arbor, Mich.

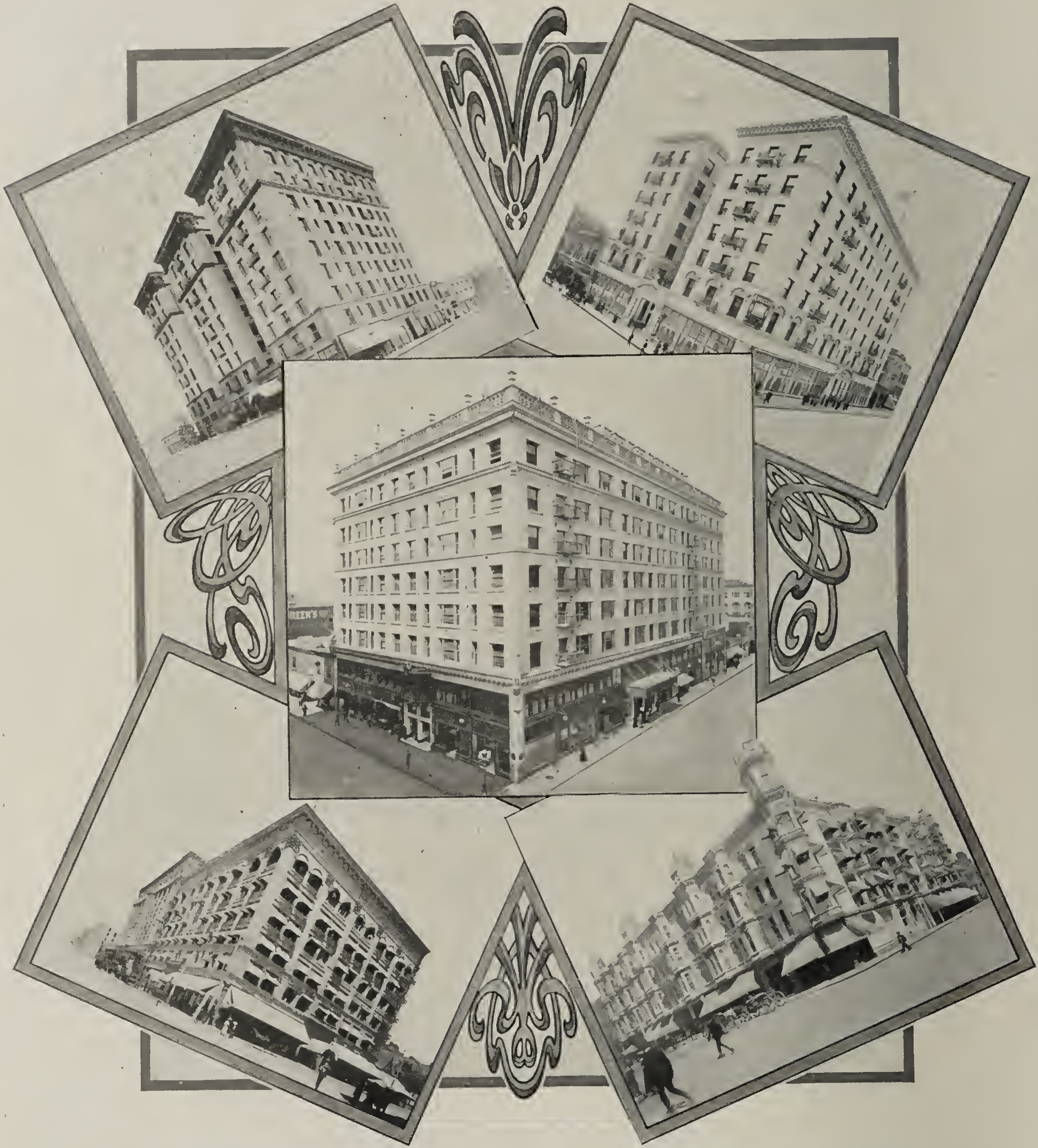

Fig. 16.—A group of headquarters hotels; in the center is the Alexandria, the general headquarters; above to the left is the Lankershim (Practice of Medicine); to the right, the Angelus (Otology and Laryngology); at the left below, the Van Nuys (Ophthalmology), and to the right, the Westminster (Diseases of Children).

Some Factors that Determine the Virulency of the Bacillus Coli Communis. Fenton B. Turck, Chicago.

A Laboratory Study of the Metabolic Products of Certain Pathogenic Bacteria. E. Mark Houghton, Detroit.

Bacteriology of the Ear. Jessie B. Hudson, Iowa City, Ia.

Photogenic Bacteria. Halden Jones, Los Angeles.

Reactions Induced by Antityphoid Vaccine. Henry Albert and A. M. Mendenhall, Iowa City Ia.

Splenic Anemias. J. F. Hultgen, Chicago.

A Case of Diffuse Cerebral Sclerosis Occurring in Infancy. Glanville Y. Rusk, Berkeley, Cal.

A Study of Experimental Bland Infarction. Howard T. Karsner and J. H. Austin, Philadelphia.

Some Urinary Findings in Eclampsia. L. B. Stockey, Los Angeles.

Influence of the Thyroid Gland on the Healing of Fractures. R. L. Thompson, St. Louis.

Subacute and Chronic Nephritis as Found in 100 Unselected Post-Mortem Examinations.
W. Ophüls, San Francisco.

Verruca Peruana.
Samuel T. Darling, Ancon Hospital, Canal Zone.

The Pathogenesis of Balantidium Coli.
Fred B. Bowman, Manila. Presented by W. E. Musgrave, Manila, P. I.

The Pathogenesis of Interstitial Myocarditis and Hypertrophy of the Heart.
Leo Loeb and Moyer S. Fleischer, St. Louis.

The Action of Drugs in Pathologic Conditions.
William Salant, Washington, D. C.

Bone Hyperplasia and Tumor of Bone.
E. R. LeCount, Chicago.

The White Cells in Tuberculosis.
W. Warne Watkins, Phoenix, Ariz.

The Use of Rebreathing in Administration of Anesthetics and as a Therapeutic Measure.
W. D. Gatch, Baltimore.

Wednesday night a reception in honor of the President will be given at the Shrine Auditorium. This is the most formal social function of the meeting.

Thursday night a smoker and vaudeville entertainment will be given at the Hamburger Roof Garden, Eighth and Broadway, to which everybody is invited.

Friday night there will be a midsummer night carnival at Venice and Ocean Park beaches. These beaches are reached by electric trains from the central station on Hill Street, between Fourth and Fifth.

The afternoon programs for the benefit of the ladies will include a reception and tea at the Hotel Alexandria Tuesday afternoon; an automobile trip about Los Angeles Wednesday forenoon; a garden party on the grounds of Dr. and Mrs. W. Jarvis Barlow in Los Angeles Wednesday afternoon, and Thursday afternoon an Al Fresco Musicale on the grounds of the residence of Dr. and Mrs. Norman Bridge in Los Angeles.

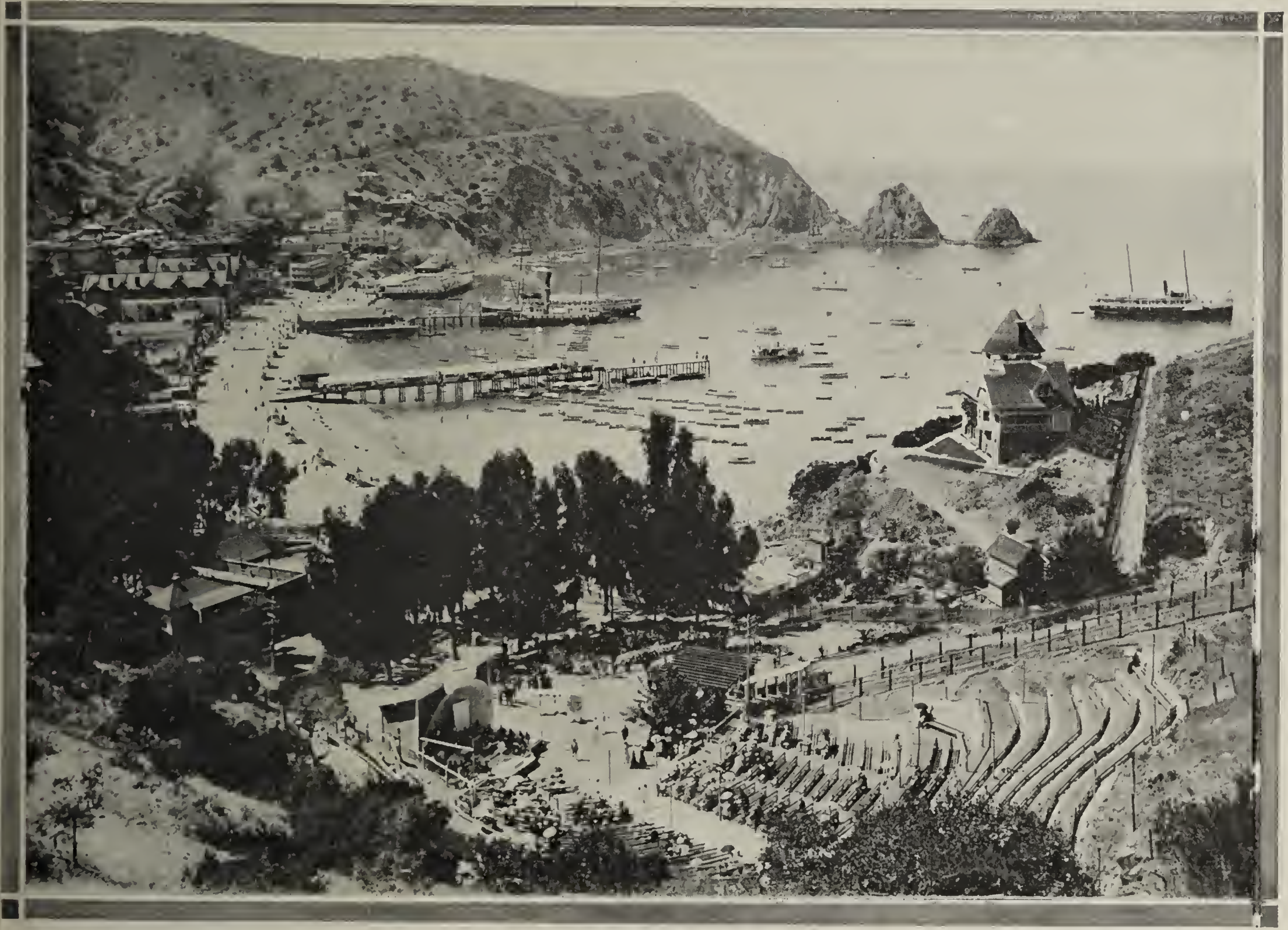

Fig. 17.—View of Avalon and the bay on Catalina Island, twenty miles from the coast of San Pedro harbor. A pleasure trip has been rranged for the members and their friends to Catalina Island. Points of interest on the island are: Sugarloaf Island; Hotel Metropole; lass-bottom boats for observing marine life on the bottom of the bay; Greek theater for band concerts; wireless station.

ENTERTAINMENTS

ocial Functions and Amusements Abundantly Provided for the Los Angeles Meeting

An elaborate series of entertainments and amusements has een provided for the members and the visiting ladies during he meeting. The evening entertainments will be as follows:

On Monday night there will be banquets and smokers of everal of the auxiliary societies which meet a day ahead of he American Medical Association.

Tuesday night will occur the banquets, smokers and vaudeilles of the sections and the various college classes, etc. The laces and times of holding these entertainments, and further etails, will be announced later, or on arrival at the meeting.

On Friday a Spanish luncheon and flower fête will be given at noon in the Sunken Gardens in Pasadena. These gardens comprise eighty acres and are acknowledged to be the most beautiful in America. Views of the gardens will be found in this issue. Following the luncheon, there will be Roman chariot races and a wild west tournament at Rose Tournament Park in Pasadena. This will be a unique entertainment. Automobiles will be provided to carry the visitors to the Sunken Gardens and to the park.

On Saturday, and on Friday also, there will be trips to Catalina, the magic island of the Pacific, with side trips in the glass bottom boats to the famous deep sea gardens. A typical Spanish barbecue will be given to the guests on both days. Another point of interest on the island is the Seal

Rocks. The fishing, which is famous at Catalina, will also attract many.

On Saturday also, there will be trolley trips to Long Beach, with luncheon at the Hotel Virginia, and a trip to Los Angeles harbor at San Pedro, with a cruise on the boats of the South Coast Yacht Club.

Other trips to surrounding resorts and cities may be made on Saturday and Sunday, or at any time during the week.

Southern California is a holiday country and there is no end of entertaining trips that may be taken through the orange groves, to the mountains or to the San Gabriel valley and the old San Gabriel Mission.

COMMITTEE ON BUREAU OF INFORMATION

Chairman, Dr. J. Y. Oldham, 214 Grant Building.

COMMITTEE ON RECEPTION AT RAILROAD STATION

Chairman, Dr. Earl Sweet, 823 Story Building.

COMMITTEE ON HOTELS AND HEADQUARTERS

Chairman, Dr. W. LeMoyne Wills, 540 Wilcox Building.

COMMITTEE ON HALLS

Chairman, Dr. John T. Ferbert, 222 Bradbury Building.

COMMITTEE ON SECTION MEETING PLACES

Chairman, Dr. Albert Soiland, 916 Wright & Callender Building.

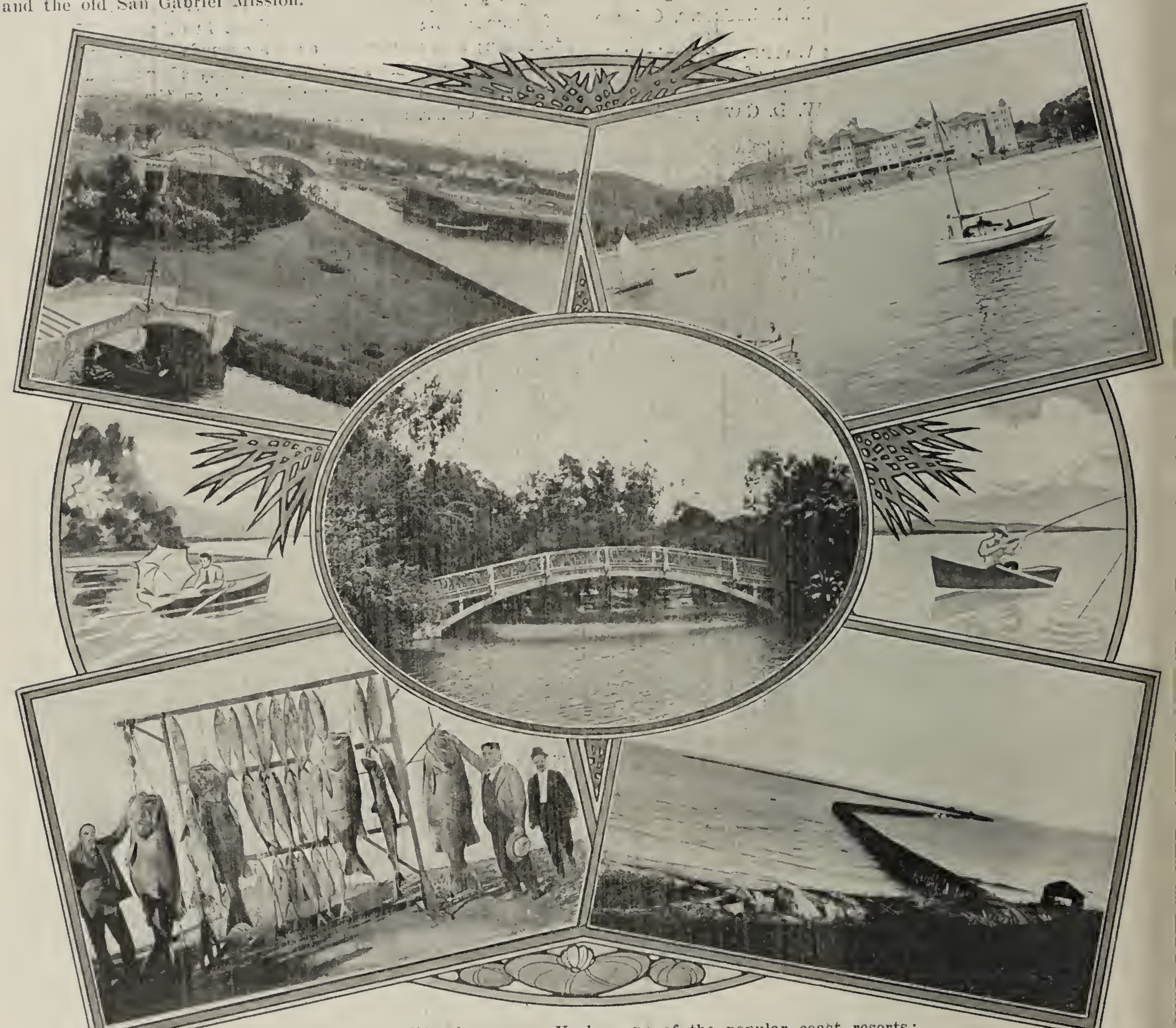

Fig. 18.—California scenes: Venice, one of the popular coast resorts; Hotel Potter at Santa Barbara; rustic bridge in Echo Park, Los Angeles; a day's catch of fish at Catallina; view of the government breakwater at San Pedro, nearly 10,000 feet in length; cost nearly $3,000,000.

COMMITTEE ON ARRANGEMENTS

The central office of the Los Angeles Committee on Arrangements is at 240 Bradbury Building, Third and Broadway, and is in charge of Dr. H. Bert. Ellis, Chairman, and Dr. George H. Kress, Secretary.

CENTRAL EXECUTIVE COMMITTEE

General Chairman, Dr. H. Bert. Ellis, 245 Bradbury Building; General Secretary, Dr. George H. Kress, 240 Bradbury Building; Treasurer, Dr. Walter Lindley; Dr. Fitch C. E. Mattison, Pasadena; Dr. W. Jarvis Barlow.

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Vice-Chairman, Clarence W. Pierce.

Section on Practice of Medicine, Dr. Dudley Fulton.

Section on Surgery, Dr. E. R. Smith.

Section on Obstetrics and Diseases of Women, Dr. M. Moore and Carl Kurtz.

Section on Ophthalmology, Dr. T. J. McCoy.

Section on Laryngology and Otology, Dr. Hill Hastings.

Section on Nervous and Mental Diseases, Dr. H. G. Brainer

Section on Preventive Medicine and Public Health, Dr. L. Powers.

Section on Diseases of Children, Dr. Clarence Moore.

Section on Pharmacology and Therapeutics, Dr. Theodore Davis.

Section on Dermatology, Dr. Ralph Williams.
Section on Pathology and Physiology, Dr. John C. Colliver.
Section on Stomatology, Dr. J. Franklin Cook.

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Chairman, Dr. C. B. Nichols, 721 Grant Building.

COMMITTEE ON REGISTRATION

Chairman, Dr. W. W. Beckett, 213 Exchange Building.

COMMITTEE ON COMMERCIAL EXHIBIT

Chairman, Dr. W. H. Kiger, 306 Conservative Realty Building.

COMMITTEE ON PRINTING

Chairman, Dr. J. H. Seymour, 311 Grant Building.

COMMITTEE ON PROGRAM

Chairman, Dr. O. O. Witherbee, 606 Auditorium Building.

COMMITTEE ON BADGES

Chairman, Dr. F. M. Pottenger, 1202 Union Trust Building.

COMMITTEE ON NON-AFFILIATED ASSOCIATIONS

Chairman, Dr. Granville MacGowan, 602 Lissner Building.

COMMITTEE ON SMOKER ENTERTAINMENT

Chairman, Dr. Chas. W. Bryson, 402 Delta Building.

COMMITTEE ON SECTION ENTERTAINMENTS

Chairman, Dr. Andrew Stewart Lobingier, 609 H. W. Hellman Building.

COMMITTEE ON PRESIDENT'S RECEPTION

Chairman, Dr. W. Jarvis Barlow, 616 Security Building.

COMMITTEE ON PRESS AND PUBLICITY

Chairman, Dr. George H. Kress, 240 Bradbury Building.

ASSISTANT EDITOR OF THE BULLETIN

Dr. Donald J. Frick, 815 Wright & Callender Building.

COMMITTEE ON SCIENTIFIC EXHIBIT

Local Representative, Dr. Stanley P. Black, 424 Auditorium Building.

COMMITTEE ON ENTERTAINMENT OF LADIES

Mrs. Walter Lindley, 2007 South Figueroa Street.

REGISTRATION

Importance of Registering Early

The Registration Headquarters will be found in connection with the Scientific Exhibit, the Postoffice and Commercial Exhibit on the fourth floor of the Hamburger Building, at the corner of Eighth Street and Broadway, easily accessible from hotels and meeting places, or by the car lines from the depots by those who wish to go there directly.

It will be necessary to register in order to obtain the official badge and program. No one will be admitted to any entertainment without a badge. Members are urged to register as soon as they can name their hotels.

The Registration Department will be open from 8:30 a. m. to 5:30 p. m., on Monday, Tuesday, Wednesday and Thursday, June 26, 27, 28 and 29, and from 9 to 10 a. m. on Friday, June 30.

Attention is called to the following directions:

1. Each physician desiring to register will first fill out a registration card. One should write very plainly, or print, as the cards are given to the printer to use as "copy" for putting the names in the daily *Bulletin*.

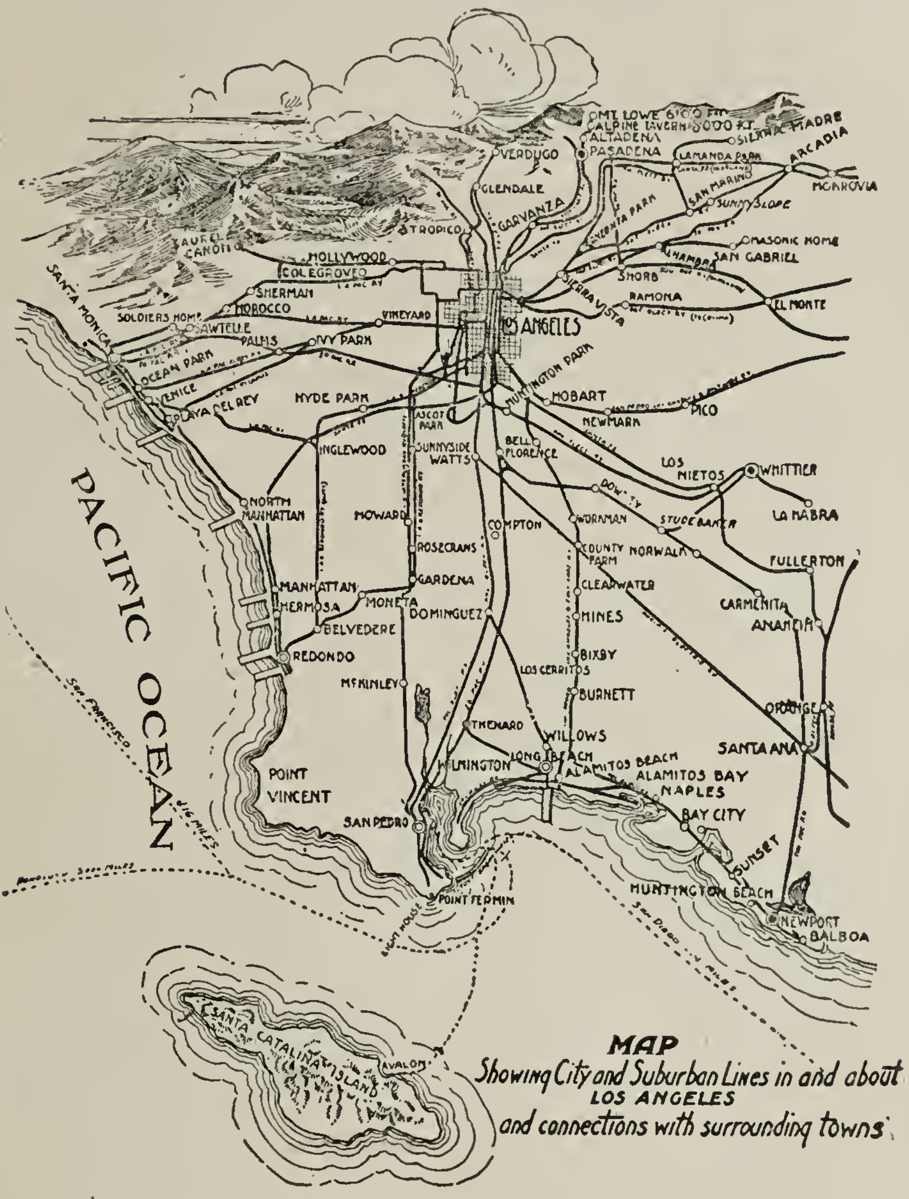
2. *Each member who has paid his annual dues* in full will present his pocket card (which was sent him from the Chicago office) and his filled-out registration card at a window marked "Registration by Pocket Card."

3. *The registration of members* who have paid their dues, but *who have failed to bring their pocket cards,* will be delayed, while the records are consulted. Hence, be sure to bring your "pocket card."

4. *Members who have not paid* their dues will present registration card and make payment at a window marked "Cash."

5. *Each applicant for membership* will present his registration card at the window marked "New Members," with a certificate of membership in his state society. Prospective members, however, will save delay and annoyance by sending in their applications before the session. All such applications should be mailed to the American Medical Association, 535 Dearborn Avenue, Chicago, so as to arrive not later than June 15.

6. Each member on registration will receive a badge, a copy of the Official Program, containing the full details of the scientific proceedings, invitations to the social functions, and such other announcements as may be necessary.



MAP
Showing City and Suburban Lines in and about LOS ANGELES and connections with surrounding towns.

INFORMATION FOR ARRIVING MEMBERS

The three transcontinental lines which come into Los Angeles are the Southern Pacific Railroad, the Santa Fe Railroad and the Salt Lake Railroad.

Arrangements will be made to have local committeemen at each of these depots. The cars which pass these depots take one to the heart of the business and hotel districts. A reference to the map in this issue showing the different streets and the locations of the hotels and meeting places will make the transfers easy.

The street cars coming from the Santa Fe and the Salt Lake railroads nearly all go south on Broadway, Spring or Main streets, so that one has simply to remember the numerical street number where one wishes to get off. The cars from the Southern Pacific run west and reach the hotel district in the neighborhood of Fourth and Fifth and Spring streets.

Those who arrive in the daytime, if they wish, can take the cars at the Santa Fe and Salt Lake stations and go direct to the Bureau of Information on the fourth floor of the Hamburger Building, which is the block bounded by Eighth, Broadway and Hill streets.

[THIS LOS ANGELES MATTER IS CONTINUED ON PAGE 1521.]

THE JOURNAL OF THE
AMERICAN MEDICAL ASSOCIATION

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[*For other information see second page following reading matter*]

SATURDAY, MAY 20, 1911

INTESTINAL ANAEROBES

The problem of the intestinal anaerobic bacteria, though one of enormous complexity, has been attacked by many investigators, and results both interesting and valuable have been obtained. Passini[1] in a recent article has reviewed some of these, and while space will not permit an enumeration of the various workers, their results are of such interest as to warrant their presentation here.

The meconium of the new-born child, as might be expected, is sterile. But in a few hours, depending largely on the child's environment, microorganisms appear in it, and even among these early invaders anaerobic bacteria take an important part. The gas bacillus (*B. welchii*) appears to be the most constant and important of these. With the ingestion of mother's milk the intestinal flora alters, the chief anaerobe now present being the so-called *Bacillus bifidus,* an organism closely akin to, if not identical with, the familiar Oppler-Boas bacillus. Subsequent alterations in food evoke changes in the bacteriology of the child's intestines, and it is only with the adoption of adult diet that the bacteria assume the corresponding type.

Of the various anaerobes the greatest amount of work has been devoted to the butyric-acid-forming group, of which the gas bacillus is a typical example. As with organisms of the colon group, it has been found that the different members, while fairly sharply differentiated from one another, possess intervening types that would make any precise classification a matter of difficulty. Again, as with the colon group, it has been found possible with these bacteria to demonstrate the phenomenon of group agglutination, and thus to support the idea of kinship between the various individual organisms.

The pathologic significance of the anaerobic intestinal flora offers a still comparatively unexplored field. Numerous experiments have led to the belief that bacterial invasion of the alimentary tract is in the main distinctly beneficial, and apparently it is only when certain organisms become unduly predominant, or altered nutrition affords opportunities for abnormal activity of special organisms, that direct harm results. The problems confronting the investigator in this field are of unusual difficulty, and definite etiologic relationships between specific diseases and anaerobic intestinal infections cannot be regarded as absolutely established. Several instances, however, of fairly constant association of the one with the other, are known. Thus Herter[2] has found that primary anemias of the pernicious type are ordinarily associated with predominance of *B. welchii* in the feces. And so, too, the so-called "enteric catarrh" of infancy has received much attention from this point of view. This alimentary disorder follows as a rule on an excessive sugar diet. In the normal infant, sugar digestion and absorption are practically complete before the lower small intestine is reached; but with large amounts of sugar in the diet, this is no longer the case, and an abnormal medium is provided for the anaerobes inhabiting this part of the alimentary tract. Now it has been found that with special media—essentially albuminous material subjected to tryptic digestion, with subsequent addition of sugar—the gas bacillus is capable of producing a substance violently poisonous, in suitable, though small, doses to laboratory animals. It produces rapid death by paralysis of the respiratory center when given intravenously; and when it is injected into the intestines of dogs, violent peristalsis ensues, with temporary recovery and late death from a hemorrhagic inflammation of the intestinal mucosa. When this substance is applied locally to smooth muscle, tetanic contractions of long duration result. It is, of course, unsafe to ascribe to the action of this poison the human clinical picture. But in favor of this view are the following facts: First, in the stools of enteric catarrh the prevailing organism appears to be the gas bacillus; second, the disease occurs, for the most part at least, in cases of excessive sugar-feeding; third, elimination of sugar from the diet, along with improvement in the patient, is accompanied by a change in the intestinal flora, the spore-free sugar-fermenting type of the gas bacillus giving place to the sporing form, typical of growth in sugar-free media; and fourth, on one occasion at least it has been possible to obtain the characteristic poison by alcoholic extraction of the stools in this disease. The poison thus possibly at the bottom of enteric catarrh is apparently not a toxin in the bacteriologic sense. It is relatively very stable to heat and preservation; it can be extracted with alcohol; and attempts to obtain an antitoxin have been unsuccessful. In its formation, the presence of both sugar and the products of tryptic digestion appear to be essential. Whether or not this toxic substance is identical with the butyric acid produced by the organism, cannot be regarded as absolutely settled. McCampbell[3] obtained as poisonous an effect from solutions of butyric acid of strength equivalent to that of the bacterial cultures as from the filtered cultures themselves; but Passini states that neutralization or even alkalinity of his special medium has no effect on the toxicity.

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[1] Passini: Jahrb. f. Kinderh., 1911, lxxiii, 284.

[2] Herter: Jour. Biol. Chem., 1906, ii, 1.

[3] McCampbell: Jour. Infect. Dis., 1909, vi, 537.

It is unfortunate that the connection between the results of the laboratory and the clinical pictures is in part at least conjectural. The necessity for further work is of course obvious; but the results hitherto obtained, though not in themselves conclusive, are of such a nature as to invite the investigation that must lead toward ultimate solution of the problems presented.

EUROPE IN ADVANCE OF US—A TRIBUTE TO HERMANN KNAPP

The recent death of Dr. Hermann Knapp has occasioned a reflection not complimentary to the American people. Before he began his American career he had studied in several European universities, and had established a dispensary and hospital for eye diseases which is now a part of the University of Heidelberg, at which he taught four years. The science and the art of ophthalmology in this country were indeed a puny pair of twins until 1868, when Knapp brought us the ophthalmoscope which his teacher, von Helmholtz, had invented seventeen years before, and which von Graefe—of whom Knapp was also a student—had applied to eye diseases. Thus, Knapp's advent among us initiated the special work in orbital practice by which such beneficent results are now every day in evidence.

Soon after he established himself in New York, Dr. Knapp founded the New York Ophthalmological and Aural Institute, where under him many of the foremost workers in eye diseases in this country received their early training. Himself an extensive producer of papers, treatises and text-books, he began those *Archives of Ophthalmology and Otology* which are to-day an imposing monument to his zeal for the dissemination of the best literature in this special field. The span of his life was eight decades; and from his youth almost to his death, he gave to humankind the best of his heart and mind and strength; night and day he worked, sustained by a most inspiring enthusiasm for his calling and for humanity, until several years ago his health quite gave way; the prosperous and the penniless received alike his equal ministrations.

Now, outside his profession, the American people, whom he served with such self-abnegation, have permitted the occasion of his death to pass practically unnoticed; the representative lay press has given his career not nearly as much space as would be devoted to that of a pugilist or a second-rate politician. True, there was that in Dr. Knapp's fine temperament which lent itself to effacement; he shrank ever from ostentation. It was sought repeatedly to give dinners in his honor, to celebrate his anniversaries; on his retirement from the faculty of the College of Physicians and Surgeons the students wanted to commemorate his services; but he would have none of that. For his seventieth birthday a like celebration was planned; but he kept out of the way until the day and the occasion had passed. Loving-cups, engrossed resolutions and the like are indubitably good in their way; but they were not in Dr. Knapp's way.

Now to the point: had Dr. Knapp died in Germany or in France, his beneficent life and labors would have been the themes of grateful and nation-wide eulogy. For example, in Paris, Berthelot was laid in state in the Pantheon, a great assembly giving its presence, the president of the republic, the diplomatic corps, members of the French Academy, judges, deputies, senators, deputations from many societies, taking part; the French Minister of Education related impressively the dead chemist's achievements; the whole Parisian garrison defiled before the catafalque; on that day every school in France was closed.

The honor paid the memory of Pasteur is another instance: There was several years ago a *plébiscite* to determine who were the ten greatest Frenchmen of the nineteenth century; 15,000,000 votes were cast. Who was first? Napoleon? No. Victor Hugo? No. Pasteur headed the list; among the ten were Curie and Roux; Ampère came eleventh; and Arago, the physicist, was fifteenth.

Virchow's funeral was most impressive, in that the whole German people took part. Von Bergman died in Berlin; but on his seventieth birthday (without waiting to bestow posthumous honors, and while he was still in the plenitude of his powers), his fellow-countrymen, both professional and lay, gave him the fullest meed of respect and affection; about forty delegations, bringing gifts of all kinds, consumed nearly five hours in passing before him. The imperial government, and the great seats of learning were represented; men notable in the arts, in music and the drama, and in other lofty pursuits paid tribute to his sympathetic appreciation of professions other than his own; four important works were prepared and published in commemoration of this great birthday.

Thus do they honor science and the humanities on the Continent. We, it would seem, have still considerable progress to make before we reach a like stage in civilization.

THE WISCONSIN PURE FOOD LAW NOT EMASCULATED

Twice before we have called attention to the fact that the people of Wisconsin are not willing to allow the "interests" to dictate to them the terms of their pure food law. When the federal Food and Drugs Act went into effect the "glucose trust" protested against Dr. Wiley's ruling that the company must label its product "glucose," insisting that it should be permitted to use the more euphemistic term, "corn syrup." Its protest was heeded, Dr. Wiley was overruled, and the first breach in the federal Food and Drugs Act was made. The Wisconsin pure food law also requires that the manufacturer tell the truth on his labels and the officers that enforce this law have insisted that glucose should be called glucose. In this case, also, a protest was made by the trust, but Wisconsin was not so easily cajoled as was Washington. Finding its protest of no avail the "glucose trust" declared a boycott against the state and refused to ship its product into Wisconsin and, what was of still greater moment, it practically ceased advertising in the newspapers of Wisconsin. But the fact that, previous to the boycott, Wisconsin had purchased thousands of pounds of glucose and was therefore a profitable market, caused the makers of this substance to bring to bear all the pressure they could to change the Wisconsin law.

During the early days of the present session of the Wisconsin legislature two bills were introduced by Mr. Perry and Mr. Stevenson, respectively, each having for its purpose the legalizing of the term "corn syrup" as a synonym for glucose. One of these, the Stevenson bill, was withdrawn from the committee and from the assembly, but there was a public hearing on the other. The Perry bill was reported back to the assembly for passage. When the measure came up in the assembly for action on the report of the committee, the bill was killed by the vote of 68 to 22.

This result is cheering to all who believe that pure food laws should be passed and enforced in the interest of the public rather than in the interest of manufacturers. As we have said before, Wisconsin is to be congratulated not only on having an enlightened legislature and a supreme court that interprets the law in the public's interest, but also on having virile and fearless officials who enforce the law without fear or favor.

It now remains to be seen whether the boycott, which the manufacturers of glucose declared, but which was raised during the time that the present legislature was in session, will again be declared against Wisconsin. If a few more states could be prevailed on to insist on the same degree of honesty on the part of manufacturers that Wisconsin requires, it would be but a short time before the Corn Products Refining Company would be only too pleased to label its products "glucose" in accordance with the facts. In the present more or less chaotic condition in the various state food laws, one unfortunate feature is the unfair commercial advantage that a state having loosely liberal laws has over those states which try to protect their citizens by making stringent laws and enforcing them strictly. If competition in the manufacture of glucose were commercially practicable, a boycott on the part of the glucose trust would not be of any great moment, as men of capital would undoubtedly recognize the commercial possibilities of manufacturing glucose within the boycotted state and selling it under its true name. Unfortunately, competition against a practical monopoly, said to be backed by the Standard Oil interests, is probably not commercially practicable.

Against the use of glucose, *per se,* as a food product, we know of no great objection. It is a very inexpensive substitute for real syrup and undoubtedly has a definite food value. Of course, practically all the flavor possessed by the so-called corn syrup preparations, is due to the admixture of cane or some other real syrup with the glucose; for in its pure state glucose is insipid and but very slightly sweet. The fraud on the public consists in selling glucose under the name "corn syrup," for it is not a syrup in the sense understood by the public, namely, the concentrated sap of a sugar-producing plant. The makers of glucose have argued that the word "glucose" is in such ill repute that people will not purchase it under its own name. If this is true, it is all the more reason why the public should not be deceived into purchasing, under a euphemistic name, a substance that they otherwise would not have.

The Corn Products Refining Company, popularly known as the "glucose trust," would have exhibited greater foresightedness and more long-headed business sense if, instead of lobbying against certain features of the Wisconsin Pure Food Law, it had spent the same amount of money on a campaign of education by which the public might learn the harmlessness and food value of glucose. We sometimes wonder how long it will be before all manufacturers that have wholesome products will be willing to sell them honestly and on their merits instead of attempting to build up an artificial demand for them by means of falsehood and political chicanery.

THE USE OF ORANGE-RED UNDERCLOTHING IN THE TROPICS

The theory of Woodruff, that the deterioration of the white man in the tropics is due more to the actinic rays of the sun than to exposure to excessive heat, has found many adherents. With the view of ascertaining the truth or falsity of this hypothesis, the experiments conducted in the Philippines by the Medical Corps of the Army were continued for over a year, and the results are embodied in the last annual report of the Surgeon-General of the Army.[1]

Orange-red underclothing and hat-linings were chosen on account of the known resistance of this color to the actinic rays of the sun. The tests were carried out by making comparisons between 500 soldiers equipped with these garments and 500 controls using white, care being taken to choose the two sets of men from the same companies and to divide them in such a way as to make the two groups as nearly as possible equal in physique. The exceptionally weak and those having had long tropical experience were excluded.

A comparison of the sick reports showed insignificant differences between the two groups, except that there was a higher admission rate for heat exhaustion among those wearing the orange-red underclothing than among the controls. Those wearing orange-red suffered more from perspiration than those wearing white, and extensive experiments, both on and off the body, showed that exposure to the sun caused a greater temperature beneath the colored garments than beneath similar white material. The fall in blood-pressure, as well as the increase in red blood-cells and diminution in percentage of hemoglobin which the unacclimated suffer in the tropics, was more apparent among the wearers of the orange-red than among the controls. The former also showed a tendency to lose weight more rapidly than the latter. Fifteen hundred observations showed temperature, pulse and respiration to be slightly higher for the orange-red group than for the controls. The impressions of the individual wearers were, on the whole, decidedly adverse to the colored underwear. There were only sixteen men who preferred it to the white. Fifty-four expressed no choice, but the remainder, constituting nearly four hundred men, expressed their disapproval. The consensus of opinion seemed to be that it was more uncomfortable, the discomfort being, in the main, attributed to the excessive perspiration which it caused. It is significant that no organization commander saw any benefit from its use, and that of sixteen officers who gave it a personal trial there was only one who expressed approval.

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[1] Report of the Surgeon-General, U. S. Army, 1910, page 118; experiments carried out at certain Philippine posts by Major Collins and First Lieutenants McKenney, Phillips and Cowles.

The medical officers who conducted the experiments reached the general conclusion that the test underclothing was of no material value, but that, on the contrary, it increased the burden of heat which the system was compelled to endure. They are of the opinion that the sun's rays alone are not responsible for the physiologic effects of the climate in the Philippines, and that, even if the actinic rays have any influence at all on the system, the campaign hat and the khaki uniform constitute a sufficient protection against them.

Current Comment

THE PROBLEM OF PURE MILK

In a recent issue[1] we commented briefly on the report of the Philadelphia Milk Commission. At that time the full report was not at hand. It has since been printed, however, and is available for study by those interested in clean, healthful milk, and that should include every citizen, be he health officer or other public official, or private individual. The report may be heartily recommended for study, too, as it covers one of the most searching investigations of this important problem yet published, and sets forth a complete scheme of regulations for the production, transportation, handling and delivery of milk to the consumer, proposes a plan of reorganization of the division of milk inspection of the health department, and reports on chemical and bacteriologic standards. The commission says that the problem of the safeguarding of milk-supplies for municipalities is too large and too serious to be considered solely from the point of view of the effect that regulation might have on the commercial interests involved, which has been the point of view generally adopted hitherto. Bad milk is one of the great factors in the production of the enormous death-rate of infants under one year of age. It also figures largely in the propagation of typhoid fever, diphtheria, scarlet fever and tuberculosis. The regulation of milk production, transportation and subsequent handling, therefore, becomes one of our most serious problems. The investigations of the commission in many instances revealed wretched conditions in all the stages of the milk business from the producer to the consumer; the members say that to permit the continuation of the milk business under existing conditions could only contribute to the mortality of the community. The most valuable feature of the report is not that it exposes and condemns conditions in Philadelphia particularly, but that its findings and its comprehensive plan for remedying them might be applied with but little modification to almost any other city. The report is a valuable municipal text-book on the milk question.

MAKING ROOM FOR CITY PARKS

The growth of many cities in the United States has been so rapid that proper provision has not been made for adequate public parks and breathing-places for the people. Recent agitation for more parks and playgrounds, and for the general sanitation and hygiene of cities, has resulted in the making of parks at enormous expense in the midst of thickly populated districts. In New York City the necessity for further parks and also for greater dockage facilities in the harbor has culminated in a scheme for the creation of a park in the air, so to speak. At the present time nearly the whole of the west side of Manhattan Island is occupied by the New York Central Railroad tracks, and a plan has been devised whereby a space 200 feet wide and several miles long will be converted into additional space for railroads and docks by filling in along the water-front. It is proposed[1] to cover over this entire space by heavy steel and concrete roofing and then to fill in this roof with soil and make a water-front park. Most cities having water-fronts have allowed these naturally advantageous locations for parks to be absorbed by railroads or other industrial enterprises. Chicago, with its wonderful water-front on Lake Michigan, has allowed this to happen, to a certain extent. The plan of New York, though an expensive one, seems to be entirely feasible; at least, it has been so pronounced by engineers. Certainly it would form a most attractive addition to the park system of that city.

FREE DISPENSARIES FOR HOOKWORM DISEASE

The idea of the free dispensary as a factor in suppressing hookworm infection originated in Mississippi, where the first institution of this kind was organized at Columbia, Marion County, in December, 1910, and is now running a full capacity of 300 patients monthly. The Columbia Dispensary is supported by public and private cooperation, the county health officer having given the use of a four-room building for twelve months, the necessary drugs being supplied by the county board of supervisors, while the beds and other hospital appointments are furnished by the Columbia County Club, and the linen by the women's clubs of the city. A trained nurse has been installed to take care of the dispensary and its patients and people are now coming in for examination and treatment from a radius of over twenty miles. Resting as well as ambulant patients are treated and applications for beds are now sent in well in advance. The Mississippi idea has already begun to take root in other southern states. In Alabama, for instance, there are four dispensaries in Geneva County, five in Dale County, three in Coffee County and two at Houston. Very significant are the results already obtained at the "free clinics" in Coffee County, which are hardly a month old. A circular distributed through the county in March announced that free clinics for hookworm patients would be held at Elba, Brockton and Enterprise at stated intervals. Up to April 14, the total number of patients treated at the three clinics was 1,416, and on one day (April 8) as many as 439 patients applied for treatment at Enterprise alone. In addition, two local county newspapers have engaged to mail 1,000 copies each of a folding circular on sanitary privies to their subscribers. We congratulate the public health authorities of these southern states on the important sanitary work they are doing and hope their example will stimulate other states to similar efforts in the same direction.

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[1] March 11, 1911, p. 749

[1] Plan of Park Commissioner Stover and Dock Commissioner Tomkins; described in Scient. Am., May 6, 1911, p. 446.

PERSECUTION OF DR. KANTOR, THE FOE OF QUACKERY

We have frequently had occasion to commend the organ of the German Antiquackery Society, the *Gesundheitslehrer,* published by Dr. Kantor of Warnsdorf, Bohemia. Dr. Kantor has often been sued for damages by persons and firms injured by his propaganda for reform and exposures of fraudulent proprietaries, and he still has a number of suits on hand. An anonymous pamphlet calumniating his personal and professional character has recently been scattered broadcast. As the slandered physician has no means of legal redress against the authors or instigators of this attack, he has sent to the medical press a reply denouncing the pamphlet as a collection of falsehoods and perversions of fact intended to discredit him, both professionally and as the publisher of the *Gesundheitslehrer.* He adds that, notwithstanding the numerous suits that have been brought against him, no one has succeeded in producing any evidence of dishonorable conduct on his part, either private or professional, and that moneyed interests are bringing every means to bear in order to down him, or to disgust him with his difficult struggle against quackery. His sturdy little monthly costs only seventy-five cents a year and contains a fund of information, written in popular German, on nostrums and different phases of the practice of medicine by unqualified persons. It is to be hoped that Dr. Kantor will receive still more of the support of the German medical profession and of the intelligent lay public in his campaign against the nostrum evil. For a private individual to oppose single-handed the powerful interests involved requires courage and determination of a high order, since the attempt would appear hopeless to an ordinary character. We in America may congratulate ourselves at least on the fact that the organized medical profession has taken a firm stand on the subject, in which it has been sustained by the more progressive portion of the lay press.

Medical News

ARKANSAS

State Medical Society Meeting.—The thirty-fifth annual meeting of the Arkansas Medical Society was held in Fort Smith, May 2-5, under the presidency of Dr. Robinson C. Dorr, Batesville. Hot Springs was selected as the place of meeting for 1912, and the following officers were elected: president, Dr. Morgan Smith, Little Rock; vice-presidents, Drs. James B. Roe, Calico Rock; William W. York, Ashdown, and John W. Webster, Siloam Springs; secretary, Dr. Clinton P. Meriwether, Little Rock; treasurer, Dr. John S. Wood, Hot Springs; delegate to the American Medical Association, Dr. Gus A. Warren, Black Rock; alternate, Dr. John W. Webster, Siloam Springs, and councilors, first district, Dr. Hughey, Knoble; second district, Dr. James H. Kennerly, Batesville; third district, Dr. Tillman B. Bradford, Cotton Plant; fourth district, Dr. Arthur D. Knott, Wilmot; fifth district, Dr. Robert A. Hilton, El Dorado; sixth district, Dr. Leonce J. Kosminsky, Texarkana; seventh district. Dr. Reuben Phillips, Malvern; eighth district, Dr. A. H. McKenzie, Dardanelle; ninth district, Dr. Frank B. Kirby, Harrison, and tenth district, Dr. Matt S. Dibrell, Van Buren.

CALIFORNIA

Builds Sanatorium.—Dr. G. Richard Hickok, Gardnerville, Nev., is about to establish a tuberculosis sanatorium at Badger, 35 miles northeast of Visalia, and has purchased 880 acres as a site.

Illegal Practitioner Sentenced.—Mrs. Salvatrice Mingilino, San Francisco, arrested at the instance of the State Board of Medical Examiners, is said to have been found guilty of practicing medicine without a license and to have been fined $100, with the alternative of fifty days imprisonment in the county jail.

Personal.—Dr. Charles F. Whitmer, Oakland, fell from a tree, May 2, fracturing his left leg.——Dr. Stanley P. Black has been appointed city health inspector of Pasadena.——Dr. William R. Dorr, warden of the City and County Hospital, San Francisco, has resigned.——Dr. George B. Walrath, Los Angeles, while attempting to board a rapidly moving car at Venice was thrown to the ground, fracturing several ribs.——Dr. Edgar W. Clark, Los Angeles, is reported to be seriously ill at his home.——Dr. Charles C. Browning, Monrovia, while in attendance at a meeting of the State Board of Health at Santa Barbara, had an attack of acute appendicitis and was taken to the Good Samaritan Hospital, Los Angeles, where an operation was performed April 20.

Tuberculosis Bill Passed.—Assembly Bill No. 821, introduced by Assemblyman Bliss at the instance of the Alameda Society for the Study and Prevention of Tuberculosis, was passed by the legislature and signed by the governor. The purpose of the new law, which carries with it an appropriation of $5,000, is set forth in the first two sections of the bill, which read as follows:

> Section 1.—It shall be the duty of the State Board of Health to cause special investigation of the prevalence of tuberculosis in California and the effects of localities, employments, conditions and circumstances on the health of those developing the disease, and to determine the best means for its eradication.
>
> Sec. 2.—The State Board of Health shall publish or procure and distribute free to the people of the state of California printed matter, charts, pictures or models, or demonstrate to them in any practical way the prevalence of tuberculosis, the danger of infection therefrom and the means of prevention.

COLORADO

Asks Wards for Drug Addicts.—Dr. Elizabeth Cassidy recommended to the Board of County Commissioners of Denver County that wards at the county jail be set aside for users of cocain, morphin, opium and other drugs, and that the older addicts be segregated from the beginners.

Grants Petition.—District Judge Allen has granted the petition of Dr. Elizabeth Cassidy, Denver, a member of the Board of County Commissioners, to have the proceedings of the board for several months investigated by the district court. Dr. Cassidy's advocation contends that the board is wasting at least $30,000 annually, and that claims are not carefully investigated before payment.

Personal.—Dr. Elizabeth C. Cassidy, Denver, has been appointed a member of the State Board of Charities and Corrections.——Dr. Paul S. Hunter, Denver, has been appointed secretary of the State Board of Health.——Drs. W. W. Flor Colorado Springs, and George Sullivan, Victor, have been ma members of the Board of Dental Examiners, and Dr. Charles

S. Morrison, Colorado City, has been appointed a member of the Lunacy Commission.——Dr. Edgar D. Heaton, Centerville, Ia., was thrown from his bicycle, April 27, fracturing his right arm below the elbow.——Dr. Sherman Williams, Denver, has been appointed a member of the State Board of Health, vice Dr. Minnie C. T. Love.

ILLINOIS

State Board Prosecution.—L. C. Crump, indicted on charges by the State Board of Health for the illegal practice of medicine, was tried before a jury in the municipal court, Chicago, and fined $100 and costs. The defendant is said to have issued a card setting forth that he is a man of God and a divine healer. He is said to have examined each of those who applied to him, prayed with him, given him a big bottle of medicine and charged $1.

Personal.—Dr. Joseph C. Myers, Clinton, who has been ill in Decatur, has returned home.——Dr. and Mrs. Martin Van Buren Montgomery, Opdyke, celebrated their golden wedding anniversary, May 6.——Dr. Frank L. Hall, Jacksonville, has retired from the practice of medicine.——Dr. Benamjin P. Marsh, Bloomington, is reported to be ill with neurasthenia.——Dr. Henry J. Gahagan has been named as city physician of Elgin.——Dr. Charles G. Beard, Sterling, has been appointed district surgeon for the Northwestern System, vice Dr. Frank Anthony, Sterling, deceased.

Society Meetings.—At the annual meeting of the Brainard District Medical Society, held in joint session with the Logan County Medical Society at Lincoln, April 27, the following officers were elected: President, Dr. Edwin P. Sloan, Bloomington; vice-presidents, Drs. Charles W. Carter, Clinton; Charles B. Caldwell, Lincoln, and Robert A. Noble, Bloomington; secretary, Dr. Harry S. Oyler, Lincoln; treasurer, Dr. Charles C. Reed, Lincoln, and censor, Dr. Athens L. Brittin, Atlanta.——DeKalb County Medical Association, at its annual meeting held in Sycamore, April 28, elected Dr. Charles H. Mordoff, Genoa, president; Dr. John B. Nesbitt, Sycamore, vice-president, and Dr. Stoddard L. Anderson, DeKalb, secretary and treasurer.——The Elgin Physicians' Club, at its annual meeting, May 1, elected Dr. George J. Schneider, president; Dr. Edward H. Abbott, vice-president; Dr. Jane Trull, secretary and treasurer, and Dr. Charles E. Sisson, a member of the executive board.——La Salle County Medical Society, at its annual meeting held in Ottawa, April 25, elected Dr. Everett H. Butterfield, Ottawa, president; Dr. Milton E. Blanchard, Marseilles, vice-president; Dr. Albert J. Roberts, Ottawa, secretary and treasurer; Dr. George A. Discus, Streator, censor; Dr. William O. Ensign, Rutland, delegate to the state society, and Dr. William Schoenneshofer, Lostant, alternate.

Chicago

Sanatorium Site Chosen.—The Paul Lawrence Dunbar Sanatorium for Colored Tuberculosis Patients will be established on a tract of land nine acres in extent, lying between Washington Heights and Morgan Park.

Playground Established at Hospital.—A playground for the exclusive use of convalescent children has been established by St. Luke's Hospital on a lot 50 feet by 163, adjoining the institution, which has been purchased and will be fenced in and equipped with outdoor gymnastic apparatus.

Suburban Hospital.—Thirty-five physicians of Oak Park, Austin, Elmhurst and Melrose Park met at the Oak Park Club, May 15, and organized the Suburban Hospital Association. The following officers were elected: President, Dr. Charles E. Humiston, Austin; vice-president, Dr. Charles W. Poorman, Oak Park; secretary, Dr. Fred W. Kettlestrings, Oak Park, and treasurer, Dr. Thomas E. Motter, Oak Park. Drs. Humiston, Poorman and William G. Willard were appointed members of the site committee.

Personal.—Dr. Henry J. Pieper, of the University of Chicago, has been appointed assistant professor of physiology in Columbia University.——Dr. and Mrs. Eugene S. Talbot and daughter sailed for Europe, May 20.——Dr. Fenton B. Turck gave a reception to the class of 1891 of Northwestern University Medical School at his house, May 6.——Dr. John B. Murphy is reported convalescent after an attack of typhoid fever.——Dr. Walter B. Schwuchow has moved to Los Angeles, Cal.——Dr. Samuel W. Forney has moved from Chicago to Boise, Ida.

INDIANA

Alumni to Meet.—The Alumni Association of the Indiana University School of Medicine will hold its annual meeting at Indianapolis, May 29. In the evening a banquet will be given at the Columbia Club.

Fly Catechism.—Dr. Charles S. Woods of the City Sanatorium of Indianapolis distributed 30,000 leaflets to the school children of that city on the care of the teeth and also a fly catechism dealing with the province of the ills due to the house fly.

Handling of Foodstuffs.—At a special meeting of the State Board of Health, three rules were added to the regulations for the handling of foodstuffs. The first provides that hotels and restaurants shall be classified as cold storage plants, except when the storage is less than thirty days. The other two rules refer to the handling of dairy products in unsanitary dairies or manufactories, and provide that it becomes a violation of the law for milk, butter, cheese or other milk products to be offered for sale when the product is from an establishment that has been condemned by the board.

Personal.—Dr. Mary E. Jackson, Hammond, who was operated on at the Mary Thompson Hospital, Chicago, for the removal of gall-stones, has returned to her home, convalescent.——Dr. Stanley W. Edwins, Elwood, has retired after fifty-five years of practice.——Dr. Orange G. Pfaff, Indianapolis, who has been ill for several weeks from septicemia is convalescent and has gone to Atlantic City.——Dr. Fairfield Snyder, Corunna, has been declared of unsound mind and application has been made for his admission to the Longcliffe Hospital.——Dr. James Trelor Tresidder, Tipton, has gone to Indianapolis for operation.

State Board Prosecutions.—Dr. Rudolph C. Tilley, who is said to have taken two examinations before the State Board but failed to obtain the proper certificates, was arrested on the charge of practicing medicine without a license at Lawrenceburg and fined $25.00 and costs.——At a meeting of the State Board of Medical Registration and Examination, May 11, the license of Dr. William McKinstray, South Bend, is said to have been revoked on an affidavit filed by Dr. Alexander P. Forbes Gammack, and afterward verified, which stated that Dr. McKinstray had purchased his diploma from the National Medical University of Chicago.

MARYLAND

Officers Hold Over.—Under an amendment to the constitution adopted at the late meeting of the Medical and Chirurgical Faculty of Maryland, the new officers will not assume their duties until Jan. 1, 1912, the officers of 1910 holding over until that time.

Personal.—Dr. Henry W. McComas has been elected secretary of the Board of Health of Garrett County and physician to the County Jail, vice Dr. John C. Legge.——Dr. Charles M. Ellis, Elkton, is reported to be critically ill at Johns Hopkins Hospital, following a surgical operation.

Baltimore

Personal.—Dr. Harry Friedenwald sails for Europe, May 13.——Dr. George A. Strauss, Jr., who was operated on at Mercy Hospital, May 7, is reported to be convalescent.——Dr. Marcus S. Dillon has been appointed medical supervisor of the Franklin Square Hospital of the Maryland Medical School, vice Dr. James A. Duff.

Endows Hospital and Industrial School.—James L. Kernan has placed on record deeds of trust whereby the net dividends from 3,400 shares of the capital stock of the James L. Kernan Company will be applied, at his death, to the James Lawrence Kernan Hospital and Industrial School for Crippled Children founded by him at Radnor Park.

Dispensary Election.—At the annual meeting of the board of directors of the Baltimore Eastern Dispensary, held May 8, Dr. Daniel W. Cathell was elected president, Drs. George F. Hancock and Frank C. Bressler were elected directors, and Dr. Robert S. Kirk was reelected superintendent for the twelfth year. During the year just ended, 25,840 patients were given treatment at the institution.

Will Ask Enabling Act.—The Municipal Tuberculosis Commission will ask the next legislature for an enabling act to allow Baltimore to float a loan to provide for a hospital to accommodate three hundred tuberculosis patients. Baltimore is said to have been the first city to inaugurate a systematic fight against tuberculosis. Mrs. William Osler raised a fund and paid a nurse to investigate cases throughout the city and to instruct those afflicted as to their care. The Maryland Association for the Prevention and Relief of Tuberculosis then came into existence and took up the work, employing four nurses. A few years later the work became so heavy that the city was called on to take charge and provided fifteen public nurses, and it is believed that next year twenty-five nurses will be needed.

MASSACHUSETTS

Personal.—Drs. John L. Ames and Arthur B. Coffin, Boston, have resigned as school physicians.——Dr. Patrick H. Mullowney has been appointed a member of the Boston Board of Health.

Physicians to Aid Foreigners.—At the recent missionary jubilee in Boston, a number of women physicians organized the Medical Women's Association for Aiding Women in Medical Work in Foreign Countries; and elected the following officers: president, Dr. Frances M. Morris; vice-presidents, Drs. Helen I. Woodworth and Edith Hale Swift; secretary, Dr. Blanche A. Denig, and treasurer, Dr. Mary R. Mulliner, all of Boston. The object of the association is to raise money to endow already existing medical institutions for women in foreign countries; to provide scholarships for native women in medical schools; to take a personal interest in women medical students who are studying to enter the foreign field, and to provide equipment and hospital facilities as far as possible.

District Society Elections.—At the annual meeting of Essex North District Medical Society, held in Lawrence, May 3, the following officers were elected: president, Dr. Warren W. Pillsbury, Newburyport; vice-president, Dr. William H. Merrill, Lawrence; secretary-treasurer, Dr. J. Forrest Burnham, Lawrence; commissioner of trials, Dr. John F. Croston, Haverhill; nominating councilor, Dr. Israel J. Clarke, Haverhill; alternate, Dr. Charles G. Carleton, Lawrence; supervising censor, Dr. Frank B. Pierce, Haverhill; censors, Drs. Robert M. Birmingham, Lawrence; John A. Magee, Lawrence, John A. FitzHugh, Amesbury, and Thomas R. Healy, Newburyport, and councilors, Drs. Charles G. Carleton, Lawrence, Israel J. Clarke, Haverhill, John A. Douglass, Amesbury, Ernest H. Noyes, Newburyport, Frank B. Pierce, Haverhill, Frank W. Snow, Newburyport, Frederick E. Sweetsir, Merrimac, and J. Forrest Burnham, Lawrence.——At the annual meeting of Berkshire District Medical Society, held in Pittsfield, April 27, the following officers were elected: President, Dr. Clifford S. Chapin, Great Barrington; vice-president, Dr. Isaac S. F. Dodd, Pittsfield, and treasurer, Dr. Joseph D. Howe, Pittsfield.——At the annual meeting of the Springfield Academy of Medicine, Prof. John M. Tyler, Amherst, gave an address on biology. The following officers were elected: president, Dr. Philip Kilroy; vice-presidents, Drs. Ralph H. Seelye and J. B. Cummings; secretary, Dr. Alexander C. Eastman; treasurer, Dr. John M. Birnie, all of Springfield, and censor, Dr. J. Clark Hubbard, Holyoke.

MICHIGAN

Pays for Registration of Births.—The state has begun the payment of approximately $36.000 to Detroit physicians for registration of births during 1910.

Antituberculosis Work.—At the first regular meeting of the Saginaw Antituberculosis Society, held May 3, Dr. George L. Alger, Saginaw, was elected president, and it was planned to launch an extensive campaign with lectures, literature and personal effort.——An antituberculosis league has been started in Adrian. A committee was appointed on constitution and by-laws on which Dr. Eli T. Morden was made chairman.

Personal.—Dr. Edwin Goodwin has been appointed health officer of Bay City.——Dr. Ross U. Adams, Kalamazoo, who has been in the Borgess Hospital with septicemia, due to an operation wound, is reported to be much improved.——Dr. Clarke B. Fulkerson has been reappointed city bacteriologist of Kalamazoo.——Dr. Jos. B. Griswold, Grand Rapids, has been appointed a member of the Board of Control of the Soldiers' Home in that city.——Dr. William A. Wilson, Detroit, has been reelected national president of the Federation of Florence Crittenton Leagues.

Alumni Week at Detroit.—Alumni week will be celebrated by the Detroit College of Medicine with a series of clinics extending from May 17 to May 25, inclusive. The special features of the week are clinics by Drs. Albert J. Ochsner, Chicago, on "General Surgery;" Jesse S. Myer, St. Louis, on "Cardiospasm;" Emilius C. Dudley, Chicago, on "Gynecology;" George W. Crile, Cleveland, O., on "Surgery;" Jay F. Schamberg, Philadelphia, on "Dermatology;" Charles S. Williamson, Chicago, on "Heart Disease;" Edward L. Keyes, Jr., New York, on "Genito-Urinary Diseases," and William T. Henderson, Mobile, Ala., on "Local Anesthesia in Hernia." On May 19 the alumni will be given a lunch at the Ford Motor factory and in the afternoon will inspect the Walker-Gordon farm near Birmingham. On May 23 there will be a boat ride to the St. Clair flats, following an inspection of the research laboratory of Parke, Davis and Company: and on May 25 there will be a luncheon at Harmonie Hall, followed by the annual meeting of the association.

MISSOURI

Hospital Cornerstone Laid.—The cornerstone of the new German Hospital at Kansas City was laid with formal ceremonies, April 30. The building is to cost $150,000 and marks the completion of a quarter of a century's existence of the institution.

Changes in State Institutions.—Dr. Robert Scott Magee, Green City, assistant superintendent of the State Hospital, No. 3, Fulton, has been appointed acting superintendent of the State Hospital, No. 4, Farmington, vice Dr. Robert E. Keaney, Farmington, resigned.——Dr. Porter E. Williams, Clarksburg, with two other members of the State Board of Charities, has been detailed to go to Farmington and make an investigation of the system and methods there in vogue.——Drs. Henry Lloyd and Frank S. Weber, assistants at the State Hospital, No. 4, Farmington, have resigned.

Society Proceedings.—Carroll County Medical Society was reorganized at Carrolton, April 24, and the following officers were elected: president, Dr. Richard F. Cook; vice-presidents. Drs. William C. Baird, Bogard, and Strong, Norborne; secretary and treasurer, Dr. H. Jackson Harrell, St. Louis; delegate to the state association, Dr. Edward H. Musson, Norborne, and alternate, Dr. Rezin C. Shawhan.——At the annual meeting of the Linton District Medical Society, held in Mexico, May 2, the following officers were elected: president, Dr. Robert C. Strode, Mexico; vice-presidents, Drs. August W. Kampschmidt, Columbia, and Frank J. Tainter, St. Charles; secretary, Dr. R. T. Gibbs, Mexico, and treasurer, Dr. Ned R. Rodes, Mexico.

St. Louis

Inebriates' Home.—The St. Louis Society of Medical Research inaugurated a movement at its meeting, May 7, for a state home for inebriates, to cost $100,000. The plan is to establish a colony to which inebriates may be committed for indeterminate sentences.

Personal.—Dr. Henry S. Atkins, superintendent of the municipal sanatorium, has resigned.——Dr. Edward L. Cooley has returned from abroad.——Dr. Max Starkloff, newly appointed health commissioner, has been appointed registrar of vital statistics.

Hospital Board Needs More Money.—The hospital board has asked the municipal assembly to appropriate $200,000 in addition to the appropriation of $700,000 already made, for its uses. This amount is to go toward the maintenance of the City Hospital, the sanatorium, infirmary, Robert Koch Hospital and the city dispensaries.

Research Society Organized.—The St. Louis Society of Research in Tuberculosis was organized April 20. The object of the society is to stimulate research in problems connected both with medical and surgical tuberculosis. Dr. William Porter was elected president, Dr. Louis C. Boisliniere, vice-president, and Dr. Ross Hopkins, secretary.

NEBRASKA

County Society Meeting.—Sherman County Medical Society, at its annual meeting held in Loup City, May 2, elected Dr. Mary A. K. Hendrickson, president; Dr. Archibald J. Kearns, Loup City, vice-president, and Dr. Anton E. Wanek, Ashton, secretary and treasurer.

Rush Alumni of Nebraska Hold Meeting.—The annual meeting of the Rush Alumni Association of Nebraska was held in Omaha, April 30. Dr. John M. Dodson, dean of the college, was the guest of honor and delivered an address on the "History of Rush Medical College." Dr. Frank E. Coulter, Omaha, was elected president, and Dr. Rodney Bliss, Omaha, secretary of the society.

State Association Meeting.—The forty-third annual meeting of the Nebraska State Medical Association was held in Omaha, May 2-4, and the following officers were elected: president, Dr. Andrew D. Nesbitt, Tekamah; vice-presidents, Drs. N. T. Johnston, Upland, and Voorhees Lucas, North Platte; secretary, Dr. Alonzo D. Wilkinson, Lincoln (reelected); treasurer, Dr. Alexander S. Von Mansfelde, Ashland (reelected); chairman of the board of councilors, Dr. Harvey H. Bellwood, Alliance, and delegate to the American Medical Association, Dr. A. R. Mitchell, Lincoln.

College News.—The Nebraska legislature has passed a bill which has been signed by the governor, appropriating $100,000 with which to begin the development of the campus of the College of Medicine of the State University in Omaha. This is the first step toward the development of a complete medical college plant.——Fire in the elevator shaft of Creighton College, May 8, caused a loss of more than $60,000. The chief damage was caused to the laboratories of the institution.——The commencement exercises of Creighton University were held, April 29, and a class of forty-three was graduated from the medical department.——At the annual meeting of the Creighton Alumni Association, April 27, Dr. Gustav Hahn, Omaha, was elected president, and Dr. Rudolph Rix, Omaha, secretary and treasurer (reelected for the twelfth successive term).

NEW JERSEY

Health Board Reorganizes.—The State Board of Health met for reorganization in Trenton, May 9. J. H. Capstich, Montville, was elected president, and Bruce S. Keater, Asbury Park, was reelected secretary.

Personal.—Dr. Edmund L. B. Godfrey, Camden, has been appointed Surgeon General of the National Guard of New Jersey, with the rank of brigadier general.——Dr. Edward A. Ayers has been appointed president of the Board of Health of Newton.——Dr. David B. Ackley, Trenton, is reported to be ill with septicemia as result of an operation wound of the hand.

Society Meetings.—The Middlesex Medical Society held its annual meeting in New Brunswick, April 20, and elected Dr. John L. Lund, Perth Amboy, president; Dr. Howard Crosby Vorhees, New Brunswick, vice-president; Dr. Martin Stoetzel Meinzer, Perth Amboy, secretary; Dr. David Combs English, New Brunswick, treasurer, and delegates to the state society, Drs. William E. Ramsay and John L. MacDowell, Perth Amboy.——At the annual meeting of the Hudson County Medical Society, held in Hoboken, Dr. George Myrtle Culver was elected president; Dr. Frank F. Bowyer, vice-president; Dr. Charles H. Finke, Jersey City, secretary; Dr. Henry H. Brinkerhoff, treasurer, and Dr. Joseph Abraham Koppell, reporter.——At the annual meeting of the Passaic County Medical Society, held in Paterson, April 11, the following officers were elected: Dr. William S. Flitcroft, president; Dr. Robert Morison Curts, vice-president; Dr. Joseph Allen Maclay, secretary (reelected); Dr. William Wallace MacAlister, treasurer; Dr. Thomas Arthur Clay, reporter; Dr. Charles H. Scribner, censor; Drs. Edgar Carroll Dayton and Joseph V. Bergin, permanent delegates, and Drs. Benjamin H. Rogers, James H. Curts, Frank Joseph Keller, James Alexander Browne, Thomas A. Dingman and Orville Reed Hagen, annual delegates.

NEW YORK

County Society Meeting.—The annual meeting of the Schuyler Medical Society was held in Watkins, May 9, and the following officers were elected: President, Dr. John M. Quirk, Montour Falls; vice-president, Dr. Arthur H. Jackson, Odessa; secretary, Dr. John M. Swan, Watkins, and treasurer, Dr. Delivan W. Scutt, Watkins.

Vetoes Site for City Hospital.—Mayor Furhman has vetoed the West Farm site for the proposed Buffalo General Hospital. This site had been agreed on by all concerned as favorable and contains 81 acres, whereas the site favored by the mayor is the one on which the present Erie County Hospital is located and comprises only 47½ acres.

New Buildings Needed for Sanatorium.—Mountain Sanatorium, Binghamton, is in further need of a building in which patients in advanced stages of tuberculosis, or moribund, may be cared for. The building proposed will be about 24 feet square, with male and female wards, and a room adjoining for the use of the nurse in charge of the building.

New York City

Gift to Columbia.—Columbia University has received an anonymous gift of $10,000 annually for four years, to be used in surgical research.

Personal.—Dr. Winford H. Smith sailed for Europe, May 25. He will assume charge of his duties as superintendent of Johns Hopkins Hospital about the middle of August.——Dr. Edwin H. Fiske, Brooklyn, has been appointed a police surgeon, vice Dr. Charles H. Terry, retired.

NORTH CAROLINA

Personal.—Dr. Francis O. Rogers, Concord, is about to remove to Galveston, Tex.——Dr. Baxter B. Hunter, Kings Mountain, has returned from New York City and is about to reenter practice in Charlotte.——Drs. J. Howell Way, Waynesville, and William O. Spencer, Winston, have been recommissioned members of the State Board of Health for six years.

To Have County Superintendent of Health.—The commissioners of Gilford have decided to elect a county superintendent of health at a salary of $2,500 per annum, requiring the individual so elected to devote his entire time to the care of the inmates of the various county institutions and the instruction of the children in the schools throughout the county in hygienic living.

The Hookworm Campaign.—The campaign against hookworm in the state continues active. Last week Dr. Platt W. Covington, Rockingham, was added to the field force which now includes four traveling physicians under the direction of Dr. John A. Ferrall, assistant secretary for hookworm of the State Board of Health. Six microscopists in the Laboratory of Hygiene at Raleigh are devoting their entire time to the investigation of specimens sent in.

NORTH DAKOTA

Physicians of State Hold Meeting.—The North Dakota State Medical Association held its twenty-fourth annual meeting in Fargo, May 9-11, and elected the following officers: president, Dr. Clinton E. Spicer, Litchville; vice-presidents, Drs. Alexander J. McCannell, Minot; Murdock MacGregor, Fargo, and R. Hudson Beek, Lakota; secretary, Dr. Hezekiah J. Rowe, Casselton (reelected); treasurer, Dr. Frank J. King, St. Thomas (reelected); councilors, Drs. Francis R. Smyth, Bismarck; Henry M. Wheeler, Grand Forks, and Andrew Clark; delegate to the American Medical Association, Dr. Victor H. Stickney, Dickinson, and alternate, Dr. Henry H. Healy, Grand Forks. Valley City was selected as the place of meeting for 1912.

OHIO

Cleveland Personal.—Dr. James D. Pilcher, who was recently operated on for appendicitis, is reported to be making good progress toward recovery.——Dr. Henry J. Gerstenberger has been appointed a member of the Cleveland Milk Commission, vice Dr. Edward F. Cushing, deceased.——Dr. George N. Upson was recently operated on for hernia and adhesions, following appendectomy.

State Association Meeting.—The sixty-sixth annual meeting of the Ohio State Medical Association was held in Cleveland, May 9-11, the Cleveland Academy of Medicine acting as host. The annual address on surgery was delivered by Dr. J. Chalmers Da Costa, Philadelphia, and it was decided to hold the next annual meeting in Dayton. The following officers were elected: president, Dr. Horace Bonner, Dayton; vice-presidents, Drs. Charles B. Parker, Cleveland; John C. Larkin, Hillsboro; George W. Hixson, Cambridge, and Sidney D. Foster, Toledo; councilors, Drs. Dana O. Weeks, Marion, and William E. Wright, Newark; secretary, Dr. John H. J. Upham, Columbus, and treasurer, Dr. Joseph A. Duncan, Toledo. A report of the scientific proceedings will appear in The Journal.

OKLAHOMA

Health Officers Meet.—The Oklahoma State Health Association, at its annual meeting in Muskogee, May 10, elected Dr. W. E. Wright, Tulsa, president; Dr. William G. Blake, Tahlequah, vice-president, and Dr. Joseph C. Ambrister, Chickasha, secretary-treasurer.

Woman's Auxiliary Meeting.—The Woman's Auxiliary of the Oklahoma State Medical Association, at its meeting in Muskogee, May 11, elected Mrs. W. C. Mitchiner, Okmulgee, president; Mrs. David A. Myers, Lawton, and Mrs. Walter B. Reeves, Wapanucka, vice-presidents; Mrs. Patrick H. Mayginnes, Tulsa, secretary and Mrs. John F. Duckworth, Tahlequah, treasurer.

Personal.—Captain Hugh Scott, M.C., N.G. Oklahoma, Waukamis, has been detailed to attend the army maneuvers at San Antonio.——Fire in the Westfall building, Oklahoma City, did great damage to the offices of Drs. Everett E. Phillips and Arthur L. Edington.——Dr. William Ernest Floyd, Coweta, has been appointed physician of Wagner County.

New Medical Examining Board.—The State Board of Medical Examiners held its meeting for organization in Oklahoma City, April 12, and elected Dr. Francis B. Fite, Muskogee, president; Dr. R. Ellis Sawyer, Durant, vice-president; Dr. John W. Duke, Guthrie, secretary, and Dr. F. A. Englehart, Oklahoma City, treasurer.——Dr. Jesse L. Wharton, Duncan, has been appointed a member of the State Board of Medical Examiners, vice Dr. D. C. F. Stillwell, Piedmont.

State Society Election.—At the nineteenth annual meeting of the Oklahoma State Medical Association, held in Muskogee, May 9-11, the following officers were elected: president, Dr. Charles L. Reeder, Tulsa; vice-presidents, Drs. James L. Shuler, Durant; H. Marion Williams, Wellston, and John W. Duke, Guthrie; secretary-treasurer, Dr. Claude A. Thompson, Muskogee (reelected), and chairman of the department on the eye, ear, nose and throat, Dr. W. Albert Cook, Tulsa. Shawnee was selected as the next place of meeting.

PENNSYLVANIA

Personal.—Dr. Oscar Knifller, Pittsburg, has decided to move to Wiesbaden, Germany, on account of the health of his wife.——Dr. George G. Harman, Huntingdon, who was operated on for appendicitis in the German Hospital, Philadelphia, March 22, has fully recovered.

Mount Alto Sanatorium.—According to State Health Commissioner Dixon, centralization of the state's tuberculosis work at Mount Alto, Cresson and Hamburg has not only great economic advantage, but also secures much better conditions for the patients under which to make the fight for health. At Mount Alto 800 patients are now being treated and the capacity will soon be raised to 1,200. One central heating plant serves for the entire village, and in the camp for incipient cases, there is a comfortably large sunshiny cottage for every eight patients, two in a room.

Touring Lecturer to be Employed.—At a meeting of the board of directors of the Pennsylvania Society for the Prevention of Tuberculosis, held May 9, it was decided to employ a lecturer to tour the state addressing the school children and teachers on the methods of preventing tuberculosis. Town meetings will be held by him and he will organize a corps of instructors to carry on the work. Plans were also formulated for an organized agitation to obtain county hospitals for advanced cases. Conferences will be arranged with the various county poor boards and a vigorous campaign started in all parts of the state.

Philadelphia

Hospital Building Dedicated.—A large addition to the Mt. Sinai Hospital was dedicated May 6, with elaborate ceremonies. A number of addresses were made and an interesting feature of the program was the sale of the golden keys (of the main door, vestibule, dispensary, various wards, private rooms and clinics) by auction, the twenty keys bringing in a total sum of $3,160.

Personal.—Dr. Warfield T. Longcope has been appointed assistant professor of medicine in Columbia University.——The vacancy created in the editorship of the *American Journal of the Medical Sciences* by the death of Dr. Aloysius O. J. Kelly has been filled by the acceptance of the position by Dr. George Morris Piersol.——Dr. Herbert P. Leopold sailed for Europe, May 13.——Drs. George G. Ross and Albert D. Whiting have been appointed instructors in surgery at the Medical School of the University of Pennsylvania.——Dr. William M. Sweet has been appointed attending surgeon to the Wills Eye Hospital, to fill the vacancy caused by the death of Dr. Charles A. Oliver.

Urges Use of Byberry.—The Council's committee on health and charities, which made a tour of inspection of insane asylums in other cities, in its report to Councils on May 4, recommended the immediate erection of a hospital for insane at Byberry; the overcrowded condition of the present quarters and the fact that the city is paying for the maintenance of 1,930 patients in other institutions were given as reasons for prompt action. It was suggested that Councils make an appropriation for a temporary building at Byberry to house 400 of the able-bodied insane male patients, who should be put to work preparing the ground for new buildings; that the new institution be built in a semi-detached system, all buildings to be connected by corridors and tunnels; that the institution be equipped with common dining rooms, except in the infirmaries and wards for feeble and unclean cases, kitchen building, laundry, workshops, convalescent building, infirmaries, attendants' homes, recreation buildings, auditorium, chapels, power plant, surgical operating room and a morgue.

TENNESSEE

College Commencement.—The thirty-fifth annual commencement of Meharry Medical College, Nashville, was held April 25. The address to the graduating classes was delivered by Rev. C. T. Walker, Augusta, Ga. This was followed by an address from Governor Hooper. A class of fifty-five was graduated from the medical department.

Society Condemns Hospital Superintendent.—The Memphis and Shelby County Medical Society, at its meeting May 2, went on record as condemning Alvin F. Tate, superintendent of the City Hospital "on account of his personal unfitness, his discourteous treatment to members of the medical profession and his discourtesies to the interns and nurses."

TEXAS

State Association Election.—At the forty-third annual meeting of the State Medical Association of Texas, held in Amarillo, May 9-11, the following officers were elected: president, Dr. David R. Fly, Amarillo; vice-presidents, Drs. Wiley H. Freeman, Lockney; A. L. Lincecum, El Campo, and Joe H. McCracken, Mineral Wells; trustee, Dr. John T. Moore, Houston; councilors, Drs. Hugh D. Barnes, Tulia; Washington A. Harper, Austin; William H. Blythe, Mount Pleasant; Walter Shropshire, Yoakum; Wallace Ralston, Houston, and Newton J. Phenix, Colorado (reelected); delegates to the American Medical Association, Drs. Arthur C. Scott, Temple; Vard H. Hulen, Houston; William L. Brown, El Paso, and Joe Becton, Greenville, and alternates, Drs. Frank D. Boyd, Fort Worth; Charles A. Smith, Texarkana, and James C. Loggins, Ennis. Waco was selected as the next place of meeting. Resolutions were adopted setting forth the necessity for the state to promptly provide adequate room and treatment of the insane of the state so as to avoid the necessity for confinement of insane persons in jails at any time, and providing for a state commission on insanity and substituting diagnosis by the commission for trial by jury.

WISCONSIN

District Society Meeting.—At the annual meeting of the 9th Councilor District Medical Society, held in Stevens Point, May 2, Dr. Thos. H. Hay, Stevens Point, was elected president, and Dr. Potter, Marshfield, secretary and treasurer.

Higher Death-Rate.—The Wisconsin State Board of Health, in its quarterly report on vital statistics, says that the mortality rate during the first quarter of 1911 was 13.7 per 1,000 of population, an increase of 1.5 per 1,000 as compared with a similar period of last year; and that this was due chiefly to the prevalence of pneumonia.

Personal.—Dr. John A. Roberts, Portage, was operated on at the Bentley Hospital, May 7, and is reported to be doing well.——Captain James Scott, M. C. N. G. Wis., Appleton, has been ordered to attend the maneuvers at San Antonio.——Dr. Frank E. Morley has been appointed health officer of Viroqua.——Dr. Frederick W. Bromley, Palmyra, after twenty-eight years of practice, has retired.——Dr. Gustave Bjorkman, Racine, is reported to be critically ill with gangrene of the right foot.

WYOMING

Personal.—Dr. and Mrs. Fred Horton, Newcastle, have started for a trip through the South.——Dr. Norvel H. Baker, Gillette, has been appointed house physician at the Sheridan Hospital, vice Dr. Vanatta, resigned.——Dr. Charles H. McLean, Laramie, is reported to be critically ill with pneumonia in Denver.

GENERAL NEWS

Association of American Physicians.—The Association of American Physicians, at its meeting in Atlantic City, elected Dr. J. George Adami, Montreal, president; Dr. Lewellys F. Barker, Baltimore, vice-president; Dr. George M. Kober, Washington, D. C., secretary; Dr. Solomon Solis-Cohen, Philadelphia, recorder; Dr. J. P. Crozer Griffith, Philadelphia, treasurer; Dr. Francis H. Williams, Boston, councilor; Dr. William S. Thayer, Baltimore, representative on the executive committee of the Congress of American Physicians and Surgeons, and Dr. Theodore C. Janeway, New York City, alternate.

Railway Surgeons Will Meet.—The sixteenth annual session of the Association of Southern Railway Surgeons will be held in Charlotte, May 29-31, under the presidency of Dr. William C. Day, Danville, Va. Dr. John R. Erwin, Charlotte, will deliver the address of welcome, to which Dr. J. Howell Way, Waynesville, will respond.

THE CHILD WELFARE EXHIBIT

A Presentation in New York and Chicago of Factors Influencing Childhood

The Child Welfare Exhibit, which opened in Chicago, May 11, and will continue until May 25, includes the New York Child Welfare Exhibit which was so successful in that city and is supplemented by an enormous amount of local material, which has become available for Chicago through the generosity of Mrs. Cyrus H. McCormick, Jr. Never since the conferences and exhibitions of the World's Fair in 1893 has such a general interest been emphasized in a civic or philanthropic exhibition. The exhibit was referred to editorially last week.

EXPLAINERS

The work of explaining the various features of the exhibit is in the hands of several hundred earnest workers who speak, not only English, but also all the languages used by the polyglot population of Chicago; and in addition to the explainers most of the sections are in charge of experts in the field which they cover.

DEPARTMENT OF HEALTH

The exhibit of the Department of Health, Chicago, is especially noteworthy. In one of the first booths there is a mechanical model to demonstrate how quickly the air is vitiated in a room with closed windows, and how fresh the air remains if the windows are kept open, and this is emphasized by posters and diagrams on the surrounding walls. In the Motherhood Booth the advantage of the breast-fed baby over the child who has a cow or a whole drove of cows for his foster-mother is shown and the cartoon indicates some of the chances of pollution which dairy milk runs in its journey from the farm to the city. Diagrams, charts, models and cartoons innumerable show citizens how they can use or cooperate with the city's machinery in safeguarding the health or relieving the ailments of their children, and also trace the effects of physical defects or diseases on the physical and mental development of the child. The matter of communicable diseases of children is treated in the same manner, and maps and charts show the concentration of contagious diseases. The precautions to be taken to minimize infections are set forth and a simple method of disinfecting is demonstrated. A graphic representation of the mortality of children is shown in a mechanical procession of dolls like that of the apostles in the Strasburg clock, in which every fourth doll drops from the line to illustrate that only three out of every four infants grow to maturity. Demonstrations seem to be the slogan of the department. A model demonstrates the danger of the tuberculous cow to children, and there are illustrations of the proper methods of home filtration, pasteurization and modification. The life of the fly is demonstrated and its effects as a disease carrier.

OPEN-AIR SCHOOLS

The open-air schools of Chicago have an interesting exhibit. Illinois, it is said, spends $1,187,000 every year in educating children who die of tuberculosis before they are twenty years of age, and whose lives might have been saved by transformation of the living conditions from unsanitary to sanitary by the substitution of good for poor food, and fresh for foul air. At the open-air schools there is no long confinement at desks for the pupil; there is plenty of rest, plenty of food and an abundance of fresh air. The result of the first year's work of these schools speaks for itself. The children who entered the schools were below grade and brought records of slow progress, trouble with teachers, an irregular attendance; but in the open-air school the child who had been kept from school by illness continued in school, well, and the intractable pupils became good students. An actual school completely furnished is shown in the exhibit, together with the tent used for shelter for the children in stormy weather. The work now being done in two of the public schools points the way to the work which eventually must be undertaken by the Board of Education, backed and supported by public opinion.

THE CONSERVATION OF VISION

An exceedingly interesting exhibit is that prepared under the supervision of a committee of which Dr. Thomas A. Woodruff was chairman on the conservation of vision and the wording of two of the most interesting charts of this exhibit are here reproduced:

PREVENTION OF BLINDNESS—LEGISLATION NEEDED

A law to compel physicians and midwives to report all cases of red and swollen eyes in the new born to the local boards of health within twelve hours after discovery.

A law requiring local health officers to see that all cases of ophthalmia neonatorum receive adequate treatment.

A law compelling physicians to see that cases of contagious eye diseases are surrounded with prophylactic safeguards against communication.

A law requiring adequate training of midwives and systematic registration and control.

A law compelling manufacturers to install safety appliances to prevent injuries to eyes.

A law prohibiting the indiscriminate use of fireworks.

A law requiring the proper lighting of all public buildings, particularly factories and schools.

A law preventing the manufacture of wood alcohol.

A little care at birth would have saved about 35,000 eyes.

Immediate treatment and proper care would have saved about 21,000 eyes.

Industrial precautions would have saved almost 12,000 eyes.

A sane Fourth of July would have saved over 600 eyes.

Seventy thousand eyes sacrificed through carelessness and ignorance.

Cost in money to society, about $12,000,000 every year.

Of the 89,000 blind individuals in the United States, it is said that at least one in four goes through life "in the dark" because of the ignorance or carelessness of the one who attended him in the first hour and who failed to apply a simple and harmless remedy before the infection in the eyes could begin.

The exhibit also includes the accidents to the eyes, the effects of wood alcohol and tobacco, the effects of light on the eyes—both direct and artificial—and the proper diffusion and softening of artificial light; with general directions for the lighting of rooms and industrial lighting.

The American Association for the Conservation of Vision announces as its purpose the collecting and standardization of existing in formation on all subjects pertaining to the use and care of the eyes; the securing of the investigation of subjects on which present information is incomplete or contradictory, and the promulgating of knowledge relating to the conservation of vision.

THE HEALTH ALPHABET

In the tuberculosis exhibit is a health alphabet prepared by a Chicago tuberculosis nurse, which is of sufficient value to reproduce.

HEALTH ALPHABET

A is for ADENOIDS which no child should own
B for right BREATHING to give the lungs tone
C is for COUGH which we should not neglect
D for the DENTIST who finds tooth defect
E is for EVILS of foul air and dirt
F is for FRESH AIR—too much cannot hurt
G is for GARDENS where boys and girls play
H is for HARDINESS gained in that way
I is for INFECTION from foul drinking-cups
J is for JOY in the bubbling taps
K is for KNOWLEDGE of rules of good health
L is for LUNGS whose soundness is wealth
M is for MILK, it must be quite pure
N is for NURSES, your health to insure
O is for OXYGEN, not found in a crowd
P is for PENCILS—in mouths not allowed
Q is for QUIET, which sick people need
R is for REST—as part of our creed
S is for SUNSHINE to drive germs away
T is for TOOTH BRUSH used three times a day
U is for USEFUL health rules in the school
V is the VALUE of learning these rules
W is WORRY, which always does harm
X is 'XCESS—indulge in no form
Y is for YOUTH, the time to grow strong
Z is for ZEST—help the good work along

In this exhibit is shown a tuberculosis map of Chicago, which shows that of the 3,948 children examined, 760 were suffering from pulmonary tuberculosis and 365 from tuberculosis of other portions of the body. In all, about one-third of the number examined—and these were not selected cases—were suffering from some form of the disease. There are also charts, illustrations and diagrams showing the work accomplished at the sanatoria of the Chicago Tuberculosis Association, illustrations of the outdoor sleeping porch and tent, the diet, kitchen, the milk laboratory, etc.

THE VISITING NURSES

The Visiting Nurses' Association shows its activity in child welfare work by its interesting exhibit. The association has the peculiar ambition and desire to work itself out of existence; so to improve conditions that there will be no need for its services, but, at the present time, not only has this not been accomplished, but the necessity for the use of more nurses has increased disproportionately with the supply of nurses to be obtained. An extensive series of photographs shows the work that is being done daily by the visiting nurses for the children of the poor. The nurse not only teaches the mother how to care for her child, but how properly to prepare food, and emphasizes by precept and example the necessity of cleanliness of person and surroundings.

CONFERENCES AND ENTERTAINMENTS

In addition to the exhibits daily conferences and entertainments are held in the conference room in the annex, in an adjoining church (Grace) and in the main court of the Coliseum. Demonstrations for parents, teachers and others to whom the custody of the child is entrusted form an important part of the conference programs. In a second group of conferences, experts in various lines of child service daily discuss the problems connected with their work and the direction in which an advance is most needed, such as social hygiene, the further development of juvenile court work, the better classification of children with reference to mental and physical defects, better cooperation between parents and teachers, the treatment of dependent, truant and delinquent children, and the better organization of recreational facilities. The third group of conferences is addressed by those who can best interpret the claims of child-life and child-care to the interest, support and service of the whole city. On the main floor of the Coliseum daily entertainments of various kinds, as musical, athletic, apparatus work, plays, etc., are given daily by children of all ages. The results of such an exhibit must be far-reaching and will make for a better and healthier childhood.

FOREIGN NEWS

International Sanitary Conference.—The United States Department of State has been recently advised by the French government that the International Sanitary Conference called by that government to meet in Paris May 26, has been postponed until Oct. 10, 1911. The object of this conference is stated in the invitation to be to revise, to amend and, should the occasion arise, to complete the Sanitary Convention of Dec. 3, 1903, as to the measures to be applied by the powers participating in the conference to control the spread of plague, cholera and yellow fever. It is probable that among the amendments which will be adopted at this conference will be additional articles relating to yellow fever, closely corresponding with those adopted by the Second General International Sanitary Convention of the American Republics, Washington, Oct. 14, 1905. The representatives on the part of the United States who have been designated to attend this conference are Lt. Colonel J. R. Kean, Medical Corps, U. S. Army; Surgeon J. C. Pryor, U. S. Navy, and Surgeon Henry D. Geddings, U. S. Public Health and Marine-Hospital Service.

CANADA

McGill Alumni Reunion.—There will be a reunion of the graduates of the medical department of McGill University, Montreal, in that city June 5-6, just before the meeting of the Canadian Medical Association.

Academy Meeting.—The fourth annual meeting of the Toronto Academy of Medicine and the first to be held in its new home in Queen's Park, was held May 3, and the following fellows were elected to office: President, Dr. Newton A. Powell; vice-president, Dr. Richard A. Reeve; past president, Dr. Albert A. Macdonald; honorary secretary, Dr. W. Harley Smith; honorary treasurer, Dr. William A. Young; and chairman of sections-medicine, Dr. Graham Chambers; surgery, Dr. Herbert A. Bruce; pediatrics, Dr. John T. Fotheringham; pathology, Dr. John J. McKenzie; ophthalmology, Dr. Charles Trow, and state medicine, Dr. John S. McCullough.

Personal.—Dr. J. L. Todd, St. Anne, Que., of McGill University, has started for West Africa to study sleeping-sickness.——About fifty members of the staff of Toronto General Hospital attended a banquet in Toronto, April 9, in honor of Dr. John Nelson Elliott Brown, the retiring general superintendent. A handsome silver salver was presented to Dr. Brown and an illuminated address was read and presented by Dr. David J. G. Wishart.——Dr. Henry Raymond Casgrain, Windsor, has been elected chairman of the liquor license commission for that district.——The council of the Royal Geographical Society of England has awarded to Dr. Wilfred T. Grenfell, St. Anthony, Labrador, the Murchison bequest for the current year in recognition of his contribution to the geographical knowledge of the world.

LONDON LETTER

(From Our Regular Correspondent)

London, May 6, 1911.

A Committee of the British Medical Association for the Investigation of the Treatment of Fractures

About twenty years ago, "collective investigation" was employed by the British Medical Association for the investigation of disease. This consisted in issuing to physicians blanks on some question in need of investigation. These when filled in and returned were handed over to some authority on the subject for collation, and the results were published in the *British Medical Journal*. The project was started with high hopes; it was thought that the collected experiences of many men would do much to advance medical science and furnish results where individual experience had failed. But in spite of a large amount of work, freely and unsparingly done both by physicians and by eminent authorities who collated the observations, the tangible results were insignificant and it is impossible to point to a single discovery of even minor importance made by this method. Even the very term "collective investigation" has fallen out of use. Such a result might have been anticipated. Observations have weight as well as number, and require skill and experience. Where skilled investigators have failed a host of observers not selected for any special aptitude cannot be expected to succeed. All the discoveries of medicine, whether great or small, have been made by individuals working alone or with a few collaborators selected for the purpose. The Hippocratic maxim as to the difficulty of experience has especial application to investigations carried out by many observers. However, the method has been revived by the association. In consequence of a recommendation made by the section of surgery at the last annual meeting on the conclusion of the discussion on the operative treatment of simple fracture, the council has appointed a committee to inquire into the ultimate results obtained in the treatment of simple fractures with, or without, operation. A notice has been published in the *British Medical Journal* requesting the cooperation of surgeons, surgical registrars of hospitals and other practitioners who may be in a position to assist the inquiry to let the committee have access to records of suitable cases. The investigations will be limited to simple fractures of the long bones which have occurred in the five years 1906-1910.

Destruction of Fleas by Exposure to the Sun

In India the prevalence of plague renders the destruction of fleas a serious problem. For the destruction of these pests in travelers' baggage various powders have been tried. Napththalin acted well, but was too slow, requiring six and one-half hours to kill fleas in a closed space and nine hours in the open. It was then determined to ascertain the effect of the heat of the sun. The results are given in a very instructive "Memoir of the Medical and Sanitary Departments of the Government of India," by Capt. J. Cunningham, an army surgeon. In previous experiments it had been found that rags spread on the ground in thin layers were freed from fleas in three hours. In the present investigation the attempt was made to determine the different ways in which fleas behave when clothes are spread on different kinds of ground. Tin trays 4 by 4½ feet, with sides 4 inches high were made. In these were placed cotton carpets (*dhurries*) and a hundred fleas were introduced, half above and half below the carpet. The tray was drawn out into the sun and the behavior of the fleas carefully watched. They were seen to escape from the glare, but after seven minutes all on the surface were killed, and at the end of half an hour also all those beneath the carpet. When carpets were spread on sand the effects were more marked, the sand absorbing the sun's heat faster than the trays. The fleas made no attempt to burrow into the sand and were almost immediately killed. When the carpets were spread on leaves and grass the fleas dived under the grass and got protection from the sun. With carpets spread on hard ground the time necessary for the destruction of all fleas was forty-five minutes; on sand, somewhat less, the temperature being 117 F. under and 118-142 F. on the surface of the carpets. Experiments were also made with the padded cotton quilts, used by the natives, to see if they protected fleas from the sun's heat. In one or two cases the heat did not penetrate the whole thickness of the quilt and some fleas survived, but on turning the quilt over no fleas were found alive after an hour's exposure to the sun; the temperature inside the quilt was found to be 143 F. The following rules have therefore been drawn up for the disinfection of flea-infested clothing by a means which is simple, reliable, and free from expense. The ground must be fully exposed to the sun and devoid of anything that can shelter the fleas, and should be covered with a 3-inch layer of fine sand. The surface temperature of the sand must be at least 120 F. before the clothing is spread. The clothes must be spread evenly in a single layer for one hour, padded articles being turned once or twice. No clothes must be placed within three feet of the edge of the sand (to prevent the fleas from traveling away). The whole area should be fenced in to keep off animals.

PARIS LETTER

(From Our Regular Correspondent)

Paris, May 5, 1911.

The Sense of Direction Among the Blind

During one of the last sessions of the Académie des Sciences, M. Truschel, of Strasburg, read a communication on the sense of direction in the blind. It is known that the blind find their way very easily and that they seem to avoid obstacles as if they had a special sense. Some authors, to explain these phenomena, have assumed a new sense, sometimes called "the sixth sense of the blind." It has even been maintained that obstacles are felt by means of unknown emanations. It appears, from experiments undertaken by M. Truschel, that the blind have actually the ability to perceive obstacles at some distance, but it is not a sixth sense, the sensation being due exclusively to reflection of sound and not being peculiar to the blind exclusively. For instance, when the ground is covered with snow or the floor with a carpet, the blind find the greatest difficulty in orienting themselves. Therefore, they are able to perceive obstacles brought close to them very slowly and silently, only when there is absolute silence in the room. When the head of the blind person is enveloped with paper, cloth, etc., however, the perception persists. Only a large cylinder surrounding the head can suppress the sensation, because it produces the same effect as the approaching object. M. Truschel believes that the organ of these perceptions is the labyrinth, and that the sense of direction which is so highly developed among certain animals may be explained in the same way.

Monument to Dr. Mesny

A committee has been formed to erect a monument to Dr. Gérald Mesny, who died a victim of his devotion at Foudzadian (The Journal, March 18, 1911, p. 826). M. Berteaux, minister of war, has accepted the honorary presidency of the committee. A subscription will be opened at Tien-Tsin, among the residents and the French physicians, the mandarins and the Chinese students of the school of medicine, of which Dr. Mesny was professor.

The Training of Dogs for the Sanitary Service

In a previous letter I mentioned encouraging results obtained in the experimental employment of dogs for the search of the wounded (The Journal, Sept. 17, 1910, p. 1036). The ministry of war has just created at Fontainebleau, near Paris, military kennels for the breeding and training of the sanitary service dog.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, April 27, 1911.

Benzoic Acid and Its Salts as Food Preservatives

The official board of experts (*Wissenschaftliche Deputation für das Medizinalwesen in Preussen*) has presented a report to the Prussian ministry regarding the permissibility of the use of benzoic acid and its salts for the preservation of foods. In this report the investigations made by the United States Department of Agriculture are referred to, by which it was shown that benzoic acid produces poisonous effects only in relatively large doses. The board, however, believes it cannot be said with certainty at present that larger doses (to the amount of several grams) will be permanently so harmless to all human beings as the smaller amounts. The experiments of the American scientists were of too short duration and the results subject to such limitations that they cannot be regarded as convincing proofs of the unconditional harmlessness of the acid. Taking into consideration food legislation in other countries, the board comes to the conclusion that the use of benzoic acid and benzoates for the preservation of foods should not be permitted. The danger of harm is most marked with children and weak or sick individuals. A further objection is raised against chemical food preservatives in general, namely, that by their use the care necessary to prevent food from putrefying or molding will be neglected by manufacturers and dealers.

Personal

Professor Moritz of Strasburg has accepted the call as director of the medical clinic of the academy for practical medicine in Cologne.

Professor Leube of Würzburg contemplates resignation from his teaching position at the end of the summer semester on account of his advanced age.

Professor Manz, the ophthalmologist of Freiburg, died April 21, at the age of 78 years. He joined the faculty in 1859 and became director of the eye clinic in 1868. His chief works dealt with the development, malformations and tuberculosis of the eye and with optic neuritis. He retired from active work in 1901.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, May 1, 1911.

Responsibility of Physicians and Medical Institutes

The problem of medical responsibility has commanded the attention of physicians in a high degree for the last few years, owing to recent lawsuits which have taken place in this country. Especially *x*-ray workers have lately been victims of such actions, and although in all the recent cases the claims have been dismissed, nevertheless the worry and trouble incurred by the doctors were very telling. Surgeons and obstetricians have lately had to fight out such claims, and in one instance a rhinologist was accused of having disfigured a man whose nose assumed a shape not expected by the patient before he submitted to a plastic operation of this organ. Also hospitals have been sued for damages by patients and in one instance the junior house surgeon, who actually was so unfortunate as to be guilty of malpractice, had to pay heavy damages. The consequence of it was that the members of all the hospital staffs refused to work in the government hospitals unless they were insured against liabilities arising out of such occurrences. A special insurance company has been established by physicians for physicians, whose chief object is to protect the profession against such claims. The medical associations have repeatedly admonished their members to be careful in such instances, and that all medical colleagues should be defended against unjust attacks. Furthermore, all hospitals have been warned against operating on a patient without the written consent of the patient, or, in case he be a minor or not fit to judge for himself, without the consent of his responsible friends. Great stress is laid on the qualities of the anesthetist in operations. In this country he must be a duly qualified M.D. Perhaps to these stringent precautions we owe the relative scarcity of deaths under an anesthetic, otherwise a fruitful source of claims for compensation by the relatives. At present nearly all physicians practicing surgery of any kind in this country, and all hospital physicians also, belong to one or another of the insurance companies. The rate of premiums is 25 kronen ($5) for insurance up to the sum of 20,000 kronen ($4,000), with an additional 10 kronen for each further 10,000 kronen insured. The hospitals are insured, not per person especially named, but per number of doctors employed. The medical councils are at present engaged in statistical research of the points in question: the actual damage done to a patient, whether moral or material, and the actual error on the part of the physician or the nurse or other person employed by the physician, as well as the sums claimed for damages and the sums awarded them in court.

Schools for Crippled Children

A number of children have been placed in special institutions lately in this city with an object of studying the possibility of schools for cripples. The idea is to help those children who are defective in one or more organs, excluding the blind, deaf and mute. The experimental classes consist of forty-three boys, of whom thirteen have lost the normal use of the right arm; seven have lost the right, nine the left eye; fourteen are hunchbacks, while nearly all of the latter show also pathologic changes in the extremities. The children are taught as far as possible on equal lines with normal children of the corresponding age, but with special attention to the individual defect. As far as the results obtained already can be judged, teaching begun early will make the child as useful a citizen as any other person. Great stress is laid on teaching of such subjects as will be of use in future in helping the cripple to earn a living.

Marriages

Lucius C. Buckley, M.D., New York City, to Miss Edna Bruner of Sacramento, Cal., at Petchaburi, Siam, March 20.

James Gilbert Howard, M.D., Ozone Park, L. I., to Miss Mabel E. Clarke of Brooklyn, at Newark, N. J., May 11.

Rena May Heilman, M.D., Leechburg, Pa., and Alexander Pitcairn Lindsay of Pittsburg, at Leechburg, April 12.

George Andrew Cathey, M.D., Portland, Ore., to Miss Bertha Anne Kruse of North Bend, Ore., April 28.

Charles M. Steele, M.D., Reno, Nev., to Mrs. Mylo Egan of New York City, in San Francisco, April 28.

Samuel E. Grout, M.D., Birmingham, Ala., to Miss Mary Stewart Wells of Dyersburg, Tenn., May 18.

Frederick R. Williams, M.D., Bisbee, Ariz., to Miss Elizabeth A. Taft of Houston, Tex., April 26.

James Alexander Logan, M.D., Colona, Ill., to Miss Clara Rimbey of Murrayville, Ill., April 24.

Thomas J. Lynch, M.D., St. Joseph, Mo., to Miss Clare O'Connor of Buffalo, N. Y., May 1.

William Wesley Peter, M.D., Toledo, to Eleanor E. Whipple, M.D., of Chicago, May 4

Lonnie L. Lanier, M.D., Stillmore, Ga., to Miss Marguerite Harper, at Stillmore, May 7.

Rocco Andrew Montani, M.D. to Miss Eustasia Morone, both of Indianapolis, May 3.

Carl H. Meyer, Jr., M.D., to Miss Johanna N. Jurgensen, both of Baltimore, April 25.

Edward L. Heintz, M.D., to Miss Bertha Marie Hansen, both of Chicago, May 4.

Charles Edward Sidwell, M.D., to Miss Ruth Edna Allen, both of Chicago, May 11.

Emil Geist, M.D., Minneapolis, to Miss Augusta Ohage of St. Paul, May 9.

Manney Rice, M.D., to Miss Mabel Smith, both of Columbia, S. C., April 30.

Deaths

Roscoe H. Ritter, M.D. Medical College of Indiana, Indianapolis, 1897; a member of the Indiana State Medical Association; secretary of the Indianapolis Medical Society; pathologist to the Indianapolis City Hospital; professor of pathology in the Indiana Medical College, and chairman of the college curriculum committee; professor of materia medica and therapeutics in the Indiana Dental College; died at his home, May 6, from nephritis, aged 37. The Indianapolis Medical Society and the faculty of the Indiana University of Medicine, at special meetings held May 6, adopted resolutions regarding the death of Dr. Ritter.

William A. Duncan, M.D. Chattanooga (Tenn.) Medical College, 1898; a member of the American Medical Association, and Association of Southern Railway Surgeons; president of the Chattanooga Academy of Medicine and Hamilton County Medical Society in 1910; for one term city physician of Chattanooga, and a member of the staff of the Erlanger Hospital; local surgeon for many of the railways centering in Chattanooga; died at the home of his parents in that city, May 4, from tuberculosis, aged 35.

William Samuel Smith, M.D. University of Southern California, Los Angeles, 1902; for two years assistant surgeon at the Los Angeles County Hospital and then a practitioner of Arizona for three years; a member of the territorial board of examiners of the insane; physician of Yavapai County and superintendent of the county hospital; died at his home in Santa Monica, Cal., February 19, aged 32.

Jasper Tidball, M.D. University of Michigan, Ann Arbor, 1874; Bellevue Hospital Medical College, 1878; a member of the American Medical Association; local surgeon at Grafton, Ill., for the Chicago, Peoria and St. Louis Railway; who gave up practice about two years ago and went to San Diego, Cal.; died at his home in that place, April 25, from pernicious anemia, aged 62.

Thomas C. Longino, M.D. Southern Medical College, Atlanta, Ga., 1895; a member of the Medical Association of Georgia; captain and assistant surgeon of volunteers during the Spanish American War, and thereafter for a time a practitioner of Galveston, Tex.; died at his home in Atlanta, April 28, aged 37.

George Washington Talson, M.D. New York University, New York City, 1860; for several years a member of the staff of St. Francis Hospital, Jersey City, and physician to the Little Sisters of the Poor; died at the home of his sister in Wheeling, W. Va., April 19, from heart disease, aged 70.

Samuel Eccleston Holtzman, M.D. New York University, New York City, 1862; assistant surgeon and surgeon of the Fifty-Eighth Indiana Volunteer Infantry during the Civil War; formerly of Pontiac, Ill., but of late years a resident of Takoma Park, D. C.; was found dead at his summer home in Ocean Grove, N. J., May 8, from heart disease, aged 73.

Charles Magnus Brucker, M.D. Eclectic Medical Institute, Cincinnati, 1882; for one term mayor of Tell City, Ind., and for two terms a member of the common council; president of the local medical board; a member of the local pension board and local surgeon to the Southern Railway; died at his home, May 9, aged 51.

Madison Waldo Leonard, M.D. University of Alabama, Mobile, 1894; of Attala, Ala.; a member of the Medical Association of the State of Alabama; died in that place, April 30, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent while despondent, aged 45.

James Huntington Bailey, M.D. University of Vermont, Burlington, 1857; the oldest practitioner of Ticonderoga, N. Y.; surgeon of the Eighth Vermont Volunteer Infantry during the Civil War; died at his home, April 13, from the effects of a fracture of the hip, due to a fall seven months before, aged 77.

John B. Trowbridge, M.D. Rush Medical College, 1882; a member of the American Medical Association; local surgeon at Haywood, Wis., for the Chicago, Milwaukee and St. Paul Railway, and a member of the local board of United States pension examining surgeons; died at his home, in April, aged 60.

William Alfred Trueblood, M.D. University of Alabama, Mobile, 1902; Washington University, St. Louis, 1903; a member of the American Medical Association; formerly of Ottumwa, Ia., and a member of the staff of the Ottumwa Hospital; died in Baker City, Ore., May 1, from pneumonia, aged 37.

James M. Louther, M.D. Philadelphia University of Medicine and Surgery, 1865; one of the oldest practitioners of Somerset County, Pa.; for many years a practitioner of Stoyestown; at one time a member of the State Board of Medical Examiners; died at his home in Somerset, April 25, aged 72.

George W. Hafele, M.D. University of Maryland, Baltimore, 1908; of Baltimore; died at the home of his sister in that city, May 3, from the effects of a gunshot wound of the head, believed to have been self-inflicted with suicidal intent while despondent from over-study, aged 32.

Emanuel T. Rehrig, M.D. Medico-Chirurgical College of Philadelphia, 1907; a member of the American Medical Association; for four years resident physician at the Whitehaven (Pa.) Sanatorium for Tuberculosis; died at the home of his parents in Easton, Pa., April 28, aged 28.

Augustus Alexander Clewell, M.D. University of Louisville, Ky., 1871; a member of the American Medical Association; a Confederate veteran; for thirty years a practitioner of Baltimore; died at his home in that city, April 28, from angina pectoris, aged 65.

Benjamin Kinyon, M.D. University of Michigan, Ann Arbor, 1871; for many years a practitioner of Cincinnatus, Ill.; for eight years a member of the Board of Supervisors; died at the home of his daughter in Wilmette, Ill., April 12, aged 68.

Henry Kunkel, M.D. College of Physicians and Surgeons, Baltimore, 1889; a member of the American Medical Association and American Academy of Medicine; died at his home in Kingston, Pa., April 26, from chronic bronchitis, aged 49.

Henry Jay Brink, M.D. New York University, New York City, 1883; physician of Britt, and Hancock County, Iowa; was found dead in a livery barn in Britt, May 8, after returning from a professional call, from heart disease, aged 51.

Benjamin S. Shaug (license, Iowa, years of practice 1886); a veteran of the Mexican War, and a surgeon throughout the Civil War; for twenty years a practitioner of Eldon, Ia.; died in Ottumwa, April 28, from cerebral hemorrhage, aged 84.

Thomas Callaghan, M.D. Baltimore (Md.) Medical College, 1900; of Smith's Hill, Providence, R. I.; a specialist in obstetrics and diseases of children; died at the East Side Hospital, Providence, May 5, from cerebral hemorrhage, aged 39.

Alexander J. Rogers (license, Westmoreland County, Pa., twenty years of practice, 1881); a veteran of the Civil War; for many years a practitioner of Scottdale; died at the Rogers homestead in Connellsville, April 28, aged 76.

Marquis Greenwald (license, Indiana, 1897); a pioneer practitioner of Auburn, where he had practiced twenty years; died at the home of his daughter in Auburn Junction, April 25, from cerebral hemorrhage, aged 76.

Harry H. Baker, M.D. Chicago Homeopathic Medical College, 1897; of Chicago; for several years a lecturer on materia medica at Hahnemann Medical College; died in Brooklyn, May 13, from heart disease, aged 45.

Emory E. Howard, M.D. University of Vermont, Burlington, 1884; formerly of South Hadley, Mass.; secretary and treasurer of the Florida Open Air Association; died at his home in Sorrento, May 1, aged 60.

Perdelete Hebert, M.D. Bellevue Hospital Medical College, 1898; a member of the American Medical Association; died at his home in Iron Mountain, Mich., April 26, from carcinoma of the stomach, aged 53.

Henry Garrettson Spooner, M.D. Harvard Medical School, 1897; formerly of Boston; first editor of the *American Journal of Urology*; died in the Massachusetts General Hospital, Boston, May 3, aged 39.

John S. Renninger, M.D. Hahnemann Medical College, Chicago, 1881; formerly a member of the Minnesota State Medical Association; died at his home in Marshall, Minn., last month, aged 54.

Selden LaFayette Blake, M.D. California Eclectic Medical College, Los Angeles, 1880; of San Francisco; died in the Irving Sanatorium in that city, April 28, from cerebral meningitis, aged 54.

Henry Rossignol, M.D. Medical College of Georgia, Augusta, 1848; surgeon in the Confederate service throughout the Civil War; died at the home of his daughter in Atlanta, Ga., April 25, aged 85.

Andrew F. Hammer, M.D. Hahnemann Medical College, Chicago, 1878; a member of the Illinois State Medical Society; died at his home in Taylorville, May 1, from nephritis, aged 61.

Charles A. Walters, M.D. New York Homeopathic Medical College, New York City, 1878; died suddenly at his home in Brooklyn, May 2, from cerebral hemorrhage, aged 57.

Dyas C. Ellis (license, Missouri, 1883); for fifty years a practitioner of Missouri; a veteran of the Civil War; died at his home in Garden City, April 21, aged 78.

Emmett Eugene Horn, M.D. College of Physicians and Surgeons, Chicago, 1906; died at his home in Englewood, Colo., March 14, from tuberculosis, aged 29.

William L. Stephens, M.D. Eclectic Medical Institute, Cincinnati, 1901; formerly of Lenapah, Okla.; died at his home in Idaho, April 1, aged 52.

T. M. Morton (registration, Oklahoma, act of 1908); for many years a practitioner of El Paso, Ark.; died at his home in Davis, Ark., April 30.

Leonard Von Stein (license, Ohio, years of practice, 1896); of Upper Sandusky, O.; died in the Wyandot County Infirmary, April 25, aged 81.

William H. Kindleberger, M.D. Indiana Medical College, Indianapolis, 1875; died at his home in Indianapolis, May 2, from neuritis, aged 54.

William H. Yarnall, M.D. Eclectic Medical Institute, Cincinnati, 1865; died at his home in Detroit, May 6, from pneumonia, aged 68.

Jonathan Edward Burford, M.D. Jefferson Medical College, 1879; of Patterson, Tex.; died in San Antonio, April 27, aged 55.

George W. Harmon, M.D. Hahnemann Medical College, Philadelphia, 1884; of Newark, N. J.; died in Mena, Ark., April 21.

William Anderson, M.D. Victoria College, Coburg (Ont.) 1858; died recently at his home in Newcastle, Ont., aged 74.

Adolphus T. Keckler, M.D. Physio-Medical College, Cincinnati, 1866; died at his home in Cincinnati, April 22, aged 80.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

TUCKER'S ASTHMA SPECIFIC

An Insidiously Dangerous Cocain Mixture

This nostrum is sold by a Dr. Nathan Tucker of Mount Gilead, O., and is applied locally by means of an atomizer. When written to, Dr. Tucker sends a form letter with circulars describing his "system" for the cure of "asthma, hay fever and nasal catarrh." The "treatment," for which $12.50 is asked, consists of an atomizer and 4 ounces of the "cure." This nostrum has been analyzed repeatedly and in almost every case, so far as we know, cocain has been found in it.

In 1903, Aufrecht examined the stuff and assigned to it the following composition:

Cocain hydrochlorid	1 per cent.
Potassium nitrate	5 per cent.
Glycerin	35 per cent.
Bitter almond water	35 per cent.
Water	25 per cent.
Vegetable extractives (probably from stramonium)	4 per cent.

In common with nostrums of all kinds, its composition seems to change with the whim of the manufacturer, for when Bertram analyzed the preparation in 1905, he reported finding:

Atropin sulphate	1 per cent.
Sodium nitrate	4 per cent.
Vegetable extractives, dissolved in water with some glycerin	0.52 per cent.

Still later O. Anselmino (*Pharmaceutische Centralhalle*, Dec. 6, 1906) reported that one of his analyses disclosed the presence of hydrocyanic (prussic) acid, but that the analyses of another sample did not show the presence of this drug. He also reported finding a nitrite in the first sample examined but no potassium nitrate. The amount of alkaloid found by Anselmino was 1 per cent., the greater part of which was cocain.

In The Journal, August 4, 1906, Dr. Herman Vickery of Boston, reported that he had had analyses made of this preparation and that 7 grains of cocain hydrochlorid had been found in each ounce of the remedy. In The Journal, August 28, 1906, Dr. N. P. McGay of Shiloh, O., reported a case of cocain poisoning in a 5-year old child from the use of Tucker's preparation.

The Massachusetts State Board of Health, in its official bulletin for January, 1907, listed Tucker's Asthma Specific among other cocain-containing preparations which are unsalable in that state.

The London *Lancet*, Feb. 29, 1908, reported a case of poisoning following the use of this preparation. The victim was a married woman, age 36, who had been suffering for some time from asthma. The physician who was called just before her death discovered symptoms of cocain poisoning and refused to give a certificate of death. At the inquest it was shown that she had been taking the Tucker preparation for about two years. In the same issue, the *Lancet* stated that the British agent for this nostrum had been prosecuted under the Pharmacy Act for selling a product containing certain poisons (cocain and atropin) without labeling the preparation "poison." Analysis of the asthma cure at that time was said to have shown the presence of 3.6 grains of cocain and 0.91 grain of atropin to the ounce.

In 1910, the United States Department of Agriculture issued "Farmers' Bulletin 393," a twenty-page pamphlet entitled, "Habit-Forming Agents," by Dr. L. F. Kebler, Chief of the Division of Drugs of the Bureau of Chemistry. In this pamphlet the public was warned against using the various nostrums containing habit-forming drugs. Under "Asthma Remedies" the following statement appears regarding Tucker's "cure":

> "An example of the cocain type is 'Tucker's Asthma Specific,' which consists of a solution of cocain and is sold throughout the United States as a result of extensive advertising and personal recommendation. The 'Asthma Specific' consists of a bottle of medicine containing cocain to be used as a spray with an atomizer. The price of the latter is $12.50. Recent investigations showed that the amount of cocain purchased by the promoter of this remedy from a single manufacturing house during four months varied between 256 and 384 ounces a month."

In March, 1911, a physician sent to the Association's laboratory a sample of this nostrum. Analysis indicated once more that cocain was present.

When one considers the prevalence of the cocain habit and the demoralizing and brutalizing effect that this habit has on its victims, the viciousness of the indiscriminate sale of a preparation of this sort becomes evident. While the excuse is made by the exploiter of this dangerous nostrum that the amount of cocain that it contains is very small, every physician knows that the application of drugs to the nasal mucous membrane will produce constitutional effects in quantities that would be considered negligible if administered by mouth. It is only necessary to call attention to those cocain habitués, known as "coke-sniffers," to realize the enormous harm that can be done by the taking of cocain in this way. Under the existing federal law, it is impossible to reach the men who engage in this cocain dispensing traffic, unless they make misstatements on the label. It is high time, then, that the various states enact such laws as will make the promiscuous distribution of cocain a penal offense. When this has been done, Nathan Tucker may perforce engage in a business that will be more respectable, if less profitable, than his present occupation.

MAGIC FOOT DRAFTS

An International Rheumatism Cure Fake

This widely advertised humbug is sold as a cure for rheumatism. It emanates from Jackson, Mich., a town that has the unenviable distinction of being the home of a large number of international medical fakes.

F. G. Badgley, is said to be not only president of this company, but also secretary and treasurer of the J. Lawrence Hill consumption cure fraud[1] and president of the Van Vleck pile cure concern; Badgley is also a lawyer. Whether his interest in law is greater than his interest in quackery, we do not know.

H. H. Mallory, is said to be vice-president of the Magic Foot Draft Company, ex-vice-president of the Hill consumption cure fake and vice-president of the Van Vleck pile cure. Mr. Mallory is also an advertising agent.

R. A. Oliver, whose name still appears in connection with the advertisements of this fake, is said to be no longer living although it is understood that his estate still has an interest in the Magic Foot Draft Company. In common with others of the group, Oliver when living was connected with the Hill consumption cure and the Van Vleck pile cure.

The Magic Foot Draft Company is said to have a somewhat extensive printing plant. This may explain the typographic sameness of much of the advertising sent out by the Hill, the Van Vleck and the Magic Foot Draft concerns.

The foot drafts consist of plasters to be applied to the soles of the feet. The plaster mass is in the central portion of the unfinished side of a sort of oilcloth, the margin of which is coated with an adhesive mixture. The ingredients of the plaster mass were investigated by Dr. L. F. Kebler of the Bureau of Chemistry and the results published some time ago[2] in The Journal. Dr. Kebler reported that the composition of the plaster was:

Poke root	30 per cent.
Pine tar	62 per cent.
Cornmeal	8 per cent.

Dr. Kebler reached the following conclusion regarding the value of the Magic Foot Draft: "They possess no curative element whatever, which when absorbed into the blood will neutralize the poisons which are supposed to be the cause of the rheumatism and in this manner effect a cure."

At the same time, Dr. Kebler also called attention to the fact that the Magic Foot Draft Co. sent out pills of methylene-blue under the name, "Magic Regulators." The value of the Magic Regulators was thus described by the company:

> "To prove the action of our Magic Regulators on the kidney, the organs which in rheumatism are always diseased and fail to do their work, allowing the poisonous acids to accumulate and lay the foundation for a long and painful run of rheumatism, watch the color of the urine, voided. If it assumes a light blue or bluish green color you may rest assured that the Magic Regulators are doing their work."

As the urine of every healthy person always "assumes a light blue or bluish-green color," when methylene blue is administered, it is needless to say that the "Regulators" usually did their work!

The Magic Foot Draft concern advertises heavily in Great Britain and for this reason the British Medical Association recently analyzed the plaster mass of the foot drafts. Their chemist reported:

> "The plaster itself weighed about 80 grains and was found to be a mixture of Stockholm tar and the powdered rhizome of white hellebore; determination of their proportions showed the formula to be approximately:

"Powdered white helebore (veratrum viride)	40 per cent.
"Stockholm tar	60 per cent.

> "No other ingredients could be detected. Estimated cost of ingredients for one pair, 1/6 of a penny." (1/3 of a cent.) Selling price, $1.00!

The difference in the findings of the British and American chemists bears out what has been stated many times, namely, that the composition of nostrums can never be relied on. From what has been said, it is evident that Mr. Adams, in his Great American Fraud series, characterized the Magic Foot Drafts correctly when he said: "Affixed to the soles of the feet they are advertised as drawing out the rheumatic poison from the whole system. Of course they might as well be affixed to the barn door, so far as any uric acid extraction is concerned."

Correspondence

The Round-Ligament Operation

To the Editor:—I have read with much interest the letters of Dr. J. Clarence Webster, of Chicago, and Dr. J. M. Baldy, of Philadelphia, in The Journal, A. M. A., April 29, p. 1280, regarding the origin of the so-called Webster or Baldy operation for suspension of the uterus by posterior suture of the round ligaments. This argument is most amusing to one familiar with certain facts, which, with your kind permission, I shall endeavor to set forth herein.

In 1900 and 1901 I held the chair of anatomy and operative surgery in the Post-Graduate Medical School of Chicago. Sometime in the year 1900, Dr. Frank Andrews, of Chicago, told me of an operation for suspension of the uterus that he had then been using for more than ten years. Dr. Andrews' operation consisted of drawing the round ligaments backward through the broad ligaments beneath the Fallopian tubes, and suturing them to each other and to the posterior surface of the uterus, thus suspending the uterus in a sling.

This operation appealed to me, and I taught it to my classes in gynecology, on the cadaver, and in my lectures at the Chicago Post-Graduate Medical School, calling it the Andrews operation. My first opportunity to try this operation on the living individual came in June, 1901. The patient, Mrs. C. M., entered Chicago Hospital (record number 2,584), and was operated on June 18, 1901. Through a median abdominal incision the uterus and appendages were freed from adhesions; the diseased right ovary and tube were removed; an intraligamentous cyst was enucleated from the left broad ligament, and the uterus was suspended by bringing the round ligaments together behind the uterus and suturing them to each other and to the posterior uterine wall. This patient recovered with the usual pain following this procedure, but with the uterus in good position.

I did this operation next on Mrs. E. M., at the Chicago Post-Graduate Hospital, Aug. 13, 1901. My case record shows that I amputated the cervix, curetted, made a median abdominal incision, resected one-quarter of the left ovary, removed the degenerated right ovary, and a right hydrosalpinx, and suspended the uterus by passing both round ligaments through the broad ligaments and suturing them to each other and to the posterior wall of the uterus.

The next patient on whom I performed this operation was Mrs. M. H., sent into Chicago Hospital by Dr. R. C. Cupler, of Chicago. The record number was 2,696; she was operated on Sept. 8, 1901. I was assisted by Drs. R. C. Cupler and Roy M. Wheeler; the anesthetic was administered by Dr. J. G. Chichester. A typical Andrews operation was done, both round ligaments being drawn backward through the broad ligaments and sutured together and to the posterior uterine wall.

While this patient was still in the hospital, Dr. J. Clarence Webster sent a patient into the Chicago Hospital and did a ventral suspension.

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[1] The exposès of this and similar frauds have been reprinted in the pamphlet "Consumption-Cure Fakes," price 6 cents.

[2] Kebler, L. F.: Nostrums and Fraudulent Methods of Exploitation, The Journal A. M. A., Nov. 10 and 17, 1906.

The house surgeon, Dr. J. G. Chichester, took the liberty of talking to Dr. J. Clarence Webster about the Andrews operation on the round ligaments that I had done a few days before.

A few weeks later, viz., Oct. 5, 1901, there appeared in THE JOURNAL A. M. A., an article by Dr. J. Clarence Webster descriptive of his new suggestion for uterine suspension, illustrated with very crude drawings. In this paper technic only was discussed, no cases being reported.

I have no comment to make on this coincidence. Frequently like operations are conceived by different men—often by men residing in different localities.

I have no doubt that Dr. Webster, having independently conceived the operation, naturally desired to be the first to publish a description of it.

I do desire to state, however, that Dr. Frank Andrews, of Chicago, is the real pioneer in round ligament suspension and should be so accredited.

RAYMOND C. TURCK, Jacksonville, Fla.

To the Editor:—A good way to settle the Baldy-Webster priority controversy, in my humble opinion, would be for the disputants to shake hands and agree that they have discovered something that wasn't worth finding.

Their operation practically sacrifices the inner strong ends of the round ligament, and puts all the weight and strain on the outer attenuated and weakened ends of the ligament. Their operation has no advantage over Alexander's or one of its modifications in uncomplicated cases, and certainly is not so good as Montgomery's or the old ventral suspension in those cases requiring laparotomy—ventral suspension to be used in postclimacteric cases only of course.

The Baldy-Webster proposition's greatest weakness is the fact that it does not raise the uterus up unless the broad ligament is perforated low enough down to invite postoperative flexion. It simply draws the organ forward and in that respect is not so effective as Alexander's operation.

Let Drs. Baldy and Webster "bury the hatchet" and compromise on the Montgomery modification of Gilliam's operation for retrodeviations demanding surgery, and devote themselves to solving some of the real problems in pelvic diseases.

C. F. ENGLISH, M.D., Sonora, Cal.

Lectures on Sex Hygiene

To the Editor:—It seems to have been agreed by the various societies of social hygiene in this country that, for the present at least, the best results in the campaign against the social evil can be attained by educating the public, along sanitary rather than moral lines, in matters of sex hygiene. A recent article by W. D. Parkinson in the *Educational Review*, which was commented on editorially by THE JOURNAL, pointed out the unwisdom of merely emphasizing the dangers of the venereal diseases, and the advisability of education of a positive or constructive type along these lines. It may be of interest to note that the National Institute of Moral Instruction is now preparing an illustrated lecture which will deal in a general way with the subject of sex hygiene along the lines indicated. A number of the most prominent educators and capitalists in the country are interested in this organization, and an endowment fund of $500,000 is being raised to extend the work. A number of illustrated lectures on various topics have been prepared and are being given in various cities, especially in high schools, academies, etc. These illustrated lessons, consisting of from fifty to one hundred lantern slides and a printed, illustrated text, are sent by express from four local distribution centers, Baltimore, Knoxville, Chicago and Berkeley, Cal., to all parts of the United States for use by teachers, principals and superintendents. The lessons are intended for use during school hours, the teacher delivering the text while the pictures are being shown. The importance of a lecture which would thus visualize the importance of sex hygiene, reaching as it would thousands of young men, can scarcely be overestimated. Mr. Milton Fairchild, the able and energetic director of instruction of the organization, is now engaged in the preparation of such a lecture, which he proposes to entitle "A Gentleman's Treatment of Women." As a tentative outline, he plans to present the subject matter under the following heads: 1. The beast in man. 2. The dangers of promiscuity make it the practice of a fool. 3. The degeneration of self-abuse. 4. The manliness and honor of continence. 5. The practice of self-control. 6. Purity of mind and body a preparation for marriage. 7. The ideal marriage. 8. Eugenics. 9. A gentleman's treatment of women.

Without offering any personal criticisms of this outline, I am presenting it, at the request of Mr. Fairchild, to the readers of THE JOURNAL for their criticisms and suggestions, which Mr. Fairchild requests be sent to him directly and which he will appreciate very much. His address is 903 Calvert Building, Baltimore.

EMIL NOVAK, Baltimore,
General Secretary, Maryland Society of Social Hygiene.

Thyroidectin in Exophthalmic Goiter

To the Editor:—Having read with interest the article on "Treatment of Exophthalmic Goiter with Thyroidectin" (THE JOURNAL, April 22, p. 1176) I desire to report one case. I realize fully that one case proves nothing, but I desire to contribute one instance to the sum of collective observation.

The patient, Miss H., aged about 35, housekeeper, came for treatment Sept. 1, 1910, presenting a typical case of exophthalmic goiter. The pulse-rate was 140; the neck measured 15 inches in circumference; marked protrusion of the eyes was present, with tremor, heart murmurs, systolic thrill over the thyroid, etc. The thyroid gland was the size of an average hen's egg, central and uniform in shape. The patient was given thyroidectin 5 gr. capsules three a day, one after each meal. This was continued to October 10, about six weeks, with no discoverable improvement in any way. On the suggestion of a brother practitioner, I changed to quinin hydrobromid, 5 gr. three times a day, after meals, and after five months of that medication, with occasional interruption of one week, the results are certainly remarkable. No other treatment was given; no suggestions were made in regard to hygiene or mode of life, and the patient continued about her work as before.

About the middle of March the pulse was 80, and the neck measured 13½ inches, the reduction of 1½ inches in circumference being due to the disappearance of the growth, as only a normal thyroid could then be felt; the tremor had disappeared; there were no heart murmurs, or thrill over the neck, as there was nothing to thrill. The exophthalmos, however, still persists, though it is possibly not so marked as before the beginning of the treatment, and I fear that the condition may be permanent. During each of the one-week intermissions of the quinin hydrobromid, the patient would not be so well, and the pulse-rate would increase; but during the first week after resuming the remedy, there would be a marked improvement, more noticeable than during the weeks of continuous administration.

W. F. WILSON, Lake City, Minn.

President Taft on Beriberi Among the Japanese

To the Editor:—There was a rather important clerical error in the typewritten manuscript furnished you for President Taft's speech before the Medical Club of Philadelphia. [THE JOURNAL, May 13, 1911, page 1400, middle of first column.] He said, "I need not go further than to say that twenty-four per cent. of the sick of the Japanese army were afflicted with beriberi during the Russo-Japanese War." The words "sick of the" were omitted in this sentence, just before the word "Japanese." It seems to me the error is so obvious that it will not make any great difference, except to certain literal souls who will perhaps write to inquire about it. I am asked to write you in the name of the White House to make the correction, with the statement that it was a clerical error.

J. R. KEAN, Washington, D. C.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

RECENT LITERATURE ON BONE-GRAFTING

To the Editor:—Please refer me to recent literature on bone-grafting. I have a patient with a part of the tibia lost and I want to insert a bone if possible. Has this been done with success?

J. F. CLARK, Fairfield, Iowa.

ANSWER.—Bone-grafting, bone-transplantation and bone-transference have been successfully employed in a number of cases for the purpose of supplying defects in the long bones.

Huntington (*Ann. Surg.*, xli, 249) and Codman (*Ann. Surg.*, xlix, 820) both report interesting cases of bone-transference in which the fibula was made to supplant a defect in the tibia.

In the article on "Intrahuman Bone-Grafting" (*Ann. Surg.*, December, 1909) Mac Ewen describes a method of grafting small particles of bone to fill in bone defects.

Magruder writes on "Bone-Grafting and Osteoplasty" (*Washington Med. Ann.*, July, 1910, and in *Surg., Gynec. and Obst.*, August, 1910).

Tomita (*Deutsch. Ztschr. f. Chir.*, xc, 247) mentions several cases of bone-transplantations. In one case he successfully transplanted 12 cm. of bone from a calf to fill in a defect of the tibia in a man and in another case he used the femur of a rabbit. These are successful cases of heteroplasty. Several cases of autoplasty or the transference of pieces of the tibia to fill in a defect in the same bone at another point are also reported.

Heller (*Ergebn. d. Chir. u. Orthop.*, vol. i) reviews the whole subject of transplantation and his article contains a bibliography of recent literature on the subject.

PHYSIOLOGIC ACTION AND THERAPEUTIC USES OF COTTON-SEED OIL

To the Editor:—1. What are the physiologic action and therapeutic uses of cotton-seed oil?

2. What is the average dose, the maximum dose, and how often should the dose be repeated?

3. What are the comparative food values of cotton-seed oil, olive oil, and eggs?

J. A. BURNETT, M.D., Marble City, Okla.

ANSWER.—1. Cotton-seed oil has the action of other fats and fixed oils. It hinders to some extent the secretion of gastric juice, and tends to provoke the regurgitation of bile and pancreatic juice into the stomach. In the intestine it undergoes saponification and if in excess is excreted with the feces rendering the passages softer and of a light color.

Therapeutically it may be used in place of olive oil to restrain hyperacidity, allay irritation, and relieve pain in the intestinal canal.

2. The dose is from a teaspoonful to a tablespoonful or more, given with or after meals.

3. Oils consist practically of pure fat, which yields 9.1 calories per gram. Half an ounce of cotton-seed oil or olive oil would yield approximately 135 calories; either is equivalent to one and one-half eggs.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 13, 1911.

Snyder, H. McC., lieut., ordered to Fort D. A. Russell, Wyo., for duty on completion of examination for promotion.

Phelan, Henry du R., M.R.C., ordered to Fort Barry, Cal., for duty.

Dickenson, C. F., M.R.C., relieved from duty at Fort Barry, Cal., and ordered to Fort Duchesne, Utah, for duty.

Bayley, Edmund W., M.R.C., ordered to Fort Sill, Okla., for duty.

Holmberg, Carl E., lieut., relieved from Presidio of San Francisco and assigned to duty at Army General Hospital, Fort Bayard, N. Mex.

VanHorn, James B., M.R.C., relieved from further duty in the Philippines division and assigned to duty at Army General Hospital, Fort Bayard, N. Mex.

Kendall, William P., lieut.-col., leave of absence extended one month.

Brown, Ira C., M.R.C., ordered to proceed to Fort Douglas, Ariz., for duty in the field.

Freeman, Charles E., captain, assignment to duty with troops for station at Yosemite National Park, Cal., is revoked, and instead assignment to duty at Army General Hospital, San Francisco.

Richardson, William H., captain, assigned to duty with troops from Presidio of San Francisco for station in Yosemite National Park, Cal.

Bayley, Edmund W., M.R.C., ordered to accompany the 55th Company, C. A. C., from San Francisco to Fort Du Pont, Del., on the completion of this duty to proceed to Fort Sill, Okla., for station.

Miller, R. M., captain, granted thirty days' leave of absence.

Long, Charles J., D.S., granted thirty days' leave of absence.

Purnell, H. S., captain, relieved from duty at the Army General Hospital, San Francisco, and ordered to Madison Barracks, New York, for duty.

Medical Corps, U. S. Navy

Changes during the week ended May 13, 1911.

Butler, S. St. J., surgeon, detached from the naval medical school, Washington, D. C., and ordered to the Asiatic station.

Zalesky, W. J., P. A. surgeon, detached from the *Salem* and granted sick leave for two months.

Wheeler, L. H., P. A. surgeon, detached from the *Virginia* and ordered to the *Salem*.

Halsey, W. H., asst.-surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *Virginia*.

Ames, M. H., P. A. surgeon, detached from the *Albany* and ordered to the *Helena*.

Dessez, P. T., P. A. surgeon, detached from the *Helena* and ordered home.

Higgins, S. L., P. A. surgeon, detached from the naval hospital, Yokohama, Japan, and ordered home.

Thomas, G. E., asst.-surgeon, detached from the *Saratoga* and ordered to the naval hospital, Yokohama, Japan.

Ohnesorg, K., surgeon, ordered to the Navy Yard, New York.

May, H. A., P. A. surgeon, detached from the naval hospital, Las Animas, Colo., and ordered to duty at the naval medical school hospital, Washington, D. C.

Holloway, J. H., P. A. surgeon, detached from the naval hospital, New York, and ordered to duty and treatment at the naval hospital, Las Animas, Colo.

Woodland, E. E., A. A. surgeon, detached from the naval medical school, Washington, D. C., and ordered to the *Iowa*.

Dickinson, D., Jr., A. A. surgeon, ordered to the marine recruiting station, Cincinnati.

Kindleberger, C. P., surgeon, detached from the navy yard, Mare Island, Cal., and ordered to the naval station, Guam, M. I.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 10, 1911.

Carter, H. R., surgeon, directed to proceed to Cairo, Ill., on special temporary duty.

Banks, C. E., surgeon, granted ten days' leave of absence from May 10, 1911.

Carmichael, D. A., surgeon, granted fourteen days' leave of absence from May 26, 1911.

Williams, L. L., surgeon, directed to proceed to Vineyard Haven, Mass., on special temporary duty.

Geddings, H. D., surgeon, granted one month's leave of absence on account of sickness.

Brown, B. W., surgeon, leave of absence for one month on being relieved by Surgeon F. W. Mead amended to read "nine days from Dec. 6, 1910."

Lumsden, L. L., P. A. surgeon, detailed to attend the annual meeting of the Ohio State Medical Association at Cleveland, Ohio, May 8 to 11, 1911.

Billings, W. C., P. A. surgeon, granted seven days' leave of absence from April 8, 1911, under paragraph 191, Service Regulations.

Salmon, T. W., P. A. surgeon, leave of absence for two months and ten days from Feb. 8, 1911, amended to read "one month and twenty-three days from Feb. 8, 1911, and seventeen days from April 1, 1911, on account of sickness."

Ashford, F. A., P. A. surgeon, granted seven days' leave of absence from April 12, 1911, under paragraph 191, Service Regulations.

Kaplan, M. I., A. A. surgeon, granted seven days' leave of absence from April 12, 1911, under paragraph 210, Service Regulations.

Moorer, M. P., A. A. surgeon, leave of absence for ten days from March 28, 1911, amended to read "twenty-four days from March 28 1911, on account of sickness."

Porter, Joseph Y., Jr., A. A. surgeon, granted eight months' leave of absence from May 1, 1911, without pay.

Torres, J. F., A. A. surgeon, granted thirty days' leave of absence from May 22, 1911, with pay, and five months' from June 22, 1911 without pay.

Bowie, R. I., sanitary inspector, died at Nagasaki, Japan, April 24, 1911.

Board of medical officers convened to meet at the bureau, May 22, 1911, for the examination of candidates for admission to th service. Detail for the board: Surgeon R. M. Woodward, chairman Surgeon J. O. Cobb; Passed Assistant-Surgeon W. C. Rucker recorder.

Strangulated Hernia.—B. B. Davis, in the *Western Medical Review*, emphasizes the following points: (1) decrease o the number of candidates for strangulation by a more genera employment of operations for radical cure; (2) operation i all cases in which the hernia is not well retained by trusses or in which it is otherwise unusually liable to become strangulated; (3) condemnation of prolonged or harsh methods o employing taxis; (4) immediate operation in every case o strangulated hernia that is not quickly reduced by gentl taxis; (5) in cases of gangrene of bowel in the late cases th superiority of resection rather than any of the make-shif procedures so uniformly unsuccessful.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Delaware: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

Illinois: Coliseum Annex, Chicago, June 13-15. Sec., Dr. James A. Egan, Springfield.

Iowa: Capitol Bldg., Des Moines, June 5-7. Sec., Dr. Guilford H. Sumner.

Kansas: Hotel Grund, Kansas City, June 13. Sec., Dr. H. A. Dykes, Lebanon.

Kentucky: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

Maryland: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

Michigan: University Bldg., Ann Arbor, June 13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

Minnesota: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

Missouri: Gymnasium of St. Louis University, St. Louis, June 12-14. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

Nebraska: State House, Senate Chamber, Lincoln, May 24. Sec., Dr. E. Arthur Carr, 141 S. 12th Street

New Jersey: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

New York: May 23-26 and June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

North Carolina: Charlotte, June 14. Sec., Dr. Benjamin K. Hays, Oxford.

Ohio: Columbus, June 6-8. Sec., Dr. George H. Matson, State House.

Pennsylvania: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

South Carolina: State House, Columbia, June 13. Sec., Dr. A. Earle Boozer.

Texas: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

Virginia: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

Wisconsin: Milwaukee, May 24-26. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Wyoming: University of Wyoming, Laramie, June 6-8. Sec., Dr. J. B. Tyrrell.

Ohio January Reciprocity Report

Dr. George H. Matson, secretary of the Ohio State Medical Board, reports that at the meeting held Jan. 3, 1911, fifteen candidates were licensed through reciprocity. The following colleges were represented:

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1909)	Illinois
Indiana University	(1910)	Indiana
Tufts College Medical School	(1906)	Maine
Harvard University Medical School	(1906)	New York
College of Physicians and Surgeons, Baltimore	(1910)	W. Virginia
University of Michigan, Department of Medicine and Surgery	(1889) (1906) (1909) (1910)	Michigan
University and Bellevue Hospital Medical College	(1910)	New York
Long Island College Hospital	(1909)	New York
Eclectic Medical College, Cincinnati	(1909)	W. Virginia
Western Reserve University	(1886)	W. Virginia
Laura Memorial Woman's Medical College	(1897)	Michigan
Woman's Medical College of Pennsylvania	(1909)	New Jersey

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

POSTGRADUATE COURSE FOR COUNTY SOCIETIES

DR. JOHN H. BLACKBURN, DIRECTOR
Bowling Green, Kentucky

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Tenth Month—Fourth Weekly Meeting

Wounds and Their Medicolegal Relations

Incised Wounds: Appearances, depth, length, direction, shape. Value as indicator of weapon used.

Contused Wounds: Appearances, color changes, character of weapon, degree of force or violence. Relation of local lesion to injury to deeper structures; fractures, ruptured viscera.

Punctured Wounds: Character of weapon; size, shape, direction, depth of wounds. Injury to deep structures.

Gun-Shot and Pistol-Shot Wounds: Wound of entrance, shape, size, edges, discoloration, powder burns; variations due to shape and momentum of missile, distance, angle of incidence, and tissues injured. Injury to tissues in track of missile. Injury to muscle, fascia, bones, etc. Deflection of bullet. Foreign substances in tissues. Wound of exit, shape, size, relation to wound of entrance.

Lacerated Wounds: Character of weapon or injury. Appearances.

Homicidal, Suicidal and Accidental Wounds: Situation, usual site in suicide. Nature of wounds, extent and number, direction of wound. Bearing of sex. Position of body. Environment.

Distinction Between Ante-Mortem and Post-Mortem Wounds: 1. Evidences of free bleeding. 2. Clotted blood about edges of wound, and infiltration of surrounding tissues. 3. Retraction of edges. 4. Swelling and injection of edges. 5. Retraction of sides of wound under skin. Differences in incised, punctured, lacerated, contused and gunshot wounds.

Monthly Meeting

Pistol-Shot Wounds in Their Medicolegal Relations.

Infanticide; Evidences of Live Birth; Cause and Manner of Death.

The Legal Status of the Medical Expert in This State.

Note: This completes the course as outlined for the year.

Book Notices

A System of Ophthalmic Operations. Being a Complete Treatise on the Operative Conduct of Ocular Diseases and Some Extraocular Conditions Causing Eye Symptoms. Edited and Partly Written by Casey A. Wood, M.D., C.M., D.C.L., Late Professor of Ophthalmology and Head of the Department, Northwestern University Medical School. Complete in Two Volumes. Volumes I and II. Cloth. Price, $15. Pp. 1824, with 968 illustrations. Chicago: Cleveland Press, 1911.

The extent and comprehensiveness of this work may be realized from the fact that the two large volumes aggregate 1830 pages, and that its composite authorship comprises thirty collaborators. These collaborators include the most distinguished practitioners and authors, and the subjects have been assigned to them so that the whole list of surgical diseases and operations on the eye is covered.

In addition to the chapters on purely technical subjects there is a short chapter on the history of ophthalmic surgery by Mortimer Frank, with brief biographical sketches of the originators of operations in this branch of surgery and of men prominent in the development of ophthalmology. There is also a rather exhaustive chapter on the forensic relations of ophthalmic surgery by Thomas Hall Shastid. Both of these are apropos in a work of this character and are well done by their respective authors.

In a brief review of a book containing the work of so many distinguished ophthalmologists it would be impossible even to mention the excellencies of the work of each; so that with no desire to make invidious distinctions we may comment on certain features of the book. The chapters on minor ophthalmic surgery, the extraction of senile cataract, operations on the retina and orbital operations, by the editor, Dr. Casey Wood, are admirable. The first mentioned chapter at once expands the usefulness of the work beyond the limit of the skilled ophthalmic surgeon and furnishes much information of the greatest value to the general practitioner who must, perforce, treat many minor ophthalmic conditions.

The chapter on the surgery of the ocular muscles by Jackson should afford a feeling of satisfaction to the surgeon. Jackson speaks with the authority of experience, knowledge and judgment in presenting his own views, and at the same time does not slight the work nor the opinions of others.

Cataract, always one of the most important subjects with which the eye surgeon has to deal, is fully covered by Casey Wood, D. W. Greene, Peter Callan and Myles Standish, Greene furnishing a chapter on the intracapsular operation according to the Smith method, maintaining with force that while it may have its shortcomings, as do most other cataract operations, it is entitled to a distinct place in the surgery of cataract. The two chapters by Frank Brawley and A. E. Halstead, the first on the surgery of the sinus conditions affecting the eye, and the other on the surgery of other collateral conditions influencing vision, as pituitary and other brain tumors, or conditions requiring decompression operations, are features of great value. The editor has thus wisely recognized the fact that the limits between general and ophthalmic surgery have, during the past few years, become more and more narrow.

The general plan of the work is the same as that followed in the "System of Ophthalmic Therapeutics," the two volumes before us serving as a supplement to it, and the three comprising a complete system of ocular treatment.

The illustrations are a distinguishing feature of this book, and of themselves raise the work into the ranks of *éditions de luxe*. It can be said without fear of contradiction, that no work on ophthalmic surgery rivals it in this particular. The pictures are almost all original, and effectively assist in elucidating the text.

The editor and also the ophthalmologists of this country are to be congratulated on the completion of this great work. It has its imperfections and errors, but they are few and unimportant as compared with the thoroughness, care and scientific exactness maintained by most of the chapters. This system should be in the possession of every English-speaking ophthalmic surgeon.

Case Histories in Pediatrics. A Collection of Histories of Actual Patients Selected to Illustrate the Diagnosis, Prognosis and Treatment of the Most Important Diseases of Infancy and Childhood. By John L. Morse, A.M., M.D., Assistant Professor of Pediatrics, Harvard Medical School. Cloth. Price, $3. Pp. 314, with illustrations. Boston: W. M. Leonard, 1911.

In this book the author presents the case histories of 100 actual pediatric cases from his practice, which cover fairly completely all the important diseases of children. These cases are classified systematically, as in any text-book, in the table of contents, for easy reference. In the text the history and physical examination are given first, and the diagnosis follows in heavy type after the clinical evidence is weighed. The prognosis and treatment follow. The reader can thus take up each case as a new patient that presents himself for diagnosis without knowing the diagnosis in advance. This method of teaching from case histories has been in use at Harvard for ten years and commends itself to Morse as "almost as valuable as the clinical lecture in which the patient is shown," and as "surpassed only by bedside instruction to small groups of students." His favorable experience with this method of teaching both graduates and undergraduates has led him to feel that "there was need for the utilization of this method for the presentation of the subject of pediatrics to the practitioner." The book is written in Dr. Morse's well-known direct and vigorous style and makes interesting and profitable reading to any one interested in the diseases of children.

History of the Mississippi State Medical Association. With Biographies of Its Presidents, Complete Roster of its Officers, Programs of Its Meetings, and the Past and Present Laws Relating to the Practice of Medicine in Mississippi. Cloth. Pp. 171. Dr. E. F. Howard, Secretary, 506 First National Bank Building, Vicksburg, Miss., 1910.

This book was written because the secretary of the Mississippi State Medical Association when he entered on the duties of the office found "an entire absence of records." "There was not even a file of the official transactions, due to the fact that at least twice the secretary's office had been wiped out by fire." Finding it impossible for the Mississippi State Medical Association to obtain a complete set of transactions, Dr. Howard undertook to abstract the items that appeared to him to be of particular interest from copies which he was able to borrow. These abstracts have been made the basis of this history. Along with the history of the association are the other documents named in the title. Possibly this book will suggest to other state associations the desirability of similar work.

The author acknowledges that the book is by no means complete or perfect. Important events in the society's history must have escaped his knowledge. When the members have offered their constructive criticism, a second edition, revised and enlarged, might be written.

The Ninth Year-Book of the National Society for the Study of Education. Part II, The Nurse in Education. By Thomas D. Wood, A.M., M.D., Professor of Physical Education, Teachers College and Columbia University; M. Adelaide Nutting, Professor of Nursing and Health, and of Household Administration, Teachers College, New York City; Isabel M. Stewart, Instructor in Nursing and Health, Teachers College, New York City, and Mary L. Read, B.S. Supplement to the Year-Book on "Health and Education" Discussed at the Indianapolis Meeting of the National Society, Feb. 28, 1910. Paper. Price, 78 cents. Pp. 76. The University of Chicago Press, Chicago.

The second part of the Ninth Year-Book of the National Society for the Study of Education deals with the nurse and contains, beside an introduction by Dr. Thomas D. Wood and a valuable bibliography, two papers: one on "The Educational Value of the Nurse in the Public School," by Isabel M. Stewart, and one on "Professional Training of Children's Nurses," by Mary L. Read. The first paper emphasizes a function of the trained nurse which has not been generally considered. The value of the properly trained nurse to the physician, to the hospital and to the patient has been repeatedly discussed, but the educational value of the nurse to the public has been given comparatively little attention. The paper is an opportune one in view of present-day developments along this line.

Principles of Public Health. A Simple Text-Book on Hygiene Presenting the Principles Fundamental to the Conservation of Individual and Community Health. By Thomas D. Tuttle, M.D., Secretary and Executive Officer of the State Board of Health of Montana. Cloth. Price, 50 cents net. Yonkers-on-Hudson, N. Y.: World Book Co., 1910.

This little book is the fourth one of a series issued for us in the public schools. While necessarily elementary, it is s written and illustrated as to interest and instruct the child The book in the main is excellent, although one might wis that such illustrations as the one on page 64 showing "th effect of cigarette smoking" had been omitted.

Miscellany

CLIPPINGS FROM LAY EXCHANGES

Another Group of These Popular Quotations

MUST HAVE HIT HIM IN THE NECK

"He escaped with a sprained ankle, which is remarkable, a the machine struck him between the lamp and the radiator."—Sibley (Ia.) *Gazette.*

WILL IT ALSO MILK THE COW?

"The V.... Pharmacy . . . has been named as a suppl station for antitoxin. . . . The antitoxin will be used in cas of diphtheria, to prevent blindness in newly born babes, f throat cultures and in the examination of blood in typhoid an malarial cases."—Cleveland *Plain Dealer.*

SOUNDS AS THOUGH SHE WOULD MISS WEDNESDAY TOO

"Miss B.... W.... was unable to attend to her scho duties Monday and Tuesday on account of an attack of cer bral eusa."—Roundup (Mont.) *Tribune.*

FORTUNATELY HIS LEFT RIB ESCAPED

"While cranking his automobile, T.... C.... sustained wh is technically known as a Colles fracture of the right rib." San Francisco *Chronicle*, Feb. 2, 1911.

NO TROUBLE FOR AN OSTEOPATH

"Dr. C. D. V...., the osteopath . . . witnessed an operati while at Kirksville. The operation consisted in the remov of part of the spinal column of a man who was paralyzed. . He came out from the operation all right and the physicia all thought he would get well without any trouble."—Atlan (Ia.) *Telegraph*, Jan. 5, 1911.

INTERNATIONAL GAS FACTORY

"Dr. W. H. W . . . ., the Philadelphia physician decorated by the Kaiser, was already the one American doctor who enjoys the distinction of having a bacillus named for him. And the Bacillus Welchii is the gas bacillus dwelling in the international track."—Boston *Record*, April 8, 1911.

THE BLIND LEADING THE BLIND

"Dr. . . . ., on account of failing eyesight and nervousness, has concluded to abandon dentistry and take up optics. He has already partly completed a college course."—Johnstown (Pa.) *Daily Democrat.*

BROKE HIS KNOB—AND THEY SAY THERE'S NO REMEDY

"Mr. F. F. B . . . . who was injured . . . by stepping from a moving train, was examined by a specialist in Columbus last Monday; and it was found that the knob, on the end of the bone that worked in the socket at the hip joint, was broken from the bone, and that no operation could remedy the injury." —*Marion County Patriot*, Buena Vista, Ga.

A NEW SYNONYM—SOUNDS ODD, BUT CERTAINLY IS DESCRIPTIVE

"Alice H . . . ., an English actress, died suddenly of optical goiter at Roosevelt Hospital, New York."—*Dramatic Mirror.*

FANCY COLORED FITS

"Three surgeons were called to prove that he would always be a sufferer from chromatic epilepsy."—Erie (Pa.) paper.

ABERRATIONS

"The cause of death was given as shock and acute lumbar pneumonia following six gunshot wounds."—Chicago *Record-Herald*, Jan. 25, 1911.

"Dr. W. R. M . . . ., is recovering from an operation for rhynophima, or 'big nose,' at the Protestant Hospital."—Cincinnati *Post*, March 7, 1911.

"Mrs. M . . . . died yesterday of diabetes mylitis."—Worcester (Mass.) *Telegram.*

ODD STATEMENTS IN PREVIOUS HISTORY

Naturally, applicants for life-insurance may be expected to put as good a face as possible on the reports concerning relatives and the causes of their deaths, but they sometimes make rather amusing statements. Some one has collected a few of these which were originally published in the *British Medical Journal.*

"Mother died in infancy."

"Father went to bed feeling well, and the next morning woke up dead."

"Grandfather died suddenly at the age of 103. Up to this time he bid fair to reach a ripe old age."

"Applicant does not know cause of mother's death, but states that she fully recovered from her last illness."

"Applicant has never been fatally sick."

"Applicant's brother, who was an infant, died when he was a mere child."

"Grandfather died from gunshot wound, caused by an arrow shot by an Indian."

"Applicant's fraternal parents died when he was a child."

"Mother's last illness was caused from chronic rheumatism, but she was cured before death."

"Father died suddenly; nothing serious."

There is a delightful innocence about some of these. Take the last, for example. This has a western flavor, as though the applicant appreciated father's having made little fuss about it. When the time came he simply went, that was all.

Vaccination.—In Manila, during Spanish times, there were so many deaths from small-pox that it was necessary to erect in that city a large temporary hospital for the victims, most of whom died. During the last five years no one who had been successfully vaccinated during the five previous years has died in Manila. No one at all has died there since June, 1909. In large cities, and in localities which are easily accessible, the disease is now mild. Owing to a combination of circumstances vaccination, which was begun twelve years ago by the American sanitary authorities, was suspended in Bagac during a period of nine years. A bad epidemic broke out, but when vaccination was begun again no new cases occurred. The official reports from the islands make a very strong document in support of the benefits of vaccination. By the way, the Republicans put a National Bureau of Health into their platform and then took no interest in the subject. The president was enthusiastic about it for a little while and then apparently forgot it. Will the Democrats, who also put it in their platform, pay a little attention to it next winter? A passenger was standing outside the door of a Pullman sleeper when the porter asked him to come inside. "I thought a platform was meant to stand on." "Oh, no, sah, a platform is meant to get in on."—*Collier's*, April 22.

Medicolegal

Poisoning from Ivy Not "Taking" of Poison, But Death Therefrom is Accidental—Visible Marks

The United States Circuit Court, in Minnesota, says that the insured in the case of Dent vs. Railway Mail Association (183 Fed. R. 840) went with his wife to the outskirts of the city of St. Paul, where he, leaving her, walked into some adjacent woods and there cut a branch of oak and a little stick, which he brought back to her. Within a day or two he called her attention to a discoloration between the fingers of his hand which subsequently turned into an eruption that spread to his arms, neck and chest. This eruption progressed and in the latter part of the month he called on a physician who prescribed for him. His condition grew worse, until his death, which the undisputed evidence showed was caused by poison ivy.

He was insured by the association, but its constitution provided: "Nor shall any benefit be paid where death or disability results from voluntarily inflicted injuries, be the member sane or insane; nor from poison or other injurious matter taken or administered accidentally or otherwise." However, the court is very clearly of the opinion that, when it is considered that the word "taken" is used in connection with the word "administered," and that they are both used in connection with the words "accidental or otherwise," it does not include such a case as this one. It must have been an internal taking, and that taking must be the effect of an act voluntary or involuntary of the person injured.

The court thinks that it would shock the ideas of justice of us all to hold that this policy did not include a death by the bite of a poisonous snake. If anything could be considered an accident, that would be so considered, and there is no reason why this association should not pay for such a loss and should not be willing to do so. The clause quoted was undoubtedly inserted to exclude a case of suicide. It was intended to cover such a case, and exempt the company where death resulted from the taking of the insured's own life by the administration of poison by himself; or perhaps to cover such a case as the one in Wisconsin, in which a dentist administered some poisonous substance to his patient.

The next question was whether the circumstances proved in this case showed an accident, and the court thinks that they did, holding that the taking or catching of this poison by cutting the shrub or bush was an accident, and that it came within the terms of the policy.

Nor does the court think that the association could be relieved by reason of the provision in the policy that, "No benefit or sum whatever shall be payable in any case whatever, unless the accident alone results in producing external marks of injury or violence suffered by the body of the member." This does not say when the visible marks must be produced, and it seems to the court that it must be held that it is complied with if such visible marks appear afterwards, though of course it must be established to the satisfaction of the court or jury that those visible marks were the result of the accident. So, if it was established to the satisfaction of the court or jury that these visible external marks were the result of the injury, the fact that they did not appear instantly was not a defense to the suit on this policy of accident insurance.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

American Assn. of Genito-Urinary Surgeons, New York, June 1-3.
American Academy of Medicine, Los Angeles, June 23-26.
American Dermatological Association, Boston, May 25-27.
American Climatological Association, Montreal, Canada, June 13-14.
American Gynecological Society, Atlantic City, May 23-25.
American Laryn., Rhin. and Otol. Society, Atlantic City, June 1-3.
American Laryngological Association, Philadelphia, May 29-31.
American Medico-Psychological Association, Denver, June 19-20.
American Otological Society, Atlantic City, June 26-27.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Connecticut State Medical Society, Hartford, May 24-25.
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Rhode Island Medical Society, Providence, June 1.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

One Hundred and Thirteenth Annual Meeting, held at Baltimore, April 25-27, 1911

The President, Dr. Franklin B. Smith, Frederick, in the Chair

A list of officers elected was published in The Journal, May 13, p. 1396.

A resolution was adopted providing for the appointment of a committee of five to investigate and report on conditions surrounding the care of inebriates in the state, with the view of obtaining such legislative measures as may seem warranted.

A resolution was adopted reciting that, since the completion of the Panama Canal without serious mortality from epidemic and endemic diseases will be a signal triumph of the appreciation of scientific discoveries in the field of preventive medicine, the opening of the canal should be marked by conspicuous recognition of these and kindred services of preventive medicine in the advancement of human welfare and the reclamation of tropical regions to civilization, and that such recognition may be secured and such an occasion fittingly commemorated by the holding of an international congress of tropical medicine.

The Profession of Medicine and Its Relation to the State

Dr. Franklin B. Smith, Frederick: In matters of public interest, such as health and sanitation, pure food, education and the conservation of mental and physical resources, medical men should lead and dominate the laity. Our practice is too continuously on the individual. It should take a wider range, grasp greater subjects, such as pertain to the protection and elevation of society, subjects embracing the prevention of disease and the best means of overcoming ignorant opposition. The value of experimentation on living man and on the lower animals is so evident that it is incompatible with our ideas of good education and common sense to deny it; but, on the other hand, under the present development of modern civilization, no preventable pain, cruelty or torture to either man or animal can be tolerated. Therefore the sensible—not the fanatic—opponents of vivisection may be met squarely and convinced of its necessity and its benefits, while the reasonable prejudices and fears of humane people may be allayed by such restrictions as will make it a certainty that these experiments are never unnecessarily performed or needlessly painful.

Other professions, educators and workers interested in the welfare of the state must be drawn into their proper relation to us and such mutual cooperation secured as will bring about harmonious but well-rounded and developed schemes of advancement. Organized charity, public and private, education and general economics, all offer more inviting fields of usefulness and glory as specialties for the progressive medical man than the overcrowded ranks of surgery, obstetrics, gynecology and even general practice. The subject of the control of the evils of intemperance by restriction of the manufacture and sale of the so-called intoxicants has been before the public for a long time. Much time, money and energy have been spent by able and earnest men known as prohibitionists, advocates of high license, antisaloon leaguers and pledge enthusiasts. Our profession has never taken the part it should take in this question of vast economic importance. This matter has been treated as a religious or political question, or else as one of morals or economics. While in reality it is all of these, in its more essential aspects it is, above all, a medical question.

In the administration and disbursement of its public charities, however, the state needs counsel more than in any other of its departments. In these matters the members of the medical profession are directly interested both as medical men and as citizens. Public money should be disbursed only for value received. Commissions should be appointed because of the merit and fitness of their members rather than because of thei political records and influence. The licensing or chartering o hospitals should be entrusted to this sort of control, with powe to prescribe the standard of equipment and service withou which they could not lawfully prosecute their work. Ou efforts should be for higher standards of attainment for ou profession, a more general and more discriminative education o the laity in medical matters, greater influence by means of better men on our state boards, a general standardization secure through organization and through the representatives of ou national association, cooperation and agreement leading to uni formity of state legislation, rather than the enactment o national laws.

The annual oration was on "Phylogenetic Association in Rela tion to Exophthalmic Goiter and Sexual Neurasthenia," by Dr George W. Crile, Cleveland, Ohio.

The Tonsil Question

Dr. H. E. Peterman, Baltimore: There is much difference o opinion as to the physiology and functions of the tonsils. It i my belief that the tonsils perform an important function i childhood, and I seldom perform a tonsillectomy in childre under 6 years of age, unless there is some special conditio demanding it. Tonsillectomy should always be classed as major operation, because it is usually necessary to give a general anesthetic, and also because of the fact that severe hemorrhage is often encountered and in this region is difficult t control. When the patient is an adult and not of the nervou type, it is easier and more satisfactory to perform the opera tion under local anesthesia. The operation should always l done in a hospital. When a general anesthetic is used, eth should always be chosen, unless there is some special contra indication. The key to the successful enucleation of the glan consists in getting properly started under the capsule between the capsule and the parts beneath. The dangers the operation are hemorrhage, injury of the muscular structur surrounding the tonsils and infection of the wound.

Dr. Wilmer Brinton, Baltimore: I am glad that Dr. Pete man does not advocate the wholesale removal of tonsils which practiced by a good many men, for it is quite certain that the will sooner or later be a reaction against this practice, just there has been against the indiscriminate removal of ovaries.

Case of Pneumococcus Peritonitis

Dr. Harvey G. Stone, Baltimore: The patient, a fema child, 5 years old, had pneumonia two years ago, compl cated by acute otitis media. After recovery from the pne monia the otitis persisted and became chronic, with freque exacerbations of earache and discharge. On March 30, f lowing an indiscretion of diet on the previous evening, she w seized with sudden severe abdominal pain and vomiting, fev and diarrhea. The fever and pain, which was generally d tributed over the abdomen, but most acute over the umbilic persisted, as did the diarrhea, in spite of calomel. There w slight symmetrical distention of the abdomen in the lower ha There was no localized tenderness and no masses were fe On opening the abdomen thick greenish-yellow pus welled o The pus was odorless. No lesion accountable for the infecti could be found. The bacteriologic report of the pus exami tion showed pneumococci. In spite of the Fowler positi Murphy treatment, etc., the child died the day after the op ation. No autopsy was secured.

(*To be continued*)

MISSISSIPPI STATE MEDICAL ASSOCIATION

Annual Meeting, held at Jackson, April 10, 1911.

(Continued from page 1414)

A Case of Empyema

Dr. Robert Donald, Hattiesburg: In this case, the patient, who was a child whose illness in the beginning simulated malaria, was given antimalarial treatment. Later, an incision was made and drainage instituted. On removal of the tube on the ninth day the cavity refilled and drainage was again instituted, with satisfactory results.

DISCUSSION

Dr. J. W. Barksdale, Winona: I do not think it necessary to insert a very long tube. All that is necessary is that the tube project into the pus cavity.

Dr. S. S. Carothers, Duck Hill: How much quinin was given the child? The case may have been a mild one of pneumonia.

Dr. J. T. Longino, Jonestown: The cause of the trouble is bacterial infection. If a microscopic examination had been made several bacteria would have been found playing a part in this infection. I am very much opposed to attributing the cause to quinin.

Report of a Case of Ophthalmia Neonatorum and a Case of Hereditary Syphilis

Dr. I. W. Cooper, Newton, reported a case of ophthalmia neonatorum and one of hereditary syphilis and their treatment as texts for a discourse on the problem presented by venereal diseases and the duty of the medical profession to attempt their prevention.

DISCUSSION

Dr. S. A. Majure, Dixon: I want to speak on the point of legislating against promiscuous marriage. Young girls, their mothers not thinking of any trouble, have been allowed to marry men who have been loose in their habits. A life of misery follows.

Dr. L. C. Feemster, Nettleton: I think that it would have been better to use the argyrol in a 50 per cent. solution. When we first began to use this drug we used only 10 per cent. But now we do not use less than a 25 to 50 per cent. solution.

Dr. R. D. Sessions, Natchez: I have been very much disappointed in the use of argyrol. I am much better pleased with nitrate of silver and I believe that it will accomplish more than the use of argyrol. It is the duty of the obstetrician to carry argyrol or nitrate of silver with him; 90 per cent. of the blind children in the asylums are there on account of gonorrheal ophthalmia. Let us prevent it.

Dr. Robert Donald, Hattiesburg: I generally carry 50 per cent. argyrol. Dr. Sessions has not had success with it in every case. I also make use of a boracic acid solution.

Dr. R. S. Curry, Columbus: A continuous application is necessary and the strength of the solution is not so important as its continuous use. As good a result is obtained with a 10 per cent. solution if it is applied frequently.

Dr. I. W. Cooper, Newton: I now use as strong as 50 per cent. solution.

Some Intestinal Parasites of North Mississippi

Dr. L. Kohlheim, Guntown, has encountered 327 cases of intestinal parasites in North Mississippi in the past four years. These he classified as follows: *Necator americanus* 269, *Ascaris lumbricoides*, 21; *Oxyuris vermicularis*, 15; *Strongyloides intestinalis*, 5; *Hymenolepis nana*, 17. He touched briefly on prophylaxis and treatment and made a strong plea for an educational campaign as the only means of eradicating these pests.

Acid-Fast Bacteria and Some of Their Points of Difference

Dr. L. Hart, Meridian, described various methods in the differentiation and cultivation of acid-fast bacteria. He contended that the smegma and leprosy bacilli cannot be differentiated by the animal inoculation test.

DISCUSSION

Dr. Gustav Mann, New Orleans: I can hardly agree with the author that we cannot grow the leprosy bacillus. Professor Duval has shown that leprosy bacilli will grow in ordinary goldfish.

Dr. J. G. Gaither, Oxford: Within the last year series of experiments were conducted in two cities, New York and Philadelphia, I believe, and in one city they used acid-fast bacteria but not in the other. In those which showed the bacteria ordinary running water was used but when distilled water was used no bacteria were found.

Dr. H. B. Wood, Jackson: Rosenberger has been exceedingly careful in his work. I think he is correct. When he and his associates found tubercle bacilli they were using distilled water. They got this distilled water from a demijohn. Rosenberger asserts that he has never seen tubercle bacilli which do not stain.

Microscopic Findings in the Diagnosis of Uncinariasis

Dr. W. S. Leathers, Oxford: There are various reasons why the hookworm has not been noticed in the South until recent years. Its prevalence is practically universal. From investigations by the Mississippi State Board of Health in fifteen counties and two institutions it is to be inferred that Mississippi has a large proportion of infected inhabitants. Microscopic examination of feces should be a routine procedure in general practice.

The Limitations of a Laboratory

Dr. H. B. Wood, Jackson: A laboratory is a place of consultation and the diagnosis made there should not be considered as obviating the necessity of clinical observation. A negative diagnosis should not be interpreted "non-existent" but "not found." Some causes of failure to diagnose in the laboratory are due to faulty technic.

Pathology of Acute Malarial Infection

Dr. C. R. Garraway, Brandon, described the blood changes due to malarial infection and indicated briefly the theories as to the causation of fever in malaria.

DISCUSSION

Dr. J. T. Longino, Jonestown: The internal organs probably undergo some changes as a result of damage done by malarial parasites, due to pathologic changes of the blood. The collection of all this waste matter in the organs causes anemia and consequently enlargement of these organs.

Physiology of the Thyroid

Dr. A. M. Harrelson, Newton: A perfect secretion of the thyroid is necessary for the proper development of bone and fat, for the proper functioning of the skin and the development of many functions of the body. It is perhaps the best understood of any of the ductless glands.

Cardiac Stimulants

Dr. S. A. Eggleston, Lexington, has small faith in any cardiac tonics save digitalis and rarely uses any of them except in presence of some absolute contra-indication of that drug. He described the physiologic effects of and indications for digitalis, comparing it, point by point, with the other cardiac stimulants.

DISCUSSION

Dr. R. E. Howard, Durant: We are not perfect diagnosticians. Various cardiac troubles frequently give the same symptoms. No drug that we have equals digitalis in these cases, but we must be very careful in using digitalis.

A Forgotten Use of Calomel

Dr. S. Myers, Vicksburg, called attention to the diuretic effect of calomel and the almost universal ignoring of this action of the well-known drug by the latest text-books. He gave some case reports showing this effect.

DISCUSSION

Dr. B. H. Booth, Drew: The use of calomel is not forgotten in the Delta. We can always depend on calomel, it is almost magical in its results.

Dr. P. R. Brown, West Point: In my practice I have had no remedy which gives me the same results as calomel. There are some cases in which calomel is the remedy *par excellence.*

Dr. S. Myers, Vicksburg: I know that this remedy is not forgotten in the Delta. It is, however, absolutely forgotten in the teaching in the medical schools. It was with the intention and hope of calling attention to this invaluable drug that I wrote the paper.

Iritis

Dr. M. H. Bell, Vicksburg: In this disease treatment gives a good eye and no treatment frequently results in blindness. Symptoms are severe pain, worse at night, redness of eye, contracted and sluggish pupil, blurred vision and lacrimation. The causes are syphilis, rheumatism, trauma, etc.; in the negro race syphilis causes 80 per cent. of cases. Treatment consists in use of atropin, dionin, Arlt's ointment to forehead, leeches to temple and appropriate general treatment directed to the cause if that can be ascertained.

DISCUSSION

Dr. H. D. Bruns, New Orleans: There are three classes of acute inflammation of the iris with which each of us should be familiar: conjunctivitis, iritis or glaucoma. If it is a case of iritis the pain will be greater than if it is conjunctivitis. The other eye must be well covered. If the person has an equally painful eye with discharge, that is conjunctivitis. If atropin be put to the eye in a mild conjunctivitis it is of no avail.

Dr. W. L. Howard, Greenville: An extremely red eye is an indication of iritis.

Dr. R. E. Howard, Durant: After one makes a diagnosis of iritis it is necessary to decide whether it is caused by syphilis or rheumatism. In the majority of cases it seems to be due to syphilis.

Glaucoma and Its Recognition by the General Practitioner

Dr. Henry Dickson Bruns, New Orleans: Glaucoma is divided into the violently painful, acute type and the simple, non-inflammatory type, with other cases presenting symptoms not wholly of either type. In an acute attack, the patient is alarmed, often awakened by violent pain in the eye, not relieved by the usual domestic remedies. The symptoms are a "raw-meat" red globe, steamy cornea, shallow anterior chamber, dilated pupil, sluggish iris and stony hardness of the eye-ball as compared to the normal eye when tested by fingers applied to the upper lid. The eye will be blind or nearly so. No one who cannot compare tension of two eyes should use atropin in an eye. Fatal mistakes are made in these cases through lack of knowledge and by haste, taking the word of the patient that it is neuralgia or seeing a red eye and concluding that it is iritis. No neuralgia ever made an eye more than slightly pink and an acute iritis does not cause dilatation of the pupil. The family physician is the one who sees these cases at the time that treatment can be beneficial, hence the importance of his making a correct diagnosis. A few hours' delay means hopeless blindness. Though these attacks appear so suddenly in most cases premonitory symptoms have usually passed unnoticed for varying periods. In simple glaucoma the burden lies entirely on the ophthalmologist and at the beginning it will at times be impossible to state definitely that we are dealing with glaucoma until the eye has been under observation for awhile. This type of glaucoma has been found common in the negro race. The treatment is iridectomy and miotics.

DISCUSSION

Dr. R. S. Curry, Columbus: It is important that we recognize the condition early. Atropin is the most dangerous thing for the glaucomatous eye. The dilated pupil and the contracted pupil ought to be sufficient to make us distinguish clearly between iritis and glaucoma. Iridectomy will relieve the pain, and I am very much in favor of this procedure even if the patient is blind. The pain is very acute.

Dr. J. B. Bullitt, Oxford: The general practitioner generally ignores the eye; and the conditions in Mississippi are in some respects unfortunate because there are so few ophthalmologists.

Dr. N. A. McLeod, Brookhaven: I wish to propose a vote of thanks for the paper because I think we all feel indebted to Dr. Bruns.

The motion was seconded and carried.

Dr. H. D. Bruns, New Orleans: It is impossible for any man to say much original about glaucoma. The only point that has any originality about it is the observation relative to the negro being especially liable to glaucoma.

Treatment of Postpartum Hemorrhage

Dr. T. H. Seay, New Hebron: This condition may occur after any labor and many of the predisposing causes may be overcome if treated during pregnancy. Treatment is massage, an intra-uterine douche of acetic-acid solution and packing, combined with such general measures as elevation of the foot of the bed, and ergot hypodermatically.

DISCUSSION

Dr. J. H. Cook, Laurel: I visited a patient who had been under the care of a midwife of much experience, who, however, failed to deliver the placenta. She let the patient die We should not sit by and let a patient bleed to death i these cases. I believe that strychnin is all right in the after treatment. I have had success with the use of 1/30 or eve 1/60 grain of this drug.

Dr. W. M. Turnage, Marksville: We ought to get rid o midwives in the state of Mississippi.

Dr. T. J. Brown, Grenada: What is the purpose of leavin the placenta in the uterus for thirty minutes? My experienc has been that if this were done the patients would all hav been dead.

Dr. S. W. Purifoy, Yazoo City: I have seen but one suc patient die. I am in favor of delivering the placenta ver quickly after birth of the child.

Treatment of Aneurysms

Dr. S. W. Johnston, Vicksburg, reported several cases aneurysm in which he had operated by the Matas metho the most interesting being one of the abdominal aorta.

DISCUSSION

Dr. L. D. Dickerson, McComb City, told of the pain he g in his fingers using pressure for the cure of aneurysms in h college days.

Dr. J. A. Crisler, Memphis, Tenn.: Let us remember th aneurysms may not pulsate.

Dr. J. G. Gaither, Oxford: I likewise have seen cases which there was no pulsation.

Dr. W. B. Johnson, Greenville: The smallest and be material for these sutures seems to be Japanese silk.

(To be continued)

MEDICAL SOCIETY OF THE STATE OF NEW YOR

One Hundred and Fifth Annual Meeting, held at Albany, April 18-19, 1911

(Concluded from page 1416)

Significance and Therapy of High Blood-Pressure

Dr. J. F. Rooney, Albany: In summing up, one may sa First, the utility of the vasodilators is conversely appar with the acuteness of the pathologic condition. Second, eli inative measures, hot air, carbon dioxid baths and cathar are of much more marked effect in the toxic group. Thi phlebotomy is of great service in the acute toxic gro accompanied by dilatation of the heart, but has fallen i undeserved disuse. Fourth, blood-pressure determinati alone cannot differentiate between the crises of tabes a intra-abdominal perforations. Fifth, the effect of nitroglyce is as prolonged as that of any of the nitrite group exc erythrol tetranitrate, and that its rapidity of action is as gr as any and nearly as great as that of amyl nitrite. Six the use of the aconite group as vasodilators is pharmacol ically unfounded, and except in the toxemia of pregnancy w a strong heart muscle should be entirely discontinued.

Hydrotherapeutic Treatment of Chronic Disease of the Heart

DR. JOHN M. SWAN, Watkins: In treatment of chronic diseases of the heart, following the lead of the German and French physicians, particularly those at Nauheim, the value of carbonated brine baths has become a matter of common use. In many hospitals and hydrotherapeutic institutes in the large cities, artificially prepared brines charged with carbon dioxid are used in treatment of cardiac diseases with much benefit. At Glen Springs a natural brine is used in treatment of these diseases. The baths are given on alternate days, so that the complete cure requires six weeks. The carbonated brine baths in suitable cases of cardiac disease produce the following effects: (1) a diminution in the size of the heart; (2) a slowing of the pulse; (3) a slowing of the respiration; (4) reddening of the skin on account of the dilatation of the smaller blood-vessels in the cutis vera; (5) reduction in the size of a congested liver; (6) increased flow of urine. These results are due undoubtedly to the influence of the baths on the cutaneous circulation. The amount of blood in the skin is increased, the blood-vessels of the skin are enlarged in caliber, and as a result the heart is relieved of impediments in satisfying the demand of the circulation, so that the blood-flow is equalized in the viscera.

DISCUSSION

DR. L. F. BISHOP, New York: I am thoroughly convinced of the value of the Nauheim method of treatment with baths, but I hesitate to recommend this method at home without being perfectly sure who is going to give it. I make the latter statement because there are a great many physicians who do not give the treatment in suitable cases. This treatment is not specific; it is the adaptation of a great many different things to bring about a result. In severe cases of arteriosclerosis the carbonic acid gas in the bath is better left out. There is more carbonic acid bath in one artificial bath given by some physician in America than there is in a dozen such baths given at Nauheim.

DR. H. SCHOONMAKER, Clifton Springs: The question of prescribing the Nauheim treatment is an important one to the individual. We must select the cases. We must know what the conditions are. I like the term Nauheim method rather than Nauheim baths because the scheme involves much more than the baths. It will be helpful when the actual results of the so-called Nauheim method can be determined irrespective of other treatments, because we have to admit that our patients are under a very careful regimen of rest and diet, etc.

Olive Oil in Postoperative Nausea

DR. C. R. HYDE, Brooklyn: The use of olive oil to lessen and even control postoperative nausea has not received the attention of surgeons that its success warrants. Just as the patient is beginning to return to consciousness, 2 ounces of ordinary olive oil are administered by mouth from a cup. The patient must be sufficiently out from the ether to understand the command to drink the oil, which is then swallowed without any difficulty. It is of interest to note that after regaining complete consciousness the patient does not even recollect taking the oil. Usually within five minutes after the oil has been given, there is free and copious vomiting, which in the large majority of cases concludes the gastric disturbance. The nurse who gives the oil should be instructed to have at hand a basin and towels, and to remain by the bedside of the patient, as the vomiting which is initiated very soon after the ingestion of the oil is explosive and projectile in character. This precaution is imperative, as some patients will vomit with such a violent expulsive effort as to soil the floor for some distance around the bed. Rarely does a second vomiting attack occur, and within a short time the patient is resting comfortably, so far as the stomach is concerned, and is free from nausea or retching. The method insures a quick, rapid stomach cleansing, usually terminating with this one performance, and should be used as a substitute for gastric lavage on the operating table before the patient is returned to the recovery room or bed.

Surgical Treatment of Exophthalmic Goiter

DR. MARTIN B. TINKER, Ithaca: The symptoms of goiter are the symptoms of poisoning, similar to that produced by narcotic poisoning. The excessive secretion acting as a poison is produced by the thyroid. In removing a portion of the thyroid we remove the cause of the trouble. The over-use of tobacco causes tachycardia and weakness of the heart's action, not at all unlike the condition seen in hyperthyroidism. Excessive use of tobacco also causes nervousness, general unrest, tremor, sleeplessness, sometimes nausea, vomiting and diarrhea. The presence of excessive thyroid secretion in the circulation has a similar effect.

No sensible man would consider it logical to treat tobacco heart or tobacco amblyopia and allow his patient to continue the excessive use of tobacco. It is just as logical to treat exophthalmic goiter with drugs without removing the source of the excessive secretion. No one, whether internist or surgeon, is so radical as to suggest operation in all cases. Osler's advice that surgical treatment should be recommended after three months' careful medical treatment, if the patient is not better, if it were generally followed, would save many lives and restore to efficiency many patients who do not die. Operation should certainly be advised before irreparable damage has resulted to important vital organs. The greatest strain comes on the organs of circulation and the nervous system, but almost every important vital organ suffers in advanced cases. With careful preliminary study of the patient to determine how much can be done with safety, dividing the operation into several short stages of two days or even weeks apart, with operation under local anesthesia, or in some cases nitrous oxid anesthesia, the operative risk can be reduced to a minimum. In 150 consecutive operations, without fatality, many of the patients were in extremely bad condition. With three exceptions, every patient who has appeared for operation has been operated on. The three patients who were refused operaation all died medical deaths in periods ranging from twenty-four hours to three weeks of the time when they were seen. Dangers of delay and frequency of recurrence of symptoms in serious form were mentioned.

DISCUSSION

DR. W. W. SKINNER, Geneva: I agree with Dr. Tinker with reference to the surgical treatment of these patients, and I hope he will teach what he has set forth in his paper until physicians cease holding these patients in bondage, allowing destructive changes to go on in the body, as has been shown by microscopic sections, until they are absolutely useless members of the community.

DR. PARKER SYMS, New York: Hyperthyroidism is the real thing we have to consider, and the question which arises in connection with these patients is whether or not they are being poisoned by the internal secretion. Cases of simple goiter of various forms may become the so-called exophthalmic goiter, that is, at some period in their history there may be hyperthyroidism, and it is then that we have these patients presenting a complex line of symptoms from the initial poisoning. It is a poisoning which varies in degree from the mildest disturbance to the most disastrous results. Degeneration takes place throughout the nervous vascular and muscular systems. The important point is that we should recognize this change when it begins; that we should study our patients carefully long before they require operative treatment. My experience has only been with general anesthesia, and I think it has in these cases so many advantages over the disadvantages of local anesthesia that general anesthesia should not be discarded.

DR. E. A. CHASE, Tarrytown: I have had experience with the Beebe serum, and while it has a beneficent influence over cases of exophthalmic goiter in controlling the symptoms, I cannot say that it has ever cured a patient with this disease.

DR. A. L. SORESI, New York: The only contra-indication to local anesthesia in the surgical treatment of cases of exophthalmic goiter must be a more difficult technic and the pain the operator inflicts on the patient.

Dr. G. E. Beilby, Albany: No one is radical enough to maintain that every case presenting the symptom-complex, more or less complete, of exophthalmic goiter should be operated on. These patients should be placed under observation for two weeks or two months, and then if the symptoms do not improve, operation of some degree should be performed. I believe that local anesthesia is the most important single factor in lowering the death-rate of operations of these cases.

Dr. E. M. Stanton, Schenectady: There is no more definite, clean-cut anatomic operation in surgery than the incision of one lobe of the thyroid, and under these conditions of simple goiter there should be practically no mortality. Dr. Tinker has shown that under local anesthesia the mortality following operations on cases of exophthalmic goiter is now exceedingly low.

Dr. C H. Hacker, Albany: Excitation is an important etiologic factor and we should avoid it in these cases before and after operation. I see no reason why we should not use general anesthesia in cases of partial thyroidectomy. The results obtained by Ochsner, of Chicago, have convinced me that it is a safe procedure, and in a large series of patients operated on by him, covering a period of two years, there was only one death.

Developmental Defects of the Abdominal Viscera with Their Surgical Significance

Dr. W. F. Campbell, Brooklyn: Observation in 500 necropsies, together with clinical experience, have convinced me that many abnormal conditions of the abdominal viscera heretofore regarded as acquired are due to developmental defects and are rationally explained on this basis. In the course of evolution from the quadruped to the biped the long mesenteries of the former have been shortened and eliminated. In the quadruped the abdominal wall acts as a hammock for the viscera; in the biped it acts as a corset. This should be borne in mind in treating enteroptosis. Enteroptosis, nephroptosis and Lane's kink are developmental defects not due to wearing corsets. In the treatment of enteroptosis abdominal supports should be relegated to their proper place and gymnastics should be used to greater extent. Lane's kink is a factor in intestinal stasis, and simulates chronic appendicitis. It should be corrected by surgical procedure.

Malignant Tumors of the Kidney

Dr. H. Adsit, Buffalo: Hypernephroma occurs in from 91 to 97 per cent. of all kidney tumors; it has been a pathologic puzzle. The weight of evidence is in favor of epithelial origin of these tumors and that they are a malignant development of aberrant adrenal tissue. In serial sections of 241 normal kidneys adrenal rests were found in 7 per cent. These growths are not infiltrating. Metastases take place through the veins, seldom through the lymphatics. These tumors vary greatly in rapidity of growth, I have seen them of eleven years' standing; others grow very rapidly. In one case, the tumor weighed 7 pounds at the end of two months. Many cases reported as carcinoma are found to be hypernephromata, or else metastases from a primary cancer elsewhere. It is most frequent between the ages of 40 and 50, although cases have been observed in children.

Auscultation of the Cough

Dr. A. H. Garvin, Ray Brook: Auscultation of the cough offers the best means of diagnosis, and it requires no expensive apparatus or special experience. There are four positions of the cough in respiratory cycle: (1) the cough at the beginning of the inspiration, or at the end of expiration—at this point fleeting râles can be heard, especially in the axillary region; (2) the cough during some phase of inspiration—at this position it gives important information in the advanced stages of tuberculosis; (3) the cough at the zenith of inspiration—this is not to be used, as it obscures the sign; (4) the cough in this position, corresponding to the second position, is during some phase of expiration and frequently reveals abundant râles.

Exophthalmos a Common Symptom of Nephritis

Dr. H. C. Gordinier, Troy: This symptom, in varying degree, is a common sign of chronic nephritis, occurring in nearly one-half of the cases. It is usually associated with hypertension, without enlargement of the thyroid or marked tachycardia. It has been entirely overlooked in text-books, and only within a few years is mentioned in medical literature.

DISCUSSION

Dr. L. F. Bishop, New York: The degree of exophthalmos in Bright's disease varies with the condition of the patient, in that it is more marked when the condition of the patient becomes worse.

The Precancerous Stage

Dr. Parker Syms, New York: A careful analysis of cases of cancer with a careful retrospection will teach us more systematically just what abnormal conditions and lesions are frequently followed by cancer, and in this way we really will arrive at the most practical knowledge of the etiology of cancer. From a knowledge of the cause of a disease to a knowledge of its proper treatment is a comparatively easy step, and if we properly apply the lessons we have learned we shall be able to prevent, and that is far better than to cure, a large proportion of cancers.

Cancer Immunity in Its Present Status

Dr. Harvey Gaylord, Buffalo: A small percentage of animals with primary cancers recover, and this is true in a few instances in human beings. This has led to work on immunity. A certain immunity seems to be conferred by inoculating an animal with a growth from a different species. This immunity it has been found is not directed against the cancer cell, but against the growth; it is entirely independent of the cancer cell. From the spindle-cell sarcoma of a rat it has been possible to filter an agent which will produce tumors. One tumor has been thus produced, but it is not a spindle-cell sarcoma, but chondrosarcoma. Sarcoma has been produced in two animals by injection of warm fluid from a cancer of the omentum in a human being. The immunity obtained is specific. The question of vaccination has again arisen, and six cures by this method were reported at the late convention in Paris. In all probability the field for the employment of vaccination will be very limited. Early cases may be amenable. When tumors begin to retrograde it is necessary to remove as much of them as possible. Rats with small tumors have shown a pseudo-Wassermann reaction or deviation of complement reaction. The cases that show improvement give, in course of time, a Wassermann reaction equal to a marked syphilitic reaction. This reaction is a mark of growing immunity. A blood reaction known as the antitryptic reaction gives good indications of the progress of the case and enables one to tell when metastases are occurring.

Treatment of Intestinal Tuberculosis

Dr. S. G. Gant, New York: The results are much better from modern treatment than from the older methods, and more favorable results were obtained in cases in which the infection involved the superficial mucosa than in the enteroperitoneal form in which the inner and outer coats of the bowel sooner or later become involved. A large proportion of cures are now being effected by improved surgical technic and with comparatively little danger to the patient. Therapeutic measures employed in the treatment of intestinal tuberculosis may be divided into measures for improving the general health, symptomatic treatment, irrigation with ichthyol, balsam of Peru, boric acid or krameria and soda, 0.5 per cent. alternated daily with high injections of olive oil and bismuth to soothe the bowel; topical applications of silver nitrate, 8 per cent., balsam of Peru or ichthyol 20 per cent. Surgical treatment includes appendicostomy and cecostomy. Cecostomy and use of the enterocolonic irrigator provides a certain means of irrigating both the large and the small intestine separately or together.

The Rôle of Physicians in the Prevention of Insanity

Dr. A. W. Ferris, New York: The cooperation of physicians is especially desired in the efforts to inaugurate psychopathic wards or pavilions, maintained as a part of general medical hospitals, where borderland cases are received for care pending commitment or other disposition, where initial temporary treatment may be given, and where decent hospital accommodation will be substituted for the jail and the lockup. It is a matter of common notoriety that many insane persons are put under arrest and are treated as criminals and thrown into jail along with criminals simply because no adequate provision has been made by either city or county authorities for their care pending commitment. Here lies the physician's opportunity and herein is found his duty. Lives are in jeopardy, the happiness of thousands of families is at stake. Prophylaxis through a concerted effort is the only true economy and the only logical agency at this critical period in the history of our commonwealth.

Chronic Appendicitis

Dr. E. M. Stanton, Schenectady, presented a critical study of postoperative end-results, and then drew the following conclusions:

1. In my experience appendiceal dyspepsia has been characterized by symptoms strikingly analogous to the earliest symptoms of acute appendicitis, namely, attacks of epigastric or midabdominal pain or distress, but only rarely accompanied by subjective symptoms, referrable to the region of the appendix. During these attacks the pain or distress is nearly always increased by food intake.
2. Pain confined chiefly to the right lower quadrant and not associated with attacks of epigastric pain and nausea is seldom due to the appendix, and before making a diagnosis of chronic appendicitis in those cases every other possible condition should be excluded.
3. The majority of failures have been in patients complaining of right inguinal pain associated with chronic constipation. At operation these patients have presented an unusually long or dilated cecum, usually accompanied by other evidences of enteroptosis. In the future, a certain proportion of those patients may be cured by some such operation as that advocated by Wilms, but appendectomy alone does not cure.
4. Unless the diagnosis is absolutely certain, the gall-bladder, stomach and right kidney should be explored, and the possibility of a Lane's kink excluded in all patients operated on for chronic appendicitis.

Other Papers Read

The following papers were also read: "The Nervous Woman," by Dr. E. B. Angell, Rochester; "Radiographic Diagnosis of Lesions of the Gastro-Intestinal Tract, with Lantern Slide Demonstration," by Dr. L. G. Cole, New York; "Gunshot Wound of the Abdomen," by Dr. E. A. VanderVeer, Albany; "A New Method of End-to-End Anastomosis," by Dr. A. L. Soresi, New York; "Treatment of Bladder Tumors with the High-Frequency Current of Oudin," by Dr. E. Beer, New York; "The New Thoracic Department of the German Hospital of New York," by W. Meyer, New York; "Deductions from Clinical Experience with Use of a Polyvalent Bacterial Vaccine," by Dr. J. M. Van Cott, Brooklyn; "Clinical Observations of Cardiac Arrhythmias from the Modern Standpoint," by Dr. W. B. James, New York; "Mutual Helpfulness in Conservation of Public Health," by Dr. W. A. Howe, Phelps; "Exactness in Diagnosis of Renal Calculus," by Dr. P. M. Pilcher, Brooklyn; "A Local Hematologic Factor in the Causation of Uterine Hemorrhage," by Dr. A. Sturmdorf, New York.

PHILADELPHIA COUNTY MEDICAL SOCIETY

Meeting held March 22, 1911

The President, Dr. C. B. Longenecker, in the Chair

SYMPOSIUM ON THE HOSPITAL DISPENSARY ABUSE PROBLEM IN PHILADELPHIA

Dr. Oscar H. Allis: The problem is so simple that any physician can solve it; yet simple as it is, it has remained the same after many annual discussions before the various medical societies. Considering the subject chiefly from the standpoint of state appropriations—which are made to our medical college hospitals and dispensaries in return for the enormous amount of charitable work they claim to do—and as this dispensary work must necessarily be extended to those who come on foot, it is obviously unjust to appropriate state funds for purposes which mostly concern the city. If the state would take care of the insane, aged and infirm, and the feeble-minded, and leave the various localities to care for the injured and for transient illnesses, the question of hospital dispensary abuse would resolve itself into the care of the very poor and such as really could not compensate the physician for attendance.

Dr. Addinell Hewson: The abuses that occur in hospitals come from a misconception on the part of the public. They feel that because they have paid their taxes they are entitled to receive gratuitous treatment from those connected with hospitals. It seems to me that the remedy must come through the county medical society insisting on investigation of those applying for free treatment. From a personal investigation, I have been surprised to learn the character of many so applying. Some patients had been to Europe several times. Some came to hospitals in carriages but dressed in old clothes, and waited in the dispensary. If investigation were made through some of the bureaus of the city equipped for this work there would be less dispensary abuse and the men living in the neighborhood of the hospitals and not connected with them would have a better opportunity of receiving that to which they are entitled. The institutions themselves ought to be impressed with the idea that as distributors of alms they are guilty of malfeasance in office if they give alms to people unworthy to receive them. I assert that if a patient who is well able to pay for treatment receives such treatment without cost that the managers of the institution are responsible for the wrong distribution of alms in their hands and their action ought to be checked.

Dr. Augustus A. Eshner: By hospital dispensary abuse I understand the availment gratuitously of medical services in a charitable institution by those able to pay. No doubt a certain measure of such abuse exists, but the extent and degree are somewhat difficult of estimation. In its worst form, it represents a desire to obtain something for nothing; or an endeavor on the part of those in modest circumstances to secure without cost special service that otherwise would be a strain on their resources, if not entirely beyond their means. Physicians' fees differ considerably, and the question arises whether a sick person shall have the privilege of selecting for his treatment the physician of special skill, ability or experience whose fee he may not be able to pay or shall be compelled to submit for treatment to a physician of lesser skill, ability and experience whose fee he can afford to pay. Who shall decide whether a patient can afford to pay for medical services or not; and how much he can pay? It would seem that the patient himself is the best judge, and if he is willing to admit his inability he should receive the benefit of any doubt. Naturally there will be some imposition, but it were better that a few guilty should escape exclusion than that one deserving person should be deprived. The dispensary patient who would deceive in this connection would equally find a way to evade payment of the physician's bill he is compelled to incur. From the practical standpoint the simplest solution of the problem would be to address to every applicant for dispensary treatment the question whether he is or is not able to pay a professional fee. If the answer is in the negative he should be received for treatment, if in the affirmative he should be referred to the physician of his selection.

Dr. George Erety Shoemaker: I have had more experience with this problem in connection with the indoor patient. The question of hospital abuse is complicated by the fact that hospitals have changed in scope, while their attitude toward the patients applying has not changed. No longer only the poor go to the hospitals but all classes. Some of the causes of abuse cannot be controlled; others can be corrected by the checking system. The remedy lies in frank recognition of the fact that hospitals are no longer public charitable institutions, but that all classes are seeking in them treatment; and, in having paid business officials, whose duty it shall be by investigation to weed out such persons as are of sufficiently good financial standing to pay. These individuals should be referred first to their own physicians and second to the younger men working in minor positions in the hospitals. There should be recognition on the part of all concerned that no one group of people is to blame, but that there are many causes at work. Physicians should not recommend for free beds persons whom they do not know. Often the families are able to pay but are not asked.

Dr. J. M. Baldy: In from twenty to twenty-five years in dispensary work in Philadelphia it has been the exception in my experience to find people who were really well able to pay for medical treatment attempting to get something for nothing. A great deal of the dispensary abuse has been due to the physician himself, and to the fact that we live in a teaching center and must have material for teaching. The clinic that uses material in that way is paid in a measure for the so-called abuse. Better abuse than injustice; I would far rather treat a patient who I knew had abused my confidence, than turn away one poor person who needed treatment. The remedy lies with the individual physician. He can ascertain who are worthy without placing the applicants in humiliating positions. There is also a collective way by education of the public to the effect that it puts shame on persons to apply for free treatment if they are able to pay.

Dr. Joseph D. Farrar: The abuse of medical charitable service by institutions and the flagrant misuse of this charity for persons and for interests which can have no claim to our free service is such an insult to our self-respect and indignity to our intellect that we are in duty bound to resent it. A stipulated card ought to be filled out for each patient, a carbon copy to be retained by the dispensary, and the card itself sent on the same day to the office of the bureau of investigation, which should be established by the Charity Organization Society. The dispensary should provide itself with the means for the filing of the cards, but the cards themselves should be provided by the bureau of investigation. The original card should be filed with the bureau of investigation; the report of the bureau concerning each patient should be returned to the dispensary in convenient form for filing, with the card for that patient retained by the dispensary at the patient's first visit. Blanks should be filled out, giving name, age, occupation, residence, how long residing there, former address, place of employment, salary, how long in Philadelphia, family physician, physician last consulted. I believe that if we could raise a certain amount in Philadelphia, the Charity Organization Society would be only too glad to establish this bureau of investigation. Chicago is going ahead in this work by subscriptions furnished by physicians.

Dr. G. M. Illman: I think, as Dr. Baldy put it, that the trouble is due entirely to the physicians. This is true from many standpoints. Dispensaries are multiplied by the physicians themselves. A physician who has difficulty in getting his patients into the hospitals, becomes disgruntled and opens a house for the treatment of them, and this in time becomes a hospital. Dispensaries are started also by the state for the treatment of special diseases. I believe that the physician who pays state taxes is as much entitled to the facilities of the hospitals in his neighborhood as are the men connected with them. With this idea in mind, I have suggested that it is our duty to cooperate with every man wanting to use the wards of our hospital. In admitting patients for treatment we endeavor first to ascertain the name of their physician, and whether or not the patient is able to pay. We have gotten up a series of letters, one of which is sent to the family physician when the patient is admitted, and another when he is discharged. A similar method is employed in the dispensary. At the top of the dispensary card we have printed: "For the worthy poor." We have found these measures remedial in the question of pauperizing the public.

Dr. Joseph Price: We should recognize the importance of scientific and not political care of worthy charities. Institutions of trust should be used wisely for their specific purposes. The tendency to multiplication of private institutions in the very teeth of old, large, and well-endowed charities emphasizes the fact that there is always something in public charity that snuffs out the scientific and humanitarian spirit and skill that the public demands. I have run a private hospital for more than a quarter of a century. One hundred of my colleagues and intimate friends have done precisely the same thing and attained skill and international prominence for their accomplishments and life-saving efforts. In this state, I have had the opposition of the great commonwealth. In other states such handicap does not prevail. Discrimination should be practiced in all institutions. The family and friends of all employed can easily pay hospital expenses. It would be difficult to determine just what is done with the endowment, the annual donation of the public and the maintenance from the state. One naturally asks what is done with such generous contributions. Private institutions have but one source of revenue and are excessively taxed and assessed.

Dr. Stewart C. Runkle: There is no question of the existence of hospital dispensary abuse. I believe also that the hospitals and dispensaries are guilty of wrong. Patients are admitted without being asked whether or not they are able to pay. The people who have no business there are the very ones found there day after day, and no effort is made by the attendants to communicate with the family physicians. The little dispensaries, in my opinion, ought to be put out of existence entirely.

Dr. Hiram R. Loux: Voluntarily, I do not believe that any patient who comes to the dispensary will tell his financial condition. He wants service free of charge if possible. There should be a general bureau of registration in large institutions from which the patients should be distributed to the various departments. No applicant should be treated free who is able to pay his family physician. Then, too, physicians drive patients to the dispensaries by long treatment without results. It is possible that the only effective way to overcome this evil would be through the appointment of a board of charity with sufficient remuneration to pay for the treatment of the poor in institutions.

Mr. Porter R. Lee, General Secretary, Society for Organizing Charity: The chief handicap which the abuse of the free dispensary privilege puts on the work of the Society for Organizing Charity follows from the habit of some of the sick poor going to several different dispensaries at the same time. So far as I have any suggestions to make to-night, I may summarize them as follows:

1. Overlapping in treatment ought to be and can be prevented, by the system of registration which we in cooperation with other city charities have adopted. Each society sends to a registration bureau at stated intervals, preferably every day, either by mail or telephone, a list of the persons who have applied for assistance. In response to this inquiry, the charitable society is given the names of such other charities as have already registered the same persons. The use of geographic areas is another available method of prevention.

2. Investigation of cases is desirable both to expose fraudulent applications and for the more important reason that only so can the dispensary treatment be definitely related to home, industrial and moral conditions which have a bearing.

3. When such investigations reveal conditions requiring relief and special kinds of service for which the hospitals and dispensaries are not equipped, the Society for Organizing Charity will be glad to cooperate in securing it.

4. Social service work as established by several of the Philadelphia hospitals and dispensaries for investigation and social treatment has proved to be a connecting link. The result has been a greatly increased efficiency from our point of view and we have received the testimony of medical men that it is true also from their point of view.

The solution of the problem of dispensary abuse must be largely in the hands of medical men, although it vitally affects the treatment of the poor by charitable societies. Any movement looking to the improvement of work in which we have a common interest will draw our hearty cooperation whenever physicians care to have it.

Dr. R. Oliver Kevin related a number of incidents illustrative of the deception practiced by persons applying for free treatment at dispensaries. In one instance the patient after receiving treatment directed that a cab be called for her. Another instance was that of a person owning a large number of houses who described how cleverly she dressed up and went to the University of Pennsylvania where she received free treatment.

Dr. E. J. G. Beardsley: I have not heard of any hospita trying to stop this evil. I know of only four dispensaries tha are actually trying to treat only people who deserve to be treated in the institutions. One is the Henry Phipps dispensary. Before the physician ever sees the patient, the patient is asked what the income of the family is and it is at once decided whether or not the patient is acceptable for treatment. I never saw a patient admitted who seemed to be able to pay. All the dispensaries run by the State of Pennsylvania ask the same question and with the same results. In the Jefferson medical department we send away from fifty to 250 patients a month who are able to pay. The statements of the patients themselves prove that they are perfectly able to pay a physician. We ascertain the name, address and amount of income of the applicant. A large element of the trouble is the fact that many people outside are treated very badly. The patient receives no examination, no diagnosis is made and he is treated in a most indifferent way. Many of these patients tell, without inquiry, such tales that we treat them at once. In one instance a man with a failing heart was told that he needed *x*-ray treatment, and this was given him—at $5 a "throw." The problem is said to be a hard one. If this is true, it is made so by the physician, continued by the physician, and can be readily stopped by the physician. A hospital that accepts money from the state to take care of poor people should see that poor people are treated. I was interested and gratified in overhearing the remarks of two boys waiting in our dispensary. One had said he did not believe he could wait, when the other boy replied: "You will soon see the feathers and the furs come out."

Dr. B. Alexander Randall: The dispensary physician or surgeon has a multiple responsibility: his responsibility to the institution, to his fellow practitioners, to his students, to the public, and to the patient, both as a sick person and as a citizen. Many of the public still believe that the hospital and dispensary are provided by the state for the free use of all citizens, just as the public schools are open to all who are not too snobbish to use them, and that they as taxpayers have a right to the services of all medical men in the dispensaries. Mercenary men may strive to use dispensary positions to fill their own offices. Well-meaning physicians will bring to a dispensary surgeon patients for examination whom they state are to be placed in his care as pay-patients. My services having generally been used for teaching, I have made it a rule to examine each patient so as to meet any urgent needs, to use pointedly for teaching purposes the doubtful patients, and only after we had received that much *quid pro quo*, to register the findings and in especial relation to the address given make inquiry concerning the need of charity treatment. After having been given a realizing sense of what charitable treatment is likely to entail, most of the improper cases are ready to consult a physician in his office. One should never volunteer his own address to any but emergency cases requiring treatment between clinic days. While it is often best that the same worker should keep oversight of a patient at the return visits, the chief may discourage the doubtful patients, who wish to have in the clinic the skill of a certain man only, by assigning them to others. They will inquire the address of the man desired and voluntarily consult him.

Dr. William Duffield Robinson: Of the number of people receiving free dispensary treatment fully 10 per cent. could pay the fee that the young doctor is accustomed to receive from people in moderate circumstances. In New York state it is now a statutory crime for one able to pay to take free dispensary treatment from hospitals receiving state aid.

Dr. G. G. Davis: Among some of the causes of the abuse which exists are the facts that: 1. Physicians are saddled by the public with an unfair proportion of the charitable work in a community. This is shown by the character of the applicants for charitable medical services and by the disapproval which is likely to be visited on a medical officer who refuses applicants his medical services. 2. There is an absence, first, of any standard as to who are unworthy; and, second, of any means of enforcing a standard. 3. By the direct encouragement of the profession, largely due to the expense of apparatus and dressings and to not being qualified in the specialties.

The following remedies are offered: 1. The hospital should maintain an official whose duty it should be to decide as to the claims of the applicant for treatment. It is difficult for the physician in charge to do this. 2. The profession should cease to refer improper cases to the public institutions and should see that the patients have a proper opportunity of securing treatment elsewhere.

Dr. John B. Roberts: I am of the opinion that persons of moderate circumstances frequent the hospital dispensary: 1. Because many family practitioners are not well posted in modern methods of investigating and treating disease, or are too careless or too lazy to give their patients the benefits of scientific treatment. 2. Because those who are competent to treat the sick, particularly in the specialties, ask fees too high to be paid by patients of the middle class, such as artisans, and self-supporting women. I believe that a graduate, who has tact, energy and medical knowledge and who is willing to work hard and well for his patients, need not fear that mechanics and business people of moderate means will prefer the hospital to him as a medical attendant. The man who is treated for weeks for debility by a doctor who never examines his urine, or for bilious headache by one who never asks about his vision, is apt to obtain better treatment at the hospital dispensary than at the hands of an inefficient medical graduate.

Dr. A. B. Hirsh: The statements made here to-night are repetitions of those made in Chicago. The managements of hospitals in Chicago, after acknowledging the abuses, refused to reform their methods. The general practitioners got together and the specialists began to take alarm at the thought of losing valuable consulting practice. The situation was controlled by the general profession paying the expenses of the United Charities in handling the subject. Each dispensary in that city sends each morning to the United Charities a typewritten list of the new patients with their addresses and that body, after going over the catalogue, sends in its report to the institution. We must do that in Philadelphia. Those who expect individual hospitals to do this will be deceived. It must be done by all the hospitals together with the entire medical profession backing up the movement.

Dr. Howard S. Anders: Not many years ago there came to my intimate knowledge the experience of a chief of a medical dispensary who, feeling that loyalty to the profession at large was on a higher plane than loyalty to the institution itself, instructed the attendants to discriminate between those people able to pay and those who were not. After some time this came to the ears of those higher up and he was informed that he must discontinue such discrimination because it would lower the percentage of work done and interfere with a sufficiency of cases for demonstration. This he refused to do and resigned. This is illustrative of one aspect of the question within the medical profession itself and demonstrates institutional vanity for statistics and professorial avidity for cases.

Resolution Adopted

Dr. Howard S. Anders offered the following resolution, which was seconded and carried:

Whereas, the results and trend of the symposium discussion on the topic "The Hospital Dispensary Abuse Problem in Philadelphia," indicate sufficiently its vital importance and general medicosociologic significance as to call for further, broader, and yet more definite and responsible action; be it

Resolved, That a committee of five be appointed to devise ways and means of practically dealing with such abuses as are considered to exist; and to report conclusions and recommendations at the June business meeting of the society.

The following committee was appointed: Dr. Howard S. Anders, chairman; Dr. G. Morton Illman, Dr. Edward J. G. Beardsley, Dr. A. B. Hirsh, Dr. Joseph D. Farrar.

Dr. J. Cardeen Cooper: It does not seem to me that a learned profession should attempt to regulate this matter by appointing a committee. From the general practitioner's standpoint, the abuse does not exist with the hospitals so much as with the general profession. If the committee gives its attention alone to the hospitals the matter is one-sided. As Dr. Roberts has said, people go to hospitals because they receive better treatment, and in many instances they do. Therefore, the matter is in the hands of the general practitioners, and as soon as we become proficient and treat our own patients the hospitals will not make such great inroads on them.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Journal of Medical Sciences, Philadelphia

May

1 *Anatomic Explanation of the Paralysis of the Left Recurrent Laryngeal Nerve Found in Certain Cases of Mitral Stenosis. G. Fetterolf and G. W. Norris, Philadelphia.
2 *Arneth's Method of Blood Counting—Its Prognostic Value in Pulmonary Tuberculosis. C. L. Minor and P. H. Ringer, Asheville, N. C.
3 Experiences with the Einhorn Duodenal Bucket and a Modified Thread Test. W. G. Morgan, Washington, D. C.
4 Researches in Prophylactic and Anaphylactic Medicine. L. K. Hirshberg, Baltimore.
5 Vaccine Therapy of Pyorrhea Alveolaris. W. R. Williams, New York.
6 Medicinal Treatment in 1,106 Cases of Delirium Tremens. S. W. Ranson and G. D. Scott, Chicago.
7 Cause and Relief of Pain in Duodenal Ulcer. J. T. Pilcher, Brooklyn, N. Y.
8 *Complement-Fixation Test in Diagnosis of Gonococcic Infections. H. J. Schwartz, New York, and A. McNeil, Derby, Conn.
9 *Pulsations in the Peripheral Veins. H. C. Bailey, New York.
10 Diagnosis of Pellagra. H. F. Harris, Atlanta, Ga.
11 Vaccine Therapy and a Simplified Opsonic Index. A. W. Crane, Kalamazoo, Mich.

1. **Mitral Stenosis.**—It is the authors' conviction, based on careful study of the anatomic relations in hardened preparations, that the indirect mechanism may be a variable one, but that when compression is accountable for the recurrent paralysis it must always be caused by the nerve being squeezed between the left pulmonary artery and the aorta or the aortic ligament. Anything which will dilate or force upward the left auricle, the left upper pulmonary vein, or the left pulmonary artery would tend to cause the condition. The anatomic relations are such that direct pressure of any portion of a dilated left auricle on the aortic arch is impossible. Considering the softness of all the structures involved, and the fact that the nerve is normally flattened against the aorta, not rounded, it would seem that its function is abolished, not from actual destruction from pressure, but from a neuritis consequent on a degree of compression which could hardly be sufficient actually to destroy the vitality of the nerve.

2. **Arneth's Method of Blood Counting.**—The authors endorse Arneth's method as having a distinct value in enabling one to estimate the resisting power, and hence the likelihood of recovery and general prognostic outlook in cases of tuberculosis. Arneth considered that young white cells—those with one or two nuclei—are less resistant and less able to combat an infection than the older ones with more nuclei. Starting out with this assumption, he counted the number of nuclei in all the neutrophilic white cells, and divided them into five classes, according to the number of their nuclei. Placing these numbers in a horizontal row, beginning on the left with Class I, which contained one nucleus, and ending on the right with Class V, which contained five nuclei, he formed what he called the neutrophilic blood-picture. From a count of fifteen normal individuals he formed a normal picture. Studying the blood in pulmonary tuberculosis, he found, in consonance with his theory, that the normal percentage of nuclei in the different classes was lost, there being an increase of the younger cells of Classes I and II, and a lessening of the more mature ones in Classes III, IV and V, this being more marked in proportion to the severity of the trouble.

8. **Gonococcus Infections.**—The complement-fixation test as applied to the detection of gonorrhea by Schwartz and McNeil proved of great assistance. They found that the different strains of the gonococcus differ markedly one from another—so much so that the antibodies produced in the body by the toxin of one strain will in many instances not bind complement in the presence of an antigen prepared from another strain. Therefore, if only one strain is used in the preparation of the antigen, a great many negative results will be obtained in positive cases. An antigen prepared from many strains fixes complement whenever one of its component strains does so and, consequently, the necessity of testing a serum against a number of antigens separately is avoided.
It is not to be denied that there probably are other strains o
gonococci differing widely from any present in the polyvalen
antigen, so that at times a negative result will be obtaine
in a positive case. They believe, however, that working wit
an antigen composed of many strains, one will obtain a posi
tive reaction in the majority of cases of gonococcus infection
and the use of the polyvalent antigen simplifies the procedur
so that it can be of practical value for diagnostic purpose
The facts seem to prove that a positive reaction is an indica
tion of living gonococci somewhere in the body, and if foun
in men or women supposedly cured of gonorrheal infectio
in the genito-urinary tract, should be construed to mean tha
they are still capable of infecting others through sexual inter
course. The importance of this in connection with marriag
is self-evident.

9. **Pulsations in the Peripheral Veins.**—That the right hear
may produce a pulse wave in the veins of the extremities i
shown by Bailey's observations. This pulse wave occurs con
siderably later than the arterial pulse. He suggests tha
incompetency of the tricuspid valve may be the cause o
varicosities of the veins of the extremities.

New York Medical Journal

April 29

12 Therapeutics of Syphilis. V. C. Pedersen, New York.
13 Present Status of Salvarsan Therapeutics. A. G. Rytin
Baltimore.
14 Dangers and Contra-Indications of Salvarsan. F. Wise, Ne
York.
15 A New Apparatus for Administering Salvarsan Intravenousl
E. G. Ballenger, Atlanta, Ga.
16 The Intravenous Injection of Salvarsan. W. R. Thomso
Warsaw, N. Y.
17 Rabies. G. G. Rambaud, New York.
18 Treatment of Hiccup. H. D. King, New Orleans.
19 Uses of the "Cold Cautery," Especially in Dermatology. L.
Frescoln, Philadelphia.
20 Is Antitetanic Serum a Factor in the Cure of Tetanus? J.
Kennedy, Brooklyn, N. Y.

Bulletin of the Manila Medical Society

March

21 *Efficacy of the Ipecac Treatment of Dysentery. E. B. Vedd
U. S. Army.

21. **Ipecac Treatment of Dysentery.**—The results of ba
teriologic experiments made by Vedder seem to show that
per cent. fluid extract of ipecac inhibits the growth of dyse
tery bacilli, although this is not a specific action, since ipec
also inhibits the growth of bacteria, and other drugs, such
hydrastis and digitalis are quite as powerful as ipecac
inhibiting dysentery bacilli. The *B. dysenteriæ* of the Shi
type that Vedder worked with appears to be more susceptib
to the action of ipecac and other drugs than the Flexn
strain. The treatment of bacillary dysentery by ipecac is n
recommended by Vedder, because, he says, it has not be
shown that ipecac possesses any greater activity again
dysentery bacilli than many other drugs, and because
would probably be difficult, on account of dilution with inte
tinal contents, to give sufficient ipecac to make a solution
the intestine as strong as a 2 per cent. solution of the flu
extract, which was the strength used in these experiment
However, since ipecac has been shown to inhibit the grow
of dysentery bacilli to some extent, it has probably do
patients with bacillary dysentery no harm and, on the oth
hand, may possibly have accomplished some good, particular
if the dysentery were caused by the Shiga type of *B. dys*
teriæ.

The experiments showed that the action of ipecac
amebas is much more powerful. Amebas in a 5 per ce
bouillon culture were at all times killed by a fluid extract
ipecac in a dilution of 1/50,000, and sometimes killed
even higher dilutions such as 1/200,000. In these experime
two varieties of amebas were used, one isolated from t
water, and one isolated from the stool of a normal m
Vedder was unable positively to identify either culture, b
is sure that neither of these varieties was either *Entameba* c
or *Entameba dysenteriæ.* Vedder holds that the ipecac tre
ment of dysentery caused by protozoa should not on lig
grounds be set aside in favor of any other, but that in usi
this treatment great care should be taken to make sure t
the dysentery is truly caused by protozoa and is not bacilla
and also to obtain an ipecac that is shown by actual analy

o contain its proper amount of emetin, and when this is not ossible, to insist on obtaining the Brazil root.

Lancet-Clinic, Cincinnati

April 29

22 *Acute Abdominal Manifestations of Syphilis. L. A. Levison, Toledo, Ohio.
23 *A Study of the Tubercle Bacillus Cultivated from Nine Consecutive Cases of Primary Tuberculous Cervical Adenitis. W. Litterer, Nashville, Tenn.
24 The Thyroid Gland. S. P. Beebe, New York.

22. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1221.

23. Abstracted in THE JOURNAL, Sept. 24, 1910, p. 1135.

Journal of the Arkansas Medical Society, Little Rock

April

25 *An Unusual Case of Appendicitis. C. G. Pettus, El Dorado.
26 Tonsillectomy—Its Indications and Methods. R. H. T. Mann, Texarkana.
27 Cooperation of the Physician and Surgeon in Treatment of Acute Intra-Abdominal Diseases Necessary to Obtain the Best Results. J. P. Runyan, Little Rock.
28 Publicity vs. Quackery and Other Frauds. J. D. Southard, Fort Smith.

25. **Appendicitis.**—In Pettus' case, one of typical appendici-is, a constant pyuria was found to be due to adhesion of the ppendix to the ureter and communication between the two.

Virginia Medical Semi-Monthly, Richmond

April 21

29 Nine Cases of Pulmonary Tuberculosis Treated by Compression of the Lung. M. E. Lapham, Highlands, N. C.
30 The Roentgen Ray in Diagnosis of Urinary Calculi. A. L. Gray, Richmond.
31 Clinical Diagnosis of Early Tabes Dorsalis with Negative Wassermann Reaction. T. A. Williams, Washington, D. C.
32 Treatment of Gonorrhea in the Male. J. R. Littlefield, Cumberland, Md.
33 Diagnosis and Treatment of Abdominal Injuries. W. L. Powell, Roanoke.
34 *Medical Treatment of Ingrowing Toe-Nail. S. Harnsberger, Catlett.

34. **Treatment of Ingrowing Toe-Nail.**—Surgical interven-ion, which is surgical interference, is not considered a treat-nent for ingrowing toe-nail by Harnsberger. He believes in ocal treatment. He cleanses the unhealthy soft parts, using, f necessary, some reliable antiseptic solution or soap, with or vithout a brush, as the case may be. Then, after drying the leansed parts thoroughly, he applies liquefied phenol (one lrop usually) to the most sensitive point and as near the orner of the nail as he can get it. If the toe is well pro-ected by clean gauze, the phenol is used once a day, with or vithout recleansing, until the soft parts are healed and hard-ened and the point of the nail is lifted out of the socket it as formed in the flesh. If the phenol does not seem to give atisfactory results, which will seldom happen, or, perhance, ails altogether, then Harnsberger uses the following powder:

℞	Gm. or c.c.	
hymolis	66	gr. x
Ientholis	66	gr. x
cidi boracici	4	ʒj
luminis q. s.	ad 15	℥ss

he alum should be pulverized finely and dried thoroughly; riturate all and apply freely. In mild cases the powder can e left on until the parts heal. In bad cases the applications nay be renewed as thought best. A thin rubber cot should e worn on the affected toe to keep the remedy in place and o protect the parts from possible outside infection. Unless he secretions stain the powder, the applications need not be enewed every day. If it is necessary for the patient to go bout, the affected part can be protected by properly applied pieces of thick felt kept in place by adhesive strips. Usually a piece applied to the inner side and top of the toe just back of the painful joint, gives ample protection; and, not only wards off painful pressure of the shoe, but hastens the healing process. Harnsberger has never seen a case so bad that it ould not be cured by mild local means.

Philippine Journal of Science, Manila

November

35 Rabies in the Philippines. F. W. Dudley and E. R. Whitmore, Manila.
36 Researches on Acarids Among Lepers. M. Lefebvre, Manila.
37 Occurrence of an Accessory Nasofrontal Duct of the Frontal Sinus. E. Clark, Chicago.
38 Spontaneous Occurrence of Dysentery in Monkeys. F. B. Bowman, Manila.
39 Complement Fixation in Yaws. F. B. Bowman, Manila.
40 Pellagra: Report of a Probable Case in the Philippine Islands. D. G. Willets, Manila.
41 Examinations of Stools and Blood Among the Igorots at Baguio, Philippine Islands. W. P. Chamberlain, H. D. Bloomberger and E. D. Kilbourne, U. S. Army.
42 Unidentified Larvæ of Some Dipterous Insect Developing in the Deep Urethra and Bladder of Man, Producing Severe Abdominal Symptoms. G. P. Trible, U. S. Navy.

Old Dominion Journal of Medicine and Surgery, Richmond, Va.

April

43 Carcinoma of the Breast. W. C. MacCarty and B. C. Willis, Rochester, Minn.
44 *Jaundice in Pernicious Anemia. D. Vanderhoof, Richmond.
45 *Sixty-Six Cases of Pellagra Occurring Outside of Institutions. B. R. Tucker, Richmond.
46 *Early Pulmonary Tuberculosis: Diagnosis without the Use of the Microscope or Stethoscope. N. T. Ennett, Richmond.
47 Pregnancy Following the Complete Removal of One Ovary, and at the Same Time the Major Portion of the Opposite One. J. E. Stokes, Salisbury, N. C.

44. **Jaundice in Pernicious Anemia.**—Vanderhoof reports a case of jaundice associated with weakness. There were no abdominal symptoms or evidence of obstructive lesion of the bile ducts. The blood-picture was typical of Addison's anemia. There was marked improvement of health and disappearance of jaundice under appropriate treatment with arsenic and the institution of proper hygienic measures.

45. **Pellagra.**—A very complete table of these sixty-six cases is offered by Tucker in his paper and also a very good question form which he got up for the Virginia State Board of Health for use in the study of pellagra. Forty-eight of the patients were females and eighteen were males. There were only ten negroes to fifty-six whites. In Tucker's opinion, negroes are less susceptible. Three of the ten negroes were reported to be mulattoes. The hygienic surroundings were poor in only sixteen cases. Ten patients rarely ate corn products and six never ate corn products or had not done so for years. This would seem to eliminate maize as the causative factor in pellagra. In only sixteen cases was the skin lesion the first manifestation. Seventeen patients died during the first attack; seven died the second year, one of these committed suicide. Five patients died after the second year; one died six years after diarrhea and two years after skin lesions. In three the course of the disease was unknown. Total deaths were thirty, a mortality of nearly 50 per cent. All deaths other than the suicide were attributable to the constitutional effects of the disease. Thirty-two of the living patients had one or more remissions. In three, the remission was thought to have lasted over one year. One case is in the first attack. Hexamethylenamin was the exclusive treatment given in fourteen cases in doses of from 20 to 45 grains a day. In seven, immediate improvement was noted, and the patients went into complete remission within four weeks and there was no return. In two, the same result took place, but no report has been received of their condition this year. In two, the hexamethylenamin was advised but the result has not been heard. One patient was given the drug for three days and committed suicide. One case of five years' standing cleared up with hexamethylenamin, except some nervous symptoms and the patient died several months afterward in convulsions but without gastro-intestinal or cutaneous symptoms. In one case hexamethylenamin was given to a patient in a moribund state. He died in a few days.

46. **Early Pulmonary Tuberculosis.**—For diagnostic purposes Ennett emphasizes the importance of the following: The tuberculous patient will usually come to his physician complaining of being "run down," and a careful history will usually reveal many of the following symptoms: He has little or no energy, becomes tired easily, spends restless nights, and may or may not have sweats, has some dyspeptic symptoms or complains of frequent "colds." These colds are usually described as "chest colds" instead of "head colds." He will probably have a slight but constant rise of temperature, usually in the afternoon, rapid pulse, even while at rest, chilly feelings, and possibly some loss of weight. Hypersensitiveness of the entire nervous system; hemoptysis; an occasional, non-productive, hacking cough, accompanied by a tickling sensation in the larynx, usually worse at night on retiring or in the morning on arising; hypersecretion of mucus in the respiratory tract; pain located anywhere in the chest,

but usually over the apices. and pleurisy are all significant and should be considered carefully.

New Mexico Medical Journal, Las Cruces

April

48 Climate of the Southwest in Relation to Tuberculosis. W. R. Saltzgaber, Alamogordo.
49 Etiology of Rheumatic Fever. W. G. Hope, Albuquerque.
50 Rheumatism. S. G. von Almen.

Pennsylvania Medical Journal, Athens

April

51 *A Plea for the More Intelligent Care of the Pregnant and Lying-in Woman. H. F. Tomb, Johnstown.
52 *The Results of Gall-Stones. J. A. McGlinn, Philadelphia.
53 *Clinical Studies in the Auscultatory Method of Determining Blood-Pressure. E. H. Goodman and A. A. Howell, Philadelphia.
54 *High Arterial Tension. A Clinical and Therapeutic Study. R. M. Goepp, Philadelphia.
55 Diagnosis and Treatment of Relaxed and Weak Feet. C. A. E. Codman, Philadelphia.
56 Recent Advances Made in Syphilis. A. A. Uhle, Philadelphia.
57 Early Ocular Signs of Syphilis. W. Reber, Philadelphia.
58 Ocular Affections in Congenital Syphilis. S. D. Risley, Philadelphia.
59 Aural Manifestations of Syphilis. S. McC. Smith, Philadelphia.
60 Syphilis of the Upper Respiratory Tract. G. C. Stout, Philadelphia.
61 Resection of Pendulous Fat from the Abdominal Wall in Connection with Laparotomy for Other Conditions. B. M. Anspach, Philadelphia.
62 Acute Mania: Its Diagnosis, Prognosis and Treatment. G. W. McCafferty, Philadelphia.

51, 52. Abstracted in The Journal, Nov. 19, 1910, p. 1838.

53. Abstracted in The Journal, Oct. 29, 1910, p. 1581.

54. **High Arterial Tension.**—High arterial tension is not in itself regarded by Goepp as an indication for direct corrective treatment by drugs, but as a diagnostic sign of value in a number of morbid conditions characterized by the absorption of toxic substances, poisons or disease products, and in the early stages of chronic interstitial nephritis and general arteriosclerosis. Lowering an excessive blood-pressure below a certain point, which varies for each individual, may be harmful instead of beneficial. While excessive arterial tension (above 180 millimeters of mercury, systolic pressure) is unquestionably an unfavorable prognostic sign, it may be present for years, and is not incompatible with a fair degree of health.

Monthly Cyclopedia and Medical Bulletin, Philadelphia

April

63 The Tuberculosis Sanatorium and What It Stands For. F. M. Pottenger, Monrovia, Cal.
64 High-Potential Electricity in Therapeutics. W. B. Snow, New York.
65 Study of the Backward Child. E. B. McCready, Pittsburg, Pa.
66 Suggestions for the Pharmacopeia. F. P. Morgan, Washington, D. C.
67 Maternal Responsibility and Infant Feeding. H. Lowenburg, Philadelphia.
68 Favus. L. D. Frescoln, Philadelphia.
69 Veratrum Viride in Lobar Pneumonia. T. G. Stephens, Sidney, Iowa.
70 Eligibility of Pension Claimants from the Standpoint of the Ophthalmic Expert. L. W. Fox, Philadelphia.
71 Iodin and Iodin Catgut in Surgery. J. A. McGlinn, Philadelphia.

Journal of Experimental Medicine, Lancaster, Pa.

May

72 Value of Hydrogen Peroxid in the Microchemical Determination of Iron. W. H. Brown, Madison, Wis.
73 *Vaccine Therapy in Prevention of Dysentery in Infants. W. P. Lucas and H. L. Amoss, Boston, Mass.
74 *Characteristics of Growth of Sarcoma and Carcinoma Cultivated in Vitro. R. A. Lambert and F. M. Hanes, New York.
75 *A Study of Cancer Immunity by the Method of Cultivating Tissues Outside the Body. R. A. Lambert and F. M. Hanes, New York.
76 *Studies on Immunity in Cancers of the White Rat. I. Levin and M. J. Sittenfield, New York.
77 Relation of Certain Bacteria to Non-Specific Reactions with the Complement-Fixation Test for Syphilis. C. F. Craig, Washington, D. C.
78 Occurrence of Grouped Isoagglutination in the Lower Animals. R. Ottenberg and S. S. Friedman, New York.
79 Tonicity in Isohemagglutination. M. H. Kahn and R. Ottenberg, New York.
80 Distribution of Solutions in Cardiectomized Frogs. S. J. Meltzer, New York.
81 *Influence of Distilled Water on the Healing of Skin Wounds in the Frog. E. S. Ruth, New York.
82 *The Physicochemical Regulation of the Growth of Tissues. A. Carrel and M. T. Burrows, New York.
83 *Cultivation in Vitro of Malignant Tumors. A. Carrel and M. T. Burrows, New York.
84 Behavior of Bacillus Lepræ in Cold-Blooded Animals.
Couret, New Orleans.
85 Complementoid and the Resistance of the Mid-Piece of Cor
plement. H. K. Marks, New York.

73. **Prevention of Dysentery in Infants.**—This investigatio
is very limited and the number of patients treated is fe
(ninety-five). The vaccine in no instance did harm, and th
reactions in the majority were very mild and of short dur
tion. Cases in which bacteriologically *B. dysenteriæ* we
proved to be present, but in a clinically unrecognizable for
were not affected differently from those which were culturall
negative. This may be due in part to the fact that this mo
of vaccination produces an immediate passive immunity, whi
the bacterial vaccine is producing an active immunity. Th
work is of interest and holds out a possible means of pr
venting the great mortality from infantile dysentery durin
the summer months.

74. **Growth of Sarcoma and Carcinoma in Vitro.**—Lambe
and Hanes report that in their experimental work, the tran
plantable sarcomata of rats and mice were found to gro
very readily by the method of cultivating tissues *in vit*
Sarcomatous tissue grows in conformity to a type which ma
be regarded as characteristic for tissues of mesenchym
origin. The growth of sarcoma cells *in vitro* consists
ameboid wandering into the surrounding plasma, karyokinet
proliferation, and evidences of active metabolism on the pa
of the cells. Mouse carcinomata can be cultivated *in vit*
The outgrowth of carcinoma cells assumes a sheet-like for
only one cell in thickness. They migrate into the plasma
ameboid movement, the advancing edge showing numero
prolongations of the cytoplasm into pseudopods. Karyok
netic figures are frequently seen in growing carcinoma cel
The cells show evidence of active metabolism. Both sarco
and carcinoma cells cultivated *in vitro* show active phag
cytosis; carmin particles placed in the plasma are taken
rapidly by the growing cells.

75. **Cancer Immunity.**—It is said by Lambert and Ha
that sarcoma cultivated in plasma from immune anim
grows quite as vigorously as in plasma from normal a
tumor-bearing animals, thus affording further proof of t
absence of specific cytolytic substances in the body fluids
animals immune to transplantable cancer. Animals may
successfully inoculated with sarcoma cultivated *in vit*
although, in the case of rat sarcoma, there is evidence
diminished virulence. Subcultures of sarcoma cultivated
vitro may be made by transferring to fresh plasma the origi
piece of tissue, or a portion of the outgrowth. The durati
of life of sarcoma cells under these conditions seems depe
ent only on a renewal of the medium.

76. **Immunity in Cancers of the White Rat.**—Indirect e
dence is brought forward by Levin and Sittenfield throu
their investigation to show that immunity to cancer grow
but not to tumor grafting, is caused not by differences
intracellular nutrition, but by an active inhibitory influe
of the organism of the host on the cancer cells. It appe
from their experiments that a mouse tumor through a sojo
in the rat reacquires the characteristics of a spontane
tumor; namely, it takes in a small percentage of inocula
animals, and this percentage increases in subsequent gene
tions. But the diminution of the virulence of the tu
which takes place in the organism of the rat is due to c
genital racial immunity of the latter. Furthermore,
immunity of the rat against mouse tumor is not due to co
tions of nutrition, but is accompanied by an active noxi
influence of the organism of the rat on the mouse tumor.

81. **Healing of Skin Wounds in the Frog.**—Ruth's exp
ments demonstrate the important point that the healing
epidermal wounds of the frog takes place in a practica
identical manner in culture *in vitro* and in the body of
animal. They show further that the rate of growth of
epithelium which constitutes the process of cicatrization
accelerated by a diluted medium, both *in vitro* and *in v*
Thus, by increasing or diminishing the degree of dilution
the medium, or by injecting distilled water or hypertonic s
tions into the animal, the rate of growth can, and will up
a certain point, be accelerated or retarded.

82. **Physicochemical Regulation of the Growth of Tissues.**—It is concluded by Carrel and Burrows that the degree of dilution of the culture medium has a marked influence on the rate of growth of splenic tissue. The maximum acceleration was obtained in a medium composed of three volumes of normal plasma and two volumes of distilled water. The growth in this hypotonic plasma was very much larger than in normal plasma. On the contrary, the growth of the spleen in hypertonic plasma was always less than in normal plasma. In other experiments, they found that in diluted plasma there was also an acceleration of the growth of the skin, the heart, and the liver of chickens. The skin of adult frogs also grew more actively in this plasma. The optimum degree of dilution varied according to the nature of the tissues and to the species of the animals. While the plasma containing two-fifths distilled water produced the largest growth of splenic tissue, a slightly less diluted medium was more favorable for the liver and the heart, and generally for the skin also.

83. **Cultivation in Vitro of Malignant Tumors.**—Experimental malignant tumors were found to grow *in vitro* extensively, and the cultivation of human tumors is also possible, although much more difficult on account of the liquefaction of the plasma.

Wisconsin Medical Journal, Milwaukee

April

86 *Prevention and Treatment of Septic Infections of the Extremities. E. H. Ochsner, Chicago.
87 Early Diagnosis of Cancer. F. G. Connell, Oshkosh.
88 Case of Lithopedion. M. M. Spitz, Milwaukee.
89 Diet and General Management of Typhoid. L. M. Warfield, Milwaukee.
90 *Traumatic Hernia. J. F. Pember and T. W. Nuzum, Janesville.

86. Abstracted in The Journal, Nov. 5, 1910, p. 1678.

90. Abstracted in The Journal, July 23, 1910, p. 344.

Military Surgeon, Washington, D. C.

May

91 An Outline of the Organization of the Medical Department of the Japanese Navy. E. S. Bogert, U. S. Navy.
92 Experience of the Army with Vaccination as a Prophylactic Against Small-Pox. J. V. Hoff, U. S. Army.
93 Natural Immunizations versus Artificial Vaccine Therapy. H. Shoemaker, N. G. Pennsylvania.
94 *Disappearance of Beriberi from the Philippine (Native) Scouts. W. P. Chamberlain, U. S. Army.
95 Service at Minnesota Forest Fires of 1910. H. L. Lamb, N. G. Minnesota.
96 *Protection from Typhoid by Inoculation. W. J. L. Lyster, U. S. Army.
97 Hospital Corps Instruction on Board Ship. W. S. Pugh, U. S. Navy.

94. **Disappearance of Beriberi from Philippine Scouts.**—Chamberlain shows that beriberi has disappeared from the Philippine (native) scout organizations during the last half of the year 1910. There have been no sanitary improvements to account for this, except the changes in diet, and there has been no corresponding decrease in the admission rate for diseases other than beriberi. There was no corresponding decrease in the incidence of beriberi in the general Filipino population or in the Philippine (native) constabulary. The decrease in admissions for beriberi among the scouts was clearly marked for four months before the use of undermilled rice began. The decrease in admissions was well under way before the mongos, camotes and ginger root of the new ration began to be issued. The decrease in the admissions for beriberi was due either to unknown causes acting coincidently with a reduction in the amount of rice used and the addition of a legumen, or was due directly to these dietetic changes. As no other reduction in admissions even approaching that of 1910 has occurred since the organization of the scouts in 1901, the authors do not believe that the present decrease is due to coincidence. The facts do not oppose the polished rice theory of beriberi production. On the contrary Chamberlain believes that they support it.

96. **Protection from Typhoid by Inoculation.**—Lyster details the experience of inoculating an entire regiment in order to prevent the spread of typhoid. After the completion of the inoculation of the regiment (376) and nearly seventy civilians at the post, including the teamsters, no new cases appeared. Later this regiment, except one troop, left post on a twenty-one day march, some 300 miles. On the return of the command, after spending twenty-one days in a country where typhoid is known practically throughout the year, and having lived under war conditions, the sick report is stated by the commanding officer to be *nil*. No subsequent cases of typhoid developed.

Ophthalmic Record, Chicago

April

98 Toxic Paralysis of Accommodation. H. F. Hansell, Philadelphia.
99 Ocular Affections in Congenital Syphilis. S. D. Risley, Philadelphia.

New Orleans Medical and Surgical Journal

May

100 *Malignancy in Tumors. F. B. Gurd, New Orleans.
101 Two Cases of Cirrhosis of the Liver Operated on by Narath's Procedure. E. D. Martin, New Orleans.
102 *Ingrown or Overgrown Toe-Nail. H. B. Gessner, New Orleans.
103 Tumors of the Lung. W. H. Harris, New Orleans.
104 Copper Salts and Ipecacuanha in Amebic Colitis. J. A. Storck, New Orleans.

100. **Malignancy in Tumors.**—Special emphasis is placed by Gurd on the relative malignancy in tumors, and the changes which take place in certain new growths of apparently benign type, but in which malignant characteristics develop. Such conditions, he says, are usually loosely and falsely grouped under the heading of malignant degenerations.

102. **Ingrown or Overgrown Toe-Nail.**—Gessner proposes a modification of the Van Meter incision, consisting in the substitution of a hexagon for the diamond excision. The edge of the nail is paralleled by a cut running its full length, about ¼ of an inch from it. From ¼ to ½ of an inch further from the nail another cut is made, parallel with the first and equally long. A V-shaped incision joins the first two cuts at each end and completes the hexagon. The removal of the skin and fascia between these lines of incision leaves a gap, suture of whose edges pulls the skin away from the nail edge evenly throughout its entire extent.

Detroit Medical Journal

April

105 Acute Postoperative Paresis. J. A. McMillan, Detroit.
106 Facial Paralysis. W. A. Potter, Detroit.

Medical Fortnightly, St. Louis

April 25

107 *Mattoids (Cranks). A. Macdonald, Washington, D. C.
108 Gases in Their Relation to the Body. A. L. Benedict, Buffalo, N. Y.
109 In the Twilight. C. E. Warren, North Easton, Mass.

107. **Mattoids.**—This is the term which MacDonald proposes for the word "cranks." He says that the word crank has been so misused, if not abused, that the term "mattoid" is preferable. The mattoid, then, is an abnormal person, characterized by want of balance, eccentricity or egotism. He is usually sincere and insists on his ideas, which are generally extreme and frequently absurd. He is generally sane, but may be semi-insane, and sometimes insane. He is usually above the average, sometimes showing talent, but rarely genius. He often has a distorted view of life, leading him into all kinds of uncertainties, inconsistencies and vagaries and he is frequently called odd, queer, strange, freakish and the like. Mattoids show defects and disproportion in character indicating as much talent in one direction as they do little in another. There is often a nervous element which gives force and energy. They may be gifted in speech, art and poetry, but deficient in judgment, showing no continuity and unity of direction in their lives. They often have altruistic but wild theories, utopian ideas or absurd projects, which they express in public speeches or books. But they are generally incapable of accomplishing anything. The mattoid may pass from one mental condition to another, and in the course of his life manifest all of the characteristics mentioned above. He is often on the borderline between sanity and insanity. He is more liable to get into trouble, commit crime or become insane than people in general.

American Medicine, New York

April

110 Selection of Patients for a Tuberculosis Sanatorium. C. B. Slade, New York.
111 Medicine and Character. S. H. Brown, Philadelphia.
112 Neurasthenia Gastrica (Nervous Dyspepsias of Loube). A. A. Robinson, Ogden, Utah.
113 Pathology of Anemia. W. H. Boese, New York.
114 Sir Walter Raleigh's Royal Cordial. J. Knott, Edinburgh, Scotland.
115 Twice Wounded by Rattlesnakes; Recovery. H. Crutcher, Roswell, N. M.

Boston Medical and Surgical Journal

May 4

116 School Inspection in Small Towns. A. T. Cabot, Boston.
117 *Difficulties and Limitations of Diagnosis in Advanced Cases of Renal Tuberculosis. H. Cabot, Boston.
118 An Analysis of Forty-Six Cases of Prostatectomy. L. Davis, Boston.
119 Five Successive Cesarean Sections on the Same Woman, the Fifth on Twins. C. M. Green, Boston.
120 A Summer Service in the Weld Ward of the Massachusetts General Hospital. C. J. White, Boston.

117. **Renal Tuberculosis.**—In the light of recent experience with spinal anesthesia in cases of damaged kidneys, Cabot is inclined to regard this as the anesthesia of election, at least for the exploratory part of the operation. Anesthesia extending well up to the costal margin is readily obtained and is entirely satisfactory for the exposure and opening of the ureters. The urine can then be collected and conclusions drawn without subjecting the patient to the strain of general anesthesia. Should nephrectomy be decided on, it may either be done at once under a general anesthetic, or postponed to a future occasion. Cabot has not found spinal anesthesia satisfactory for nephrectomy and does not advise its use, but for the preliminary determination of the kidney function, he believes it will lower the mortality in properly selected cases.

Journal of Cutaneous Diseases, New York

May

121 Acrodermatitis Chronica Atrophicans and Diffuse Scleroderma with Associated Morphea Atrophica. K. Herxheimer and W. Schmidt.
122 Historical Sketch of Leprosy in the United States. S. Pollitzer, New York.
123 The Sociologic Aspects of Leprosy and the Question of Segregation. I. Dyer, New Orleans.
124 *Experimental Leprosy and Its Bearing on Serotherapy. C. W. Duval and F. B. Gurd, New Orleans.
125 Widespread Lupus Erythematosus with Associated Papulo-Necrotic Tuberculide (?). U. J. Wile, New York.

124. A similar article by the same authors was published in the *Archives of Internal Medicine*, February, 1911, and abstracted in The Journal, March 25, 1911, p. 925.

Archives of Ophthalmology, New Rochelle, N. Y.

May

126 Dacryocysto-Rhinostomia (Toti's Operation). E. Török, New York.
127 Indications for Operation in Heterophoria and Squint. A. Duane, New York.
128 A Case of Floating "Soemmering's Crystalline Mass" in the Vitreous. K. Wessely, Wuerzburg.
129 Action of Salvarsan on the Eye. F. J. Flemming, Berlin.
130 Salvarsan in Ophthalmology. O. Schnaudigel, Frankfort a.-M., Germany.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 22

1 The Kinks which Develop in Our Drainage System in Chronic Intestinal Stasis. W. A. Lane.
2 Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. H. Chapple.
3 Arteriosclerosis and the Kidneys. Sir C. Allbutt.
4 Interdependence of the Circulatory and Respiratory Systems. I. McKenzie.
5 Hepatic Distomiasis (Sheep Rot) in Man. G. R. Ward.

Lancet, London

April 22

6 *Sensibility of the Alimentary Canal in Health and Disease. A. F. Hertz.
7 The Declining Birth-Rate. F. E. Fremantle.
8 *Railway Accidents with Special Reference to Cerebral Fat Embolism. R. J. Godlee and G. E. O. Williams.
9 Ocular and Visual Conditions in Medical Cases. J. Taylor.
10 *Direct Bronchoscopy. H. Tilley.
11 *Value of Ionization in Inflammatory Diseases of the Lower Bowel. J. C. Webb.
12 *Ascites Treated by Lymphangioplasty. R. A. Stoney and T. G. Moorhead
13 Measles: Its Treatment and Prevention.
14 *Acute Hemorrhagic Pancreatitis; Operation; Recovery. E. Gillespie.
15 Case of Pericarditis (Tuberculous) with Effusion. J. Rae.

6. **The Alimentary Canal in Health and Disease.**—The results of his experiments, made to determine the sensibility of the esophagus, stomach and intestines to tactile, thermal and chemical stimulation, are detailed by Hertz. He says that the alimentary canal from the commencement of the esophagus to the junction of the rectum with the anal canal is completely insensitive to tactile stimulation. The introduction of ice-cold water or hot water at any temperature between 40 and 50 C. into a normal stomach produced no sensation of any sort. His observations show that 0.4 and 0.5 per cent. hydrochloric acid, introduced into the esophagus or the empty stomach of normal individuals through a tube, produces no sensation of any kind. The introduction of 0.5 per cent. hydrochloric acid through the gastrostomy wound into the stomach of patients with esophageal stenosis also produces no sensation. It is thus clear that the pain, which is often associated with excess of free hydrochloric acid in the stomach, cannot be due, as has generally been believed, to the excess of hydrochloric acid alone, as it is certain that as much as 0.5 per cent. free hydrochloric acid is never present in the stomach. Moreover, many cases in which excess of free and of active hydrochloric acid is discovered by chemical analysis are not associated with pain or other gastric symptoms, and the excess present in painful conditions may persist after the pain has been completely relieved by treatment. It may be concluded, therefore, that the presence of an excessive quantity of hydrochloric acid in the stomach is only one manifestation of a disease, in which pain is another, and tha it is not the cause of the pain. In six cases of gastric ulcer, in all of which the diagnosis was confirmed by operation, 4 ounces of 0.5 per cent. hydrochloric acid introduced into the empty stomach by a tube produced no sensation whatever. The same result was obtained in another case in which a mixture of hydrochloric acid with pepsin was used. These observations show that, contrary to the common belief, contact with free hydrochloric acid is not the direct cause of the pain in gastric and duodenal ulcer. That the acid is, however, in some way connected with the production of the pain there can be no doubt, as rapid relief always follows the administration of an alkali.

Crême de menthe, introduced by a tube into the empty stomach, gives rise to a sensation of warmth which may occur immediately, but more frequently only develops in the course of a minute or two. A similar result was obtained with the 48 per cent. alcohol, but not with peppermint water, so that it is the alcohol and not the peppermint which produces the sensation after the liquor is introduced into the stomach. Crême de menthe also produces an immediate burning sensation in the epigastrium when poured through a tube into the lower end of the esophagus. This is a much stronger sensation than that produced in the stomach, but it is impossible to distinguish the locality of the two. The burning sensation in the esophagus is produced by the alcohol, as the 48 per cent. solution has the same effect, while the peppermint water if warmed to the body temperature, produces no sensation. It may be concluded, therefore, that the immediate burning sensation produced by the liquor is in the esophagus, and that the subsequent feeling of warmth is in the stomach. Both are due to the alcohol alone. It was found that the lower end of the esophagus is so sensitive to alcohol that specia precautions had to be taken in testing the sensibility of the stomach in order to prevent a few drops reaching it when the tube was withdrawn. Alcohol in a strength greater than 2 per cent. gives rise to a sensation of burning when applied t the mucous membrane of the anal canal, but when introduced into the pelvic colon through a sigmoidoscope or into the more proximal parts through a colostomy opening, a strength of 5 or even 90 per cent. is required. After a sensation of hea has been produced, the repetition of the experiment a few minutes later may have no effect, owing to the protection o the mucous membrane by mucus, which is secreted as a resul of the irritation caused by the alcohol. Glycerin produces n sensation when applied to the rectal mucous membrane; the characteristic sensation occurs only when it is applied to the anal canal. The sensation produced by a glycerin enema or suppository must, therefore, be due to a small quantity escaping from the rectum into the anal canal, and the defecation reflex to which it gives rise probably originates in the anal canal, and not, as formerly believed, in the rectum.

8. **Railway Accidents.**—Two cases of cerebral fat embolism are reported by Godlee and Williams. Both patients presented similar symptoms and signs. They both had fractures of the thigh, in one case a comparatively simple fracture, and in the other two simple fractures, together with some crushing of the bones about the knee-joint and a lacerated and contused wound of the foot. The patients were both given chloroform for the setting of the fractures. Within about twelve hours both went into a comatose state more or less suddenly, without any previous noticeable pulmonary distress, the temperature rose rapidly, the pulse was of low tension and rapid, and there were no localizing signs in the nervous system pointing to a lesion in any particular part of the brain. Both might have been thought to be cases of cerebral compression if it had not been for the character of the pulse. One patient was trephined over the right side because he had evidence of injury to the skull on that side. The authors do not believe that the operation hastened death, the only cause of which that could be demonstrated was fat embolism of the brain. The other patient recovered to a slight extent from what seemed to be an almost hopeless condition, and his death was no doubt partly due to a secondary bronchopneumonia; in this case also some of the typical signs of cerebral compression were absent.

Attention is called to three points of especial interest. 1. The difference in the extent of the original injury in the two cases. Whereas one might have expected fat embolism to occur in the case where there were several fractures, some of which were of a crushing nature, there was nothing about the simple fracture in the other case to suggest the likelihood of its occurrence, or at all events of its causing any grave symptoms. 2. The absence of dyspnea or other symptoms of pulmonary embolism in one case, and the fact that the other patient only complained that his bandages felt tight. · 3. The resemblance superficially of the condition to that of cerebral compression; the characteristic pulse of compression was never observed. There were never any signs in the nervous system pointing to a localized injury to the brain.

10. **Direct Bronchoscopy.**—Two cases are cited by Tilley, indicating the value of this method for the detection and removal of foreign bodies impacted in the lower air passages.

11. **Ionization in Inflammatory Diseases of Lower Bowel.**—Webb details his results obtained in the treatment of colitis by the ionization of zinc salts in the bowel. Of fourteen patients so treated, only one was not cured or benefited.

12. **Ascites Treated by Lymphangioplasty.**—In the case reported by Stoney and Moorhead, the introduction of artificial silk lymphatics, according to the method suggested by Sampson Handley in 1910, was followed by disappearance of the ascitic fluid. The existence of chronic fibrous peritonitis with hepatic cirrhosis was demonstrated at the operation. The authors do not claim that the improvement which occurred is necessarily the result of the lymphangioplasty, as ascites of the type here presented may disappear spontaneously (as occurred for a time in this case during the first stay in the hospital), or may disappear after a simple laparotomy. The fact, however, that some fluid reaccumulated after the operation suggests that the mere laparotomy was not of itself the cause of the later improvement, but rather that the reaccumulation took place prior to the establishment of an efficient circulation via the silk lymphatics, and that once a sufficient circulation was attained no further transudation accumulated.

14. **Acute Hemorrhagic Pancreatitis.**—The case reported by Gillespie shows the features which have been well termed "an abdominal catastrophe." There was a confused picture of shock and of hemorrhage, so much so that but for the localization of the pain to the upper abdomen and the history of regular menstruation, the diagnosis would have been that of a ruptured extra-uterine pregnancy. Rigidity of the recti was present, but it was neither so marked as in cases of perforation, nor so well defined as has been insisted on by other observers. There was nothing which could be called distention, but it is of interest to note that diminution of liver dulness was present. The onset was definitely gradual; the pain increased in intensity until it was so severe as to attract attention. No light is thrown on the obscure question of causation. The abdomen was opened above the umbilicus by a vertical incision, and separation of the fibers of the left rectus. The lesser sac was at once seen to be filled with dark blood. No fat necrosis was observed. The gastrohepatic omentum was freely opened and the blood was evacuated. The peritoneum over the pancreas was freely torn and more blood removed. The lobules of the pancreas showed up a light yellow against the effused blood. The gall-bladder and the bile passages were palpated but nothing abnormal was found. The patient's condition was so serious that no further examination was attempted. Gauze was passed down to the pancreas and packed along it from tip to head. A rubber tube was also passed down beside the emerging piece of gauze. The abdomen was closed in a single layer.

Clinical Journal, London

April 19

16 Treatment of Nephritis. F. J. Smith.
17 Clinical History and Treatment of the Less Obvious Types of Gummata. H. Curtis.

British Journal of Children's Diseases, London

April

18 *The Oculo-Motor Type of Polioencephalitis. S. Stephenson.
19 Chronic Lung Affections in Children. J. E. H. Sawyer.
20 Hydatid Cysts of the Liver in a Boy; Operation. A. J. Cleveland and J. Burfield.

18. **Oculomotor Type of Polioencephalitis.**—For some years Stephenson has observed a group of cases in children, the chief characteristic of which is the sudden onset of strabismus at an age when ordinary squint is not altogether common. The cases are encountered in children often of tender age. The condition may arise without obvious cause. On the other hand, it may be observed after some childish ailment, as scarlet fever or measles, or an injury, a fright, or some trifling operation, as vaccination or circumcision. The child, often apparently in usual health, is put to bed, and on awakening next morning is found to present squint. Stephenson's observations lead him to conclude that the oculomotor symptoms in these cases depend on an acute focal encephalitis, quite analogous with the better-known forms of that disease. He has seen twenty-eight such cases, all the patients being under 6 years of age, and half of the number under 1 year. The condition was associated comparatively seldom with other symptoms indicative of a cerebral disorder. Zymotic diseases (measles, 2; scarlet fever, 1; influenza, 1; small-pox, 1; pertussis, 1) appeared to be important factors in its causation. Although the paralysis may affect any of the extrinsic muscles of the eyeball, yet in three-fourths of the cases, the external rectus muscle alone is involved. The extrinsic musculature of the eye is seldom attacked. Stephenson says that the common form of encephalic strabismus is very apt to be confused with ordinary concomitant convergent strabismus.

Medical Press and Circular, London

April 19

21 Etiology and Incidence of Heart Disease in Regard to Prognosis. W. E. Wynter.
22 Alcohol and Insanity. F. W. Mott.
23 Postyén, a Thermal Bath for Rheumatism and Gout. A. Erdos.
24 Tuberculous Meningitis in New-Born Infants—the Somnolent Form. M. Lafarelnade.

Archives des Maladies du Cœur, etc., Paris

April, IV, No. 4. pp. 209-272

25 The Heart Rhythm and Hyperpnea. (Pseudo-bradycardie hyperpnéique par rhythme couplé.) L. Gallavardin.
26 The Large Mononuclear Cells in the Blood. (Le grand mononucléaire du sang.) A. Coie.

Bulletin de l'Académie de Médecine, Paris

April 4, LXXV, No. 14, pp. 463-476

27 Curable Myocarditis. (Les myocardites atténuées et curables.) C. Fiessinger.

Presse Médicale, Paris

April 8, XIX, No. 28, pp. 277-292

28 *Treatment of Enlarged Tonsils. (Amygdalectomie.) G. Mahu.
29 *Acidosis and Diabetic Coma. M. Labbé and L. Violle.

April 12, No. 29, pp. 293-300

30 Hemolytic Jaundice. (L'ictère par hémolyse.) Debove.
31 Wire Netting to Strengthen Casts. (Emploi de la toile métallique moulée et enrobée dans l'exécution des appareils d'immobilisation.) R. Danis.

the organism with acids. None of the mineral acids induced with thirty-six illustrations.

29. **Acid Intoxication and Diabetes.**—Considerable experimental investigation by Labbé and Violle has led to results confirming the assumption of the acidosis as the main factor in diabetic coma, but the special toxicity of the acids in question evidently adds to the injurious effects of the flooding of the organism with acids. None of the mineral acids induced any tendency to coma in the animals, but the organic acids, such as butyric, lactic, propionic and beta-butyric acids all had marked though variable power to induce coma. The acids free from a secondary alcoholic action, such as butyric and propionic acids, displayed the most powerful coma-producing action. The research confirms the importance of alkaline treatment of diabetic coma and in prophylaxis.

Semaine Médicale, Paris

April 19, XXXI, No. 16, pp. 181-192

32 *Test of Kidney Functioning by Comparison of Urea Content of Blood and Urine. L. Ambard and O. Moreno.

32. **Test of Kidney Functioning by Comparison of Urea Content of Blood and Urine.**—Ambard and Moreno present a formula based on the proportion of urea in the blood, the proportion of urea eliminated in the urine, the body weight, and the concentration of the urine as an index of kidney sufficiency.

Archiv für Gynaekologie, Berlin

XCIII, No. 3, pp. 413-676. Last indexed April 22, p. 1231

33 *Operative Treatment of Inflammatory Disease of Ovaries, Tubes or Pelvic Connective Tissue. (Die entzündlichen Adnex- und Beckenbindegewebserkrankungen.) H. Thaler.
34 *Sarcoma of Female Urethra. O. Nebesky.
35 *Intermenstruation Colic. (Zur Pathologie und Therapie des sogen. Mittelschmerzes.) A. Theilhaber
36 *Experimental Research on Measures to Protect Against Peritoneal Infection. O. Hoehne.
37 Cysts in the Uterus. O. Frankl.
38 Adenomyoma of the Ligament of the Ovary. O. Frankl.

33. **Inflammatory Disease in the Pelvis.**—Thaler reviews the experiences at Schauta's clinic in Vienna with 6,000 cases of inflammatory processes around the uterus. Operative treatment is indicated, he says, only after failure of a course of conservative treatment, except where pus has to be let out. When operative measures become necessary, extirpation of the organ involved is necessary; palliative measures are useless. The appendix should be removed on suspicion of trouble or adhesion to the inflammatory process elsewhere. The radical operations alone result in permanent cures; whenever conditions require draining, any conservative operation, leaving the uterus, is distinctly contra-indicated, as also when there is a tendency to excessive genital hemorrhage. Over 93.5 per cent. of the 828 patients given radical operative treatment were permanently cured, and the symptoms of the premature menopause were annoying in only a few cases. The only exception to the rule for radical operative treatment is in case of tuberculosis of the genital organs. Only five of the sixteen patients with tuberculosis of an ovary or tube were permanently benefited by the radical operation and the postoperative mortality was 25 per cent. In the experience of the last sixteen years not a single case has been encountered of a primary ascending tuberculous process in the internal genitals. In 40 of the total 6,179 cases the inflammatory process in the adnexa was evidently secondary to an extra-uterine pregnancy.

34. **Sarcoma in Female Urethra.**—Nebesky adds another to the fourteen cases on record, and states that four of the total fifteen were free from recurrence at last accounts. The interval since the operation is nine years in his case; the patient is a farmer's wife, now 48 years old. In two cases an existing pregnancy was apparently not disturbed by the operation. Flatau provided for comparative continence of urine by suturing the neck of the bladder in the vagina which is kept packed with gauze. Nebesky sutured the stump of the urethra to the vulva.

35. **Menstrual Pains Between the Periods.**—Theilhaber ascribes the pains to spasmodic contraction of the musculature of the uterus, similar to spasm of the cardia and pylorus. Treatment on this basis has always proved effectual in his experience, that is, by enlarging the internal os. It is not enough merely to dilate it; a permanent cure is ensured only by slitting the os, or, better yet, resecting a small strip. He has done this in 100 cases of dysmenorrhea in the last twelve years and 66 per cent. of the patients were entirely cured and 17 per cent. were much improved. In the others who were not benefited, the trouble must have been more of a hysteric nature. Success was constant in the five intermenstrual colic cases in which he has applied this same measure.

36. **Protection of Peritoneum Against Infection.**—Hoehne reports experiments on four guinea-pigs and eighty-five rabbits which confirm the fact of a reactive inflammation in the peritoneum after injection of oil or other irritating substance. When this peritonitis is of only a few hours' standing, it favors absorption of germs by the peritoneum, but if it is of twenty-four hours' or a few days' standing it checks absorption from the abdominal cavity very materially or prevents it altogether for many days and weeks. Germs thus vegetating in the abdominal cavity and not able to pass thence into the general circulation, rapidly die off, even the most virulent, in the course of four days. The peritonitis once installed summons to the region such powerful bactericidal forces that the invading infectious germs are soon conquered. Small intraperitoneal injections of olive oil, sesame oil or camphorated oil, up to 10 c.c. proved entirely harmless for the rabbits, while larger amounts, 20, 50 or 100 c.c. sometimes induced fat embolism in the lungs or severe local or general injury.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 10, XLI, No. 11, pp. 385-416

39 *Injection and Infiltration Treatment of Sciatica. F. Barth.

39. **Sciatica.**—Barth reviews the modern methods of treating sciatica and their results, preferring, himself, a combination of the Hay and Alexander technics, that is, injection of 10 c.c. of physiologic salt solution in the nerve at a point between the tuberosity of the ischium and the greater trochanter, or at some point where the sciatic is most sensitive supplementing this with bloodless stretching of the nerve The main point is a correct diagnosis. Only with sciatica does pain occur as the patient strains the abdominal muscles; if there is pain in the calf or buttocks as the patient coughs or sneezes, sciatica may be regarded as certain. Another sign is a tendency to lordosis in the lumbar vertebræ as the trunk is bent forward, but no tendency to lordosis otherwise The patient instinctively resists the tendency to straighten the spine as liable to induce pain. A still more important sign of sciatica is the loss of the Achilles reflex. The knee-jerk is not affected by sciatica.

Deutsche medizinische Wochenschrift, Berlin

April 13, XXXVII, No. 15, pp. 673-720

40 *Significance for Diagnosis and Prognosis of Leukocytosis wit Inflammation. (Bedeutung der entzündlichen Leukozy tose.) Sonnenberg, E. Grawitz and K. Franz.
41 Syphilis in Rabbits After Intracardial Inoculation. (Syph ilitische Allgemeinerkrankung beim Kaninchen durch intra kardiale Kulturimpfung.) H. Sowade.
42 The So-Called Paradoxic Wassermann Reaction. C. Rasp an E. Sonntag.
43 Chemical Identity of Antibody Production with Cell Degener ation. (Chemische Identität der Antikörperbildung mit de Zelldegeneration.) R. Waldvogel.
44 Preventive Antiplague Vaccination. (Ueber die Bereitun von Impfstoff der "Deutschen Pestkommission 1899" z Massenimpfungen bei Gefahr der Annäherung einer Lun genpestepidemie im Jahre 1911.) Martini.
45 *Salvarsan in Eye Disease. (Salvarsan bei Augenhintergrun leiden.) M. Falta.
46 Tin Poisoning. (Ueber Zinnvergiftung.) T. Günther.

40. **Leukocytosis in Diagnosis and Prognosis.**—Sonnenbur declares that physicians should adopt the leukocyte count a a routine measure. He applies to it what was said fort years ago in regard to the importance of taking the tempera

ture, insisting that it is equally indispensable "because every phenomenon taking place in the diseased body should be studied; because it can be studied with a precision obtainable with few of the other phenomena; because it can be neither simulated nor concealed; because any deviation from normal findings indicates disturbance; because it reveals the success of therapeutic measures and warns of injurious influences, and is an index of the transition from one stage of the disease into another, and, finally, because it often announces the impossibility of recovery." These statements, made originally in regard to the clinical thermometer, are equally true, he says, of the leukocyte count and the neurophil blood-picture. It is a great advantage to know the leukocyte count; how the physician interprets the blood findings for diagnosis and prognosis in the individual case is his affair, but he should not neglect this valuable aid.

To show its importance, Sonnenburg reports ten typical cases of appendicitis, as the peritoneum reacts more readily and more intensely, perhaps, to inflammation than other organs. A leukocyte count of 20,000 and "Arneth" 20 per cent. in one case paralleled the acute appendicitis with gangrene, mild infection, good resisting powers and favorable prognosis, while in another case the leukocyte count of 15,000, Arneth 47 per cent., indicated severe infection, and the child died as the Arneth rose to 66 per cent. In another case the clinical picture was mild but the leukocyte count was 30,000, Arneth 6 per cent. Operation was done in this case on the leukocyte count alone, and the findings confirmed the grave danger of delay. In another case the clinical manifestations were serious but the leukocyte count was only 9,000 and the Arneth 12 per cent. The appendix had perforated, but the pus was completely encapsulated. [The Arneth formula has been described in THE JOURNAL, Dec. 25, 1909, page 2180, and an improved technic was given Jan. 8, 1910, page 124].

Grawitz' experimental research has confirmed the fact that muscular strain will raise the leukocyte count. This explains the leukocytosis of from 20,000 to 30,000 found sometimes with normal deliveries—the result merely of the violent muscular contractions of the uterus. The muscular effort in whooping-cough may also explain the leukocytosis in this disease. The rigid contraction of the abdominal musculature also plays a part in raising the leukocyte count with incipient peritonitis. These physiologic influences on the leukocyte count from digestion and muscular effort should be duly estimated in interpreting the leukocytosis of inflammation and febrile diseases, especially in differentiating typhoid, suppuration and pneumonia. The intensity of the leukocytosis corresponds in general to the severity of the infection; the most correct index of this, however, is the hemolytic action on the red corpuscles. He insists that the leukocyte reaction cannot be accepted under all circumstances as an index of the general vital energy of the organism.

Franz discusses the leukocyte count from the standpoint of the gynecologist and obstetrician, not ascribing much importance to it.

45. **Unfavorable Experiences with Salvarsan in Syphilis of the Eye.**—Falta warns that if the optic nerve is already diseased, salvarsan is liable to do harm. With syphilitic disturbance of the retina, chorioid and vitreous body, it is much safer to apply the ordinary mercury and iodid treatment, giving salvarsan only in case this fails. In his two cases as also in one of Finger's, the aggravation of the disturbances in the depths of the eye under salvarsan did not retrogress when mercury was given; under other conditions mercury generally promptly controls disturbances of this kind. The salvarsan seemed to have rendered them refractory to the ordinary measures. He warns that salvarsan should never be given without careful examination of the eye. He conferred with Ehrlich in regard to his first case, and Ehrlich advised a cautious repetition of the salvarsan injection, but as Falta had met with his second similar and severer case in the meantime, he did not dare to risk giving the salvarsan again. In the first case bilateral neuroretinitis had existed for a time and became aggravated under salvarsan but improved somewhat under mercury. In the other case an acute neurochorioretinitis increased under salvarsan, and it shows only slight improvement under mercury for nearly a month to date.

Medizinische Klinik, Berlin

April 16, VII, No. 16, pp. 597-640 and Supplement

47 *Septic Abortion. (Prophylaxe und Behandlung des septischen Abortes.) G. Winter.
48 Disease of Lower Intestines. (Diagnose und Therapie der Erkrankungen des unteren Darmabschnittes.) G. Singer.
49 *Revulsion in Modern Therapeutics. (Ueber "ableitende" Verfahren in moderner Beleuchtung.) B. Bloch.
50 *Injury of the Kidneys from Salvarsan. (Ueber Nierenschädlgungen durch Salvarsan.) R. Mohr.
51 Antiferment Method of Treatment of Suppurative Processes. H. Boit.
52 Climate from Therapeutic Standpoint. (Grundlagen und Methoden heilklimatischer Beobachtungen.) K. Dove.
53 Efficacy of Induced Pneumothorax in Treatment of Certain Forms of Pulmonary Tuberculosis. C. Saugman.

47. **Prophylaxis and Treatment of Septic Abortion.**—Winter states that the septic cases form fully 27 per cent. of all abortion cases at his clinic (Königsberg) and he here analyzes 100 cases. The mortality was 13 per cent.; only 54 per cent. had a normal course. Study of this material teaches four lessons: 1. The first task is diagnosis. A temperature in the axilla over 38 C. (100.4 F.) is pathologic but it must not be forgotten that spontaneous abortion may occur in the course of an infectious disease, or that an infectious disease may casually occur along with an abortion. 2. The second task is to determine the extent of the infection. If the infection has passed beyond the uterus, decomposition of the uterine content is of secondary importance. Any attempt to evacuate the uterus is liable to do more harm than good; many a septic abortion has terminated fatally on account of this alone. In general practice many errors have been committed in this line, either from disregard of the extra-uterine infectious conditions or from the mistaken view that removal of the primary focus will have a favorable influence on the secondary foci. Before attempting active treatment of the abortion, the fact that the infection is limited to the uterus must be demonstrated. 3. The septic abortion diagnosed and the vicinity of the uterus still free from infection, the further conduct of the case must depend on the bacteriologic findings except when hemorrhage forces immediate intervention. Bacteriologic examination of the secretions, taken from the depths of the vagina, may show the presence of hemolytic streptococci, and it is wise to wait even twenty-four hours for the results of this examination, as hemolytic streptococci reveal that the trouble is an acute infectious endometritis in connection with an abortion. Here the danger with active treatment is very great. No local measure should be attempted, but everything done to increase the resistance; ergot is useful by limiting absorption from the contracted uterus wall and promoting expulsion of the relics of the ovum. This expectant treatment is tedious but the advantages are very great. In five such cases in his experience, the hemolytic streptococci spontaneously disappeared by the end of 4, 7, 11 or 23 days; then the uterus was safely evacuated without harm. If bacteriologic examination shows only ordinary streptococci, staphylococci, colon bacilli or saprophytes, the uterus can be evacuated at once. Serious consequences need not be anticipated. 4. In active treatment it is important to disinfect the vagina and uterus as thoroughly as possible, rinsing out the germs thoroughly by prolonged irrigation of the uterus, carefully refraining from anything that might injure the vitality of the tissues or open fresh wounds. Injury of the decidua is less harmful than injury of the musculature, but any erosion opens the portals for invasion by the germs. The use of the curette should not be permitted with septic abortion. Among other points which Winter emphasizes is that flowing blood is much less likely to become infected than stagnating blood and secretions. This should be borne in mind when considering tamponing of the vagina.

49. **Revulsion.**—Bloch explains by the light of allergy the success obtained by physicians of the olden times with revulsion measures. Their facts were sound, like those reported seven years ago by Brocq, showing the benefit of revulsion in certain conditions of chronic intoxication. Bloch reports a case in which a scalp disease developed into a deep parasitic sycosis. After weeks of ineffectual treatment of all kinds, the patient was inoculated on both forearms with a culture of *Achorion quinckeanum*, a fungus closely allied to the trichophyton fungus in question but notable for its power to induce intense allergy. The success surpassed anticipation, the inoc-

ulation evidently transforming conditions so that all the morbid processes retrogressed. The new infection allergized the organism, and enabled it to throw off both the old and the new infection.

50. **Injury of the Kidneys from Salvarsan.**—In this communication from the medical clinic at Leipsic in charge of von Strümpell, Mohr reports three cases of serious injury of the kidneys under salvarsan. In one case severe collapse and diarrhea followed intravenous infusion of the salvarsan, with other symptoms of arsenic intoxication and acute injury of the kidney. It was evidently an acute degeneration of the parenchyma, such as is found in injury of the kidney from corrosive sublimate. The changes had nothing in common with nephritis but were probably the same as those noticed in the sections of the kidney of a young man who died two months after salvarsan treatment (No. 5 of Ehrlich's compilation). The disturbances in Mohr's case rapidly subsided, confirming the reactive nature of the disturbances and the rapid elimination of the arsenic when the salvarsan is given by intravenous injection. The disturbances in the two other cases followed intramuscular injection of the salvarsan and they were evidently a true nephritis following on the toxic degeneration of the parenchyma. In the first case the severe hemorrhagic nephritis has grown constantly worse and a fatal termination is impending. This patient is a young woman and the urine was normal and there was no history of kidney trouble, but two months after the intramuscular injection of 0.5 gm. salvarsan the severe nephritis was in full development. In the third case polyneuritis developed with symptoms of nephritis in less than three weeks after the injection of 0.7 gm. of salvarsan. These cases seem to confirm the assumption that the salvarsan undergoes toxic transformation in the muscular deposits. They teach the necessity for watching over the kidneys after salvarsan treatment as trouble may manifest itself after a long period of latency. Mohr refers also to instances of injury of the kidney under salvarsan reported by Géronne, Jadassohn, Scholz and others, besides the case mentioned by Ehrlich.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin

54 *The Roentgen Rays in Gynecology. A. Döderlein.
55 Prolapse of the Placenta. (Vorfall der Nachgeburt.) E. Basset.
56 Vaccine Therapy of Gonorrhea in Women. (Versuche zur Vaccinebehandlung der weiblichen Gonorrhoe.) F. Heinsius.
57 *Massage and Gymnastic Exercises During Pregnancy and the Puerperium. (Physikalische Therapie in Schwangerschaft und Wochenbett.) F. Kirchberg.
58 Puncture of Ovarian Cysts. A. Littauer.
59 *Operative Treatment of Cystocele. M. Brenner.
60 Camphorated Oil in Treatment of Unencapsulated Suppurative Peritonitis. A. Krecke.
61 The Vaginal Method in Gynecology. D. v. Ott.

54. **Roentgen-Ray Treatment in Gynecology.**—Döderlein says that he regards the use of the Roentgen rays in therapeutics as still an experiment, but that this method of treatment is giving fine results in certain cases, especially in climacteric hemorrhage for which neither palpation nor microscopic examination can discover whether the hemorrhage is the result of degeneration of the vessels in the uterus or of disease of the ovaries, myometrium or endometrium. All other methods of treatment generally fail unless the apparently sound internal genitals are removed when the hemorrhages are weakening the patient to such an extent that it is impossible to wait for the natural retrogression of the genitals with the approaching menopause. It is in this group of cases that the Roentgen rays show themselves supreme; in the simplest and most harmless manner the internal genitals are hastened into the menopause stage by exposures of the ovaries to the rays. They act in such an elective manner that the internal secretion of the ovaries does not seem to be affected. Döderlein has thus treated twelve women with an interval since of over six months. They were women between 40 and 50 with violent hemorrhages, the hemoglobin being reduced to only 30 per cent. in some, and the red count very low. A very few exposures sufficed to put an end to the ovarian functioning at fault and the general health promptly recuperated. The closer to the natural menopause, the more rapidly effectual the Roentgen rays. Reifferscheid has also reported similar gratifying results in this class of cases. In younger women this treatment has proved effectual in curing dysmenorrhea, but there is danger in the young of malformation of the embryo in conception later. Intense vulvar pruritus, rebellious to all other measures, subsided completely in Döderlein's two cases of this kind in women 29 and 56 years old. The danger of cancerous degeneration of myomas and of exacerbation of the hemorrhages from a myoma, close the door practically to Roentgen-ray treatment of myoma. Albers-Schönberg's fatalities with it teach that at least patients with 40 per cent. hemoglobin and great losses of blood from myomas must be excluded from this treatment.

57. **Massage and Gymnastic Exercises During Pregnancy and the Puerperium.**—Kirchberg does not hesitate to state that constipation yields invariably to a correct course of massage and exercises, including constipation in pregnancy and the puerperium. He describes a number of exercises and massage manipulations, the patient aiding by deep breathing in jerks, three pauses in each inspiration and expiration, drawing in the breath rapidly, holding it and then slowly expelling it. The staccato deep breathing and pauses exercise both diaphragm and abdominal muscles and promote the circulation, thus warding off varices. Among other useful exercises for the pregnant woman is to have her lie on her back, twist, bend and lift the legs. Twisting the legs from side to side with the knees bent, exercising against resistance, acts particularly on the abdominal muscles. He ascribes the development of the breasts to the condition of the pectoralis muscles, and deep breathing and other exercises to develop these muscles, he says, aid in developing the bust, which massage of the breasts alone is unable to accomplish. Frequent reclining with the pelvis raised will aid in curing a tendency to varices and hemorrhoids. Any rise in temperature, he says, directly contra-indicates massage under any conditions. With uncontrollable vomiting, massage and exercise are indispensable adjuvants.

59. **Treatment of Recurring Cystocele.**—Brenner raises the mouths of the ureters in the bladder, detaching them from their base in the wall, and then draws a catgut suture through the tissues beneath each, tying the ends to draw the tissues up into a stout fold below each ureter mouth. The catgut takes hold at the same time of the stout connective tissue between the ureters and part of the ligament, thus obtaining a firm hold. The operation is done by a laparotomy and proved successful in the case reported of inveterate recurring cystocele of obstetric origin.

Münchener medizinische Wochenschrift

April 11, LVIII, No. 15, pp. 777-832

62 *Immobilization of Lung by Rear Resection of Ribs. (Neue Methode zur Verengerung des Thorax bei Lungentuberkulose.) M. Wilms.
63 Radium Emanations in Therapeutics. J. Strasburger.
64 Bacteriologic Research in Puerperal Fever. (Ueber bakteriologische Untersuchungen und ihre Methoden bei Febris puerperalis. II.) H. Schottmüller.
65 *Estimation of the Pulse Values. (Die neuen Methoden der dynamischen Pulsdiagnostik, ohne Mathematik dargestellt.) T. Christen.
66 *The Phonendoscope for Testing the Hearing. (Einige akustiche Untersuchungen mit Hilfe des Endophonoskops.) H. Streit.
67 Technic of the Wassermann Reaction. P. Schmidt.
68 Spastic Dislocation of Hip Joint. (Ueber die "Spastische "Hüftluxation" und die Veränderungen des Hüftgelenkes bei spastischen Zuständen der unteren Extremitäten.) H. Weber
69 *Nephritis After Salvarsan Treatment of Syphilis. (Beobachtungen über Nephritis nach Salvarsanbehandlung.) F. Weiler.
70 *Salvarsan in Pneumonic Plague. O. Schreyer.
71 General Anesthesia by Intravenous Injection of Anesthetics. (Ueber intravenöse Narkose.) L. Burkhardt.

62. **Operative Compression of the Lung.**—Wilms found that the size of the half of the chest involved was materially reduced by resecting over an inch of the ribs close to their junction with the spine. This was easily done through three transverse incisions in the musculature of the back after a single lengthwise incision through the skin. The ribs not only slid backward after they were cut, but also slid downward, thus compressing the apex of the lung in particular. He has applied this measure in one case with excellent outcome. The patient was a young woman with tuberculosis of

the left upper lobe for fifteen years, recently showing signs of aggravation, with a tormenting cough, and 10 c.c. of sputum a day. Radioscopy showed a distinct cavity in this lobe, but the general condition was good. The patient ceased to cough by the end of the third week after the operation and there was no further expectoration. It had been intended to supplement this operation by dividing the ribs in front close to the sternum, but the desired result had been attained without this, so nothing further was attempted. Wilms reenforced the compression by strips of plaster, binding down a roll of gauze along the wound. The patient also lay on the affected side to enhance the compression of the chest. A compressive bandage might also be applied. He urges others to seek out the cases of chronic isolated indurated tuberculous processes liable to be benefited by immobilization of the lung and give this method a trial.

65. **Study of the Pulse.**—Christen declares that the old-fashioned method of palpation of the pulse is more reliable than the apparently more scientific method of sphygmography. He has devised a method for registration of the features of the pulse which he claims presents with mathematical precision the volume of the blood and the force it displays in the pulse. The stasis curves thus obtained (*Stauungskurven*) take the place of palpation of the pulse, substituting an exact mathematical-physical method—energometry—which throws new light, he says, on the dynamic conditions in the circulation.

66. **Phonendoscope in Testing the Hearing.**—Streit stands the tuning fork on the base of the phonendoscope and then records the second when the patient, by raising his finger denotes that he has ceased to hear the tuning fork through the tube through which he is listening while the examiner is listening through the other tube. It is also possible to convey the sound through the Eustachian tube to the ear by this means, connecting the phonendoscope tube with a catheter.

69. **Injury of Kidneys from Salvarsan.**—The first of the three cases reported by Weiler is the same case of hemorrhagic nephritis described by Mohr and summarized above in abstract 50. Weiler's communication issues from the dermatologic clinic at Leipsic, in charge of Rille. The course of the nephritis in his three cases was more severe when the salvarsan had been given by intramuscular injection. He concludes with the remark that it is possible that the three individuals in question might have been especially predisposed to kidney trouble, but it is also possible that the kidneys in other patients may have suffered to a slight extent under the salvarsan treatment. Such injury may remain latent for a time and perhaps, if the salvarsan is given again or some other source of irritation develops, may manifest itself clinically later. He quotes Bornstein's finding of 0.0031 gm. arsenic trioxid in the kidneys and over twice this amount in the liver of a man dying two weeks after an intramuscular injection of salvarsan. Rille has also reported large amounts of arsenic demonstrable in the necrotic focus in the gluteal muscles at necropsy sixty-four days after an intramuscular injection of 0.7 gm. salvarsan. It is remarkable, he adds, that a few patients who developed albuminuria under mercury showed no signs of injury of the kidneys under salvarsan. Werther has reported a case in which a girl of 17 developed transient hemorrhagic nephritis after intravenous injection of 0.25 gm. salvarsan and it has recurred later in an acute transient form without further administration of salvarsan. Martius has reported an acute morbid process in a contracted kidney, the patient, a man of 39 with old changes in the kidney and arteriosclerosis, dying five hours after intravenous injection of 0.5 gm. salvarsan in 250 c.c. of fluid. In Treupel's experience, chronic nephritis on a syphilitic basis seemed to benefit by the salvarsan treatment, the albuminuria declining. He reports two cases in which traces of albuminuria developed after intravenous injection of the salvarsan, the only ones indicating possible injury of the kidney among his 250 cases. Sellei has reported two cases of latent nephritis aggravated by the salvarsan; in one of these there was albuminuria to six per thousand and hematuria the day after the intravenous injection of salvarsan, eight weeks after a subcutaneous injection of the same. The hematuria rapidly subsided but the albumin still amounted to two per thousand a week later.

70. **Salvarsan in Pneumonic Plague.**—Both of the two patients given salvarsan died, but one showed transient benefit.

Zeitschrift für Urologie, Berlin

April, V, No. 4, pp. 241-320

72 Means to Influence Infectious Processes in Urinary Passages. (Beinflussung der infektiösen Prozesse der Harnwege.) L. Casper and A. Citron.
73 Chromocystoscopy in Determination of Kidney Sufficiency. (Die Chromouteroskopie in der funktionellen Nierendiagnostik.) B. A. Thomas (Philadelphia).
74 Gunshot Injuries of the Kidneys. (Zur Geschichte der Nierenschüsse.) E. Küster.
75 *Cerebral Neurasthenia from Automobiling and Its Depressing Influence on the Sexual Sphere. (Automobil und Sexualvermögen.) A. v. Notthafft.
76 Sound for Urethral Massage. (Eine "Rosenkranzonde" für Urethralmassage.) W. Tittinger.

75. **Automobiling Speed Mania and Impotency.**—Notthafft reports four cases of sexual impotency in wealthy married men fond of automobile speeding and one in a chauffeur. He knows of similar cases in the experience of others. The sexual depression developed in from three months to three years after special devotion to the sport. He ascribes the impotency to a cerebral neurasthenia from the nervous strain of the speeding; this assumption is sustained by recovery of normal tone when the automobilist refrains from speeding and drives his machine with ordinary prudence. Notthafft cites statistics which show that 12.1 per cent. of the 49,941 motor vehicles in the German empire were responsible for some accident serious enough to be reported to the authorities during 1909, a total of 6,063 accidents, involving 225 drivers, 487 other occupants of the car and 2,333 outsiders. He calculates that the driver of the car was to blame in 86 per cent. of all the accidents. The danger of speeding is not only for the public; the driver knows that he is taking his life in his hand and that he has one foot in the courts, for he is never certain that he may not run into some one at any moment. The intense concentration of mind required in speeding, the anxiety and the jar of the car—all tend to induce neurasthenia. The laws to regulate speeding are consequently not only in the interest of the public but of the automobilists themselves. Notthafft remarks that the attempts to limit the speed to a certain number of miles an hour does not answer the purpose. It would be better to make the general rule "No fast driving" apply to automobiles as well as to other vehicles, instead of setting a special speed limit. It is so often impossible to prove when this limit has been exceeded even when all know that the machine was being driven too fast.

Zeitschrift für klinische Medizin, Berlin

LXXII, Nos. 1-2, pp. 1-188. Last indexed Feb. 4, p. 389, and May 6, p. 1371

77 Sphygmobolometry: Determination of the Energy of the Pulse. (Der weitere Ausbau der Sphygmobolometrie oder energetischen Pulsdiagnostik.) H. Sahli.
78 Fourteen Cases of Chronic Lymphatic and Myeloid Leukemia with Necropsy in Three. K. Ziegler.
79 Relations Between Excessive Functioning of Glands with an Internal Secretion and Their Constitution. (Wechselwirkung der Drüsen mit innerer Sekretion. IV.) W. Falta, L. H. Newburgh and E. Nobel.
80 *The Circulation and the Diaphragm. (Kreislauf und Zwerchfell.) H. Eppinger and L. Hofbauer.
81 Reinfection with Relapsing Fever and Its Influence on the Course of the Disease. (Reinfektion beim Rückfallfieber.) S. Jarussow.
82 Action of Acetylsalicylic Acid. (Anwendung und Wirkung der Azetylsalizylsäure beim Typhus abdominalis.) S. Bondi.
83 Idem. (Experimentelle Beiträge.) S. Bondi and H. Katz.

80. **Circulation and Diaphragm.**—Study of the pulse in patients whose diaphragm was unusually high or low showed that the circulation in the legs was better when the diaphragm was high, as the quadrate foramen was thus left open. When the diaphragm was low, this foramen is more squeezed together and the flow of blood up from the lower part of the body is thus impeded. At the same time, deep breathing pushes the diaphragm low down and it thus presses on the liver and liver veins and thus promotes the circulation in the region.

Zentralblatt für Chirurgie, Leipsic

April 15, XXXVIII, No. 15, pp. 531-564

84 *Continuous Suture for Entero-Anastomosis. (Zur Technik der Darmnaht; die fortlaufende Einstülpungsnaht bei der Enteroanastomose.) V. Schmieden.
85 Operative Cure of Congenital Atresia of the Small Intestine. P. Fockens.

84. **Suture for Entero-Anastomosis.**—Schmieden avoids the inconvenience of letting the mucosa get in the way in taking the sutures through the entire wall of the intestine, by passing the needle through the wall of the intestine from within outward, in a continuous suture, while the left hand draws the thread taut. He uses silk and an ordinary tailor's needle. The edges of the wound are drawn inward smoothly by this technic, the thread forming a zigzag line.

Zentralblatt für Gynäkologie, Leipsic

April 15, XXXV, No. 15, pp. 569-608

86 *Septic Abortion. G. Winter.
87 *Treatment of Dysmenorrhea. J. Novak.
88 Allowing Patients to Get Up Early After Delivery and Operations. (Das Frühaufstehen der Wöchnerinnen und Operierten und die hierbei beobachteten Todesfälle.) A. Scherer.

86. **Septic Abortion.**—This article is practically the same as that reviewed in abstract 47 above, Winter's aim being to convince the profession of the necessity for bacteriologic examination in septic abortion, and that the trouble in its severer forms must be regarded as a virulent infection *accompanying* the abortion, *not* caused by the presence of the embryo or embryonal membranes in the uterus (*—ein Infektionszustand bei Abort nicht durch den Abort*).

87. **Dysmenorrhea Result of Spasmodic Contraction.**—Novak noticed that his patients with puerperal bradycardia were very often those who had suffered from dysmenorrhea. This fact, in connection with Drenkhahn's success in treatment of dysmenorrhea with atropin injected into the uterine cervix, confirmed Novak's view that dysmenorrhea in many cases may be the result of spasmodic contraction of the uterus from abnormal irritability of the sympathetic nerve terminals in the uterus, the result being an abnormal exaggeration of the automatic movements of the uterus. This "cramp theory" harmonizes best to date with clinical experiences, and treatment on this basis is giving surprisingly favorable results, he says. In the five cases reported he prescribed two or three 0.0005 gm. pills of atropin, commencing a few hours before the anticipated onset of the dysmenorrhea. The patients were relieved of all tendency to dysmenorrhea, and no by-effects were observed except a slight dryness of the throat.

Zentralblatt für innere Medizin, Leipsic

April 15, XXXII, No. 15, pp. 369-392

89 Kala-azar in Greece. (Das Kala-azar auf Insel Hydra.) A. Aravandinos and N. Michailidis.

Riforma Medica, Naples

April 10, XXVII, No. 15, pp. 393-420

90 *False Mitral Stenosis. (Pseudo-stenosi mitralica.) J. Teissier.
91 Importance of Dosage of Fats in Stools as Sign of Occlusion of Pancreatic Duct. P. F. Zuccola.
92 Ovary Grafts. (Innesti ovarici.) A. Libroia.

90. **False Mitral Stenosis.**—Teissier reports experimental and clinical experiences to sustain the assumption of a possible pseudomitral stenosis in the anemic from excessive functioning of the heart, the signs and symptoms therefrom simulating those of true organic mitral stenosis. It is differentiated from the organic form by the variability in the symptoms, the coexistence of nervous disturbances and signs of anemia, the duration of the systolic sound and, above all, by the absence of any delay in the radial pulse and duplication of the second sound. Radioscopy will confirm the absence of the enlargement of the left auricle of organic mitral stenosis. The prognosis in these cases of pseudostenosis is favorable unless the patient has a tuberculous taint, in which case there is possibility of its transformation into the true organic form. This pseudostenosis explains the cases which have been reported as "spasmodic mitral stenosis." Tonics and sedatives with cautious hydrotherapy and other physical measures are indicated in treatment.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Part I, The Cultivation of the Bacillus of Leprosy and the Treatment of Cases by Means of a Vaccine Prepared from the Cultivations. By Major E. R. Rost, I.M.S. Part II, The Cultivation of the Leprosy Bacillus. By Captain T. S. B. Williams, M.B., I.M.S. Scientific Memoirs, No. 42, New Series. By Officers of the Medical and Sanitary Departments of the Government of India. (Edited by the Director-General, Indian Medical Service.) Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India, Simla. Paper. Price, 8 annas. Pp. 23. Calcutta: Superintendent Government Printing, India, 1911.

A Text-Book of Medicine. For Students and Practitioners. By Dr. Adolf v. Strümpell, Professor of Special Pathology and Therapeutics at the University of Leipsic. Fourth American Edition. Translated by Permission from the Seventeenth Revised German Edition with Editorial Notes, Additional Chapters, and a Section on Mental Diseases, by Herman F. Vickery, A.B., M.D., Instructor in Clinical Medicine, Harvard University, and Philip Coombs Knapp, A.M., M.D., ex-President of the American Neurological Association. Cloth. In Two Volumes. Price, $12 net. Pp. 831 and 800, with 224 illustrations. New York: D. Appleton & Co., 1911.

General Surgery. Edited by John B. Murphy, A.M., M.D., LL.D., Professor of Surgery in the Northwestern University. Volume II, Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of Gustavus P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Postgraduate Medical School, and Charles L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $2. Pp. 611, with 197 illustrations. Chicago: The Year-Book Publishers.

Clinical Symptomatology. With Special Reference to Life-Threatening Symptoms and Their Treatment. By Alois Pick, Professor of Medicine, University of Vienna, and Adolph Hecht, Pediatrician, St. Anne's Hospital, Vienna. An Authorized Translation Under the Editorial Supervision of Karl Konrad Koessler, M.D. (Univ. of Vienna), Instructor of Clinical Medicine, Rush Medical College, in Affiliation with the University of Chicago. Cloth. Price, $6 net. Pp. 833. New York: D. Appleton & Co., 1911.

Quinin and Its Salts: Their Solubility and Absorbability. By Captain A. C. MacGilchrist, M.A., M.D., M.R.C.P. Scientific Memoirs, No. 41, New Series. By Officers of the Medical and Sanitary Departments of the Government of India. (Edited by the Director General, Indian Medical Service.) Issued Under the Authority of the Government of India by the Sanitary Commissioner with the Government of India. Paper. Price, 9 annas. Pp. 46. Calcutta; Superintendent Government Printing, India, 1911.

Report of a Special Committee Appointed by the Washington Chamber of Commerce to Investigate the Milk Situation in the District of Columbia. Prepared by J. L. Willige. Presented by Mr. Gallinger. Document 863, Sixty-First Congress, Third Session. Paper. Pp. 437. Washington: Government Printing Office, 1911.

Proceedings of the Tenth Annual Conference of Sanitary Officers of the State of New York, Held at Y. M. C. A. Auditorium, Buffalo, Nov. 16-18, 1910. New York State Department of Health. Paper. Pp. 270. Albany: New York State Department of Health, Division of Publicity and Education.

The Medical Directory, 1911. Including the London Medical Directory, The Provincial Medical Directory, the Medical Directory for Wales, Scotland, Ireland, etc. Sixty-Seventh Annual Issue. Cloth. Price, 14 shillings net. Pp. 2128. London: J. & A. Churchill, 7 Great Marlborough Street.

A Manual of the Diseases of Infants and Children. By John Ruhräh, M.D., Professor of Diseases of Children in the College of Physicians and Surgeons, Baltimore. Third Edition. Flexible leather. Price, $2.50 net. Pp. 534, with 173 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Meningitis, Sinus Thrombosis and Abscess of the Brain. With Appendixes on Lumbar Puncture and Its Uses and Diseases of the Nasal Accessory Sinuses. By John Wyllie, M.D., Author of "Tumors of the Cerebellum." Cloth. Price, $3 net. Pp. 258. New York: Paul B. Hoeber, 1911.

Sixth Annual Report of the Trustees of the State Sanatorium, at Wallum Lake. For the Year Ending Dec. 31, 1910. State of Rhode Island and Providence Plantations. Harry Lee Barnes, M.D., Superintendent, Wallum Lake, R. I. Paper. Pp. 94.

Sixty-Second Annual Report of the Board of Trustees and Superintendent of the Central Indiana Hospital for Insane at Indianapolis, Ind. For the Fiscal Year Ending Sept. 30, 1910. To the Governor. Paper. Pp. 70. Hugh T. Miller, Secretary.

Report of the Department of Health of the City of Chicago. For the Years 1907, 1908, 1909, 1910. W. A. Evans, M.S., M.D., LL.D., Commissioner of Health. Cloth. Pp. 446. Chicago, 1911.

Chemistry of Food and Nutrition. By Henry C. Sherman, Ph.D., Professor in Columbia University. Cloth. Price, $1.50 net. Pp. 355. New York: The Macmillan Co., 1911.

What to Eat and Why. By G. Carroll Smith, M.D., Boston, Mass. Cloth. Price, $2.50 net. Pp. 310. Philadelphia: W. B Saunders Co., 1911.

A Complete Exposé of the Doctor-Drumming Evil at Hot Springs, Ark. By Fred W. Vaughan, Hot Springs, Ark. Paper Pp. 48. (1911).

Annual Register of the New Mexico School of Mines Socorro, N. M., 1910-1911. With Announcements for 1911-12 Paper. Pp. 92.

The Los Angeles Session

(Concluded from page 1481)

HOTEL RATES AT LOS ANGELES

Following is a list of hotels and the rates as reported to the Los Angeles Convention League. There are 400 family and tourist hotels and apartments available which are not included in the list. Those wishing to reserve rooms should write direct to the hotels, or to the Committee on Arrangements.

The Hotel Alexandria will be General Headquarters.

RATES AT LOS ANGELES HOTELS

NAME OF HOTEL, PLAN*, AND NO. OF ROOMS	ONE PERSON		TWO PERSONS	
	Without Bath	With Bath	Without Bath	With Bath
Alvarado, A., 100	$2.50 up	$4.50 up	$4.50 up	$5.00 to $7.00
Alexandria, E., 700	2.00 to 3.00	3.00 to 5.00	3.00 to $4.00	4.00 to 10.00
Angelus, E., 300	1.50 to 3.00	2.50 to 5.00	2.50 to 4.00	4.00 to 10.00
Astoria, E., 200	1.00	1.50	2.00	2.50
Auditorium, E., 150	1.00 up	2.50 up	2.00 up	3.00 up
Broadway, E., 200	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Fremont, A., 100	2.50 up	5.00 up	3.50 up	6.00 up
Hampden Arms, E., 60	1.00	1.50 to 2.00	1.50	2.00 to 2.50
Hayward, E., 300	1.50 up	2.00 up	2.00 up	3.00 up
Hollenbeck, E., 500	1.00 up	1.50 up	2.00 up	3.00 up
Hollywood, A., 200	2.00 up	4.00 up	2.50 up	6.00 up
Ingraham, A., 100	2.50 up	4.00 up	3.50 up	5.00 up
King Edward, E., 150	1.00 up	1.50 up	1.50 to 3.00	2.00 to 3.00
Lankershim, E., 300	1.50 up	2.00 up	2.50 up	3.00 up
Leighton, A., 125	3.00 up	3.50 up	5.00 up	6.00 to 10.00
Melrose, A., 200	2.50	4.00	3.50	5.00
Munn, E., 100	.75 to 1.00	1.00 to 1.50	1.25	1.50 to 2.00
Nadeau, E., 150	1.00 up	1.50 up	1.50 up	2.50 up
Natick, E., 160	.75 up	1.00 up	2.00 up	3.00 up
Occidental, E., 200	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 4.00
Percival, E., 250	.75 to 2.00	1.50 to 3.00	1.00 to 2.00	2.00 to 4.00
Rosslyn, E., 285	.75 up	1.00 up	1.50 up	2.50 to 4.00
Snow, E., 100	1.00 to 2.00	1.50 to 2.50	1.50 to 3.00	2.50 to 3.50
Trenton, E., 165	1.50 up	2.00 up	2.00 up	2.50 up
Van Nuys, E., 160	1.50 up	2.50 up	2.50 up	4.00 up
Victoria, E., 100	1.00 up	1.50 up	2.00 up	2.50 up
Watson, E., 100	1.00 up	1.50 up	1.50 up	2.00 up
Westminster, E., 250	1.00 up	2.00 up	1.50 up	3.00 up
Woodward, A., 125	2.00 up	3.50 up	2.50 up	4.00 up
Westmore, A., 100	2.00 up	2.50 up	4.00 up	5.00 up
Yorkshire, E., 100	1.00	1.50 up	1.50 up	2.00 up

* A, American plan; E, European plan.

Any who desire to stay either at the seashore or near the mountains will be given special rates at the Hotel Maryland at Pasadena, and the Hotel Virginia at Long Beach. (See the map on page 1481.)

The Maryland, at Pasadena, 9 miles from Los Angeles, is a first-class homelike place. Special rates include transportation both ways, via the electric lines. Trains run every ten minutes.

The Hotel Virginia is a fire-proof, first-class modern hotel, directly on the beach, and is reached by trains every twenty minutes. The run takes forty minutes.

Either of these cities will be found delightful places to stay, and with the excellent train service little inconvenience will be experienced in reaching the meetings. Accommodations should be arranged for in advance.

There are other first-class hotels at both of these places, and accommodations may be had at other seaside resorts also.

SECTION MEETING PLACES AND HOTEL HEADQUARTERS

The Committee on Arrangements has fixed the meeting places for each of the sections and designated hotels as headquarters, as given under the map on the next page.

It will be noted from the accompanying map that the arrangement of the halls is a very compact one, and that the hotels are very conveniently near. They are practically all included in an area bounded by First Street on the north, Ninth Street on the south, Main Street on the east, and Grand Avenue on the west, the Section on Stomatology being furthest away from the center, at the corner of East Fifth and Wall Streets, but not farther from the principal hotels than the others. The Committee on Halls has arranged to have every needed convenience to facilitate the work of the sections. Communications on this subject should be addressed to Dr. Albert Soiland, 916 Wright and Calender Building, Los Angeles.

RAILROAD RATES

Final Announcement of Rates by the Railroads

The rates to the Los Angeles meeting given by the railroads have been announced from time to time in previous issues and perhaps most members who will make the trip to the meeting have arranged for their transportation and the trains by which they will go, before this time: but, for the benefit of those who have not done so, a restatement of the rates may be made. All the roads in the Central, Eastern and New England Passenger Association territories have made a rate of one fare and a half for the round trip to Chicago, Pullman fares of course being extra.

The fare from Chicago to Los Angeles, going and returning by the same route or going one way and coming back another by any route as far north as San Francisco, is $62.50. From St. Louis, Memphis and New Orleans the rate is $57.50. Missouri River Gateways (Omaha to Kansas City inclusive), $50.00; St. Paul and Minneapolis, $63.50. Dates of sale are June 5 and 6 and June 10 to 22, both inclusive. The final return limit is September 15.

The fare either going or returning via one of the northern routes, that is, by the way of Portland, Tacoma, Seattle or Vancouver, will be $15.00 additional. But it should be noted that this rate is not available both going and returning by the northern route.

The Pullman rates from Chicago on the American Medical Special which runs by way of the Santa Fe road are: Upper berth, $12.80; lower berth, $16.00; compartment, $45.00; drawing-room, $56.00. These rates include the side trip to the Grand Canyon and also provide for the occupancy of the cars at the Grand Canyon, if so desired. The railroad fare for the Grand Canyon trip will be $6.50 additional.

Pullman rates from Chicago on the Burlington-Colorado Scenic Special described below are as follows: Lower berth, $15; upper, $12; section, $27; compartment, $42; drawing-room, $53. This allows for the occupancy of the car all night on the stopover at Colorado Springs.

The Pullman rates by the Chicago Medical Society Special which runs via the Chicago and Northwestern and the Salt Lake routes through Omaha and Salt Lake are: Lower berth, $13.00; upper berth, $10.40; compartment, $36.50; drawing-room, $46.00. Pullman rates from the east can be had on application from the railroads.

The attention of physicians in the central west, who expect to go via Missouri Valley Special from Kansas City, is called to the fact that there will be special Pullman cars from Omaha, St. Louis, Des Moines and St. Joseph, joining the Special at Kansas City. Pullman rates are: Lower berth, $14.00; upper berth, $11.20. This includes Omaha and all Missouri River points and includes also stop-over privileges at the Grand Canyon, where the cars may be occupied. Arrangements have been made for the party going via Missouri Valley Special to return by way of Vancouver and the Canadian Pacific, St. Paul and Minneapolis, and a rate of $71.75 from Missouri River points has been made for the round trip.

Attention is also called to the fact that round trip tickets must be purchased before starting and the route of return must be selected then, as no change can be made later without entailing extra expense.

For the convenience of members, we again publish a description of the various special trains and tours, together with information concerning return trips, previously published in the issue of March 25.

TRAINS TO LOS ANGELES

Details of Special Trains and Special Parties Arranged for the Trip to the Next Annual Session

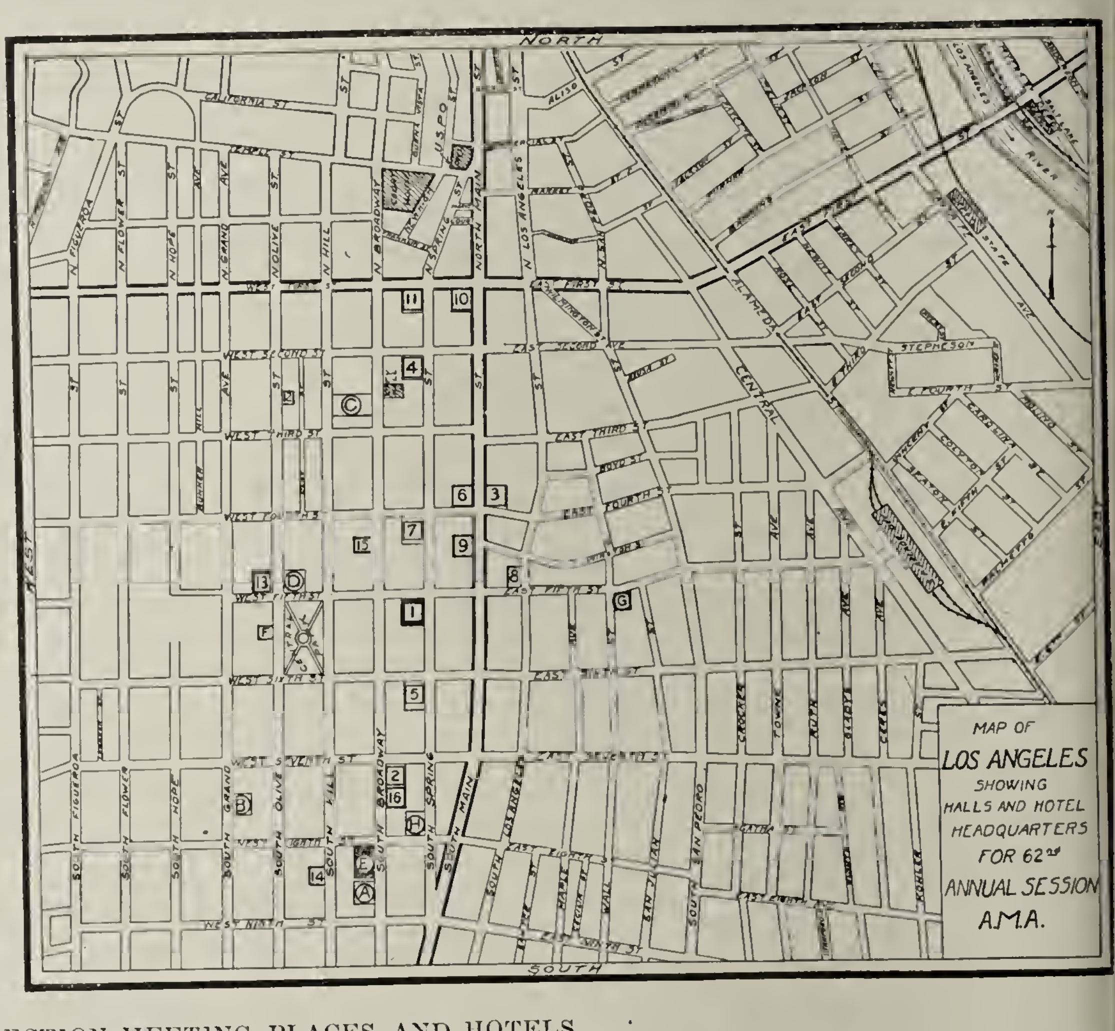
Below are given in brief accounts of some of the special parties that are being arranged. But no one will depend alone on this description. Everyone who is thinking of going to Los Angeles should write for booklets and information to all whose addresses are given in the following itineraries. If these books are studied, one can obtain a general knowledge of the various attractions and then can decide which route is the most attractive. Some will want to see the Grand Canyon of the Arizona, a sight worth a trip across the country. Others will feel more favorable to the Pike's Peak country, Manitou, the Garden of the Gods and the various attractions of that part of the Rocky Mountains. Others will have a great desire to see the Yellowstone Park and its wonders. Still others will seek the northwestern part of the country—Oregon, Washington, etc., and the attractions of the Canadian Rockies on the Canadian Pacific. Not all of these can be seen on one trip, even on the round trip. Each individual should make up his mind what he is most anxious to see and then study the various itineraries and learn which one will best suit him.

The advantages of selecting one of the special trains, rather than to go by the regular trains, are the additional conveniences provided, the pleasure of traveling with friends and acquaintances, and the relief from the cares of looking after change of trains, hunting up conveyances for side trips, guides, etc., and the satisfaction of having everything provided in advance for comfort and for entertainment during the trip.

We mention below the special trains concerning which we have received information:

American Medical Special.—This luxurious Pullman train with full equipment will run from Chicago to Los Angeles via the Santa Fe and will leave Chicago at 8:00 p. m., Wednesday, June 21, reaching Kansas City at 9:00 a. m., Thursday, June 22, and running thence through New Mexico and Arizona to Los Angeles, which will be reached Monday, June 26, at 7:00 a. m. At Albuquerque the train will make a stop of an hour and a half to allow an inspection of the Fred Harvey collection of Indian handwork. Another stop will be made at Laguna, where an hour will be allowed to inspect the village of the Laguna Indians. The train will stop at the Grand Canyon for twenty-eight hours, giving opportunity to see the Grand Canyon of the Arizona. The desert of lower California will be crossed in the night. At San Bernardino the train will be divided—one section running through directly to Los Angeles, arriving at 7:00 a. m.—and the other going via Redlands and Riverside, stopping at each of these places to allow visits to points of interest. This section arrives at Los Angeles at 4:30 p. m., Monday. Special illustrated folders, reservations and full information may be obtained from G. T. Gunnip, General Agent, A. T. & S. F. Ry., 105 Adams Street, Chicago.

American Academy of Medicine Tour.—Another trip arranged from the east is that of the American Academy of Medicine, whose itineraries have been selected and arranged under the guidance of the passenger departments of the railroads to secure the most desirable trains and the best disposition of daylight sight seeing. Regular trains will be used. This party will leave New York over the Lehigh Valley railroad at 11:55 a. m., Monday, June 12, Philadelphia, at 12:30 p. m., and join the New York train at South Bethlehem at 2:12 p. m. and arrive at Buffalo over the Lehigh Valley at 10:27 p. m. The route will be thence over the Grand Trunk to Chicago, the Burlington to Denver and to Los Angeles over the Santa Fe. Interesting side trips and visits to the points of interest in Colorado and to the Grand Canyon will be provided for and Los Angeles will be reached Friday, June 23, in time for the sessions of the academy, which meets in advance of the American Medical Association. This party may be joined at various points along the route at a much later date, in case it is not desired to spend so much time on the going trip. Reservations for this party are to be made through the secretary, Dr. Charles McIntire, 52 North Fourth Street, Easton, Pa., from whom may be obtained the folder containing all details, both of the outgoing and of the return trip.



LIST OF SECTION MEETING PLACES AND HOTELS

Section, etc.	Name of Hall	Location of Hall		Hotel Headq'ters	Location of Hotel
General Hotel Headquarters				Alexandria	5th and Spring
Registration E	Hamburger (4th floor)	8th and Broadway			
House of Delegates H	Armory	8th and Spring			
Commercial Exhibit E	Hamburger (4th floor)	8th and Broadway			
President's Reception I	Shrine Auditorium	655 W. Jefferson			
Smoker E	Hamburger (roof garden)	8th and Broadway			
Scientific Exhibit E	Hamburger (4th floor)	8th and Broadway			
Information, P. O., etc. E	Hamburger (4th floor)	8th and Broadway			
Practice of Medicine A	Majestic Theater	8th and Broadway	2	Lankershim	7th and Broadway
Nervous and Mental Diseases B	Walker (McKinley)	7th and Grand	3	Westminster	4th and Main
Diseases of Children B	Walker (Lincoln)	7th and Grand	3	Westminster	4th and Main
Pathology and Physiology C	Blanchard (Symphony)	3d and Hill	4	Hollenbeck	2d and Spring
Surgery D	Baptist Auditorium	5th and Olive	1	Alexandria	5th and Spring
Obstetrics D	Baptist Aud. (Berean)	5th and Olive	5	Hayward	6th and Spring
Preventive Med. and Pub. Health E	Hamburger's	8th and Broadway	1	Alexandria	5th and Spring
Pharmacology B	Walker (Garfield)	7th and Grand	2	Lankershim	7th and Broadway
Ophthalmology F	Parish (2d floor)	6th and Olive	6	Van Nuys	4th and Main
Laryngology and Otology F	Parish (1st floor)	6th and Olive	7	Angelus	4th and Spring
Stomatology G	Dental College	5th and Wall	8	King Edward	5th and Los. A.
General Session D	Baptist Auditorium	5th and Olive			

OTHER HOTELS ON THE MAP

9. Rosslyn. 10. Natick. 11. Nadeau. 12. Astoria. 13. Auditorium. 14. Percival Apts. 15. Broadway. 16. Yorkshire.

BURLINGTON-COLORADO SCENIC SPECIAL.—This special train from Chicago to Los Angeles, via the Burlington, Denver & Rio Grande and the Salt Lake Route, will have the finest equipment of the Burlington road. It leaves Chicago at 11:00 p. m., June 21, and reaches Denver at 7:00 a. m., June 23. The party will spend four hours in Denver and vicinity, leaving at 11:00 a. m., June 23, reaching Colorado Springs (Manitou) at 1:30 p. m. The train will be parked and will remain there all night. This will give an opportunity for the party to go up Pike's Peak, visit the Garden of the Gods, Cheyenne Canyon, the celebrated "High Drive," the famous Iron and Soda Springs, and other points. The train leaves Manitou at 4:30 a. m., June 24, and reaches the Royal Gorge at 7:30 a. m., giving a splendid opportunity to see this wonderful gorge. At Glenwood Springs, an hour and a half will be spent, and Salt Lake City will be reached at 8:30 a. m., June 25. Four hours will be spent in Salt Lake, leaving at 1:00 p. m., and Los Angeles will be reached at 12:00 o'clock noon on June 26. This train traverses the mining regions of Utah and Nevada, and Rainbow Canyon and the Canyon of the Mojave River before reaching the orange country of southern California. This train has been arranged at the request of many physicians (represented by Drs. Robert T. Gillmore, Sidney Kuh and Charles B. Reed), who want to go by the Manitou and Royal Gorge route. Full details and illustrated booklets may be obtained from A. J. Puhl, General Agent, C. B. & Q. Ry., Chicago.

CHICAGO MEDICAL SOCIETY SPECIAL.—The special train of the Chicago Medical Society will leave Chicago at 9:15 p. m., June 22, via the C. & N. W. Ry.; arrive in Omaha 9:15 a. m., June 23, leave Omaha 9:30 a. m., arrive in Salt Lake 1:30 p. m., June 24, spending the afternoon at Salt Lake, leaving at 5:30 p. m., June 24, via Salt Lake Route, arriving at Los Angeles at 4:30 p. m., June 25. This train will be provided with full Pullman equipment of the most complete and modern character. Meals in dining car will be served à la carte. At Salt Lake arrangements will be made for a special organ recital at the Mormon tabernacle, balance of the afternoon to be spent in sight-seeing. Leaving Salt Lake, the journey lies over the Salt Lake Route through Utah and Nevada, reaching the rich mining districts, passing through Caliente, where Rainbow Canyon is entered, with its great walls of rock of every shade; and Las Vegas. Entering California, the line traverses the canyon of the Mojave river and at San Bernardino reaches the famous Orange Belt of California. The train then runs through Riverside, Ontario and Pomona, cities situated in the fruit-growing section adjacent to Los Angeles. Arrangements have been made so that any physician anticipating telegrams en route will have same sent in care of this special train and be received promptly. Elaborate itinerary will be furnished on application to Dr. George F. Suker, Secretary, 103 State Street, Chicago.

GATES SPECIAL TRAIN.—A special itinerary is being arranged by the Gates Tours of Toledo, O., with several optional return schedules. A special train will leave Chicago, June 20, stopping enroute at the Grand Canyon, and returning, trains will leave Los Angeles July 1. Full details of the trips, including the return schedules which include Alaska, may be obtained of the Gates Tours, Toledo, O.

MISSOURI VALLEY SPECIAL.—This special train, under the auspices of the Medical Society of the Missouri Valley and the Medical Association of the Southwest, will accommodate members from the central west and southwest. It will leave Kansas City Thursday, June 22, via the Santa Fe, and will also stop over one day for the trip to the beautiful Grand Canyon. It will arrive at Los Angeles on Sunday, after the trip through the orange country. The tour will be personally conducted and a special interesting itinerary is planned for the return trip. Full particulars may be obtained, and hotel and Pullman accommodations arranged for, through Dr. Charles Wood Fassett, St. Joseph, Mo.

NEW YORK AND NEW ENGLAND SPECIAL.—This is another train which has been planned in care of McCann's Tours by Dr. Wisner R. Townsend, Secretary of the New York State Medical Society. This train, fully equipped with modern conveniences and comforts, will leave New York, via the New York Central Lines, at 6:30 p. m., Monday, June 19, connecting with trains leaving Boston at 2:00 p. m., Worcester at 3:11 p. m., Springfield 4:40 p. m., and Pittsfield 6:30 p. m. It leaves Albany at 9:55 p. m., Utica 11:55 p. m., Syracuse 1:08 a. m., June 20, Rochester 2:45 a. m., Buffalo 4:30 a. m. The train will run thence via Cleveland, Indianapolis and St. Louis, and from Kansas City via the Santa Fe through New Mexico and Arizona, reaching the Grand Canyon, Friday, June 23, where twenty-eight hours will be devoted to sight seeing in this marvelous natural chasm, one of the wonders of the world. Los Angeles will be reached at 9:00 p. m., June 25. Time will be allowed to visit the famous orange groves and to view the other points of interest at Riverside and Redlands, as has been described above concerning the other trains. The return trip is one of some length and will include many other parts of the beautiful west which are to be enjoyed at leisure. Information concerning this tour and the daily schedule of the train, including the various possibilities on the return trip, may be obtained through Dr. Wisner R. Townsend, 125 W. 58th Street, New York City.

PENNSYLVANIA SPECIAL.—From the east a personally conducted tour has been arranged under the direction of Dr. C. L. Stevens, Secretary of the Pennsylvania State Medical Society, Athens, Pa., in conjunction with McCann's Tours. The train will be of the highest grade Pullman equipment, including a gentlemen's club car and a ladies' club and observation car, with all the accessories and accommodations of the modern train *de luxe.* The special train will leave Jersey City Saturday, June 17, at 4:14 p. m., via the Lehigh Valley railroad, and may be joined at various points between there and Buffalo by passengers from New Jersey, eastern Pennsylvania and Maryland. The train will leave Buffalo via the Lake Shore at 4:30 a. m., June 18, running thence through Cleveland, Indianapolis, St. Louis, Kansas City, Santa Fe, and Albuquerque to the Grand Canyon, where a side trip of twenty-eight hours will be made. Thence the route will include the heart of the orange country in California, Riverside and Redlands, at both of which places time stops will be made. Los Angeles will be reached Friday, June 23, at 9:00 p. m. Full information concerning this tour is contained in a little booklet, which may be obtained from Secretary Stevens.

EASTERN STATES SPECIAL.—Pullman cars to be attached to American Medical Special at Chicago over Santa Fe in care of Beekman Tourist Company, arranged by Dr. E. R. Campbell, manager of A. M. A. Outing Club, will leave Boston via Boston & Maine and New York Central Lines Tuesday, June 20, at 12:30 p. m., arriving at Chicago at 5 p. m. Wednesday, leaving Chicago at 8 p. m., joining American Medical Special. Members and friends may join anywhere en route. Special circulars, reservations, etc., may be obtained from Dr. E. R. Campbell, Bellows Falls, Vt.

RETURN TRIPS

As will be noted, several of these tours provide for the return trip by different routes, with interesting side trips. Full information about them can be obtained from the railroads or from the parties named above. In the advertising pages of THE JOURNAL, now and in later issues, will be found announcements of many of these railroads and trips. Members are urged to secure the booklets and folders issued by the railroads concerning these trips and post themselves in order to secure the greatest advantages from the visit to the west.

There are numerous ways of returning from the meeting, all of which offer advantages that will appeal to the members and their friends. The return trip from Los Angeles may be made by boat to San Francisco, Portland and Seattle, or by the southern routes over the Southern Pacific, the Rock Island, the Santa Fe, the Salt Lake route or through San Francisco by way of the Southern Pacific and Union Pacific, which offers opportunity for a side trip to the Yellowstone Park and a visit to Salt Lake and all the points of interest in Colorado. Or the return trip may be made by the northern routes—the Northern Pacific, the Chicago, Milwaukee and St. Paul, the Great Northern or the Canadian Pacific—visiting the cities of the northwest and Yellowstone Park.

PERSONNEL OF HOUSE OF DELEGATES

Membership of the Legislative Body of the Association

Below is a list of the holdover delegates and of the newly elected members of the House of Delegates, who have been reported to The Journal up to the time of going to press. A complete list is impossible in this issue as a number of state societies have yet to hold their meetings at which delegates will be elected.

STATE DELEGATES

ALABAMA

Mack Rogers, Birmingham.
W. H. Sanders, Montgomery.

ARIZONA

Ancil Martin, Phoenix.

ARKANSAS

Joseph T. Clegg, Siloam Springs.

CALIFORNIA

Joseph L. Milton, Oakland.
O. D. Hamlin, Oakland.
Granville MacGowan, Los Angeles.

COLORADO

Hubert Work, Pueblo.
Edward Jackson, Denver.

CONNECTICUT

E. J. McKnight, Hartford.
D. Chester Brown, Danbury.

DELAWARE

James H. Wilson, Dover.

DIST. OF COLUMBIA.

Wm. C. Woodward, Washington.

FLORIDA

J. Harris Pierpont, Pensacola.

GEORGIA

W. H. Daughty, Jr., Augusta.
M. F. Harris, Atlanta.

ILLINOIS

W. F. Grinstead, Cairo.
E. W. Weis, Ottawa.
S. C. Glidden, Danville.
J. E. Allaben, Rockford.
A. L. Brittin, Athens.
J. L. Wiggins, E. St. Louis.

INDIANA

A. C. Kimberlin, Indianapolis.
C. H. McCully, Logansport.
Miles F. Porter, Ft. Wayne.
F. A. Tucker, Noblesville.

IOWA

D. S. Fairchild, Clinton.
D. C. Brockman, Ottumwa.

CANAL ZONE

W. C. Gorgas, Ancon.

KANSAS

O. P. Davis, Topeka.
M. Trueheart, Sterling.

KENTUCKY

B. F. Van Meter, Lexington.
W. W. Richmond, Clinton.
Curran Pope, Louisville.
A. T. McCormack, Bowling Green.

LOUISIANA

Chas. Chassaignac, New Orleans.

MAINE

Alfred D. Sawyer, Ft. Fairfield.

MARYLAND

Ridgely B. Warfield, Baltimore

MASSACHUSETTS

Horace D. Arnold, Boston.
Homer Gage, Worcester.
O. J. Brown, North Adams.
F. H. Thompson, Fitchburg.
F. G. Wheatley, N. Abington.
Hugh Cabot, Boston.

MICHIGAN

E. T. Abrams, Dollar Bay.
F. W. Robbins, Detroit.
R. R. Smith, Grand Rapids.

MINNESOTA

F. F. McComb, Duluth.
George D. Head, Minneapolis.

MISSISSIPPI

J. W. Young, Grenada.

MISSOURI

A. W. McAlester, Kansas City.
J. D. Brummall, Salisbury.
C. R. Woodson, St. Joseph.

MONTANA

T. D. Tuttle, Helena.

NEBRASKA

P. H. Salter, Norfolk.

NEVADA

J. E. Pickard, Reno.

NEW HAMPSHIRE

Ferdinand A. Stillings, Concord.

NEW JERSEY

C. R. P. Fisher, Bound Brook.
Alexander Marcy, Riverton.
E. L. B. Godfrey, Camden.

NEW MEXICO

L. L. Cahill, Springer.

NEW YORK

J. Riddle Goffe, New York City.
W. H. Thornton, Buffalo.
H. S. Houghton, New York City.
J. E. Weeks, New York City.
D. H. Murray, Syracuse.
A. T. Bristow, Brooklyn.
Edward E. Cornwall, Brooklyn.
Henry L. Elsner, Syracuse.
James W. Fleming, Brooklyn.
Wesley T. Mulligan, Rochester.
Edgar A. VanderVeer, Albany.

NORTH CAROLINA

J. Howell Way, Waynesville.
J. F. Highsmith, Fayetteville.

OHIO

B. R. McClellan, Xenia.
George M. Todd, Toledo.
B. H. Blair, Lebanon.
D. O. Weeks, Marion.

OREGON

C. J. Smith, Pendleton.

PENNSYLVANIA

Americus R. Allen, Carlisle.
Alex. R. Craig, Philadelphia.
Geo. W. Guthrie, Wilkes-Barre.
John B. Lowman, Johnstown.
H. G. McCormick, Williamsport.
Thomas D. Davis, Pittsburg.
Thos. S. Arbuthnot, Pittsburg.
Fremont W. Frankhauser, Reading.
Wm. T. Hamilton, Philadelphia.

PHILIPPINE ISLANDS

W. E. Musgrave, Manila.

RHODE ISLAND

John Champlin, Westerly.

SOUTH CAROLINA

John L. Dawson, Charleston.
E. A. Hines, Seneca.

SOUTH DAKOTA

T. B. Smiley, Mt. Vernon.

TENNESSEE

Jere L. Crook, Jackson.

TEXAS

W. B. Russ, San Antonio.

UTAH

Aug. C. Behle, Salt Lake City.

VERMONT

J. N. Jenne, Burlington.

VIRGINIA

W. E. Anderson, Farmville.

WASHINGTON

J. R. Yocum, Tacoma.
Wilson Johnston, Spokane.

WISCONSIN

L. F. Bennett, Beloit.
C. S. Sheldon, Madison.
A. H. Levings, Milwaukee.

DELEGATES FROM THE SECTIONS

PRACTICE OF MEDICINE

J. A. Capps	Chicago

SURGERY

A. F. Jonas	Omaha

OBSTETRICS AND GYNECOLOGY

A. E. Benjamin	Minneapolis

OPHTHALMOLOGY

John C. Bossidy	Boston

LARYNGOLOGY AND OTOLOGY

H. W. Loeb	St. Louis

DISEASES OF CHILDREN

A. C. Cotton	Chicago

PHARMACOLOGY AND THERAPEUTICS

Reid Hunt	Washington, D. C.

PATHOLOGY AND PHYSIOLOGY

Walter L. Bierring	Iowa City, Ia.

STOMATOLOGY

G. V. I. Brown	Milwaukee

NERVOUS AND MENTAL DISEASES

Theodore Diller	Pittsburg, Pa.

DERMATOLOGY

J. A. Fordyce	New York

PREVENTIVE MEDICINE AND PUBLIC HEALTH

J. N. Hurty	Indianapolis

DELEGATES FROM GOVERNMENT SERVICES

Jefferson R. Kean	United States Army
C. P. Bagg	United States Navy
G. B. Young	U. S. P. H. and M.-H. Service

THE GENERAL MEETING

Program of the Opeing Meeting on Tuesday Morning

The General Meeting will be held in the Baptist Auditorium Fifth and Olive Streets, Tuesday, June 27, at 10:30 a. m. This is the formal opening of the scientific functions of the Association and the only time the whole convention will be assembled in one place. The program is as follows:

Music.

Call to order by President William H. Welch, Baltimor

Invocation by the Rt. Rev. Joseph H. Johnson, Los Angeles

Addresses of Welcome.

Dr. W. Jarvis Barlow, President of the Los Angeles County Medical Association.

Dr. Thomas W. Huntington, San Francisco, President o the Medical Society of the State of California.

Hon. H. W. Johnson, Governor of California.

Hon. George Alexander, Mayor of Los Angeles.

Introduction of foreign guests.

Report of Local Committee on Arrangements—Chairman Dr. H. Bert Ellis, Los Angeles.

Introduction and Installation of the President-Elect—Dr John B. Murphy, Chicago.

Address by the President—Dr. John B. Murphy.

Music.

Adjournment.

CLASS AND COLLEGE REUNIONS

Miscellaneous Information Concerning the Western Countr and the Trip to Los Angeles. Entertainment En Route

As is usual at the annual meeting of the Association, ther will be a number of class and college reunions. The time and places of holding these will be announced at Los Angele

The reunion of the alumni of Cook County Hospital will b held on the evening of Friday, June 30, at the Casa Verdug a resort in the foothills a short distance from Los Angele reached by a trolley line. An old-style Spanish dinner wi be served under the pepper trees. The reunion is in charg of Dr. W. W. Richardson and Dr. Harvey L. Thorpe. L

Angeles. Information concerning this dinner may also be had from Dr. William R. Cubbins, 29 West Madison Street, Chicago.

The annual woman's banquet will be given at the Hotel Westminster, Tuesday evening, June 27.

The local chapter of Alpha Epsilon Iota fraternity will give a dinner to visiting members at the Union League Club, Thursday evening, June 29.

Arrangements have been made by the King County Medical Society at Seattle, Wash., in connection with the Seattle Commercial Club, for a committee to entertain the members of the American Medical Association who may pass through Seattle on their way to attend the meeting or on their return.

The Riverside County Medical Society also invites all physicians to visit Riverside, take the 16-mile auto ride through the orange groves and enjoy the courtesies provided.

At Los Angeles the Chamber of Commerce maintains an interesting museum of the products of California and the West, both mineral and agricultural. Practically the whole state may be seen in picture form at these lectures.

OTHER MEETINGS

Among the other scientific meetings which may be attended by members and vistors to the Los Angeles meeting of the A. M. A. are the following:

The convention of the National Association for the Study and Prevention of Tuberculosis, which meets at Denver, June 20 and 21. Stopovers will be allowed at Denver, as well as at other points, on the going trip to Los Angeles, and the meeting of the Tuberculosis Congress may be attended, and then the special trains running through Denver may be joined for the remainder of the trip. Information may be had from Dr. Livingston Farrand, 105 East Twenty-Second Street, New York.

The American Academy of Medicine will hold its sessions in Los Angeles on Saturday and Monday preceding the meeting of the A. M. A. For full information address Dr. Charles McIntire, 52 N. Fourth Street, Easton, Pa.

The annual meeting of the American Medical Association Public Health Education Committee will be held in the Y. W. C. A. Building, 251 S. Hill Street, Los Angeles, Monday, June 26, at 5 p. m. Particulars and program may be obtained from Rosalie Slaughter Morton, M.D., Chairman, 701 Madison Avenue, New York.

The twelfth annual session of the American Association of Medical Examiners will be held at Los Angeles, June 26 and 27, 1911. Information may be obtained from Dr. Liston H. Montgomery, president, 108 North State Street, Chicago.

THE COMMERCIAL EXHIBIT

Outlook for an Interesting Exhibit of Distinct Quality

The commercial exhibit at the Los Angeles meeting will be found in Hamburger's hall on the fourth floor of the Hamburger Building at Eighth Street and Broadway. In this commodious and well-lighted room will be found an exhibition of books, surgical instruments and appliances, *x*-ray and other electric apparatus, and of pharmaceutical preparations and foods, which, while it may not be as large as the exhibits at some of the eastern meetings of the Association, will be of high quality.

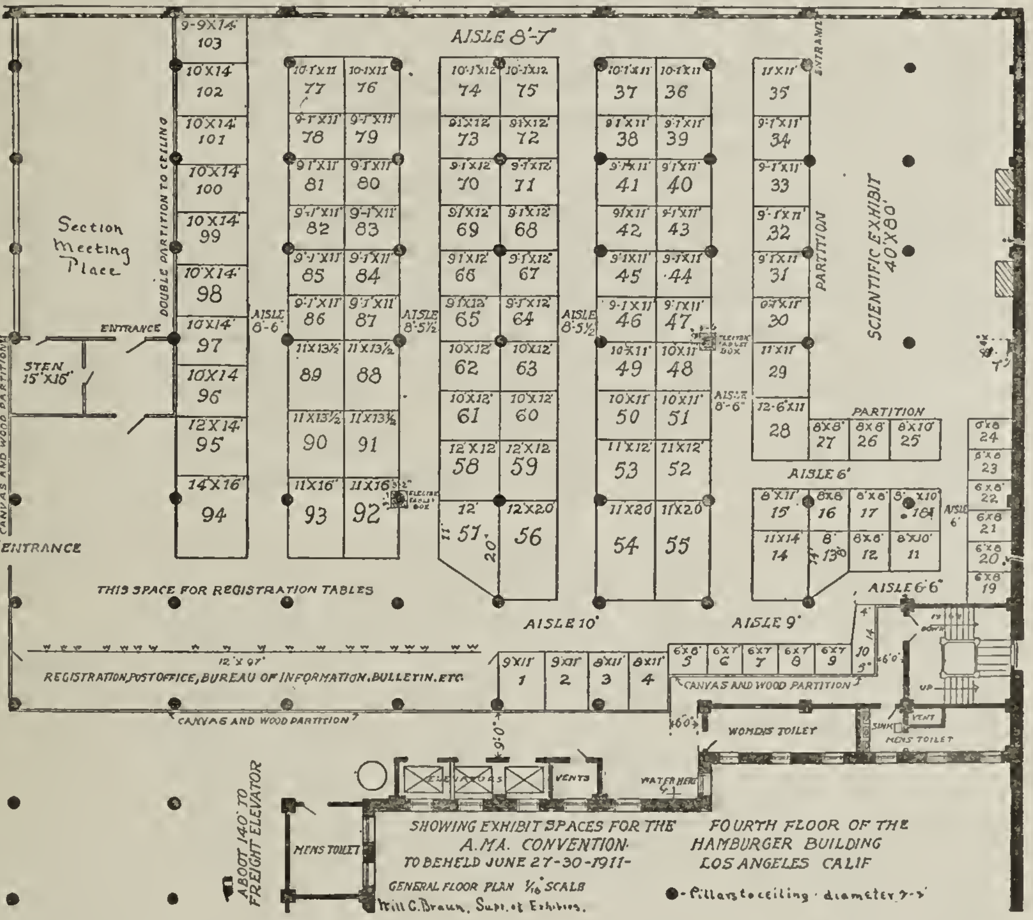
Efforts will be made by all of the exhibitors at this meeting to demonstrate their various exhibits rather from the scientific side than from the purely commercial aspect, and the demonstrators of the scientific apparatus, drugs, etc., will be men who are experts in their respective lines. The exhibit will, therefore, have a distinct educational value to physicians who will devote some time to it.

All correspondence with reference to reservations should be sent to Mr. Will C. Braun, superintendent of exhibits, 535 Dearborn Avenue, Chicago. Dr. W. H. Kiger, Consolidated Building, Los Angeles, is the chairman of the Los Angeles committee on commercial exhibits.

The accompanying diagram of the exhibit hall shows the locations of the booths. The following firms will be represented at this exposition. Other reservations have also been made by firms who have not submitted descriptions of their exhibits.

Publishers and Books

D. APPLETON & CO., NEW YORK, SPACE 2.—This exhibit will be under the direction of the manager of the San Francisco office and a competent corps of salesmen who will show the new editions. A work which will excite interest is their "Cross Section Anatomy," by Dr. Albert C. Eycleshymer of St. Louis. Other publications are Dieulafoy's "Practice of Medicine;" Pick and Hecht's "Clinical Symptomatology;" Kolle's "Plastic and Cosmetic Surgery;" Reik's "Diseases of the Ear, Nose and Throat," and a new edition of Pusey's "Dermatology." The above mentioned books have all been published since January 1, 1911. They will also show advance sheets of Guiteras' "Urology," and Kelly's "Diseases of the Kidneys."


AISLE 8'-7"
Section Meeting Place
STEN 15'X16'
ENTRANCE
DOUBLE PARTITION TO CEILING
CANVAS AND WOOD PARTITION
SCIENTIFIC EXHIBIT 40'X80'
PARTITION
AISLE 6'
AISLE 6'6"
AISLE 10'
AISLE 9'
THIS SPACE FOR REGISTRATION TABLES
12'X 97'
REGISTRATION, POSTOFFICE, BUREAU OF INFORMATION, BULLETIN, ETC.
CANVAS AND WOOD PARTITION
WOMENS TOILET
MENS TOILET
VENTS
ELEVATORS
WATER HEATER
ABOUT 140' TO FREIGHT ELEVATOR
SHOWING EXHIBIT SPACES FOR THE A.M.A. CONVENTION TO BE HELD JUNE 27-30-1911-
FOURTH FLOOR OF THE HAMBURGER BUILDING LOS ANGELES CALIF
GENERAL FLOOR PLAN 1/16" SCALE
Will C. Braun, Supt. of Exhibits.
● - Pillars to ceiling · diameter 2-3'

Floor plan of the Hamburger building, fourth floor, showing the location of the Registration Bureau, where each member should register as soon as he can name his hotel; also the Postoffice, Scientific Exhibit, Daily Bulletin office and the Commercial Exhibit. The accompanying list shows what firms will occupy the various numbered spaces.

AUSTIN'S STEREOSCOPIC *X*-RAY ANATOMY, SAN DIEGO. SPACE 11.—A collection of carefully selected life-size stereoscopic *x*-ray pictures, mounted on cards 12 by 17 inches, each of the pair being 8 by 10 inches, taken with the most modern of interrupterless machines, of all the normal joints, of the joints during development, of all the arteries injected, of the cavities, and parts of the intestines, being an anatomy at a glance for student and practitioner. Pictures are viewed through a prism stereoscope (making pictures of this size possible), mounted, so as to change without changing the focus.

P. BLAKISTON'S SON AND CO., PHILADELPHIA. SPACE 58.—Among the books of great interest and sound service at Blakiston's exhibit are: Hurry's "Vicious Circles," Collins and Mayou's "Pathology of the Eye," Eden's "Gynecology," the recent editions of Tyson's "Practice," Wilcox's "Treatment," "Practitioners' Medical Dictionary," J. J. Kyle's "Ear, Nose and Throat," Wiley's "Foods and Their Adulteration," Brophy's "Oral Surgery," Bransford Lewis and E. G. Marks' "Cystoscopy," and a translation of Curschmann's "Nervous Diseases," edited by Charles W. Burr. The splendid works by John B. Deaver should attract attention because of his recent recall to the professorship in the University of Pennsylvania.

J. B. Lippincott Company, Philadelphia. Space 88.—Promise something new in the way of a picture display this year. The secret has not yet been divulged, but those who come expectant will not be disappointed. The profession should also be interested in Volume 2 of Keibel and Mall's "Human Embryology," the work of the two most famous American and foreign embryologists; David Bovaird, Jr.'s, "Internal Medicine," for students and practitioners; and new editions of Lippincott's New Medical Dictionary, Ortner's "Treatment of Internal Diseases," based on the fifth German edition, Emerson's "Clinical Diagnosis," and "Essentials of Medicine," Cohnheim's "Diseases of the Digestive Canal," Schmidt's "Pain," based on the second German edition, Davis' "Mother and Child," and Noguchi's "Serum Diagnosis of Syphilis," etc.

C. V. Mosby Medical Book and Publishing Company, St. Louis. Space 18.—This firm will show the new edition of Crossen's "Diagnosis and Treatment of Diseases of Women," recognized as the leading text-book for the general practitioner; Cables' "Golden Rules of Diagnosis and Treatment of Diseases;" second edition of Zahorsky's "Golden Rules of Pediatrics;" new third edition of Munro's "Suggestive Therapeutics;" Beck's "Use of Bismuth Paste in Chronic Suppurations;" Longyear's "Nephrocoloptosis," and Dock-Bass' "Hookworm Disease;" advance sheets of Loeb's "Operative Surgery of the Nose, Throat and Ear;" the new edition of Kocher's "Operative Surgery" and Allbutt's "System of Medicine;" also a general line of new German and French books. Dr. L. A. Duck will be in charge.

Rebman Company, New York. Space 12.—An assortment of highly scientific books, many of which are illustrated by the four-color process, which renders a life-like appearance of diseases, especially those of the skin, possible, and the latest literature on "Salvarsan" will be found. Of interest is Whitby's "Makers of Man," a psychologic study of the individuality of the great men of the world. A book on an entirely new subject is Kilner's treatise, "Human Atmosphere." A long list of new publications by Rebman Company recently will be on view, which it will pay the visiting physician to enquire about. Their art prints are worthy of attention.

W. B. Saunders Company, Philadelphia and London. Spaces 94 and 95.—Just within the entrance and opposite the Bureau of Registration and Information and the Post Office, this house will exhibit Musser and Kelly's "Practical Treatment;" Cabot's "Differential Diagnosis;" Davis' "Operative Obstetrics;" "The 1910 Papers by the Staff of St. Mary's Hospital, Mayo Clinic;" Anders and Boston's "Medical Diagnosis;" Morrow's "Diagnostic and Therapeutic Technic;" Pilcher's "Practical Cystoscopy;" Buchanan's "Veterinary Bacteriology;" Keen's "Surgery;" Mumford's "Surgery;" Crandon's "Surgical After-Treatment;" Cotton's "Dislocations and Joint Fractures;" Sisson's "Veterinary Anatomy;" also advance sheets of Dr. Howard A. Kelly's "Cyclopedia of American Medical Biography."

William Wood & Co., New York. Spaces 3 and 4.—Have spared no expense in exhibiting their high-class medical books. Noteworthy among these is the "American Practice of Surgery," which has just been completed. An epoch-making book is Steadman's Medical Dictionary. Witthaus' Manual of Toxicology has just issued from the press. Also, a revised edition of Walker's Introduction to Dermatology, containing forty-three colored plates, besides numerous engravings. "Joint-Tuberculosis," by Leonard W. Ely, will attract much attention. In addition to the above, one hundred new books by these publishers attest their continued activity and progressiveness.

Pharmaceuticals and Biologic Products

Abbott Alkaloidal Company, Chicago. Spaces 56 and 57.—The special features of the exhibit of this company will be the demonstration of the methods of manufacturing granules and tablets of the active-principle and similar remedies by skilled laboratory workers, illustrating both the hand and machine methods. In addition this company will present a large line of alkaloidal and active-principle remedies, as they extract them from the drugs and in finished forms. Their interesting line of Council-passed specialties will also be demonstrated.

Arlington Chemical Company, Yonkers, N. Y. Space 1.—Will be occupied jointly by the Arlington Chemical Co. and the Palisade Manufacturing Co., makers of liquid and dry peptonoids and hemaboloids. In accordance with the well-known policy of these manufacturers there will be a display of interesting and instructive charts of food values, together with an exhibit of the various constituents of the preparations. Courteous and capable representatives will be ready to explain the preparations and answer any questions regarding them. A handsome souvenir is in preparation, which will be presented to every physician who visits the exhibit.

Armour & Co., Chicago. Space 93.—Remarkable progress has been made in the last decade in the field of the ductless glands, which are gradually yielding their therapeutic secrets to the industry of the experimental biologist. Brilliant results are now obtained by pure suprarenal preparations and the purified thyroid proteids. Hypersecretion of the pituitary is definitely known to result in acromegaly and gigantism. Recently the thymus has been suggested for relief in inoperable cancer. Many lecithins and organ lipoids apparently play an important rôle in immunizing processes. The organotherapeutic exhibit of this firm will be demonstrated by scientific experts and should be of great interest.

Edward G. Binz, Los Angeles. Space 22.—This display will consist of apparatus in full operation, showing the process of distilling and refining eucalyptus oil from the leaf to the finished oil. It will be a demonstration of the production of a superior pharmacopeial product and not of a proprietary article with a trade name.

Burroughs Wellcome & Co., New York. Space 54.—This firm will display a selection of their products under "Tabloid," "Soloid," "Vaporole," "Enule," "Wellcome," and other of their well-known trade-marks, representing modern methods as applied to medicinal preparations. Also "Tabloid" brand compressed surgical dressings and bandages, including "Tabloid" brand bismuth gauze, a recent addition to the firm's list; medical equipments of extreme compactness and portability, ranging in size and scope from the equipment similar to that carried by many well-known explorers, to a physician's breast pocket case; "Tabloid" hypodermic and ophthalmic pocket cases, including the popular "Mussell Shell" hypodermic case, etc.

Cutter Laboratory, Berkeley, Cal. Space 82.—Serum Antitoxin and Globulin Antitoxin will be displayed by this firm; also their syringe containers with flexible needle connection. An interesting demonstration showing the steps employed in the preparation and data respecting the administration of the various antitoxic products will make this exhibit of unusual scientific value.

Fairchild Bros. & Foster. Space 98.—Will exhibit "ampoules" for hypodermatic injection, trypsin, pancreas extract (non-enzymic), lecithin; capsules especially designed for the administration of pancreas gland products; "Laibose," soluble wheat and whole milk in granular form; Fairchild's culture peptone from entire beef, especially prepared for bacteriologic work.

Hoffmann-La Roche Chemical Works, New York (branch of F. Hoffmann-La Roche & Company, Basle, Switzerland, and Grenzach, Germany). Space 37.—This exhibit will repay careful inspection. A duplicate of the exhibit that was made at the St. Louis Convention, when it was declared one of the most "aristocratic" in the building. Here will be found such alkaloids as homatropin, eserin, pilocarpin, hyoscin and a host of others. The specialties, Digalen, Thiocol, Thigenol, Airol, Secacornin, etc., will be exhibited and their therapeutic qualities explained by competent representatives.

H. K. Mulford Company, Philadelphia, Space 92.—Will exhibit five cases of biologic products containing, respectively, diphtheria antitoxin and serums, bacterial vaccines and tuberculins, diagnostic reagents, including serodiagnosis of typhoid fever and syphilis; rabies vaccine, and Neisser bacterin mixed. The exhibition will also comprise working bulletins describing these products.

Henry K. Wampole & Company, Philadelphia. Space 76—This company will make an exhibit of elegant pharmaceuticals, comprising pulverous pills, compressed tablets, fluid extracts, elixirs, effervescent salts, capsules, etc., and direc especial attention to the new things brought out during th past year, and to its ability to produce efficient and elegan products for the physician.

Instruments and Furniture

W. D. Allison Company, Indianapolis. Spaces 102 an 103.—Have added several new and useful tables and cabine to their line, and will have on display a new style, medium priced table, two new and very attractive designs in instrument cabinets, and being now the owners of the patents on th Yale and Oxford chairs, these articles will be presented i connection with their high-grade automatic tables, medicin and instrument cabinets and specialities. All of these hav been proved indispensable appliances in the practice of medicine during the past twenty-five years.

Frank S. Betz Co., Chicago and Hammond, Ind. Spaces 62, 63, 64 and 65.—This company will make an exhibition of a general line of surgical instruments, special razor-operating knives manufactured by experienced razor makers, nose and throat instruments imported from Vienna, also *x*-ray coils, electrical outfits for general and diagnostic purposes and a variety of artificial legs. The special feature of the exhibit will be the great variety of operating knives, among which will be shown the Mayo, Murphy, Cubbins, Weist and Old English models.

Cavascope Co., St. Paul, Minn. Space 8.—This company will exhibit the Cavascope, which combines an auriscope, a nasal speculum and two styles of tongue-depresser. It is self-illuminated from a dry battery, which may be obtained anywhere, an effective one being the Tungsten battery, which will give 400 per cent. greater service than any other. The instrument is easily sterilized and may be carried in the pocket.

F. A. Hardy & Company, Chicago. Space 89.—A complete line of eye, ear, nose and throat surgical instruments as well as a number of ophthalmologic specialties will be exhibited. The special features of this exhibit will be a number of handmade instruments entirely new in design, surpassing anything ever shown heretofore. The special Los Angeles edition of the "Hardy Messenger" will illustrate each of the new designs and will be distributed at the exhibit.

Keniston and Root, Los Angeles. Spaces 90 and 91.—A general line of standard surgical instruments, physicians' office equipment and hospital supplies will be demonstrated and displayed by this firm. In this exhibit will be included that of the Kny-Scheerer Co., of New York City.

E. B. Meyrowitz, New York. Spaces 48, 50 and 51.—Ophthalmologic apparatus, eye, ear, nose and throat instruments embracing many recent inventions, among which may be mentioned a new model of ophthalmometer; Yankauer's eustachian instruments, a full line of bronchoscopic instruments and illuminating apparatus will be found. This firm manufactures and will show the well known Marple electric ophthalmoscope, Coakley electric light stand and the Meyrowitz socket rheostat. The new Meyrowitz-McCaa unipulsator will be shown, a complete instrumentarium for *x*-ray and high-frequency work.

Pacific Surgical Manufacturing Co., Los Angeles, Cal. Space 19.—A complete line of physicians' apparatus and hospital equipment and supplies will be exhibited by this company.

Apparatus

Anatomik Footwear Company, New York. Space 78.—An exhibit of men's, women's and children's Anatomik shoes for the relief of mild cases of flat foot and for the prevention of foot troubles. Anatomik shoes are made on a special last devised by Dr. Harlan P. Cole of New York. Mr. Alick Weir, in charge of the exhibit, will be glad to explain the features of the special shoes made by this company for bad cases of flat-foot and for various forms of talipes.

Bausch & Lomb Optical Co., Rochester, N. Y. Space 79.—They will show a line of their newest models of microscopes, microtomes, centrifuges and other laboratory apparatus and supplies for physicians' use. A new instrument, a convertible balopticon will be shown, which projects lantern slides, opaque illustrations and objects and microscopic objects; in fact it can be used for any known form of projection. It will be especially appreciated by those interested in the projection of microscopic objects.

DeVilbiss Manufacturing Company, Toledo, O. Space 15.—The use of the atomizer in the treatment of nose and throat affections will be interestingly covered in the complete exhibit of the DeVilbiss Manufacturing Company of Toledo, O., who will have on display a full line of their well-known medicinal atomizers, nebulizers and powder blowers.

Duntley Manufacturing Co., Chicago, Space 81.—This exhibit will consist of the Duntley pneumatic cleaner, and the new Duntley air cooler and purifier. The latter is a little device with a capacity of from 200 to 600 cubic feet of air per minute. The air passing through water, is cooled and purified, and all of the floating matter is removed—thus reducing the danger of infection in operating rooms and hospitals. The firm will exhibit two types of the air cooler and purifier. The exhibit will be in charge of Dr. Carl L. Barnes, who will gladly furnish laboratory reports and descriptive circulars to all physicians who may be interested.

Ernst Leitz, New York City. Space 96.—Of particular interest will be the two new Leitz models of physicians' microscopes and their "dark field" illuminating outfit—so necessary with the Wassermann test. Their new form Edinger apparatus for the drawing and projection of microscopic and lantern slides—a universal apparatus, as it may also be used for micro-photography—is of especial scientific value. The large microphotographic apparatus will also be exhibited.

Randall-Faichney Co., Boston. Spaces 27 and 28.—Standard clinical thermometers and original designs of hypodermic syringes will be exhibited by this firm. The careful methods pursued in testing and grading clinical thermometers will be demonstrated for the benefit of the visiting physicians.

Taylor Instrument Companies, Rochester, N. Y. Spaces 60 and 61.—This exhibit will contain a comprehensive line of samples, covering particularly their Dr. Rogers' "Tycos" sphygmomanometer, their "Tycos" fever thermometers, urinalysis and urinary glass ware, etc. The exhibit will be in charge of representatives who are prepared to give demonstrations of readings of both diastolic and systolic blood-pressure with the "Tycos" sphygmomanometer. A new booklet on the Dr. Rogers' "Tycos" sphygmomanometer, giving some interesting data on the determination of blood-pressure, will be distributed.

Wilmot Castle Company, Rochester, N. Y. Space 6.—This company will exhibit a four-piece Rochester sterilizing outfit, "physician's" size, comprising an instrument sterilizer, a dressing sterilizer and hot and cold water sterilizers. Instruments are sterilized by boiling; dressings by circulating steam; also a three-piece outfit of a smaller size, called the "Specialist's," adapted for eye, ear, nose and throat work. A Castle pressure dressing sterilizer will show the separate generator, the complete surrounding of the sterilizing chamber (except in front) by a steam chamber, the single valve control, the production of a vacuum in the sterilizing chamber and the simplicity and effectiveness of its locking device.

Apparatus—Electric

Electro-Surgical Instrument Co., Rochester, N. Y. Space 5.—In addition to a complete line of all its well-known electrically lighted surgical instruments the company will exhibit a number of new instruments, representing the highest present development of electrically lighted surgical and diagnostic instruments, constructed after the designs of eminent specialists, who have taken particular interest in making suggestions for improvements based on their practical experience. Besides the instruments themselves the exhibit will include the latest forms of batteries, controllers and transformers.

Kelley-Koett Mfg. Co., Covington, Ky. Spaces 68 and 69.—This company will make a demonstration of their *x*-ray appliances under the direct supervision of Mr. J. Robert Kelley, designer and senior member of the firm, who extends a cordial invitation to the profession, especially those of the Pacific Coast, and past patrons who may desire information relative to apparatus already in use.

Rochester Surgical Appliance Company, Rochester, N. Y. Space 17.—These makers of electrically-lighted instruments, will exhibit their latest models for use as diagnostic aids in the examination of affections of the nose, throat, esophagus, urethra, etc. Instruments for transillumination tests, also electrical controllers, etc., will be other noteworthy features.

Scheidel-Western X-Ray Coil Co., Chicago. Spaces 29 and 30.—Will have an unusual scientific display of advanced apparatus for making *x*-ray negatives and diagnoses by the most approved methods. The increased popularity of the *x*-ray for diagnosis and the attention given to improved technic has resulted in wonderful improvements. They will demonstrate the latest interrupterless machine with which the fastest negatives, showing detail, have ever been made, and in addition to this their small portable instrument. The former radiographic special will also be there, as well as a stereoscope, plate changer, *x*-ray protection tube-stand, etc.

Victor Electric Company, Chicago. Spaces 32, 33, 34 and 35.—This company will display between seventy-five and one hundred different pieces of electro-medical apparatus, which will be demonstrated by a corps of experts. The past year has brought out many new developments in physiologic therapeutics in the way of new machines, modernized methods, improved technic, etc. The Victor Electric Co. have had to increase their facilities recently by erecting a new building at Jackson Boulevard and Robey street, Chicago, which they are now occupying.

Wappler Electric Mfg. Company. Space 77.—In their display of electro-medical and surgical apparatus this company will show many new and radical features. Their cystoscopes have a new, brilliant lens system showing the right-sided and upright picture, a brighter field, and a 30 per cent. larger angle of vision than has ever been obtained before. This lens system is being adapted to all of their diagnostic instruments including the pharyngoscope. Also a new type of interrupterless *x*-ray and therapeutic apparatus, perfect for rapid *x*-ray and all kinds of high-frequency treatment, the Excell treatment machine, the Wappler wall plate with their perfect sinusoidal machine, etc.

Foods, Milk Preparations, Etc.

Bass Islands' Vineyards Co., Sandusky, O. Space 13.—Visitors are invited to look up the exhibit of this Company, and try their Catawba "Bass Islands Grape Juice." This is an unfermented Grape Juice and a most pleasing beverage, recommended on the ground that Catawba grape juice is more beneficial than the juice of the dark Concord grape, because it contains less tannin.

Borden's Condensed Milk Co., New York. Spaces 99, 100 and 101.—Will exhibit their Malted Milk and call particular attention to the special process by which it is prepared and the predigestion of the casein of the milk due to this process, which is peculiar to the Borden Company. They also emphasize the palatability of the food, it being free from excessive sweetness. They point with pride to their record of fifty years' handling of milk products as a guarantee of the excellence of their goods. They will furnish analysis and comparative table of energy values to all physicians.

Franco-American Food Co., Jersey City. Space 36.—Franco-American broths for invalids will be shown as a useful necessity in the sick room diet, easily digested and very stimulating. The company calls attention to these broths as containing 33⅓ per cent. more food value than soups, purposely made without vegetables, spices or seasoning, and retained by the most delicate stomach. They are packed in half pint sanitary tins, so as to remain fresh as long as the tin is left unopened. A full line of these foods will be exhibited.

Hawaiian Pineapple Products Co., Ltd., San Jose, Cal. Spaces 23 and 24.—Physicians will be given an opportunity to investigate the merits of Dole's Pure Hawaiian Pineapple Juice, which is pressed and bottled by this firm in Honolulu.

Horlick's Malted Milk Co. Spaces 72, 73, 74 and 75.—This firm will show Horlick's Malted Milk and urge its use as an easily digested food product in powder form, prepared from pure fresh cow's milk, combined with the extracts of malt, barley and wheat, the starch of which has all been converted by the action of the diastase of the malt, and ready for immediate use by simply dissolving in hot or cold water; uniform and reliable, manufactured under ideal sanitary conditions, with the experience, methods and apparatus evolved through work of over a century in this line.

Mellin's Food Company, Boston. Space 14.—To the visiting physicians who so desire this company's representatives will be pleased to show analyses and food values of Mellin's Food itself, and as prepared with milk; also to explain its use in the modification of milk. They will also cheerfully answer questions regarding the variation of proportions of food constituents necessary to obtain the most satisfactory results in individual cases.

Welch Grape Juice Company, Westfield, N. Y. Spaces 66 and 67.—Will have an exhibit of their well-known product, as usual.

Artificial Limbs and Supportive Appliances

Ambulatory Pneumatic Splint Manufacturing Co., Chicago. Space 10.—Makers of ambulatory pneumatic fracture splints, orthopedic appliances, artificial limbs, trusses, corsets, elastic hosiery and "Ambumatic" washable abdominal supporters. Under the direction of Mr. Sæmann the exhibit will consist of a scientific demonstration of the Ambulatory Pneumatic Splint, the application and use of these walking adjustable splints for the comfortable and successful treatment in bed or walking of fractures of the lower limbs, including those of hip and hip-joint disease. "Ambumatic" supporters for all kinds of abdominal or pelvic support will also be shown.

Carnes Artificial Limb Company, Kansas City, Mo. Space 59.—Will exhibit an artificial arm and hand made of steel and fiber of such ingenious mechanical construction as to enable the wearer automatically to bend the elbow, bend and turn the wrist and open and close the fingers, and write; strong enough to pick up and carry a weight of fifty pounds with ease. Demonstrated by men wearing the arm for upper and lower amputations.

Wm. Jones, Denver, Space 9.—An automatic, adjustable truss will be demonstrated by this firm. This truss is said to have an automatically operating, even pressure, compensating movement that is governed by the motion of the body, so that it will yield reciprocally with easy, positive, variable and equal pressure action to the variable breathing and other natural movements of the body. There are many other practical features of this appliance that will be shown.

Mineral Waters

Apollinaris Agency Company, New York. Space 7.—This company will exhibit Apollinaris Water as a mildly alkaline and naturally effervescent table water, bottled only at the Apollinaris Spring, Neuenahr, Germany, and only with its own natural gas, as stated on the label. The same company will also exhibit "Apenta," the Hungarian natural aperient water, calling attention to its reputation for its well proportioned content of magnesium sulphate and sodium sulphate.

National Water Company, Waukesha, Wis. Space 38.—Will exhibit "White Rock," the natural water from the celebrated White Rock Spring, and "Still Rock" in the various sized bottles and will show a package that is unique among bottled waters. New bottles are used and are sterilized before filling. The newly patented sealing contrivance will prove interesting to the physician who wishes to have the water reach his patient in the same uncontaminated condition in which it exists as it flows from the spring. Mr. Edward Westveer and Mr. R. M. Heath will have charge of the exhibit.

Sanatoria

Allied Sanitariums of California, Loma Linda, Cal. Space 25.—This exhibit will be installed under the direction of the College of Medical Evangelists, whose representatives will explain the methods employed at their various institutions.

Indiana Springs Co., Kramer, Ind. Space 20.—For the benefit of physicians who have never visited Mudlavia this company will maintain an exhibit showing in pictorial detail their special therapeutic agent, the Mudlavia Bath. Beginning with a view of the mud deposit in the natural state, the various steps in the process to completion of the bath will be shown; likewise the buildings and grounds with their special equipment for maintaining a high-grade sanitarium.

Pottenger Sanatorium, Monrovia, Cal. Space 25.—This institution, which is located but forty-five minutes by trolley ride from Los Angeles, and is conducted exclusively for the scientific treatment of tuberculosis, will display views and literature describing the methods employed and accommoda tions offered patrons of their sanitarium.

Et Cetera

American Case & Register Company, Salem. Spac 86.—Will exhibit a full line of their physicians' and surgeons systems for account keeping and case recording. This exhibi will be in charge of competent men who have been traine especially in this line of work. They claim to be the pioneer in manufacturing complete physicians' and surgeons' systems and they wish physicians to write now for all literature pe taining to their various systems so that they can study the up, and then see the real article in Booth 86.

Deimel Linen-Mesh System Co., New York. Space 53.— According to their usual custom this company will show thei goods at Los Angeles and have reserved space 53 for the pu pose. The California headquarters of this concern is at 14 Sansome Street, San Francisco. The Dr. Deimel underwea (Linen-Mesh) hardly needs any introduction. This wel known underwear was first shown at the annual meeting hel at Baltimore in 1895.

Spirella Company, Meadville, Pa. Space 85.—Corsets a belts filled with the "Spirella stay," a wire bent in serpenti form, will be shown as a valuable aid in caring for medic cases demanding support, such as floating kidney, some cas of hernia and pendulous abdomen. The firm states th the anatomic shaping of the corset, coupled with the flexibl resilient Spirella stay used therein, allows complete freedo of muscular action. The Surgical Belts are light, simpl practical, and are said to be valuable in postoperati cases.

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COOPERATION IN ESTABLISHING STANDARDS OF MEDICAL EDUCATION *

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We have cause for sincere congratulations in this meeting of representative members of all three of the great organizations which have for their object the elevation of the standards of medical education in this country. Indeed, it would be almost a crime to divide forces or influence when all share one great purpose. It would be unfortunate if any personal feelings or jealousy should exist or be tolerated when the welfare of mankind is at stake; for there is no higher or more sublime object in the field of human endeavor than the protection of the health and lives of our people.

The days of witchcraft and alchemy have passed and all isms and pathies will disappear before the ever-increasing and broadening influence of true science. There are always antagonistic forces present to obstruct every move for the betterment of our profession and to question the character and fitness of its members, which are strengthened and kept alive by internal dissensions or cross-purposes existing between either of the great bodies or their members interested in the work. Therefore, it is imperative that at least these three should get together on common ground, with singleness of purpose and unity of action, until those who select medicine as their life's work can get in any section of this country an education second to none in the world.

How easily this ideal can be realized when the Council on Medical Education of the American Medical Association, with sufficient funds for all legitimate uses available and the prestige of sixty thousand physicians, with that great medium of publicity, THE JOURNAL, to inform the profession of the progress made, has joined hands with this Association of Medical Colleges, the membership of which is composed of a majority of the best schools in the country! Nothing but good can result from such a union, so long as the portal of entrance is scrupulously guarded against all but those schools which live up to the requirements of the association, not simply because of their obligation to do so, but because they believe in them and stand ready, at all times, to advance to a higher and better standard, in keeping with the progress of the age and the demands of the ever-increasing and enlightening truths of medical science.

Now, when these two are so fortunate as to work in harmony and unity with the organized examining and licensing boards of the various states having the legal power to enforce all laws and regulations passed for the protection of the people, a trio of such strength has been formed that the day of reckoning for "diploma mills" and uneducated physicians, or quackery of all kinds, is not far distant.

Then only the schools doing honest work, with standard and acceptable courses of study, will exist throughout the entire country. Then, and not until then, will reciprocity be a reality. The improvement in medical schools, in equipment and standards in both entrance requirements and curriculum, in the last few years has revolutionized medical teaching. When we consider that only seven years since we had about 170 medical schools in this country, practically as many as those in the rest of the world, and that the awakening of professional and public sentiment, educated and guided by such organized efforts as those of our own association, and those meeting with us, has lessened the number by one-third, we have just cause for congratulations.

While I would not advise reckless or unjust condemnation of others, or such radical and rapid changes as would work a hardship on those schools struggling under great difficulties to meet the requirements of the times, I would insist that the entrance into this association of colleges be zealously guarded, and that no school be admitted to membership that does not fulfil every requirement, in both facilities and teaching ability, and in honestly upholding our standards as well.

No backward step must be taken, and very thorough investigation must be made before admittance. One unworthy school can so tarnish our reputation that it may take years to overcome the mistake. In my opinion it will be equally disastrous and hurtful to the cause of medical education if we should advance standards, especially entrance requirements, beyond what the existing conditions of preparatory education can stand. To explain: it would be folly for the state boards of medical examiners to expect higher entrance standards than the schools in the states are prepared to give, and it would be suicidal for the medical school in any state to fix the entrance requirements higher than its students have had an opportunity to receive. By so doing, the schools would entirely exclude good men who seek and deserve a thorough medical education, or drive them to accept the inevitable, and enter the low-grade schools.

While, of course, I accept as the minimum the present standard of a four-year high-school course, or its equivalent, and believe that nothing under this should be tolerated, in my opinion, in view of the fact that high-school courses vary greatly in the different sections of this country and are indefinite and without censorship, the fourteen-unit plan that has been suggested would be more uniform and acceptable. I doubt the wisdom of aspiring to a higher minimum standard at the present time, especially by these bodies, all three of which are national, and must, therefore, consider the conditions of every section of the country. I have been convinced, after years of work and close study of these problems, that the cause of medical education in general will be injured in this country rather than helped by higher entrance requirements until the present movement, which is universal, shall have improved the system of preparatory and general education.

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*Address of the president of the Association of American Medical Colleges, read before a joint session of that body with the Confederation of Examining Boards of the United States and the Council on Medical Education of the American Medical Association.

Of course, this will in no way prevent those schools which are fortunately located from demanding a standard much higher. While I am firmly convinced that our present entrance requirements and the four years of a strictly graded course are sufficient for the present, I would respectfully suggest that the trouble is not in either of these adopted standards, but in the loose way in which they are enforced.

If these three educational forces would see that every school conscientiously enforced to the letter its published requirements, without evasion or equivocation, and emphasize the fact that there is no difference between individual or personal morals and collective or school morals, they will have taught a great and much-needed lesson, placed medical education on a very much higher plane and sounded the death-knell of all pretenders and low-grade medical schools.

Improved facilities for teaching, in keeping with the necessities of an up-to-date course in modern medicine, the rapid progress of which is the wonder of the age, should be demanded. We must not only act together, but work separately, as each of the three bodies assembled here, with a common interest, has its distinctive field in which the others can be helpful only in an advisory way. The association of schools should first see that none but those doing high-class and honest teaching shall be members and that the equipment and facilities for both scientific and practical training shall be in every school.

I would emphasize the practical, as the tendency of the times seems to be to lose sight of the essential element in the preparation of a student for his life's work, viz., to combat and prevent disease, relieve suffering and save human life. While there is a place for men in the laboratories of experimentation and original investigation and research, the great majority will best serve and fulfil their mission in life by receiving a thorough training in medicine at the bedside, with a well-rounded course which will enable them to apply their laboratory training as an indispensable aid to thorough work. If the consensus of opinion, after thorough study of this great question of medical training, is in favor of an additional year, I am convinced that we would give to the world better doctors by adding a fifth year of clinical and bedside instruction rather than an extra year preparatory to the study of medicine. Facility in diagnosis, and skill in the application of prophylaxis and treatment of disease can be acquired only by such a practical course of study.

With sufficient educational training to prepare the mind for the assimilation of medical teaching, a four-year course of study, as given in our best schools of to-day, with an additional year in hospital work, would, in my opinion, be an ideal preparation for one whose life-work is to prevent and combat disease. In making this statement I am not unmindful of the great advantage of a classical education in every avocation of life and I am in thorough sympathy with the improved laboratory training, without which no medical education is half complete; indeed, no doctor can practice modern medicine without the chemical and microscopic aids taught in the laboratory, for they are absolutely necessary.

The Council on Medical Education of the American Medical Association occupies a peculiar, but very important place in this work. It can exercise no authority; at the great bar of publicity its standing is conferred by the great prestige of a national association of the medical profession. While it has made mistakes, I, who have been a member since its organization, can truthfully say that, individually and collectively, as a body the Council has labored honestly and faithfully to better conditions and to elevate standards gradually, by selecting facts and giving to the profession statements of their findings in each state in the Union, thereby creating a healthy sentiment in favor of improvements in medical education as rapidly as the educational conditions would permit. Always mindful of the fact that it represented the entire country, in which standards differed widely, and which in some sections were distressingly low, by availing itself of the council and advice of all organizations laboring in the field as well as the opinion of educators all over the country, it has created a sentiment which has helped to better understanding and has made it plain that there is no longer in this country a place for the cheap and poorly-equipped medical school. It is with pleasure that I announce a recent action of the Council, inviting a delegate from the Association of American Medical Colleges to attend and take part in all of its private meetings.

The function of the Confederation of Medical Examiners is so necessary to the perfecting and enforcing all advances in medical education that it is especially fortunate that they have met with us this year. The examiners have great advantage of being on the ground, as it were, and understanding the local conditions. They can have a large influence in promoting better preparatory education, and, indeed, it would be impossible for them to exact entrance qualifications without seeing that the educational conditions of the state would justify them; in other words, they must insist on better facilities in public schools and preparatory schools in their respective states if they would insist, as they should do, that the present entrance requirements of this college association be the minimum for a college to be recognized. Again, they are indeed public benefactors when they protect their people from irregular and ignorant pretenders, as well as improve the moral and ethical relations both in the profession and with the public.

I would suggest that growth and importance bring increased responsibilities and obligations. This is true of our Association of Medical Colleges, on whose faculties are men of experience and ability, many of whom are leaders in the magnificent progress of medicine and surgery in the last few years; and I believe that if they would assist, with their combined wisdom and experience, the few hard workers in this association, our position would soon be the commanding one on all questions of medical teaching. Others interested in this work would yield to this association the right to fix all standards. For teachers, by right of their positions and experience, are the ones best prepared to suggest all advances and improved methods. They are, by virtue of their work, best equipped to inspect schools and pass on their laboratories, curriculum and teaching ability. For this purpose the president, secretary and chairman of the judicial council form what is known as a visitation committee the duty of which is to investigate, not only applicants for membership, but the members, at least every five years; and this requirement, if it were carried out strictly, especially the occasional inspection of our members, would at once strengthen and broaden the influence of this association and commend it to the state board of examiners, do much to quiet the present state of unrest and dissatisfaction existing in many medical schools and elevate medical teaching in the eyes of the public out of its present questionable status.

Standards acceptable to examining boards could be established and the variable demand of the different states be gradually molded into a universal and much-needed standard agreeable to all. The result would be better-prepared and more uniformly educated physicians, and more ethical relations between the profession and the people. The time is ripe for some organized body to assume command and restore confidence by combining the good accomplished by the several organizations laboring in the field. We should stand sponsor for as high standard of medical education as present conditions will permit, at the same time quieting the present feeling of uncertainty which is agitating the modern school-world with the assurance that the schools would be given time to establish and enforce the demands of to-day, and adjust themselves to the changes, at least before some other radical change is forced on them.

While I would not detract from the great advances made in the last few years—and every force deserves credit for honest and faithful service—the conditions mentioned above are the natural result of lack of concerted effort and unity of action, and but illustrate the necessity of uniform standards applicable to the whole country.

Now, I ask, what body is best equipped and qualified for this work, or into what hands can be placed the elevation and perfecting of medical teaching to properly meet the demands of the present, if not our own Association of Medical Colleges? Indeed, we shall be derelict if we do not assume this responsibility. If every school which is a member would live up to association standards and assume and perform its part willingly and enthusiastically, every worthy school would seek membership, and the vexed problem of standardizing medical teaching would be solved.

State laws can be made more uniform if the American Association of Medical Colleges and the Council on Medical Education of the American Medical Association join forces with state boards, and the unfortunate necessity for the present differences in grading schools will have passed; for there will be no excuse, even commercially, for the existence of low-grade schools, and the much-needed reciprocity between the United States and Canada will be assured, and with European countries as well.

In this short paper I have tried to point out some of the strong and important reasons for all three of the educational organizations meeting here at this time. I predict that their coming together in a bond of unity of purpose will, of necessity, vitally affect every side of this great question. The combination of our interests and energies for the future promises great things for the medical profession, and, through them, for the people of this country.

In closing I would make the following suggestions:

1. This association should adopt a uniform standard after consultation with all forces interested, and enforce this standard by frequent inspections of members.

2. Inspections of both applicants and members should be placed in the hands of a judicial council or a committee appointed for that purpose; at least two men should be required for the inspection of any school, and the report should be in writing for future reference.

3. The interests of the association demand that the work be divided up so as to utilize as many men and their influence as possible, if we would broaden our field of usefulness in both higher educational and moral or ethical standing sufficiently to make membership an honor so distinctive that all good schools will desire the connection.

4. At present the four-year high school, or the fourteen units for entrance and a four-year strictly graded course of study of 4,000 hours is as high as the conditions of education will permit.

5. If an additional year is wise, then a fifth year following the present four-year plan, which shall be strictly practical and bedside in hospital wards, is preferable; and this association should insist that a hospital controlled by the college is essential to thorough training.

If these suggestions are carried out then this association will be a great factor and the day will not be distant when the medical men of America will be recognized all over the world. Then and not until then will this association have fulfilled its true mission.

150 North Eighth Avenue.

THE POISONS OF THE TROPICAL TOAD, BUFO AGUA

A PRELIMINARY COMMUNICATION *

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Poisons of animal origin, using this term in its widest sense, have always been of interest to the student of medical science, and of late years they are beginning to be of actual value to the medical practitioner. Among poisons of animal origin[1] may be named the various snake venoms, the poisons of amphibia, of fishes (e. g., the fugu poison of Japan), of mussels (mytilotoxin), of scorpions, spiders, bees, ants, beetles (e. g., cantharidin), and other insects. Among poisons derived from the organs of mammals may be named those obtained from the thyroid and suprarenal glands as having a very high therapeutic value.

While continuing our studies, in the autumn of 1910, on the convulsant action of certain organic dyestuffs, acid fuchsin, betanaphthol, phenolsulphonaphthalein, and tropeolin, we had the opportunity of trying the effect of these substances on a tropical toad, *Bufo agua*. While engaged in this study our interest was aroused by the milky secretion which exudes from its "parotid" glands when the animal is greatly irritated. Scraping off some of the secretion with a knife, we were struck by the bluish-green discoloration which appeared on the blade soon after it had been used. This observation led us to test some of the diluted secretion with ferric chlorid. This reagent was found to develop the characteristic green color of the pyrocatechin reaction. As this reaction is given by the active principle of the suprarenal glands, further tests were at once undertaken with the object of identifying the substance in the toad's secretion which reacts with ferric chlorid as described. It was not a difficult task to demonstrate that we were here dealing with a substance which is identical with, or closely allied to, the suprarenal principle. Further work on the secretion of the glands demonstrated the presence of a second body which, in respect to its pharmacologic action, is to be classed with substances belonging to the digitalis group of poisons.

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* From the Pharmacological Laboratory of the Johns Hopkins University.

[1] Faust, Edwin Stanton: Die thierischen Gifte, 1905.

The toad has been regarded from the earliest times as a venomous animal. In the Talmud[2] under the name of *tzab* (from the root meaning to swell or puff up) it is differentiated from the frog and is classed with animals whose touch contaminates. Various peoples have made medicinal use of the toad. The Chinese have long used as a remedy a preparation derived from toadskins which they call *senso*. According to a preliminary notice by Hyashi,[3] *senso* is an impure product similar in its action to digitalis, but fifty to one hundred times more powerful. Western nations also made use of the toad for medicinal purposes during several centuries and various European medical treatises and pharmacopeias of an earlier day give to the dried toad a prominent place among therapeutic agents. Thus, in the "Thesaurus Pharmakologicus" of Johannes Schröder, published in Leyden in 1672, and in the "Pharmacologia" of Samuel Dale, published in London in 1692, powdered toad is highly recommended for dropsy, bleeding of the nose and other ailments. In the "London Dispensatory" of 1702, edited by William Salmon, professor of physick, we read, "They (the toads) are hung up by the neck in the air till they are through dry, and then kept for use. Wierus saith that the poudre of a dry'd toad taken ʒss at a time or more, cures almost incurable dropsies, carrying away the water by urine. I suppose the ashes of them burned is better." In an abridged text[4] of some of the medical writings of Michael Etmüller (1644-83), professor of medicine at Leipsic, it is stated that "living toads aroused to the point of fury are venomous, but found dead they are entirely devoid of poison. Transfixed (alive) in the month of July, dried, powdered (the head and entrails being removed) and administered in doses of twelve grains on alternate days they furnish an excellent cure for dropsy. Others administer this remedy in burning fever at its height. Powdered toad is also an effective remedy against incontinence of urine, and is said to be efficacious because of its anodyne character, while its volatile, penetrating salt acts as a diuretic. From it an anodyne oil is also prepared with the aid of sea-salt and sweet almonds."

Toads as remedial agents are further mentioned in the "Pharmacopeia Universalis" of R. James, M.D., London, 1747, in the "English Dispensatory" of John Quincy, M.D., London, 1749, and as late as 1833, but here in a skeptical way only, by J. A. Paris in his "Pharmacologia."

Further testimony that very powerful principles are found in toads is seen in the fact that primitive peoples have made use of their skin secretion as arrow poisons. Thus, Pagenstecher writes:[5]

> According to reports made by the botanist André, which have been substantiated by Saffray, the Choco Indians of the primeval forests of the Sierra Templada of New Granada at elevations up to 2,000 meters employ for this purpose the secretion of a species of pelobates ("spade-footed" toad). The animal is placed in a tube of bamboo, the hands of the operator being protected with leaves, and when some of the poison is desired the tube containing the toad is suspended high over a fire. The toad soon becomes covered with a yellow juice which is allowed to drop into bowls from which it is transferred to small pots in which it gradually acquires the consistence of curari. A further supply of the poisons may later be obtained from the toads thus treated. The poison is smeared on to the tips of arrows which are shot into game from blowing tubes. A small stag is killed by a poisoned arrow in from two to four minutes, a jaguar in from four to eight minutes.

And in regard to the particular toad which is engaging our attention, Filho[6] makes the following statements:

> There exists, more particularly in the regions of the Amazon a species which is a veritable giant among toads and which Spix has described under the name of *Bufo agua*, whose venom it would be worth while to study. It is very probable that this is the species from which the aborigines of the Amazon derive the poison with which they smear the points of their arrows, in place of a sort of curara which certain other tribes use.

Further details in regard to the use of the poison of *Bufo agua* have not yet come to our knowledge, but our own experiments with it give abundant proof that it would be very deadly indeed when used as an arrow poison.

Bufo agua (horridus, maculiventris, marinus, humeralis, ornatus, ictericus, Lazarus, Rana marina, Bombinator horridus, Neotes, Pseudobufo and *Docidophryne agua*) is the largest of the *Anura*, or tailless amphibia, attaining a length of twenty or more centimeters and a breadth of twelve centimeters. It is found in all of the countries and most of the islands of South and Central America, and in the warmer parts of Mexico.[7]

The specimens examined by us were obtained from the neighborhood of Montego Bay, Jamaica, where they are popularly known as bullfrogs.[8] The general color of the animal is light to dark brown with sooty dark patches and its back is covered with warty protuberances. A striking feature is two large oval, so-called "parotid glands" behind each ear. It is from these "glands" that our poison is obtained. According to Seeck,[9] these structures consist of simple, elongated glands closely packed together, the whole bearing a resemblance to a honeycomb. When the glands are hardened in alcohol their lumen is filled with a brownish compact mass.

Bristol and Bartelmez, in a short note in *Science*,[10] say:

> The poison glands are found only on the upper surface of the body, while mucus glands are found all over the skin, and are crowded together in large parotoid "glands" behind each ear. They are much larger than the mucus glands and extend deep down into the compact corium layer. They are surrounded by a thin layer of loose connective tissue which contains nerve fibers and a dense net-work of capillaries. There is an almost continuous layer of smooth muscle fibers about the gland. The cells of the glandular epithelium develop to an enormous size, and when they mature they disintegrate, their entire plasm becoming the secretion, so that when a poison gland has reached its full development it is simply a reservoir of poison. When the poison is discharged the remains of the gland are resorbed, and at the same time one of the five or six undeveloped glands, grouped around the mouth of the functioning gland, grows down alongside the remains of the discharged gland, pushing it aside to occupy its former place.

When the animal is irritated as by the bite of a dog or by some other sufficiently powerful stimulus, mechanical, chemical or electric, the parotid glands exude a large amount of a creamy secretion having a pungent aromatic odor. The glands are certainly under the control of the central nervous system, as their secretion is discharged in consequence of a peripheral irritation of sufficient strength. Budgett[11] states that "the enormous parotid glands are discharged like squirts when the creature is roughly handled." We have not ourselves observed anything of this kind, though we have repeatedly "milked" as many as sixty of the animals at a time. Under chemical and mechanical stimulation we have only noticed free exudation from the openings of the gland. We obtained the needful amounts of this secretion by the simple device of squeezing (or "milking") the parotid glands with a curved hysterectomy forceps, catching the secretion as it spurted out from the numerous orifices into a large glass bowl held inverted over the toad. The semifluid substance thus obtained quickly dries in the air to form hard, brittle scales of a yellow color, presenting much similarity in appearance to dried snake venom. When the air-dried scales are brought into contact with water they swell up to gelatinous masses, and in the presence of much water an opalescent, neutral foamy emulsion is obtained of a most nauseating bitter taste and pungent odor. In its physical properties, the secretion presents great similarity to some other animal poisons, such as the Habu snake venom described by Ishizaka.[12]

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[2] Hoffmann, D.: Das Buch Leviticus, Berlin, 1905, i, 342. Babylonian Talmud: Kethuboth 15 a; Mishna, Teharoth, v. 1.

[3] Deutsch. med. Wchnschr., 1911, No. 13, p. 624.

[4] Michaelis Etmulleri Opera in Compendium redacta, Londini, 1701, p. 147

[5] Pagenstecher: Allgemeine Zoologie, as cited by Kobert, Lehrbuch der Intoxikationen, Edition 2, 1906, ii, 470.

[6] Filho, Lacerdo: Algumas Experiencias com o veneno do Buf icterieus (Spix), Archivos do Mus. Nacion. do Rio Janeiro, 1878, iii, 33.

[7] Brehm, A. C.: Thierleben, Allgemeine Kunde des Thierreichs, 1878, vii, 602; Waite, F. C.: Bufo Agua in the Bermudas, Science, 1901, xiii, 342. Gosse, P. H.: A Naturalist's Sojurn in Jamaica, London, 1851, p. 431.

[8] We are indebted to Prof. E. A. Andrews of this university for much assistance in obtaining a sufficient supply of these animals.

[9] Seeck, Oscar: Ueber die Hautdrüsen einiger Amphibien, Diss, Dorpat, 1891.

[10] Bristol and Bartelmez: Science, 1908, xxvii, 455.

EXPERIMENTS MADE WITH THE CRUDE POISON

A little of the emulsified secretion, well diluted with 0.8 per cent. solution of sodium chlorid and instilled into the conjunctival sac of the dog or cat, will quickly cause an extreme constriction of its blood-vessels so that the conjunctiva becomes blanched. This action is due mainly to the epinephrin contained in the secretion, but in small part also to the digitalis-like body. When this latter substance, however, is applied to the eye in the form of a solution of the pure crystals it causes at first a momentary constriction of the smaller vessels of the conjunctiva, but this is soon followed by a marked dilatation, so that great injection and irritation result. No dilatation of the vessels of the eye is observed when only very dilute solutions of the crude poison are used, as in this case the action of the epinephrin preponderates.

A little of the emulsion injected into the abdominal lymph-sac of a pithed frog will soon cause slowing of the heart, with apparent prolongation of the diastolic pause and increase in the ventricular contractions. The final effect is complete stand-still of the heart in systole.

Little, if any, effect is noted when only a small quantity of the dried venom is given to an animal by mouth. Thus, a cat weighing 2.27 kg., received 0.035 gm. concealed in meat. Not the slightest objective symptom was noted during the afternoon on which the animal was under observation. In giving the last piece of meat with the venom concealed in it, however, a minute piece of the poison came into contact with the animal's mouth. The effect was remarkable in causing a profuse flow of foamy saliva. When the animal had ejected the last traces of the poison from its mouth, which was accomplished in a few minutes, it at once returned to its former state of quiet content. The absence of striking symptoms when even a considerable quantity of the crude venom is given by mouth is explicable when it is recalled that the digitalis-like substance of the venom is only slightly soluble in water. It will be shown later that this principle is highly toxic when injected by itself, either subcutaneously or intravenously, so small a quantity as 1.5 mg., nearly causing the death of a very large cat.

Injected intravenously into a large cat, a quantity of the emulsion containing less than 0.020 gm. of the crude dried venom induced a tremendous rise of blood-pressure followed immediately by a fall due to a sudden and complete stand-still of the heart.

When a large quantity of the crude venom is introduced into the stomach more marked symptoms are produced. Thus, 0.1 gm. of the poison enclosed in a capsule was given on an empty stomach to a dog weighing 5.8 kg. In ten minutes a clear bile-stained fluid containing most of the poison was ejected. This was followed by retching and repeated vomiting and profuse salivation, all of which continued at frequent intervals for twenty minutes. For an hour following, during which time the animal was kept under observation, it was much depressed. On the following morning it had quite recovered. In regard to this experiment we would say that the amount of epinephrin present in the venom given to this dog would alone suffice to induce vomiting if given on an empty stomach.

It may further be mentioned that an emulsion of the crude venom is a powerful and rapidly acting agglutinating agent for the red corpuscles of the rabbit, the only animal's blood tested in this connection.

THE PRESENCE OF EPINEPHRIN IN THE SECRETION OF THE POISON-GLANDS

Introductory Note by the Senior Author (A.)

Fortune has thrown in our way an animal secretion which most unexpectedly is found to contain a principle which has hitherto appeared only in the suprarenal glands and in homologous chromaphil structures. In collaboration with A. C. Crawford, I isolated the active principle of the suprarenal glands of sheep and beeves in the form of physiologically active salts which I named salts of epinephrin, for example, epinephrin bisulphate, picrate, etc. The elementary composition of several compounds was established by analysis and for epinephrin bisulphate, for example, was found to be represented by the formula[13], $C_{17}H_{15}NO_4 . H_2SO_4$.

In all of my published papers[14] of that period (1897-1899) it was constantly emphasized by me that epinephrin is an unstable, basic substance, precipitable from solutions of its active salts by ammonia and capable of being separated from the other constituents of the suprarenal glands by the proper use of benzoyl chlorid.[15] And this at a time, I may perhaps be permitted to say, when von Fürth,[16] another investigator in this field, was upholding the supposition that epinephrin is either tetrahydrodioxypyridin, $C_5H_9NO_2$, or dihydrodioxypyridin, $C_5H_7NO_2$.

Later work[17] of mine showed that what I called epinephrin, and salts and compounds of epinephrin, had each and all retained one of the benzoyl radicles which I had purposely introduced into the molecule when I employed benzoyl chlorid as a precipitant. In consequence of the retention of a benzoyl radicle (an unusual circumstance in work of this kind) my salts showed a number of so-called alkaloidal reactions in addition to those which belong to the entirely unaltered native compound and which were likewise given by my active salts.

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[11] Quart. Jour. Microsc. Sc., 1899, xlii, 305.

[12] Ishizaka: Ztschr. f. exp. Path. u. Therapie, 1907, iv, 88.

[13] Abel and Crawford: Bull. Johns Hopkins Hosp., 1897, viii, 151. Abel: Ibid, 1898, ix, 215; Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1899, xxviii, 318; Bull. Johns Hopkins Hosp., 1901, xii, 339; Ibid, 1902, xiii, 31; Ber. d. deutsch. chem. Gesellsch., 1903, xxxvi, 1839; Ibid, 1904, xxxvii, 368; Am. Jour. Pharmacy, 1903, lxxv, 301; Contributions to Medical Research dedicated to V. C. Vaughan, 1903, pp. 138, 165; Jour. Biological Chemistry, 1905, i, 1.

[14] References are given in my papers to the work of Oliver and Schäfer and Szymonowicz and Cybulski, who first noted the presence of a vasoconstrictor principle in the suprarenal glands, as also to the earlier papers dealing with the chemical constituents of the glands.

[15] See Ztschr. f. physiol. Chem. (Hoppe-Seyler's), xxviii, 218.

[16] Von Fürth: Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1898, xxiv, 142; 1898-1899, xxvi, 15.

[17] Abel: Bull. Johns Hopkins Hosp., 1901, xii, 339.

Following this work came the next step, the preparation of an amorphous indigo-colored iron compound of the active principle by von Fürth,[18] for which, however, at this time no analytic data were given from which a molecular formula could be calculated. Very soon after came the work of Takamine[19] and Aldrich[20] who succeeded in precipitating the base from concentrated extracts of the gland by the use of ammonia without the assistance of such agents as benzoyl chlorid or chlorid of iron. The formula $C_9H_{13}NO_3$, first proposed by Aldrich, has proved to be the one which truly represents the composition of our substance, but, as that chemist has remarked, "it is interesting to note in this connection that if we subtract a benzoyl residue from Abel's formula for epinephrin—$C_{17}H_{15}NO_4$—we obtain a formula—$C_{10}H_{10}NO_3$—which is not far removed from that of adrenalin." Such a result is not due to chance and could have been obtained only from the study and analysis of chemical individuals.

Next came the brilliant researches of the chemists, Dakin, Jowett, Pauly, Friedmann, Stolz and Flächer which have finally culminated in the synthetic production, first of the racemic and now of the levogyrate form as produced by Nature herself. Thus by utilizing the combined labors of physiologists, pharmacologists, biologic chemists and organic chemists has science again unravelled one of Nature's secrets.

The Council on Pharmacy and Chemistry of the American Medical Association has lately adopted[21] the name epinephrin for the active principle of the suprarenal glands in preference to using a commercial or protected name and it is for this reason that I am using the word in this paper instead of epinephrin hydrate, a name which I have had to abandon and which I proposed with the idea of bringing the free base as isolated by Takamine and Aldrich into line with my monobenzoyl epinephrin.

As already indicated the fine green color produced by the addition of ferric chlorid to a solution of the crude poison of our toad together with the fact that such a solution finally turns pink when exposed to the air and that it exerts a powerful vasoconstricting action sufficed to show that we had discovered a substance closely allied to, if not identical with the epinephrin of the suprarenal glands. The results of additional tests made with solutions of the crude venom confirmed this conclusion. For example, the addition of ammonia or other alkali brought out a fine pink color which appeared instantly and was intensified by the addition of a trace of iodin or other oxidizing agent, and on boiling with Fehling's solution or with ammoniacal silver nitrate solution reduction of both solutions occurred promptly.

Two methods of isolating the newly found substance were employed, only one of which will here be outlined. From 6 to 15 gm. of the air-dried venom were rubbed up with water until a thin, foamy, opalescent solution, or rather emulsion, was obtained. This was repeatedly shaken with fresh quantities of a mixture of ether and chloroform (1 : 4) by which means the digitalis-like body was removed. The solution was then diluted with much water, whereon the mucoid and other contaminating substances were quickly removed by precipitation with basic lead acetate and the pinkish filtrate was immediately treated with hydrogen sulphid, freed from the precipitated sulphid of lead and concentrated to a small bulk under diminished pressure. The above operations from the moment of adding the solution of basic lead acetate to that of introducing the sulphuretted hydrogen must be carried on with great celerity, as otherwise there would be danger of injuring the epinephrin, since the filtrate unavoidably becomes slightly alkaline. Then too, the precipitation with basic lead acetate must be undertaken with highly dilute solutions of the venom only, as otherwise too large an amount of epinephrin will be retained in the precipitate of inert substances. When the filtrate, which has been freed from lead sulphid, has been sufficiently concentrated by distillation under diminished pressure it is only necessary to add ammonia to obtain the epinephrin in crystalline form. By dissolving in acetic acid, adding a small amount of sodium sulphite and again precipitating with ammonia, a very pure, ashless and almost colorless product is obtained.

The results of combustion analyses with products obtained in this way are as follows:

I Product Analyzed After Second Precipitation; No Sulphite Used.	II Product Analyzed After Third Precipitation; Sulphite Used.	III Theoretical Requirements for Formula, $C_9H_{13}NO_3$
C = 58.02	C = 58.68	C = 59.02
H = 6.87	H = 7.56	H = 7.10
N = 7.88; 7.88		N = 7.65

It will be seen that the analytical results here given, especially those obtained with the more highly purified preparation, stand in good agreement with the theoretical requirements for the accepted formula and prove that the elementary composition of the epinephrin from the toad is identical with that found in the suprarenal glands of the higher animals.

Like the principle obtained from the suprarenal glands, *Bufo* epinephrin turns the plane of polarized light to the left. Epinephrin (0.078 gm.) obtained from our toads and three times crystallized, when dissolved in 8 c.c. of water acidulated with acetic acid containing a trace of sodium sulphite, gave a polarimetric reading of —1.00 degree in a two decimeter tube with sodium light, whence:

$$[\alpha]_{D}^{20^\circ} = -51.30^\circ, \text{ the specific rotation.}$$

This rotation is in perfect agreement with that obtained by Flächer[22] (—51.40°) with the highly purified natural product, and differs from that obtained by Abderhalden and Guggenheim[23] for the synthetic levo-product by the error of the instrument only.

In regard to its physiologic activity—we need only state that the *rapid* injection of so small a quantity as 0.000004 gm. (1 c.c. of a 0.0004 per cent. solution) into the femoral vein of a dog weighing 6 kg. caused a rise of blood-pressure amounting to 20 mm. of mercury as measured in the femoral artery and that the injection of 0.000008 gm. (2 c.c. of a 0.0004 per cent. solution) caused a rise of 26 mm. The physiologic activity of the substance is seen, therefore, to equal that[24] of the purest specimens of epinephrin that have been hitherto isolated.

It may also be stated that this epinephrin acts promptly as a vasoconstrictor when applied to the bloodvessels of the toad from which it is derived. In other words, the animal has not acquired an immunity against this poison; small hemorrhages in this toad are as easily controlled by a local application as in other animals, and when a pithed toad is perfused with Locke's solution containing a small amount of the new epinephrin, its arterioles are found to be just as responsive to the drug as are those of the frog (*R. clamata* or *pipiens*). So, also, dilatation of the pupil is as easily produced in the excised eye of the toad as in that of the frog.

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[18] Von Fürth: Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1899-1900, xxix, 105.

[19] Takamine: Therap. Gaz., 1901, xxv, 221; Am. Jour. Pharm., 1901, lxxiii, 523.

[20] Aldrich: Am. Jour. Physiol., 1901, v, 457.

[21] Proprietary versus Unprotected Names, The Journal A. M. A., March 25, 1911, p. 910.

[22] Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1908-1909, lviii, 189.

[23] Ztschr. f. physiol. Chem. (Hoppe-Seyler's), 1908, lvii, 329.

[24] Schultz, W. H.: Bulls. 55 and 61, U. S. Pub. Health and Marine-Hosp Service, Washington, D. C.

It is seen, therefore, that the results obtained by chemical analysis, by the use of the polarimeter, by quantitative and qualitative physiologic experiments have demonstrated conclusively that the substance isolated by us from the poison glands of *Bufo agua* is identical with that produced by the suprarenal glands of the higher animals.

PERCENTAGE OF EPINEPHRIN CONTAINED IN THE VENOM

It is of interest to learn how large an amount of epinephrin may be isolated from a certain weight of the crude venom. Thus, from 5.42 gm. of venom, weighed one hour after it was squeezed out of the glands, we obtained 0.243 gm. of crystalline epinephrin, a yield of 4.48 per cent. On the assumption that we obtain by this method only about two-thirds of the epinephrin actually present in the crude venom the true content of epinephrin would be nearly 7 per cent. (6.72 per cent.). Judging from other experiments in which the yield was somewhat smaller, we conclude that the secretion probably varies in its percentage of epinephrin with the season of the year and other circumstances. But as the method of isolation is not, strictly speaking, a quantitative one, exact statements as to the variability of the epinephrin content cannot be made.

If we assume that the venom as secreted by the animal contains from 20 to 30 per cent. of water there would still be present, in accordance with the above analysis, about 5 per cent. of epinephrin. In comparison with this we would recall that one[25] of us estimated that the amount found in the suprarenal glands of beeves is 0.3 per cent.

We would here state that we propose to examine the poison glands of this toad by histologic methods for the presence of the so-called chromaphil tissue, a tissue that has hitherto only been found in structures that elaborate epinephrin, and we hope also to examine the skin secretion of other species of toads for epinephrin, as we suspect that this principle is not confined to the poison glands of *B. agua*, but is probably to be found in the skin glands of other toads and perhaps also in those of other amphibia.

THE PRESENCE OF BUFAGIN IN THE SECRETION OF THE POISON-GLANDS

It has already been intimated that the venom of *B. agua* owes its efficacy as an arrow poison in a large degree to the presence of a digitalis-like substance, although the large amount of epinephrin present is an important auxiliary in this action. And it is to the former constituent or to substances closely allied to it, such as have been described by Faust,[26] that toadskins owe their efficacy as a cure for dropsy, a method of treatment which would perhaps still be in vogue had not William Withering, in 1775, introduced for this very purpose the foxglove, the active constituent of an old wives' remedy. Now that science has begun to study the ancient remedy, toadskin, we may confidently expect further discoveries in this field, possibly with results of value for practical medicine.

We have named the digitalis-like substance "bufagin" in order to have a short term sufficiently indicative of its origin.

AMOUNT OF BUFAGIN PRESENT IN THE VENOM

Quantitative experiments have shown us that 0.734 gm. of bufagin correspond to 0.1 gm. of epinephrin present in the venom, and that if the epinephrin content is 5 per cent. we may assume that the venom as secreted contains not far from 36 per cent. of bufagin.

METHOD OF ISOLATING BUFAGIN

It is not difficult to isolate bufagin from the crude venom. The poison is extracted from its solution in water by shaking with a mixture of ether and chloroform as already stated and the solvents are removed by distillation until only a small bulk of fluid remains. This is then poured into a large volume of petroleum ether which precipitates the bufagin as a white resin while holding the small amount of fatty substances in solution. The resinous precipitate is taken up in chloroform and again precipitated with much petroleum ether, whereon it may be crystallized from absolute alcohol. As bufagin is fairly soluble in this reagent crystallization can only be effected from hot concentrated solutions.

For purposes of obtaining an analytically pure product a slightly more elaborate method was employed, a description of which will be given later in the *Journal of Pharmacology and Experimental Therapeutics*. The product obtained by this method was recrystallized from alcohol and finally from hot water. Bufagin is but little soluble in water (0.0002 gm. to the c.c.), but by dissolving the substance in a small volume of alcohol and stirring this drop by drop into much hot water an aqueous (alcoholic) solution containing 1 gram or more in the liter may be obtained. From such solutions the poison crystallizes in glistening clusters of whetstone-shaped crystals and prisms which often attain a considerable size.

PROPERTIES OF BUFAGIN

As thus isolated, bufagin is found to contain no nitrogen and to consist only of the elements, carbon, hydrogen and oxygen. Its melting point is 188°C. The substance is easily soluble in chloroform and acetone, fairly soluble in absolute alcohol, but only very little soluble in petroleum ether and carbon tetrachlorid and also but little soluble in cold benzene. It is a "neutral" compound insoluble in alkalis or acids and in this respect, as in most of its solubilities, it resembles the bufonin which Faust has isolated from the skin of the common toad.

If a mere trace of concentrated sulphuric acid be added to acetic anhydrid containing a trace of bufagin, a fine pure blue color is at once developed. If the reaction is reversed so that a fragment of a crystal is dissolved in concentrated sulphuric acid and a mere trace of acetic anhydrid is then added a fine pink is obtained which soon passes into a plum color which persists for a long time. With iodin and concentrated sulphuric acid the crystals give a play of colors ranging from red through green to blue, as is seen when cholesterin is similarly treated.

If a dilute solution in chloroform is stratified over concentrated sulphuric acid, a pink to deep red zone develops at the border line between the fluids, and when they are well mixed and then allowed to separate, the chloroform solution gives up all of its color to the sulphuric acid which now shows a greenish-yellow fluorescence.

A preliminary observation shows that bufagin is dextrogyrate. Crystallized from water and dissolved in 8 c.c. of chloroform, 0.160 gm. gave a polarimetric reading of +0.44 degrees in a two decimeter tube with sodium light from which it is seen that the specific rotatory power is

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[25] Abel: Am. Jour. Pharm., 1903, lxxv, 301. See also Hunt, Reid: The Comparative Physiologic Activity of Some Commercial Suprarenal Preparations, THE JOURNAL A. M. A., Sept. 8, 1906, p. 790.

[26] Arch. f. exper. Pathol. u. Pharmakol., 1902, xlvii, 278; 1903, xlix, 1.

$$[\alpha]^{24^\circ}_{D} = +11^\circ$$

Combustion analyses[27] show that the elementary composition of bufagin can only be expressed in the formula, $C_9H_{12}O_2$, or in terms of a multiple of this formula, such as $C_{27}H_{36}O_6$. The following tables give some of our analytical results.

I

Obtained directly from venom, but crystallized from dilute solution in petrol ether + chloroform without any other process of purification.

$C = 70.74$
$H = 8.67$

II

Product obtained by crystallization from alcohol after a preliminary process of purification.

$C = 70.98$
$H = 8.55$

III

Product same as in II, only was further purified by crystallization from water.

$C = 71.07 \mid 70.92$
$H = 8.28 \mid 8.25$

IV

Theoretical requirements for the formula, $C_9H_{12}O_2$ or for $C_{27}H_{36}O_6 = (C_9H_{12}O_2)_3$

$C = 71.01$
$H = 7.95$

It will be seen that our analytical results, especially those obtained with the pure product III, are in perfect agreement with the elementary formula, $C_9H_{12}O_2$ or with some multiple of it as $C_{27}H_{36}O_6$.

The results of a single molecular weight determination by the boiling point method kindly made for us by Dr. E. Emmet Reid in the laboratory of Physical Chemistry in this University, are in favor of the simple formula, $C_9H_{12}O_2$. The molecular weight as calculated from the rise of the boiling point of chloroform (0.144°C. with corrections) with bufagin in solution was 168, whereas that calculated for $C_9H_{12}O_2$ is 152. The determination was not thought to be entirely satisfactory because of the rather limited amount of pure substance (0.578 gm. bufagin in 87.2 gm. $CHCl_3$). Should molecular weight determinations in other solvents substantiate the value here given, it would appear that we are dealing not with an oxycholesterin as we at first surmised, but rather with an oxyproduct of a cholesterin nucleus, for certainly the chemical and physical properties of the substance point to an undoubted and intimate relationship with cholesterin from which there is no escape.

Cholesterin, $C_{27}H_{46}O$, is a monatomic alcohol found in all protoplasmic structures. It is a fairly large constituent of the nervous system, of sebum and other oily secretions of the skin, of bile and other fluids and tissues of the body. Of late years this substance has begun to play a large rôle in the studies on immunology and serology and the problem of unraveling its complex chemical constitution is now absorbing the attention of a number of organic chemists.

Our studies above outlined would lead one to surmise that bufagin is a depolymerized oxycholesterin. When the two molecular formulas, $C_{27}H_{36}O_6 = (C_9H_{12}O_2)_3$, and $C_{27}H_{46}O$ (cholesterin), are compared it is seen that in the former five atoms of oxygen have taken the place of an equivalent ten atoms of hydrogen in the latter. So also a relationship is indicated between our substance and the saturated hydrocarbons α- and β-cholestan, $C_{27}H_{48}$, obtained from cholesterin by Diels and Linn.[28] We are not aware that the molecular weight of these cholestans has been determined, but if we assume for them the lowest possible molecular formula, C_9H_{16}, then here again we come to the formula for bufagin, $C_9H_{12}O_2$, if we substitute two atoms of oxygen for four hydrogen atoms.

The substances bufonin, $C_{34}H_{54}O_2$, and bufotalin, $C_{34}H_{46}O_{10}$, which Faust has isolated from the skin of the common toad, are no doubt also cholesterin-like bodies, as that investigator has suggested, but their relationship to cholesterin is not so immediately apparent as in the case of bufagin, nor can it be expressed in terms of a quantitative replacement of one element by another.

PHARMACOLOGIC ACTION OF PURE BUFAGIN

As this communication has already exceeded the limits of an ordinary "preliminary" paper, we shall not here offer a detailed account of our numerous experiments on the pharmacologic action of this newest member of the "digitalis series", but will content ourselves with a bare statement of our work in this field. We have already said that the substance exerts a vasoconstrictor action when an aqueous solution is applied to the conjunctival sac. This action is also well demonstrated in perfusion experiments with the pithed frog or with the pithed toad, *Bufo agua*, only that in this case a large dose of bufagin is required since the toad shows a high degree of immunity towards its own poison. Injected intravenously into a decerebrate cat whose spinal cord is destroyed, a pronounced rise of the pressure is obtained.

The marked action of bufagin on the heart, its vasoconstrictor action and its powerfully stimulating action on the cardio-inhibitory centre (an action which is completely annulled by section of the vagi and by atropin) compel us to class this drug with the most effective members of the digitalis series. In two out of six experiments on dogs, in which large quantities of the drug were injected intravenously and in which heart standstill was induced, this organ was found on opening the chest, to be firmly contracted in systole. Stoppage of the heart in systole in mammals after bodies of the digitalis series is an uncommon experience in our observation except in experiments in which the organ is transfused by the Langendorff method,[29] and we make mention of the fact here as an evidence of the marked action of bufagin on the heart muscle. A more detailed comparison with other members of the digitalis group will be given later, as we propose to continue our chemical and pharmacologic studies with this drug.

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[27] Complete data for these analyses will be given in a later paper.

[28] Ber. d. deutsch. chem. Gesellsch., xli, 544.

[29] Gottlieb and Magnus: Arch. f. exper. Pathol. p. Pharmakol., 1904, li, 30.

EQUIPMENT AND INSTRUCTION OF THE LABORATORY YEARS [*]

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Before attempting to discuss the subject set before us, it may be well if we agree as to the function of a medical school, and as to the aim of all of us who devote our lives to medical education. In an address last year, Dr. Welch[1] said that our object was "to make good doctors." Professor Minot,[2] in his Washington University commencement address, gives a more exact formulation in these words: "The chief function of a medical school is to produce practitioners." Whichever definition we prefer, we doubtless agree on the main idea; and I ask you, therefore, to bear in mind that our purpose is to make or produce something, and that something is a good physician or practitioner.

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[*] Read before the seventh annual conference of the Council on Medical Education of the American Medical Association, Chicago, March 1, 1911.

[1] Proceedings of the Association of American Medical Colleges, 1910, p. 62.

[2] The Journal A. M. A., 1909, liii, 502.

THE FIVE NECESSARY FACTORS

The making of something implies five factors: (1) raw material; (2) a model or pattern (which of course may be either substantial or existing as an ideal in the mind of the workman); (3) men to do the work; (4) a place to work in and tools to work with; (5) time to do the work. The results may be bad from failure in any of these points.

Our frequent considerations of entrance requirements and qualifications of students show our interest in raw material. Our time-consuming studies of curriculum and equipment give evidence that we are concerned with tools and place of work. Our occasional weak efforts to determine who are qualified instructors indicate our interest in workmen. Our discussions of four-year, five-year and six-year courses reveal our recognition of the time factor. While our very discordant ideas as to what constitutes a "good physician" show how little we have considered the model or pattern in our educational manufacturing establishment.

WHAT CONSTITUTES A GOOD PHYSICIAN?

What is a "good physician"? Is he that lovable figure of the "Bonnie Briar Bush," "Old Chester Stories" and other contemporaneous fiction? I am sure most of you would say "No." Is he the hermit of the test-tube, incubator and centrifuge? Being that kind of a hermit, I will save you the trouble by answering "No." Is he the physician (too often found in medical faculties) of extensive clinical training, who ridicules the laboratory and says the microscope has no place in medicine? Some of you will reply in the negative. Is he that combination of assumed dignity, bombast and hair who glances at your tongue, feels of your pulse, and remarks to himself "I've got this fellow bluffed to a standstill"? We are all agreed that it is not he. But we cannot agree exactly what a "good physician" is. Some will say "practical," some will say "scientific." Some will say "knowledge"; some will say "heart."

In proposing to discuss the topic assigned to me from the standpoint of the pattern or model, I shall not attempt, therefore, the task of formulating in words all the qualities of a "good physician." Some of them fortunately are on the surface and do not need a psychologist's analysis, or a philosopher's logic, or a novelist's rhetoric.

ACCURACY IN OBSERVATION

First, the "good physician" must be an accurate observer. His senses must be trained and alert. Eye, ear and finger must be sensitive and connected with a brain which is quick to recognize and discriminate. Dr. Minot, in the paper already quoted from, has discussed this matter fully and convincingly. He points out the difficulties and limitations of accurate observation; some of them connected with our imperfect sense organs; most of them, with our imperfect mental processes. I cannot go into detail here, but the upshot of the matter is that the good observer is partly born and partly made. The former moiety belongs to our raw material and need not be considered here. The latter is of immediate interest, for we know that the power of observation can be cultivated. It improves by practice. Next in importance is skilled direction or instruction.

All of the studies of the fundamental years are suited to develop observation. Anatomy more than the others is adapted to this end. In my judgment, its presence in the curriculum is chiefly justifiable on this account, rather than from its supposed practical value. Anatomy is concerned with a great variety of complex structures, whose materials, textures, forms, sizes and relationships constitute observational material of the most alluring variety and complexity. Moreover the student always feels that the subject is of practical importance, and this adds an element of interest on the part of the learner which gives to anatomy a value for the training of observation even greater than that afforded by its peculiar material and methods.

IMPORTANCE OF CROSS-SECTIONS

I feel that for the purpose we are discussing, namely, the developing of powers of accurate observation, the study of cross-sections of the body is of greater value than dissection. No doubt each supplements the other, but the study of structures from section to section with their variations, appearances, disappearances and relations must be of great influence in stimulating the power to visualize or, as some anatomist has put it, to see the body as if it were transparent, a power so necessary to the physician and surgeon and so impossible of acquisition except on the basis of accurate observation in the anatomic laboratory.

MICROSCOPIC ANATOMY

Like gross anatomy, microscopic anatomy in its various divisions, such as histology and embryology, is chiefly an observational science. Here we introduce the use of instruments of precision as an aid to observation The microscope is of the utmost importance, not on account of the immediate facts revealed, valuable though these are; nor on account of its use in diagnosis, indispensable though this should be; but chiefly because of the relation in which it places the observer with respect to the objective world. The space sensations connected with binocular vision and accommodation do not help him. The third dimension can only partially be supplied by focusing. If he is to get any idea of solidity and relationship, he must be able to visualize. He must add field to field and place section on section *in his mind*. If I may parody an old adage, he must mix his seeing with brains. Indeed the mental effort must here be inevitably the larger part of observation. Microscopic anatomy is justified on this basis if no other.

NOT TO KNOW MUCH, BUT TO KNOW A LITTLE WELL

If now it is true that anatomy is chiefly to be considered as an aid to the development of accurate observation, we immediately see the futility of hasty and careless dissection and of short perfunctory courses in histology. They defeat the very end for which these studies should be undertaken by substituting hazy impression for accurate observation; carelessness and error for thoroughness and truth.

What is true of anatomy in the above respect is true of every other science so far as the development of observational power is concerned. I think, therefore, that we have a scientific basis for the belief that it is not number of facts that we should attempt to demonstrate, but rather perfect observation and understanding of a few. Nor should we favor a multiplicity of short courses of study. Intensity and accuracy should be our watchwords, rather than breadth and general impression. If one is turned rapidly in a circle, a thousand images flash across the retina, yet one sees nothing. It is those images that are dwelt on and repeated and studied that remain and strengthen our powers and become a part of ourselves.

TEACHING AS A PROFESSION

If it be true that observing power is a chief characteristic of the "good physician," and if it be true that anatomy constitutes an excellent and probably the best training for acquiring this power, and if it be true that particular instruction and supervision are necessary, then it is perfectly evident that proper regard for the product of our educational establishment will make us provide expert workmen in gross and microscopic anatomy. If a man knows what to see in the human body, how to see it and how to bring others to see it, he has enough to keep him busy. He has no time to become competent in another trade or profession. He cannot drive a street car or conduct a real estate business or practice medicine. Hence, we have the argument, from the standpoint of a good "output," for the anatomist who shall give his whole time to the medical school.

ESSENTIAL EQUIPMENT

The same arguments that make necessary the professional anatomist make equally indispensable: (1) a proper place for him to work, which means not only teaching laboratories but also research rooms; (2) proper material for teaching and study, which means cadavers, microscopic preparations, embryos, animals, etc.; (3) proper equipment, which means microscopes, microtomes, models, photographic and projection apparatus, books, periodicals, etc.; (4) proper help, which means janitor service, technician, artist, etc. (on the universally acknowledged economic principle that it does not pay to have a high-priced man do low-class work).

We are driven by all the foregoing to conclude that an institution is failing in its regard for its "output"—for its "model," the "good physician"—when it fails properly to provide for the anatomic sciences.

KNOW HOW TO EXPERIMENT

Besides being an exact observer, the "good physician" must be, in my opinion, a trained experimenter. In regard to this statement there may be diversity of opinion. When I read it first to my wife, she said, "What I want is a doctor who *knows*. Let him experiment on other people. I want him to have his experimenting all done when he comes to me." Doubtless this expresses very well the general attitude of the lay mind; and this attitude may be responsible for the ultra conservatism of medicine. The doctor is afraid of being accused of experimenting with his patients. Nevertheless he is always doing so; and in the present lack of knowledge he must experiment, at least in treatment, whether he wishes to or not. I should perhaps add that by experiment I do not mean the use of some new drug or surgical procedure. If the physician tries the effect of rest, or baths, or gymnastics, or deprivation of coffee, it is just as truly an experiment as a first injection of "606."

The main difference between experimentation and ordinary observation is that in the former the observer controls and varies the conditions. The primary element of observation is just as important as ever, but the equally important element of controlled conditions is added. The mental process is by that addition made more complex. The results, moreover, are more fruitful than those of simple observation, since the experimenter can bring under observation conditions which Nature might never produce.

I said that "good physicians" must be trained experimenters. I believe few are such. Most physicians do not know how to experiment. Their methods are at fault; consequently their conclusions are of little value.

PRINCIPLES OF EXPERIMENTATION

The first principle of experimentation is to vary but one factor at a time. If the physiologist is studying the effect of load on muscular contraction, he does not, at the same time that he changes the load, also change the temperature and the stimulus and the speed of the recording apparatus. But I have seen a physician make all the following changes at one time: (a) put a patient in bed, (b) restrict his diet, (c) give a saline cathartic, (d) give some drug. Then he concludes that the patient's changed condition is due to the drug. This may be true, but the conclusion is not warranted from the experiment.

The second principle of experimentation is repetition. There may be an unrecognized factor. Therefore, no conclusion can be of general application unless the experiment is repeated many times with like results. Of course this is the method of inductive logic in general; but I have frequently heard physicians remark: "I never use so and so. I tried it once and it didn't give good results." This is absurd.

The third principle of experimentation is that the results to be of most value must be quantitative. The practicing physician has hardly made a beginning in the use of this principle.

THE EXPERIMENTAL SCIENCES

The sciences which are preeminently experimental are physics, chemistry, physiology, pharmacology and bacteriology. Each of these, like anatomy, has a large demand for pure observation and is valuable for developing that power. In addition, each asks for experiment. Their general principles are alike, but each has a technic of its own. Physics lends itself most easily to the quantitative method. Chemistry and bacteriology furnish valuable aids to diagnosis, but are distinctively *in vitro* as to method. Physiology and pharmacology, on account of their use of living material for experimental purposes, come especially close to medicine, not only in subject matter but also in method.

What I have said regarding observation and anatomy applies equally well to experimentation and to the sciences just mentioned. If the "good physician" should be an experimenter, surely as a student he must learn to experiment. Learning is by doing. He must learn under those who know how to experiment and how to teach that art. This argument leads inevitably to the professional bacteriologist, chemist, physiologist, pharmacologist. Only that man who is specially trained in one of these sciences, who has done and is doing research in it and who is devoting his whole time to it can teach it to the best advantage.

The same arguments as formerly made also apply regarding equipment and facilities. A chemical laboratory with a place and apparatus and material for each student and rooms and equipment for the staff; physiologic and pharmacologic equipment and laboratories for students and staff; an animal house and living material; technicians and janitors (again on the basis that an institution or factory or railroad is unwise which compels a five thousand dollar man to do the work which a five hundred dollar man can do as well or better); bacteriologic equipment including proper space, instruments and materials for the use of instructors and students; books and periodicals, and places to keep and use them—all these must be provided if the institution has a proper regard for its output, a "good physician."

A "GOOD PHYSICIAN" MUST REACH ACCURATE CONCLUSIONS

To the powers of observation and experimentation the "good physician" must add that of sound conclusion or correct interpretation or good judgment. This means the bringing of facts together and the determination of relationships. It means the recognition of cause and effect. Doubtless the psychologist would further subdivide the mental functions involved. But for our purpose the above will suffice.

Now, it is evident that you cannot make a sound conclusion without the facts, and these are gained by observation, with or without experiment. It is equally evident that an isolated fact is barren and dead. Facts are like the cells of a complex animal, all interrelated, mutually affecting and affected. The hormones or internal secretions constitute a fitting metaphor for those relationships which the power of correlation discovers between the isolated results of observation and experiment.

TRAINING VALUE OF PATHOLOGY

All scientific studies tend to develop this power of interpretative judgment, but not all to the same extent. The dynamic sciences, such as physiology, are more valuable than the static sciences such as anatomy. But perhaps the best for the purpose, at least so far as the making of physicians is concerned, is pathology. At any rate I have reserved this science to illustrate this phase of my thought.

Here we have a pathologic condition. The normal appearance, structure, relation, should be such and such. It should function so and so. How and why did this change come about, and what and how far-reaching may be its results? The entire keyboard of observational science, almost, may here be played on: physics, chemistry, zoology, botany, anatomy, histology, physiology, bacteriology. And just as in music the harmony or dissonance depends on how the notes are chosen and blended, so the soundness or unsoundness of conclusions depends on how well facts have been determined and how truthfully their relations have been perceived.

Wholly apart, then, from the significant facts which it presents—in other words, its subject-matter—pathology is justified in our curriculum on account of the training it affords in one of the indispensable mental qualities of the "good physician." The physician without sound judgment, which means without the power of scientific deduction, is indeed a very bad physician. You catch again the drift of my argument. We must supply a professional pathologist who shall devote his best efforts, in conjunction with those other scientists already mentioned, to building up the students' mental machinery for orderly and logical reasoning.

Just as in the former cases, here also, while the man is of first importance, he cannot do good work without proper surroundings and proper equipment. You must not only furnish the pathologic laboratory and library, but also, and more important, you must secure such hospital connections as will guarantee ample autopsies and supplies of material for gross and microscopic study. You must give the pathologist proper help for the best conduct of his department. You are not having proper regard for your "model" or your output, the "good physician," if you disregard these important matters.

FUNDAMENTAL SCIENCES SOURCES OF POWER

So far I have considered three traits of a properly trained medical practitioner, power of observation, ability to experiment, and sound judgment. I have attempted to prove that the fundamental sciences, wholly apart from their subject matter, are justified in the medical curriculum as sources of power. I have tried to show that they must be taught by professional scientists and not by practicing physicians. I have pointed out that proper laboratories and equipment must be provided, and that to curtail your departments in material and help is narrow business policy. There are a few practical conclusions from these premises which I wish now to present.

NEED OF THE RESEARCH PROFESSOR IN THE LABORATORY

If the sciences are to be taught for power rather than subject-matter, we have, as I have said, the unanswerable argument for the research professor in charge of each scientific department. He alone thoroughly understands the scientific method. How absurd, if this is true, is that frequent arrangement in which the professor lectures and the untrained or half-trained assistants conduct the laboratory work! Laboratory instruction conducted from the standpoint of scientific method is the most difficult form of teaching. Too often, as Dewey[3] well says, laboratory practice becomes purely ritualistic; such and such forms to go through; such and such demonstrations of manual dexterity to be secured. This degeneration of laboratory teaching is due largely to that laxity and short-sightedness which permit its being turned over to secondary instructors. Better by far, if either must be done, is to have the assistant give the lectures and the professor the laboratory instruction, rather than the reverse.

ESSENTIAL LABORATORIES

Secondly, I have spoken of student laboratories. A little reflection shows that these are of four kinds, each concerned with a different material and provided with a different type of equipment. The first is concerned with the human cadaver. The equipment is simple and for a variety of reasons the rooms must be restricted to the one use only. The second type of laboratory is adapted to chemical experimentation. The requirements of heat, water, numerous reagent bottles and considerable individual equipment, as well as the unavoidable fumes and waste products, make it inadvisable to use this laboratory for any other purpose than the teaching of chemistry. The third type of laboratory centers around the use of the microscope. Appropriate tables, abundant light, and individual microscopes are indispensable. The same room may serve for microscopic anatomy and pathology and, with some additional equipment, for bacteriology. The fourth type of laboratory is adapted to physiologic experimentation. It may also be used for pharmacology.

GOOD TEACHERS RATHER THAN FINE BUILDINGS

A medical school which has four good laboratories for students' use should spend its superfluous cash on men rather than buildings. I have no sympathy with that condition which I recently saw in one of our great medical schools where six magnificent laboratories are used only three mornings or three afternoons a week for four months of the year. I admit the advantages of good architecture and fire-proof construction and modern ventilation, but I contend that in some places departmental pride and too abundant funds have led to a multiplication of laboratories which is not justifiable. That all the ideas of industrial efficiency cannot properly be applied to universities is readily recognized, but every new building means more money for maintenance and less for men. In our line of business, to use a slang expression, the man is the "whole works," which is really but another way of saying "teacher at one end of a log and student at the other." One log will do for several teachers, if used at different times of the day or different days of the week or different months of the year.

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[3] Science, Jan. 28, 1910, xxxi, 121.

Thirdly, regarding equipment, if proper instructors are secured, you can leave the details to them. You remember the advertisement of the house-furnishing concern, "You get the girl, we will do the rest." The medical school may well be advised to get the man and he will do the rest. Getting the man, too, is as serious a matter for the school as getting the bride is for the swain for whom the advertisement was originally intended.

It was once remarked that, if you give Jacques Loeb a collar-box and a piece of string, he will make a discovery. On the other hand, I know a man who three years ago could not do any work because his Edinger apparatus had not come; two years ago he was waiting for material from Java; last year he found he needed a dark-stage illuminator and a micropolariscope. Now he is waiting for a new laboratory building. These extremes illustrate the man and equipment proposition better than many paragraphs of theory.

TEACHERS MORE IMPORTANT THAN EQUIPMENT

For our friends the state boards we may respectfully suggest that they spend more time in trying to find out whether the medical schools are properly manned, and less in making lists of apparatus which may or may not be used. I once tramped to the top floor of our medical college in order to demonstrate to an inspector that we have a perimeter; and when I showed it to him in a case with other instruments, I am willing to take oath that he was either cross-eyed or else he looked at the wrong thing. This same man did not ask how many paid professors we have, nor what their training and experience have been, nor whether we are doing any original work, nor what the annual budget is. But he did inquire what we were doing with those dogs in a medical school. And he did naively remark when I showed him the pathologic outfit: "Ah, your chemist is in charge of this work?"

Most humiliating of all—but whether for me or him I know not—was his inquiry after consulting his typewritten list whether we had a "bakoscope." I took a glance at the list to make sure I had heard rightly. It was there, "BAKOSCOPE"; and unwilling to admit that I didn't know of such an instrument, I regretfully confessed that we did not have one. I think the investigator took some satisfaction in noting this fact on his report. It was not until some days later that it dawned on me that this probably should have read "phakoscope." But of course my native modesty, up to this time, has prevented my informing the gentleman of this supposition. For the information of certain captious individuals I should, perhaps, add that the inspector in question was not Mr. Flexner or Dr. Colwell.

THE PHYSICIAN'S INFLUENCE

Coming back now to my main theme, it seems to me that the qualities of accurate observation, correct experimentation and logical conclusion are the ones which the physician must depend on for success in the practical part of his profession. They are the attributes of a good technician. But the physician is more than a technician. He stands in the most intimate private relation to his patients. The nature of his work contributes to his influence on the social order. Other men in their professional and business life are apart from society. Only in their leisure hours are they affecting the life of other people, and then not intimately. The physician's influence is always being exerted, and is always direct and potent.

THE "GOOD PHYSICIAN" A MAN OF CHARACTER

Now, the psychologic qualities bearing on this side of the physician's life are many and varied. Professor Minot[2] considers that loyalty is the trait which is most essential. But I prefer to join all the qualities of loyalty, sympathy, promptness, honesty, discretion, firmness and many more into the one quality—character. We are agreed that the good physician must be a man of character. Now character, like everything else, seems partly hereditary and partly acquired. The hereditary element, as also the early acquired, concerns our raw material. We are justified in rejecting and must reject any applicants who give evidence of defective character. That is, however, a hard problem and not for discussion to-day. The question here is, what can we do for the upbuilding of character in the medical school? I take it that this is a most serious question. Under our control and direction come a multitude of young men, many of them just from their homes for the first time and all of them pointed toward a profession whose influence reaches the very fountains of human life. We cannot, if we would, avoid responsibility for the character of these men.

But how can we influence them? They are at that age when the unfettered soul dips into life in all directions; that age whose impelling powers determine lines of progress for a lifetime; that age which examines and tests and questions all things whether material or intellectual. You cannot do much with these men by talk. A preacher in a medical school would need the rarest tact not to be worse than useless. I take it that our young men are influenced most by those whom they admire. These they imitate unconsciously.

THE BEST TEACHER A MAN OF CHARACTER

The point I am driving at is that your medical teacher must be a man of character. He must be a man to whom young men will be attracted and whom they may safely imitate. The scientific attitude of mind with its rigid adherence to truth supplies a basic condition of character; and that is why professional scientists and the scientific atmosphere are especially influential on the character of medical students. But other things are necessary. I would not have a teacher who is habitually profane. Not merely because profanity is wicked, but because it does not conduce to the "good physician." I would not have a man whose lectures are chiefly or even partially made up of coarse stories. I would not have as an instructor in a medical school a physician who all the time emphasizes the financial aspects of his profession.

My thesis is that character is the *sine qua non* of the "good physician," and that the principal way we can influence the medical student, who is a physician in the making, is by surrounding him with characters worthy of imitation. Consequently, the character of a medical teacher is a matter for the gravest consideration. Unless you take cognizance of this you are not having regard for your output, a "good physician."

RECAPITULATION

To recapitulate, we as medical teachers are engaged in manufacturing. Our product is physicians, and they ought to be "good physicians." A "good physician" is a man of character, who possesses the technical qualifications for accurate observation, properly conducted experimentation and sound interpretation. For the acquisition of the traits mentioned no discipline is better than that furnished by the fundamental medical sciences. The sciences therefore should be taught as method rather than subject-matter.

We must furnish for this purpose skilled professionals; in other words, investigators. We must give them places for work; that is, laboratories. We must furnish equipment; that is, tools and books. We must select good raw material and leave it in the hands of the workmen long enough to enable them to produce good goods. If we do not do these things we are not conducting an honest business. Our product is a cheap and deceptive imitation. Our graduate is a counterfeit, and we have not even the counterfeiter's excuse that we need the money, for there is no longer any money to be made in medical education.

ENTRANCE EXAMINATIONS *

THOMAS S. FISKE, Ph.D.
Secretary of the College Entrance Examination Board
NEW YORK

I consider it a great privilege to be permitted to attend this conference and to speak before it in connection with questions that are so important as the requirements for admission to the study of medicine or the methods of enforcing such requirements.

I shall endeavor to show you that the medical colleges of the United States may in a way derive much valuable assistance from an educational institution which within the last few years has begun to exercise an important influence on education in every part of the country; I mean the College Entrance Examination Board.

I will not advocate that everyone who wishes to study medicine should be made first to pass an examination. There are undoubtedly certain classes of men who may be admitted to the study of medicine with comparative safety on the basis of credentials or certificates.

ACCEPTABLE CREDENTIALS

Everyone will agree that a man who is a graduate of a good college and who can produce documentary evidence that, in addition to having acquired the fundamental elements of a liberal education, he has studied such necessary preliminaries as physics, chemistry and biology may be admitted without further formality to the study of medicine. Many will urge that a man who has completed only a part of a college course and who can show that he has pursued courses in such subjects as physics, chemistry, and biology should be admitted to a medical college without examination. Many others again believe that a candidate from an accredited high school who has completed a four-year high school course in which the subjects already mentioned have been included should be admitted without examination. The North Central Association of Colleges and Secondary Schools, the New England College Entrance Certificate Board and other similar organizations have prepared lists of accredited high schools whose credentials are accepted as a basis for admission by many colleges and universities.

CANDIDATES REQUIRING AN EXAMINATION

In addition to such candidates as those whom we have just considered, a very great number of young men every year demand the privilege of being admitted to the study of medicine. In this number will be:

(1) College men and high school graduates whose credentials do not cover all of the necessary preliminary subjects.

(2) Candidates from unaccredited institutions: that is from colleges or schools which for one reason or another have not been accorded the privilege of issuing acceptable certificates.

(3) Candidates of irregular preliminary training, such as those who have been prepared by private tutors, have studied in correspondence schools or in extension courses, or who are self-taught. In this irregular class will be included naturally all students who have attended accredited high schools without completing the school course, or whose work has not been sufficiently good to entitle them to certificates.

It follows that even though a medical college adopt the plan whereby credentials are regularly accepted as a basis for admission, it will have occasion to apply an examination test to a considerable proportion of its candidates for admission. In fact, I will go so far as to assert that no certificate system of admission can be administered efficiently unless it is associated with or supplemented by an examination system. A certificate should be given by a school only when the candidate is plainly entitled to it. In every case of doubt the candidate should be made to prove his worth by means of an examination.

WORK OF THE COLLEGE ENTRANCE EXAMINATION BOARD

An examination system of national scope, open to all, is provided by the College Entrance Examination Board. This board was organized in 1900 under the auspices of the Association of Colleges and Preparatory Schools of the Middle States and Maryland. In 1902 its membership was extended to New England under the auspices of the New England Association of Colleges and Preparatory schools, and in 1903 its membership was extended to colleges and secondary schools in all parts of the United States. In 1910, the tenth year of the board's existence, it conducted examinations in nearly 200 cities and examined almost 4,000 candidates for admission to seventy-one colleges and universities. It is of interest to note that more than one-half of the candidates examined sought admission to institutions which regularly admit students on the so-called certificate plan. These candidates, however, were unable to present certificates, or if they did, their certificates could not be accepted under the rules of the institutions concerned. In the list of institutions which for one reason or another last year required candidates to take examinations under the College Entrance Examination Board appear the names of several medical colleges. I may mention the Long Island Medical College, the Jefferson Medical College, the Cornell University Medical School, and the College of Physicians and Surgeons of Columbia University.

I cannot refrain from availing myself of the opportunity to set forth in a few words some of the fundamental principles which characterize the College Entrance Examination Board and its work.

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* Read before the seventh annual conference of the Council on Medical Education of the American Medical Association, Chicago, March 1, 1911.

COOPERATION BETWEEN SCHOOL AND COLLEGE

Standing at the point of contact between the secondary school and the college, the board recognizes as first in order of importance the principle of cooperation between school and college. The board represents a cooperation between the colleges on the one hand and the secondary schools on the other in respect to a matter of vital importance to both. Not only the colleges, but also the secondary schools should have, and do have, a voice both in framing and administering the policies of the board.

UNIFORM REQUIREMENTS

In the second place, the College Entrance Examination Board does not itself assume power or claim a right to formulate definitions of the requirements for admission to college. Those definitions that have been adopted by the board have been drawn up and recommended by representative bodies of teachers recognized as having authority to speak for the subjects concerned. As a result, the requirements adopted by the board possess the two important characteristics of uniformity and stability. They can be altered only when the desirability of change has been approved by a properly representative body of teachers; and any change which is made applies equally to all institutions.

COLLEGE RETAINS ITS INDIVIDUALITY

In the third place, while the board represents a combined effort on the part of many colleges, it is provided that no college shall surrender its own individuality. Each institution preserves the right to enforce such standards of excellence as it pleases or to make such allowance as it wishes for character and capacity on the part of students applying for admission. The certificate issued by the board states merely that the holder was examined at a stated time and place in specified subjects, and, as the result of such examinations, received the ratings entered on the certificate. Each college determines for itself what subjects it will require for admission and what minimum rating it will accept as satisfactory.

SUMMARY OF ADVANTAGES

In conclusion, then, permit me to enumerate the following manifest advantages of the examinations held by the College Entrance Examination Board:

1. They are uniform in subject-matter. An examination in a given subject means exactly the same thing everywhere in the United States.
2. They are uniformly administered.
3. They are held at many points, to meet the convenience of students, at one and at the same time.
4. They represent the cooperative effort of a group of colleges, no one of which thereby surrenders its individuality.
5. They represent the cooperation of colleges and secondary schools in respect to a matter of vital importance to both.
6. By reason of their uniformity they aid greatly the work of the secondary schools. If a class is studying a certain subject, it is no longer necessary to divide the class into groups according to the particular institutions for which the students are preparing.
7. They tend to effect a marked saving of time, money and effort in administering college admission requirements.

THE ST. LOUIS HOSPITAL

DOUGLASS W. MONTGOMERY, M. D.
SAN FRANCISCO

The St. Louis Hospital of Paris is one of the oldest seats of medical learning in the world, and it looks it. Most of the buildings are ancient and, as they lack any of the modern architectural improvements, they must be expensive to run. The food, for instance, is transported long distances in large brass kettles. This must be costly, and, besides, the victuals become cold and flavorless before they reach the patient.

As the old buildings fall out of repair, the economical procedure would be to replace them by new ones. The administration, however, does not seem inclined to pursue this course. A notable exception to this state of affairs, however, is the modern building and complete equipment for treating diseases of the skin in the service of Prof. L. Brocq. This is one of the best plants of its kind I have ever seen, and is run to the best advantage by its competent chief and his corps of assistants.

The amount of clinical material in the St. Louis Hospital is, however, immense, and the physicians handling it, especially those interested in diseases of the skin, are among the foremost men in the world. It is this material and these men that make the St. Louis Hospital what it is.

One of the most interesting clinics is that of Sabouraud for diseases of the scalp.

Sabouraud is perhaps best known by his introduction of the *x*-rays as a depilatory in the treatment of ringworm of the scalp in children. Previous to this innovation the disease formed a serious problem among the school children in Paris. Now there are so few cases that application has been made to allow those from the neighboring departments to come to the St. Louis Hospital for treatment. Ultimately Sabouraud expects ringworm to be reduced to a few sporadic cases. As he expressed it, this method of treatment will do for ringworm what vaccination has done for small-pox.

The first step in this method is to cut the hair with clippers. The scalp must not be shaved, as that would remove the hairs so closely that they could not be extracted by pincettes, a most important point, as will be seen presently. The *x*-rays are then applied until a full dose is given, as measured by the radiometer of Sabouraud and Noiré. The delicacy of this operation will be dwelt on later. After this the hair becomes loose, and can easily be pulled out. Just here is a matter of importance to be observed. The bald patch caused by exposure to the *x*-rays must be examined with the minutest care for any small hairs that may still remain in their follicles, as these may contain some of the fungus, and one hair containing viable spores or filaments is sufficient to cause a recurrence of the disease.

After this epilation the whole scalp is rubbed every evening with a salve composed of:

	Gm. or c.c.
Oil of cade	10
Yellow oxid of mercury	30
Petrolatum	
Hydrated wool fat	āā 25

This ointment is allowed to remain over night, and next morning is washed off with soap. Then a spot larger than the diseased area is painted with:

	c.c.
Tincture of iodin	10
Alcohol	90

A remarkable feature of this treatment is the complete omission of sulphur as a parasiticide; it is replaced by tincture of iodin diluted with alcohol.

Tincture of iodin is now a favorite antiseptic in a great many integumentary diseases, and is also frequently used to sterilize the skin in surgery. For instance, in L. Brocq's clinic, in giving an injection of salvarsan, the skin was first painted with tincture of iodin, and then the needle was inserted. The same procedure is adopted in incising a furuncle. In these cases the tincture of iodin is used pure. It is diluted in ringworm, because undiluted it would be too strong to be employed for several weeks daily, as is necessary in this disease.

The ointment of tar and yellow precipitate is not an essential part of the treatment, and if it irritates the scalp so as to render its employment distressing, it may be replaced by an oxid of zinc paste (5-30).

The soap may also act as an irritant, and should it do so, an egg shampoo may be substituted, as being more bland.

The absence of the use of sulphur has been mentioned as a peculiarity in this treatment. It may, however, be advantageously employed in suitable cases. For instance, if a folliculitis supervenes, the following sulphur lotion may be prescribed:

	Gm. or c.c.
Precipitated sulphur	
Alcohol	āā 10
Water	100

The alcohol is an important constituent of this prescription, as by first triturating the alcohol and sulphur together, and then adding the water, the sulphur is better distributed throughout the lotion, and can be more easily shaken up to form a milk of sulphur.

Frequently an ordinary pyogenic infection is associated with ringworm, and then *eau d'Alibour,* Alibour's lotion, is found to be an excellent remedy. I first became acquainted with the use of this lotion in reading Prof. L. Brocq's treatise on diseases of the skin. It is a fine antiseptic, and one long in use by French physicians. It is esteemed so highly, that on my evincing a special interest in it, Dr. H. Noiré, who had charge of the clinic, had the kindness to demonstrate its mode of preparation. It is composed of:

	Gm. or c.c.
Sulphate of copper	2
Sulphate of zinc	7
Camphorated alcohol	20
Water	1000 to 2000

The sulphate of copper and the sulphate of zinc are first dissolved by trituration with a small quantity of water in a mortar. The camphorated alcohol is also added to a few grams of water and filtered and then poured over the above-mentioned solution of the copper and zinc salts. To this enough water is then added to measure up to either 1,000 or 2,000 gm., according as a stronger or weaker antiseptic is desired.

In former days saffron was also included in this prescription, and long boiling was necessary in order to extract the coloring matter from it. These were the days when the color of a therapeutic agent was supposed to play a great part in its efficacy. Ask almost any modern medical man about the doctrine of signatures, and if he does not happen to surmise you may be talking of some question in medical jurisprudence relating to the forging of bank-checks, he will answer by a blank stare. Yet the doctrine of signatures once played a great rôle in the practice of medicine. According to this doctrine it was thought that rhubarb acted beneficially on the liver because of its yellow color, resembling bile. It is needless to say that leaving out the saffron in the *eau d'Alibour* does not diminish its efficiency. The camphor, however, should not be omitted, as it acts suavely and beneficently on the skin.

The camphor in mass should not be added directly to the water, as it will float and refuse to dissolve, except under long trituration. If, however, it is added as camphorated alcohol, it readily associates with the water.

The *eau d'Alibour* is an excellent antistreptococcic as well as antistaphylococcic lotion, and may therefore be advantageously used in erysipelas and in panaritium.

If a treatment is strikingly efficacious it may also be depended on to have its disadvantages. The *x*-ray treatment for ringworm of the scalp is no exception to this rule. The difficulty of treating ringworm of the scalp by the ordinary methods lies in the thick coating of stout hair in which the fungus lodges. As the affected area is completely denuded of hair by the *x*-ray, the disease then becomes as easy to treat as if on the free surface of the skin. In order to secure this complete denudation, however, a heavy dose of the *x*-rays has to be given—usually about fourteen minutes at 20 cm. The risk of causing an *x*-ray burn is therefore imminent. When the pastilles of Sabouraud, which are placed midway between the target of the tube and the patient's scalp, change color, the current is shut off. These pastilles are made in Germany, England and France, and the delicacy of the operation may be judged by the fact that Noiré drew my attention to the fact that the control tints in the pastilles made in both England and Germany were wrong.

When I spoke to one of the most eminent specialists on diseases of the skin in the St. Louis Hospital of the denudation of the scalp by the *x*-rays, he shook his head and said, "That is a delicate matter." In Sabouraud's clinic they say they never have any unfortunate results with the *x*-ray, but other operators sometimes get permanent baldness. Then there may be burns, but it is not necessary to have a burn to have trouble. In Wickham's Clinic I saw a nevus-like dilatation of the small vessels of the skin that appeared several weeks after exposure to *x*-rays, where there had been no burn.

While in London I mentioned to a skin disease specialist, who used the Sabouraud treatment for ringworm of the scalp, what Noiré had told me of the incorrect control tints in the radiometer as made in England, and got the following interesting explanation: A practitioner caused an *x*-ray burn, and the patient sued for damages. The physician in his defense said that he was guided in his dosage by the tints on the radiometer, whereupon the patient entered suit against the manufacturer and won. As a consequence the manufacturer so changed the tints as to conform to a much smaller dose of the *x*-rays. That the dose as indicated is ineffective did not trouble him. In England just now there seems to be a mania for making any one who has any money responsible for anyone who has nothing. That line of conduct has its disadvantages, however, as above shown by the example of the radiometer.

In order to get a just idea of the enormous skin disease material passing through this hospital it is necessary to attend the general admission clinic. Here the patients, stripped to the waist, march in line up to the examining physicians. There is no attempt at history taking; the diagnoses are of the speediest; and the few words relating to treatment are given with equal haste. It is an embarrassment of riches, and amounts to a great evil, as it induces a habit of making snap diagnoses.

Two parasites play the leading rôles in this procession, the *Spirochæta pallida*, and the itch-mite. If the patient has syphilis, he is asked if he wishes to enter the hospital, and if he has scabies, the physician inquires if he is married or single. If the patient is married, he is advised to include his wife and family in the treatment. The necessary questions and commands are uttered with the automatism of a church service, and the whole affair passes along with cinematographic rapidity.

It is easy, however, to be a critic, especially an adverse critic. Every one should be judged by what he has accomplished, and undoubtedly the French are doing a good day's work in medicine, and especially in diseases of the skin.

It is interesting to watch these long lines of almost naked human beings advancing toward the physician, who is to order for one tar, for another mercury, for another resorcin, and for still another sulphur as an amelioration or a cure. In Genesis it is stated man is made of clay. Human beings are, therefore, according to this view, nothing but animated pottery, and on the surface of these stronger or weaker vessels one may see different designs; on one a patchy scaliness indicating psoriasis, and on another papules curiously formed and arranged, spelling out clearly the diagnosis syphilis; in yet another, lichen; and in still another, pediculosis. It must be said that these spots and splashes of color, and rococo outbuddings are more fantastic than artistic, but their correct interpretation becomes, after a time, as interesting as any game or employment in which the perceptive faculties are actively called into play.

The physicians here are the same as in other parts of the world, in that they do a great deal of good work gratuitously, but in following St. Paul's advice to distribute to the necessity of saints, they find that the comforted saints often exhibit a frail side. As an instance of this, I ran across a curious industry in the St. Louis Hospital. A patient would apply for treatment, and receive the appropriate medicine free of charge. Then he would promptly march off to a drug-store and sell it. Those suffering from syphilis are said to be particularly iniquitous, and the little proto-iodid of mercury pills are easily disposed of. It may be objected that these are not saints, but in truth they are, for repentance is of the very essence of sainthood, and fittingly to repent it is necessary first to accumulate a good stock of sin, together with a good admixture of misery. The well-fed, comfortable sinner, like the king in Hamlet, stops short of complete repentance, and therefore cannot attain the crown of sainthood. It is to these shattered hulks, dismasted and battered by the storms of life that Rabelais dedicates his great book. It was such as these that stirred the sympathies of the greatest Scotchman that ever lived, and inspired him to write the great poem, "The Jolly Beggars." Many of the patients in the clinic of the St. Louis Hospital looked as if they could eat a dinner, and without waiting for the recommendatory preface of a benediction either.

323 Geary Street.

Medical Inspection of Schools.—Medical inspection is becoming a vital part of every modern system of education. To obtain valuable results accurate data are necessary. It is essential that thorough supervision be made by a state medical inspector, who should be a medical man. A state association of medical inspectors should be formed. Permanent efficiency will require skilled workmen, careful administration and adequate remuneration. W. J. Lamson, in *Journal of the Medical Society of New Jersey*.

THE TEACHING OF VISCERAL ANATOMY, OR ORGANOLOGY

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Medicine as a science is yet in its infancy; its composite development, its evolution, forms a steadily increasing curve, but each of its component parts form irregular curves with frequent rises, falls and stationary levels, when historically considered. The close of the last century marked the completion of a period of rapid development in surgical science, during which it was, perhaps, eminently desirable that the medical student should view anatomy with exaggerated reference to its surgical importance.

The beginning of the present century offers promise of an equally important development on the side of internal medicine. The former necessity is now superseded by the latter, and for the internist an accurate and extensive familiarity with visceral anatomy is of fundamental importance.

If there was a time when students could be allowed to devote weeks to the careful dissection of an arm or a leg and then for want of time pass cursorily over the abdominal contents and perhaps fail entirely to open the thorax, cranium or spinal canal, that time is past; the demands of the internist in the present generation call not only for careful visceral work in the dissecting-room but for an amplification of that course by such methods as shall result in accurate conceptions of living structure, which in turn can result only from the familiarity obtained through extensive first-hand acquaintance with the tissues themselves. It is for the satisfaction of these demands that courses modeled along the lines which I am about to indicate must be offered to the medical student of to-day.

The form, position and external relations of the organs are best observed in the "fixed" material of the dissecting-room, and if only recently prepared or carefully preserved tissue is used, the conception in the mind of the student will be well formed. But it is essential that the tissue be perfectly preserved and that the dissection shall be so rapid and careful as to allow no opportunity for excessive evaporation with coincident changes of color, texture and size. Even at its best, preserved dissecting-room material will show considerable changes in color and some hardening of texture. Material which has lain for weeks on the table during the dissection of the limbs and body wall, unless it has received the best of care, is not entirely satisfactory for the proper study of the viscera. To obtain the best results from the standpoint of organology a body freshly prepared by injection should be brought directly from the preparation room, its paries at once opened, as at autopsy, and its viscera carefully surveyed, as rapidly as is consistent with thoroughness, first for their position and general relations and then for form and structure. Such organs as are not badly altered by disease should then be removed, their connections to paries and to adjacent organs and especially their vascular connections being carefully noted; then their surface markings are to be carefully observed and their architecture thoroughly studied. Even at the loss of some material the finer details of dissection involving the topographic anatomy of the organ will be better pursued on other material.

But even at its best, dissecting-room material only partially fulfils the requirements of an accurate conception of the living viscera. Accurate conceptions and exact knowledge of any matter are obtained only by intimate first-hand acquaintance with the material. Abundance of opportunity for handling anatomic material should be afforded the student; no source of supply should be neglected. A course in organology is therefore incomplete unless it utilizes an abundance of fresh tissue, which only the autopsy room can supply. Since the nearest approach to the actual living organs obtainable for anatomic study is found in the human tissues at autopsy, and in the fresh tissues of the lower animals, both of these sources should be extensively utilized for the purposes of organology.

The recently dead animal presents organs, to all intents and purposes, in a living condition. In certain cases their cells can be transplanted and caused to grow; indeed, they may even be cultivated extraneously as has been demonstrated by R. G. Harrison and others.

The fact that the lower mammalian organs differ anatomically from the human is not an objection to their utilization, for, indeed, the very differences may often be used to broaden the conception of human structure. The fact that the sheep's kidney is lobulated, or that the kidney of the horse or dog has but one pyramid does not detract from the value of either in demonstrating the structural relations and appearance of the living human kidney, and if properly utilized they respectively elucidate a logical conception of the markings on the surface and the contents of the sinus of the human organ. Again, the objective study of the surface markings of the adult human lung is difficult of interpretation without reference to the child, the infant, and the lower animals.

But while lower animal tissues may be of great value in the demonstration of certain structural features they cannot be relied on as material for any great portion of such a course as is under discussion. Human anatomy must be primarily taught from human material. The handling and study of unaltered human material from the autopsy room offers the most valuable instruction to the anatomic student.

The utilization of this source of material cannot be left till such time as the student may pursue his work in the autopsy room under the instruction of the pathologist, for there he will be concerned, not with anatomic details, but with pathologic lesions, and his facility in pathologic study will largely depend on the accuracy and fulness of his anatomic conceptions, and on his familiarity with the structure and appearance of the normal rather than diseased viscera.

The result of a pedagogic experience of some years has convinced me of the fundamental importance of anatomic instruction based on fresh human tissue. A student of anatomy cannot see too much material of this kind; he should use it for most careful study.

Much normal tissue is removed at autopsy by the pathologist; with proper cooperation it should find its way, while still fresh, to the department of anatomy. A course in organology based on such material, amplified by the use of lower mammalian and other animal tissues, by museum specimens carefully prepared to preserve form, color, and to show the vital appearance, as nearly as possible, of certain special features of anatomic structure, and the whole broadened by coincident demonstrations on dissecting-room material which has been carefully and freshly prepared with organs fixed *in situ*, offers to the student of anatomy a well-nigh ideal opportunity for developing an accurate conception of the human body as it actually exists in a functionally active condition.

That such a course is utopian is not true. The fact that just such a course has been offered for the past three sessions in the laboratories of the Cornell University Medical College demonstrates its feasibility. The essentials are some time and energy on the part of the corps of anatomic instruction, and a very little friendly cooperation on the part of the pathologists. The time demanded from the student is little, because what is consumed in actual work renders so rich a return in improved knowledge of structure and of general, fundamental, anatomic characters that the work of the dissecting-room, and especially of the microscopic laboratory may thereby be very materially abbreviated. For this reason such a course in organology is best taught in connection with microscopic anatomy and the work so correlated that the gross anatomy of the organ immediately precedes its histology.

The consideration of the value of a course in organology on the above lines directs attention at once to certain phases of the relative value of the didactic and laboratory types of instruction. The value of the former type depends on the assumption that known facts are more readily obtained by the novice through the recorded observations of his predecessors, while the laboratory type presupposes that an accurate and utilizable knowledge must result only from personal contact with the object of study.

For this last type of work a progressively increasing value is represented by the book, the model, and the actual material. Given unlimited time and unlimited material, a trained student has little need of other sources of information. But for the great bulk of medical students time in the laboratory is not unlimited; hence the intensity of the laboratory work is greatly enhanced if accompanied by ample opportunity for reading and reflection in study hours. In the course which I have hitherto offered, the work of the student is also greatly facilitated by the use of a brief syllabus which indicates the names of structures of anatomic interest, without comment or description, arranged in the order in which they are uncovered.

With such opportunity it is remarkable how rapidly an accurate systematic conception of an organ may be acquired. In the laboratories of the University of Chicago it has been found that the study of the human brain is not only simplified but accelerated by a preliminary examination of the less complex nervous system of the dogfish, and the course is therefore begun with the dissection of the selachian nervous system. A true conception of the general fundaments, the gross divisions of structure as it were, renders the more intricate and complicated system so much more readily mastered as to result in an actual saving of time to the student as well as in a more utilitarian knowledge of the subject.

Likewise, in my laboratory at the Cornell University Medical College the survey of the fundaments of structure represented by gross organology as outlined above rendered possible an actual shortening of the time allotted to microscopic anatomy, and, far more important, I believe that the student better appreciates the full structure of the organs so studied. It is a matter of observation that he turns from his anatomy to his physiology better prepared to apply his anatomic knowledge to the deduction and explanation of function than was possible under other conditions. When one has studied in the gross the bundle of His and its ramifications, seen it in the fresh tissue, as well as in the dissected specimen and the microscopic section, and all have been properly correlated by coincident study, he has a preparation for the consideration of heart-block which cannot be obtained by the isolated work of the dissecting-room or the histologic laboratory. When those courses have been correlated by the study of the conduction system in fresh tissue and the transference of bits of known location to the stage of the microscope for verification of structure, the student thus prepared is in full possession of the anatomic mechanism, so far as it concerns the bundle in question, on which the phenomenon of heart-block largely depends.

A course in organology based on fresh material is, therefore, closely related to the work of the microscopic laboratory, and for him who pursues it the utmost of value is only obtainable when the facilities of the autopsy, the dissecting-room, and the microscopic laboratory have been coincidently placed at his disposal. With the organization of broad-minded departments of anatomy with gross and microscopic work provided for under the same head, an arrangement now generally adopted in leading medical schools at home and abroad, such correlation of work appears entirely feasible and eminently desirable.

330 West Twenty-Eighth Street.

THE EDUCATIONAL FUNCTION OF HOSPITALS AND THE HOSPITAL YEAR *

JAMES B. HERRICK, M.D.
CHICAGO

The central figure in every hospital is, or should be, the patient. Whatever use is made of the hospital as a means of education it should be self-understood that whenever the sick man enters it he has a right to expect and demand the most skilled treatment its staff can offer. We physicians believe that the best treatment will be in the hospital that clearly recognizes its educational function. But if the patient be utilized for the instruction of nurses, undergraduate or graduate medical students, or in the working out of some scientific problem, there must be assurance that his life is not endangered or his health impaired thereby. We may use him as "material," to employ the word that unfortunately has become fixed in our medical vernacular, but not as we use a Wheatstone bridge, a burette, a test-tube, a guinea-pig or a rabbit. We assert that it is our right and duty to experiment with inanimate apparatus, and—when we are humane—with the lower animate bodies, even though the test-tube break or the rabbit die. But a human being is neither a test-tube nor a guinea-pig. We may study his disease, even experimentally, but we must treat *him* as a fellow-man.

A modern hospital fully awake to its privileges and with the high aim to do the greatest possible amount of good will strive to educate: (1) undergraduates; (2) interns, graduate or undergraduate; (3) resident physicians and surgeons; (4) the attending staff; (5) nurses; (6) research workers; (7) the patient; (8) the public.

I. UNDERGRADUATE INSTRUCTION

Undergraduate medical instruction can best be carried on in a hospital founded primarily for educational purposes, and especially one under the immediate control of a medical school. The student's presence in the ward is not looked on as an intrusion or as due to favoring condescension on the part of the hospital authorities. He is there by right; he makes examinations, acts as clerk in recording changes in the patient from day to day, is laboratory assistant, etc. And yet he is without authority to prescribe for or to treat the patient. He makes no promiscuous examinations. He is watched and guided and does no harm. He follows the case during the course of the illness. A student carefully observing and studying even a small number of cases of illness, even though the maladies be simple, compelled to keep complete records that are scrutinized daily by his superior, has learned more of correct methods and of practice, perhaps more even of fact, than from hours and hours of lectures.

In the majority of our public hospitals the lax methods, the multitude of students, the prejudice against the use of the patient as "material," the politician's fear of criticism, the failure to provide capable and responsible supervision, make students' ward work very unsatisfactory or wholly impossible. Much is often accomplished by means of small-group clinics with the student at the bedside as the case is demonstrated, or by ward walks as in England. And much is done by the arena clinic, no longer popular as of old, but by no means entirely out of date, and still fulfilling a useful though subordinate purpose.

II. INSTRUCTION OF INTERNS

Of the value of an internship in a good hospital, where, in addition to the student's clerical and laboratory work, there is actual responsibility, usually a graded responsibility, i. e., one increasing with his length of service, there is no question. No one who has had the advantage of such a training doubts its value; no one who has not had it but regrets his inability to secure it. The eager competition among our raw graduates for these positions shows the estimate placed on them by our student body.

Sooner or later some period of training—say a year—in a hospital should be required of every student before he becomes a licentiate in medicine. If the time is ripe it should be demanded now. We must command the support of the public in this advance by making them see that if the young graduate does not gain his practical experience in a hospital under the guidance of older heads, and in an atmosphere redolent of traditional medical knowledge handed down from one generation of interns to another, and from one group of attending men to another—and this traditional knowledge is one of the most valuable assets of a hospital—if he does not get his training in this safe-guarded manner before he is a licensed practitioner, he is forced to get it in his private practice on your child or on mine and with no counseling voice of senior to keep him from sins of omission or commission.

The marvel is that so many men with utter lack of hospital training are able to go out and do so well—i. e., do so little harm. Native shrewdness, earnest endeavor, tact, ability to learn quickly from others and from their own mistakes, enable them to succeed in a wonderful manner. How many sad, even fatal, blunders are made through lack of proper practical training no one can tell—it is best not to tell. Even the celebrated Dr. San Grado wished Gil Blas to go about with him for a few days on his rounds of bleeding and drenching his patients with water before the said Gil Blas was to be permitted to practice as the representative of San Grado.

The difficulties in the way of a required fifth hospital year are not insurmountable. More internships must be available to accommodate our large annual output of doctors or the number of graduates must be lessened. Why not both? If the efforts made by this association are successful the number of graduates in medicine will be diminished. But the number of hospitals will increase; and many small hospitals now working without interns—and there are large ones, too, in this same condition—will see that it is impossible to get along satisfactorily without these assistants and so more places will be available. But there is another difficulty, and to my mind, by no means an insignificant one. How are these hospitals to be standardized? In general the work of the staff and of the interns, in a hospital with medical college affiliation, is up to the standard of the medical school itself, yet not always. The small medical school with the large hospital at its command can take care of its own graduates and place them as interns. But what about the large medical school with a small hospital? Its graduates must be placed in other, perhaps remote, hospitals. Now there will have to be a good deal of educating of some hospital boards of management and of many medical staffs, taking hospitals as they run, before we can declare that an internship in some of these hospitals meets anything like satisfactory requirements. Many small hospitals, and many large ones, with no medical school attachment would readily be conceded as up to grade. But in many hospitals, some small, some large, some in the small towns and some in the large cities, the intern does little more than give an anesthetic, dress and take the blame for the pus cases, and occasionally examine the urine or sputum. There are no histories, or none worthy the name, no laboratory tests, no thorough examination of a patient. The intern gains a certain amount of self-confidence, often an unwarranted amount which is largely absorbed from the staff, though there is seldom any appreciable loss at the source of supply, he learns not to faint at the sight of blood, learns the dose of a good many drugs, some of which he might well forget, and he learns that an easy, a lazy substitute for thinking is to do an exploratory laparotomy. Such training is superficial, incomplete and in many respects pernicious. The medical school with a high standard for both entrance and graduation must pause before committing itself to a policy of a compulsory hospital year until there is in sight a sufficient number of places in good hospitals where work will be up to grade and where by virtue of authority to inspect and supervise there may be a guaranty that it will be kept up to grade and satisfactory to the college and to the officials of the state. Before a compulsory fifth year is added to our college requirements for graduation a certain standard for hospitals must be fixed and means taken to sustain the same.

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* Read before the Seventh Annual Conference of the Council on Medical Education of the American Medical Association, March 1, 1911

III. EDUCATING RESIDENT PHYSICIANS AND SURGEONS

The older I grow and the more I see of surgery, the more convinced I am that the mere holding of the degree M.D., as at present granted, ought not to entitle a man to do surgical operations, at least major operations. The lack of manual dexterity and celerity, the poor judgment as to how much can and ought to be attempted in a given case, the puttering and hesitating due to insufficient self-confidence and to a fear of supposed dangers, or the equally horrible condition of overconfidence and lack of dread, how keenly do all these shortcomings, the result of limited or no practical training, loom up before us when we contemplate an operation to be done on our friend or some member of our own family by one of these poorly qualified young graduates! No surgery, no major surgery at least, no special surgery, should be permitted to the graduate until he has tried it first on dogs; no surgery until as assistant, and perhaps resident, he has for a given time stood at the left and then at the right hand of the surgeon and has himself, with the help of this surgeon, done operations. When the good, honest family practitioner tells you that he is convinced that surgical treatment of appendicitis is wrong, because, in his operative cases, three out of four patients died, including clean cases in which the patients were operated on in the interval, and says that he shall return to the medical treatment which gave him better results, we agree that it is wise for *him* to treat appendicitis medically. But the smile that comes to our faces as we note the delicious humor of his innocent condemnation of self as a surgeon is turned to a sober frown as we realize the pathos and tragedy of the clean cases. Make surgery more of a specialty if you will; let there be fewer surgeons in a given area if necessary; divide the fee—openly—if necessary; but insure more expert work by requiring a special hospital training before the graver operations are attempted. Our hospitals can here do a splendid educational work by giving opportunities to residents and assistants working under the responsible guidance of the older man.

IV. EDUCATING THE ATTENDING STAFF

Of the value of the hospital experience to the member of the staff there is little need to speak. Every physician and surgeon admits freely that the faithful performance of his hospital duties makes him a broader, more careful, more skilful man. There is only one point in this connection that I would emphasize, and that is that those hospitals in which there is a distinct teaching feature will have the best service from the staff, especially in the case of the poorer and charity patients. Nothing so arouses the physician to do his best, to study his patient so thoroughly as the knowledge that that case of illness has to be demonstrated at short range to a class of keen-eyed students. A few bad blunders before a class are all that is necessary to make him more careful next time. And then the rubbing of elbows with our colleagues, the activating influence as the older man is inoculated with the enthusiasm of the young man of the staff. just back from Europe, perhaps—all this is helpful and educational.

V. EDUCATING NURSES

It is not my purpose to dwell on the function of the hospital as a training school for nurses. Its duty in this respect is becoming more generally recognized and the advantages that accrue to the hospital, the patient, the physician, the public, are too well known to be repeated here.

VI. EDUCATING RESEARCH WORKERS

The spirit of research has reached many of our hospitals. Some have been founded with the primary object of promoting research along medical lines. It is to be hoped that more will be liberally endowed so that this highest grade of work may be carried on with the closest possible union between laboratories, as they are commonly termed, and the wards that are also really laboratories. While it is not possible that all our hospitals should be, *sensu strictiori*, research hospitals, while it is not desirable that they should all be of this character, there should be more of the spirit of investigation and reaching out for new truth in our existing hospitals, even those that are utilized for the instruction of undergraduates, interns, residents and attending staff. Unless the spirit of research be in such a hospital and pervade its various staffs, the educational function languishes and the hospital atmosphere is stale. To be progressive, research must be carried on. It may be in trying out methods advocated by others or devising new and better ones; it may be along lines of therapy, surgical or medical; it may be studying the refinements of diagnosis or the natural history of disease, or in the chemical, bacteriologic or anatomic questions concerned in disease; it may be searching for results that are of immediate practical application or working on problems in pure science where no practical bearing is in sight, but something of this sort must be carried on by the hospital workers or a hospital is not doing its duty in furthering knowledge. And I am of the opinion that our hospitals will be utilized more and more for research work in sociologic problems. There is a rich field for such investigation in many of our wards.

VII. EDUCATING THE PATIENTS

Much might be said of the help our hospitals may bring to their patients in teaching lessons of obedience to authority, consideration for and cooperation with one's neighbors, etc. Lessons of cleanliness and of hygiene are also taught, and surely certain lessons in morality are inculcated in ways as effective as any pulpit eloquence. But this is not the time or place for discussing this topic.

VIII. EDUCATING THE PUBLIC

Nor is this the place to speak of the opportunity many of our hospitals have of educating the public as to matters of personal and public health. By example, by class and lecture work, by literature, by letting the hospital light not be hidden under a bushel, such an institution may be a power for good in the community and be the means of combating the effects of many foolish or even harmful "isms" and "pathies" that are everywhere to be found.

SUMMARY

To summarize these points which have consciously been merely touched on and not dealt with exhaustively—an impossibility in a twenty-minute paper:

It is the privilege and duty of hospitals to extend their field of usefulness by opening their wards more freely to undergraduates in medicine, to elevate the standards of work done by nurses, interns, residents and attending staff, to foster research. By so doing they are not harming the patient, but are rather insuring him better and more skilled treatment. They are serving to enlighten and educate not only the individual, but the observing lay public as well, eager to learn and to be instructed in knowledge of medical matters.

And what concerns us as physicians looking to the elevation of the standards of medical education is that as soon as possible each medical school should have its own hospital in which the wards are freely utilizable for the instruction of undergradutes, in which a definite service in practical work in medicine and surgery shall be demanded as a prerequisite for graduation, in which assistants and residents may be in training for specialties in medicine and surgery and in which the spirit of investigation and research pervades every worker from the probationer nurse to the chief of the attending staff.

Until such medical-school hospitals are obtained the aim should be to secure similar privileges in other good hospitals, seeing to it that some authoritative supervisional check may be had on the character of work that is there done, before credit is given in the medical school for such undergraduate or intern work.

A TEACHING HOSPITAL

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A medical college without a hospital under its control, but relying on independent institutions, cannot supply ideal facilities for teaching medicine. The difficulties may be divided into two groups: (1) The arrangement is not satisfactory to the college authorities from the college standpoint; (2) the arrangement is equally unsatisfactory to the hospital authorities from the hospital standpoint.

I. DIFFICULTIES FROM THE COLLEGE POINT OF VIEW

In order that the arrangement may be satisfactory to the college, its teachers must be connected with the hospital. The professor of surgery must be, *de facto*, surgeon to the hospital. A change in the occupant of a chair in the college must mean that the new occupant acquires, by his election in the faculty, a position on the hospital staff. Only in this way can desirable men be drawn to the college, and the college be allowed the widest freedom in selecting its corps of teachers.

Again, the college must bring up clinical assistants, trained as teachers and as hospital workers; this can be done only where the two institutions are coordinated. The professor of surgery desires an assistant or a demonstrator; he wishes this man to work in the dispensaries of the hospital, to substitute in the wards, to assist at operations, etc. This rarely can be arranged unless the same governing body determines the concurrent election to the two places.

The pressure of medical teaching has reached a point at which adjustment of the curriculum is one of the most difficult problems encountered by a faculty. This obstacle is great enough when the faculty dictates the hours of hospital teaching and arranges the roster, but if the schedule must be made to conform to the convenience of a hospital over which the college authorities have no control, it becomes impossible properly to conserve the student's time. For example, in a certain Philadelphia college with a hospital attached, a professor of surgery may deliver a didactic lecture and immediately thereafter take classes in sections to the hospital; like facilities are extended to every clinical chair. Such arrangements could not be made with any detached hospital. The unity of the two institutions affords the fullest use of clinical material; this applies also to laboratories and post-mortem work, largely because the faculty can select hours for teaching. The board of trustees of the hospital being a sub-committee of the board of trustees of the college, the wishes of the college authorities are respected.

If the college desires to inaugurate some particular line of work as a part of the teaching course, the college hospital may be requisitioned for the necessary facilities, the unattached hospital practically never.

II. DIFFICULTIES FROM THE HOSPITAL POINT OF VIEW

The difficulties in affiliating an unattached or independent hospital with a college without its own hospital are even more trying to the hospital. Independent or unattached hospitals may have entirely capable visiting chiefs who either are not teachers or do not like teaching, or what is worse, may have incapable chiefs who desire teaching and consequently connive and "log-roll" for appointment in some medical college, keeping their hospital positions for the purpose of forcing election to college positions.

A member of the staff of an unattached hospital wishes to bring up his own assistant and rarely chooses a man whose time is partly given to college work unless the chief himself is a professor.

The unattached hospital is wisely shy of college affiliation; its board of governors do not desire to be restricted in their selection of officers and often oppose professorial candidates because of the impression that college work demands too much of their time.

The hospital has another group of objections that are administrative and insuperable.

1. *Expense.*—The teaching hospital is the most expensive institution to maintain. For the adequate instruction of the medical student more than one way of doing many things must be taught. The operating-rooms of teaching hospitals must be equipped for the practical presentation of many and varied technics and modes of treatment. This detail involves the selection of catgut, needles, needle holders and many surgical instruments. Each teacher desires the widest latitude in his selection of means and methods, and in order that instruction of the student may not be narrow the teaching hospital must accede. One of the best and most economically administered hospitals in Philadelphia is unattached. It has one physician-in-chief and one surgeon-in-chief, and although some teaching is done in the surgical department, the expense of supplies is measurably less than in a small hospital in which there are several visiting chiefs, and in which instruction is given on a larger scale.

2. *Nursing.*—The nursing problem in a college hospital is different from that in an independent institution. The Jefferson Hospital has over one hundred nurses, while a neighboring institution, in which teaching is restricted to fixed clinics, cares for as many patients equally well, with a staff of eighty nurses. The college hospital should supply nurses for a number of operating-rooms, and a nurse for each chief in making rounds; at one time there are as many as eight to ten nurses accompanying chiefs in visits to patients. The nurses are better trained in teaching hospitals, but complain of the increased amount of work.

3. *Operations.*—Operating service in the Jefferson Hospital reserved for class teaching requires six operating-rooms, in addition to a private operating-room, and as all are frequently in use simultaneously, a detail of eighteen to twenty-five nurses is required. The operating-rooms must be furnished, equipped and maintained —a tremendous fixed charge.

4. *Regulations.*—The unattached hospital fixes the hours for serving food, for ward-cleaning, bed-making, dressing patients, and other administrative details, and would require the affiliated college to conform to the hospital regulations; the hospital forming an integral part of a college must, as far as possible, adapt these functions to the demands of the student.

5. *Attitude of Patients.*—The unattached hospital is usually sectarian or maintained at public expense; in either case patients may decline to be used for teaching purposes, and the hospital authorities must support such action. Patients admitted to teaching hospitals usually understand that cases will be studied by the professor and his assistants, and demonstrated to students. In the rarest instances only are objections made.

6. *Increased Work.*—The teaching hospital requires a large staff of interns because accurate records, including histories, diabetic charts, blood charts, temperature charts, blood-pressure charts, food charts, etc., must be prepared for presentation to sections or to the entire class. The work thus thrown on nurses and interns is far greater than in an independent hospital, even where as much is accomplished.

7. *Discipline of Students.*—Where the teaching hospital and college are under one control the student must conform to regulations. He may, as in Jefferson, be required to wear a uniform in his hospital service. If he fails to do so he is reported to the college authorities and disciplined. His ward and class duties and his deportment are subject to the supervision of teachers for whom he has the highest respect and to whom he is directly responsible—all of these making for better results.

8. *Special Branches.*—Few general unattached hospitals provide adequate facilities for teaching specialties. Teaching hospitals must be so organized that the special branches receive adequate representation. Special hospitals for these lines of work are rarely available for teaching purposes. Each of the colleges of Philadelphia maintains its maternity department, although there are in the city a large number of fully officered institutions devoted to obstetrics. For properly teaching this branch —indeed, any branch—the didactic and practical or clinical teaching must be correlated and the organization under one head.

The Philadelphia method, an Americanization of the Continental, has never been improved on. The modern hospital is a clinical laboratory; and such a laboratory cannot be under extramural direction any more than any other laboratory. The time has passed when even an Agnew or a Keen could teach anatomy to students of the University of Pennsylvania or Jefferson in a private school of anatomy, and it is high time that medical colleges provide clinical organization, which is as much an integral part of their teaching plants as laboratories of anatomy, physiology, chemistry or pathology.

THE MICROGRAPH: A PRELIMINARY REPORT

AN INSTRUMENT THAT RECORDS THE MICROSCOPIC MOVEMENTS OF A DIAPHRAGM BY MEANS OF LIGHT-INTERFERENCE

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The following report describes an instrument which has many practical applications not only in physiology, but in physical science. Briefly stated the instrument magnifies the minute motions of a diaphragm similar to that of a telephone about 50,000 times and records these movements on a moving photographic film. It is well known that these movements are not perceptible to the unassisted eye, and they are so small that for a time it was supposed that there was no real motion of the diaphragm as a whole, but that the effect was molecular. A microscope which magnifies 2,000 times is considered a high-power microscope, but the magnification obtained in this instrument is twenty-five times this figure.

The word "micrograph," therefore, seems appropriate for this instrument, denoting something which records microscopic movements. The phenomena of the interference of light waves is made use of for the purpose of obtaining not only the high magnifying power, but something which, by the use of photography, can be made to make its own record by means of the light on a photographic film.

The complete apparatus thus consists of two distinct parts, the instrument proper, and the additional portion required when photographs are to be taken.

The instrument may be applied to the study of any subject in which it is possible to communicate the phenomena to be studied to the diaphragm so as to induce in it a motion corresponding to that being studied. Some results are given in this paper which were obtained with a diaphragm to which the motion was communicated mechanically through the medium of the air. In this manner curves have been obtained not only showing the radial pulse, the beating of the apex of the heart, and the pulse in the jugular vein, but also waves of sound from the human voice.

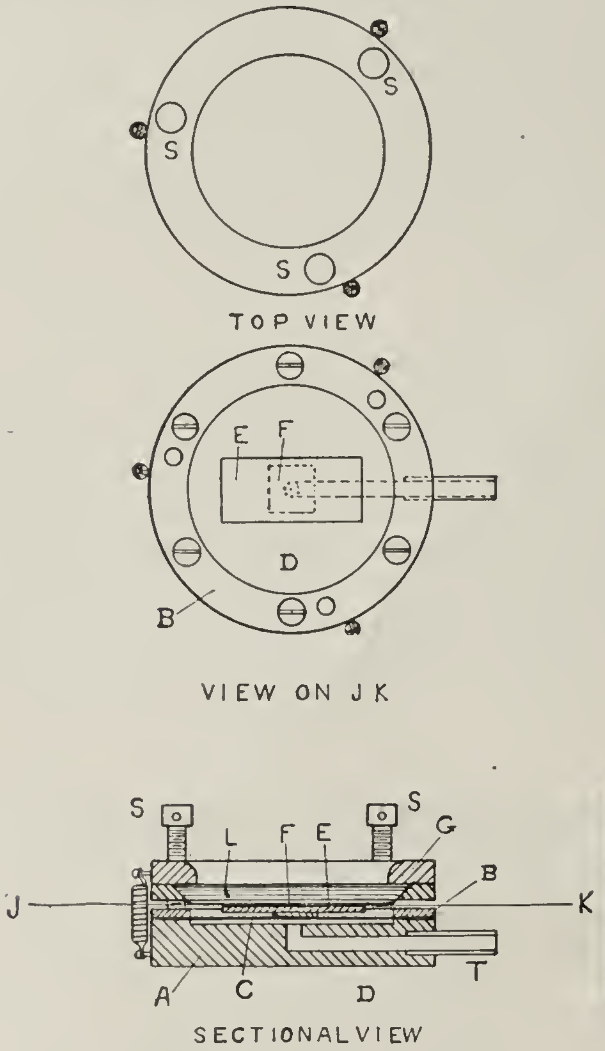

Fig. 1.—The instrument.

The form of instrument by which these records were secured is shown in Figure 1. In addition to the source of light, this instrument connected by a tube attached at the outlet, T, is all that is required for observing the motion of the diaphragm, D. An ordinary tambour is connected to the other end of the tube and placed on the patient, and the motion of the patient at the point where the tambour is applied is transmitted through the air to the diaphragm of the instrument and then, being magnified by the interference of light, becomes directly visible to the eye. Slow movements can readily be followed by the eye, but rapid vibrations require the use of photography.

In instruments heretofore in use the mass and inertia of the moving parts and the distance through which they are required to move have been considerable. Such instruments at the points of most rapid pressure-changes overshoot the mark on the upstroke and then again on the return because of the inertia. The important feature of the new instrument is that it reproduces faithfully all pressure-changes without the disturbing effect of inertia. The mass of the moving part is not only small, and the elastic force of the diaphragm large, but the distance through which it has to move is so small that it cannot be seen to move at all by the unaided eye.

INTERFERENCE METHOD

Carried at the center of the diaphragm, D, is a small reflector, E, which really forms a part of the diaphragm. Just above this and parallel to it without touching it is a cylindrical lens, L, with its plane surface nearest the reflector, E. The adjusting screws, S, are for the purpose of bringing the two surfaces into parallelism. If a source of nearly monochromatic light is held above the instrument so that an observer sees it by reflection in the two surfaces of the reflector and of the lens, a series of beautiful interference bands will be seen covering the entire surface of the reflector. These bands usually form a series of concentric circles and an image of these is readily thrown by means of a lens on the ground glass of the camera. Figure 2 is an attempt to represent this image of concentric circles as it appears on the screen of ground glass.

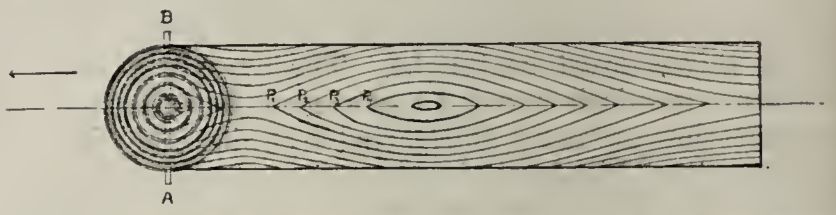

Fig. 2.—Image of circular bands and transverse slit AB, through which the light passes to make the tracings on the moving film. P, etc., are points on the plate marking the disappearance of the bands.

If, then, a slit, AB, is placed in front of the photographic plate, so as to cut off all of the light of the image except that which passes through it to the plate, and at the same time the plate is moved transversely across the slit as indicated by the arrow, the several bright spots of light along the diameter of the image included by the slit would trace straight lines on the plate, and the developed negative would show a series of straight bands from end to end of the plate if the bands remained perfectly stationary. Any movement of the diaphragm, however, changes the distance apart of the two reflecting surfaces, and this has the effect of moving the interference bands forming the image. The bands always remain circles and the center of the concentric circles remains fixed, but the diameter of each circle changes. When the two interference plates approach each other owing to an increase of pressure of air in the instrument each circle contracts and the central circles contract to zero diameter and disappear one after another. Similarly a decrease of pressure separates the plates more and expands the diameter of each band, and bands appear at the center one after another and increase in size.

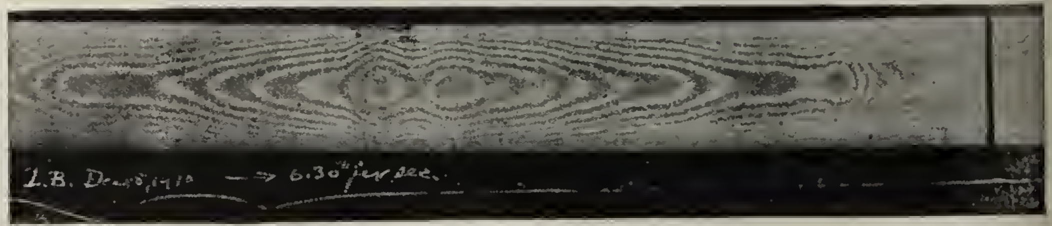

Fig. 3.—Moving bands from which the table of measurements is made and the curve in Figure 4 plotted.

Hence a simultaneous movement of the diaphragm caused by a variable pressure and the uniform movement of the photographic plate past the slit will produce a sinuous or wavy series of bands on the plate which might look like those of Figure 2. From this record an accurate curve can be drawn which shows the exact changes of pressure of the air within the chamber of the instrument which were taking place at the time the plate passed the slit. This is done as follows:

HOW TO DRAW A "PRESSURE-TIME CURVE" FROM THE NEGATIVE

When the bands are expanding there comes a time when a new band makes its appearance at the center of the system of circles and as soon as it appears it makes a record on the plate at points which are clearly seen, P_1, P_2, etc. We, therefore, have a succession of records at these points of the times when the diaphragm moves just one-half a wave-length of the particular kind of light used, for each succeeding circle appears only when the two interference plates have separated by exactly one-half wave-length. As the length of a wave of light is accurately known, it is evident that we have determined the time which the diaphragm required to move one-half wave-length, since the plate moves at a known uniform speed and distances along the plate are convertible into time if we multiply by a constant factor. The process of forming the curve is then to measure the distances to where each band appears or disappears, the second column in the table, and place opposite to each the corresponding number of the band, numbering each band consecutively. The ordinates of the curve then represent distances, the unit being the wave-length of light, through which the diaphragm has moved in the time specified.

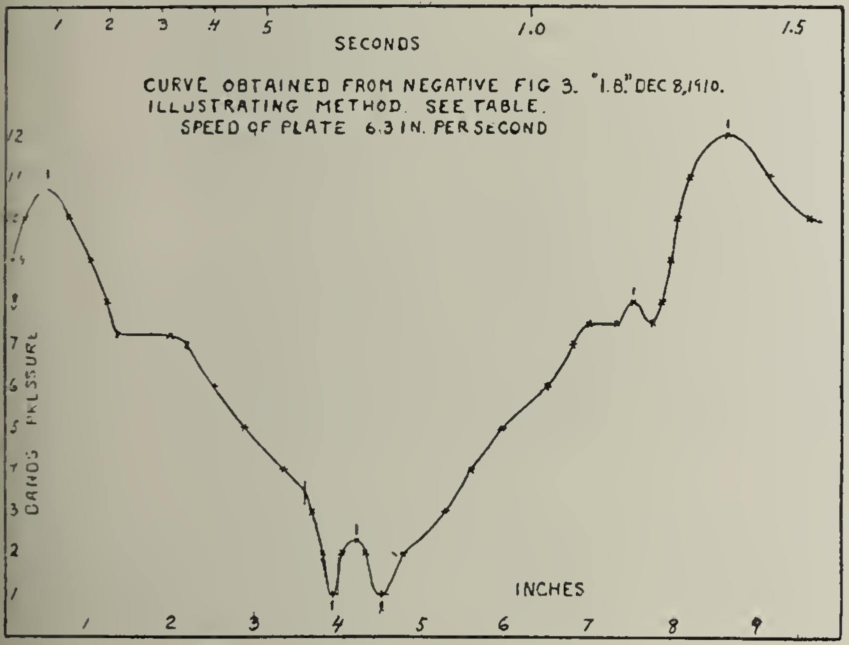

Fig. 4.—Curve plotted from Figure 3.

TABLE OF MEASUREMENTS ON NEGATIVE
"1. B., Dec. 8, 1910"
6.3" per sec.
See curve, Figure 4

Band	Inches	
9	.08	
10	.22	
	.52	Max.
10	.79	
9	1.05	
8	1.24	
7.2	1.35	Level.
7.2	2.00	
7	2.20	
6	2.51	
5	2.89	
4	3.34	
	3.60	Sharp fall.
3	3.70	
2	3.82	
1	3.94	Min.
2	4.05	
2.3	4.22	Max.
2	4.32	
1	4.52	Min.
2	4.78	
3	5.29	
4	5.58	
5	5.95	
6	6.50	
7	6.80	
7.5	7.00	Level.
7.5	7.31	
8	7.52	Max.
7.5	7.76	Min.
8	7.87	
9	7.96	
10	8.05	
11	8.20	
12	8.65	Max.
11	9.15	
10	9.62	

To show that these ordinates are proportional to the pressure of the air in the chamber of the instrument we have only to ascertain the relation between the deflections of a diaphragm and the pressure to produce a given deflection. Measurements show that for small deflections such as a few wave-lengths of light, the deflection is strictly proportional to the pressure producing it. Hence the ordinates of our curve are strictly proportional to the pressure of the air within the chamber, and we have constructed a true pressure-time curve. If it were so desired it might be easily calibrated so that the ordinates represent pressures in millimeters of mercury, but this is usually not desired.

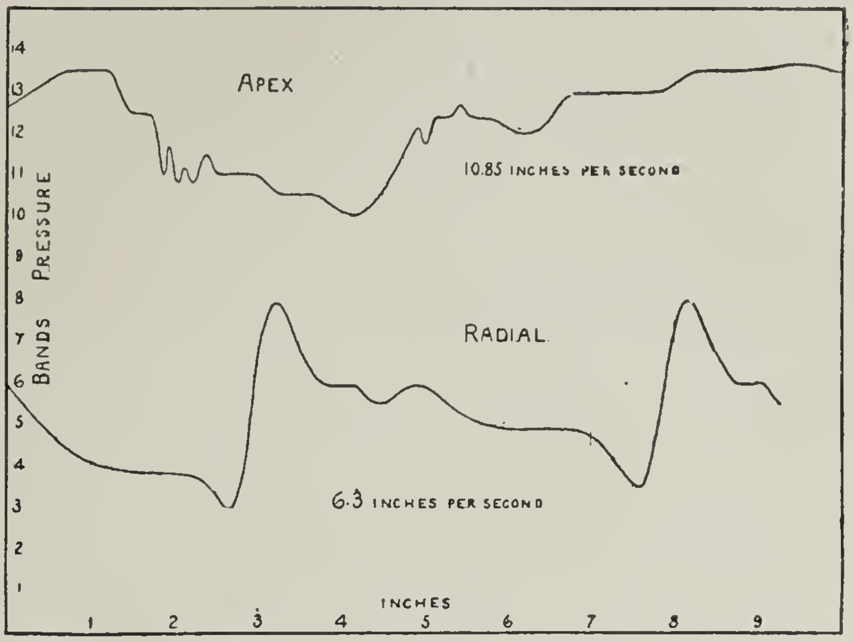

Fig. 5.—An apex and a radial tracing taken at different times on different patients.

By the process indicated the curve in Figure 4 was obtained from the photograph Figure 3, the measurements being given in the table. With some experience, however, it is not necessary to construct such a curve, as it is not difficult to recognize the form of the curve by an inspection of the negative.

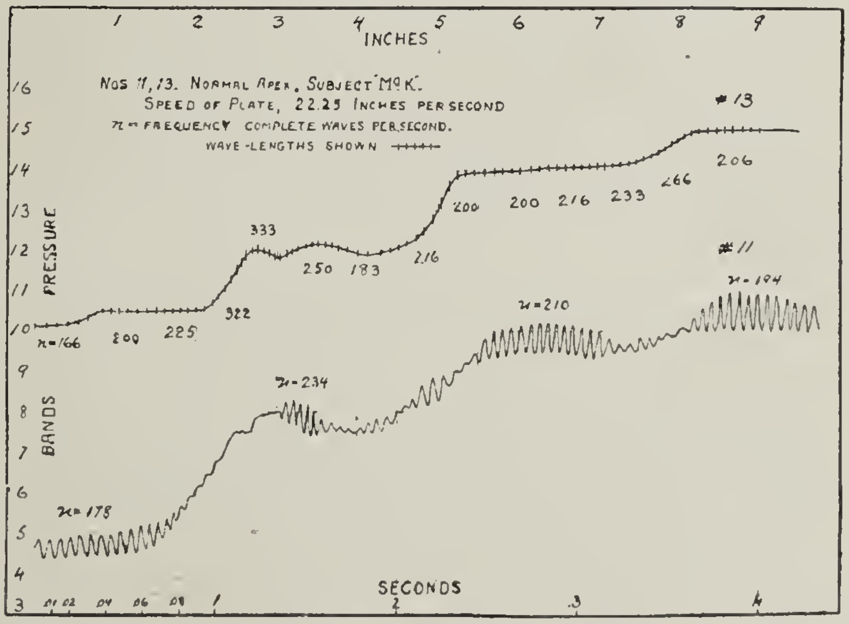

Fig. 6.—A portion of a cycle of an apex-beat. The small waves represent sound varying in both amplitude and frequency. In the upper curve the wave lengths only of the sounds are marked.

RECORDING SOUND WAVES

The highest speed of plate used in taking some of the records was 58 inches or nearly 5 feet per second. To work at these speeds requires an intense light, as the time of exposure is very short, and the negatives obtained grow less and less dense as the speed increases. There is reason to believe, however, that this speed can be more than doubled and good negatives still be secured. The time of exposure is readily calculated when the width of slit and the speed of plate are known. In this case it was 0.00086 second.

Curves have been obtained by singing the vowels "E" and "O" on the key of G in the second octave below middle C.

THE APEX-BEAT AND THE RADIAL PULSE

The upper curve in Figure 5 shows a tracing of the apex-beat obtained by plotting from the negative as detailed above, and represents about one cardiac cycle, the speed of the moving plate being 10.85 inches per second. The lower curve shows a radial pulse obtained from another subject and shows nearly two cycles, the speed of plating being 6.3 inches per second.

We know of no curves from the lever that approach the details of the events of the cardiac cycle shown in these curves. Figure 6 shows a portion of an apex cycle starting at the lowest part of the upshoot of the upper curve of Figure 5 taken at a speed of plate sufficiently rapid, 22.5 inches per second, to reproduce the sound waves which are superposed on the curve of more slowly varying pressure. We have conclusive evidence that these waves really emanate from the patient and are not due to any instrumental or other outside influence. A vibration of one band or half-wave-length in amplitude is very easy to detect if it were present when the instrument is disconnected from the patient. The bands then appear to remain at rest, but when the tambour is placed on the apex the records show that the amplitude of the waves of sound in some parts of the cycle are as great as one band, and if these were due to other causes they would certainly be seen when the instrument is disconnected. That they are not in the instrument itself is clearly shown by the figure, since the sound wave is continuously changing its pitch or frequency from point to point of the cycle. If the natural period of the instrument itself intruded so as to disturb the record there would be a tendency to vibrate always at some one definite note or frequency.

The conclusive argument is that we get the same variations in the pitch of the sound in using instruments with different diaphragms, and they repeat themselves with remarkable regularity in the various tracings. The same results are obtained with instruments having diaphragms of widely varying thicknesses. The sensitivity of the instrument is changed by substituting a different diaphragm.

THE JUGULAR VEIN AND RESPIRATORY CURVES

In addition to those mentioned curves have been obtained from the jugular vein, and they are compared with those from the bared jugular of a dog. A respiratory curve has also been secured as illustrating the various ways in which the instrument may be applied.

400 West End Avenue.

Differential Diagnosis of Cancer of the Breast.—Hardness and fixity of the tumor in the breast may be caused by a non-malignant condition. Hardness of the breast tumor may be due to a tense collection of fluid; the hardest tumor may be a cyst. A cyst surrounded by mastitis can be as fixed as any cancerous growth. The presence of enlarged glands in the axilla is of little use as an aid in the diagnosis of breast cancer. Except in late cases, it may be quite impossible to feel glandular enlargements. The hardness of the individual gland, and absence of pain on pressure, are important points. Malignant glands are generally discrete and often not of great size.—H. M. Rigby, in the *Practitioner.*

PULSATING EXOPHTHALMOS DUE TO ANEURYSM OF THE INTERNAL CAROTID

W. E. McCLELLAN, M.B., M.R.C.S. (Eng.)

HARTFORD, CONN.

History.—The patient was P. V., aged 32, a Hungarian. His past history was unimportant. Eight months ago, while at work in a foundry, the machine at which he was working upset, striking him on the chin and throwing him violently backwards. He was unconscious for twenty-four hours. A compound, comminuted fracture of the lower jaw was produced. There was considerable hemorrhage from the mouth and nose, but none from the ears. His attending surgeon wired the fragments and the patient made a complete recovery. Three months later a slight exophthalmos developed, which grew steadily worse and was very marked when the patient was admitted in the eye service of St. Francis Hospital.

Examination.—Nose and accessory sinuses were found normal. The x-ray examination was negative. The ear examination was also negative.

Eye: Marked exophthalmos in both eyes, especially the right. A distinct pulsation, rhythmical with the pulse, could be both seen and felt on palpation, also more marked in the right eye. The conjunctiva was very edematous and the veins were markedly dilated. The movements of the eyes were normal in all directions. The visual fields for form were normal. It was impossible to obtain the color-fields.

Vision: O. D. 20/20—3. O. S. 20/30—3.

Pupil reaction normal. Consensual reaction normal.

Fundus: The retinal veins were dilated and tortuous. The nerve-margins were indistinct. The retina was edematous, but the media were clear.

Symptoms of Aneurysm.—The patient complained of a blowing to-and-fro sound in his head, which he could not locate accurately, but which began shortly after the original injury. During the past month it became so loud that it caused him great distress. Up to the present there had been no pain. On auscultation of his head a loud bruit could be heard. It became audible over the bifurcation of the right common carotid and reached its maximum intensity about 1 inch behind the external angular process of the right frontal bone. It could be distinctly heard over the left side also, but not so markedly, and was of a different character and of a higher pitch. By compressing the right common carotid the bruit and the pulsation of the eyes could be made to disappear completely. Compression of the left carotid had no effect on either condition.

Diagnosis.—Taking into consideration the nature of the injury and the subsequent train of events, a diagnosis was made of an intracranial aneurysm or rupture of the right internal carotid.

Operation.—Ligation of the right internal carotid was advised, but the patient refused operation. He was kept under observation for a week and the condition grew rapidly worse. Severe pain developed between the eyes, the exophthalmos increased, the retinal veins became more engorged and tortuous and an early choked disk appeared. The vision dropped to 20/50 in each eye. Operation was then permitted and was performed by Dr. J. B. Boucher.

Postoperative History.—There was immediate cessation of the bruit and pulsation of the eyes and neither has since recurred. In one week the engorgement of the retinal veins and choked disk disappeared and vision returned to normal. There is a very slight congestion of the conjunctiva and no edema. The exophthalmos is slightly reduced, but still marked. This is to be expected, as a passive hyperemia having existed in the orbital cavity for so long a time has probably produced a hypertrophy of the connective tissue there which may be permanent.

I think that, in all probability, a cure has been effected.

125 Trumbull Street.

THE EXCRETION OF SALICYLIC ACID AND HEXAMETHYLENAMIN IN THE SPUTUM *

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PHILADELPHIA

The finding of foreign substances in the expectoration is by no means a recent observation, since bile has been found in the sputum of icteric patients, urea in the expectoration of nephritics and in one case of diabetes, glucose has been demonstrated in the sputum. This very old observation received a new point of view when Falk and Tedesko[1] endeavored to utilize this knowledge as a diagnostic test between inflammations and exudations.

Their hypothesis, briefly stated, is that, if a substance be given by mouth, and if it be absorbed and circulate in the blood, then in those pulmonary conditions in which hemorrhagic exudates are the chief feature of the morbid process, the substance should be found in the sputum. They selected sodium salicylate as the drug to be tested, giving 2 gm. in capsules and collecting the sputum for from ten to fifteen hours. The total quantity of sputum was treated in a manner to be described later. Bronchitis, pneumonia and tuberculosis were the respiratory conditions studied.

In bronchitis, no salicylic acid was regained, while in pneumonia (two cases) it was found in considerable quantities. Salicylic acid was also excreted in the sputum of pulmonary tuberculosis, but not to such a great extent as in pneumonia. They conclude that the giving of sodium salicylate to patients may be of assistance in distinguishing bronchitis from pneumonia. Other substances—antipyrin, guaiacol, etc.—were given by mouth, and all were again found in the sputum—all, however, in much smaller quantities than sodium salicylate.

TECHNIC

The patients receive 2 gm. of sodium salicylate, and the sputum is collected for from ten to fifteen hours. The total quantity is made weakly acid and shaken with five times the amount of 96 per cent. alcohol. The albuminous and mucoid substances are precipitated and then filtered off. The clear filtrate is made weakly alkaline and evaporated on a water bath, the residue taken up in water and made faintly acid and precipitated with lead acetate. The solution is filtered, the acid filtrate shaken with water and an equal volume of ether. The ethereal extract is taken up in 10 c.c. of water and 1 c.c. of a 10 per cent. solution of ferric chlorid is added, when in the presence of salicylic acid a violet color is observed.

We have followed the method of Falk and Tedesko in nineteen patients, grouped as follows, and in no case was salicylic acid regained in the sputum.

Pneumonia	6 cases
Pulmonary tuberculosis (advanced)	7 cases
Angina pectoris	1 case
Carcinoma of the lung	1 case
Failing cardiac compensation	1 case
Bronchitis	1 case
Cardiorenal	1 case
Not diagnosed	1 case
	19 cases

Inasmuch as in many of these cases blood was present, macroscopically, we should have had the most favorable circumstances for the elimination of the drug, if Falk and Tedesko are correct in their hypothesis.

As a result of these studies, however, the conclusion was reached that salicylic acid was of no value as a test in pulmonary diseases, since, if excreted at all, it is eliminated in such small quantities as to make its detection impossible. Moreover, to be of service clinically, the technic of a method should endeavor to combine simplicity and ease of application with accuracy and expediency, and the technic as described by Falk and Tedesko lacks all four requisites. In the belief that, on hypothetical grounds at least, substances should be in part eliminated by the bronchial or pulmonary tissue when diseased, hexamethylenamin was selected as a drug which might be favorably tested.

According to Crowe[2] the drug was first prepared by Butlerow in 1860. It is readily broken up by boiling in an acid medium, liberating formaldehyd, which may be easily tested for. Crowe has found the drug in the bile and pancreatic juice, in the cerebrospinal fluid[3] and also in the milk and saliva. He found the drug to be absorbed rapidly and to remain in the circulating blood for hours.

The absolute safety of administration of hexamethylenamin, and also the ease of detection, were two factors in inducing us to attempt researches on its elimination in pulmonary conditions. Twenty-five grains a day were given and the sputum was collected in bottles for twenty-four hours.

The total amount was put in an Erlenmeyer flask, diluted with water, acidified with sulphuric acid, and distilled, the distillate being collected in water in a cooled Erlenmeyer flask. The distillate was then tested for hexamethylenamin by adding to it 4 to 6 drops of milk and 3 drops of a 3 per cent. ferric chlorid solution and stratifying the mixture after agitation on concentrated sulphuric acid. At the point of contact an amethyst color is observed.

The cases in which this method was tried were:

Pulmonary tuberculosis	9	Bronchitis	1
Pneumonia	1	Asthma	1

and in all of these formaldehyd was found in the sputum. In five of the nine tuberculous cases, the sputum collected after the termination of twenty-four hours contained no hexamethylenamin.

It appears then that a new portal of excretion of this widely used drug has been discovered, in addition to the bile, pancreatic juice, urine, cerebrospinal fluid, milk and saliva. The question whether it is by the last that the sputum becomes impregnated with hexamethylenamin, or whether of itself the sputum contains formaldehyd can be, we think, decided in favor of the latter. In comparison to the amount of saliva that is swallowed the quantity which becomes mixed with the sputum must be very small, and we believe this would not account for the intense color reaction obtained. No quantitative estimations were made of the amount excreted and control examinations showed no such color reaction in the sputum.

Nicolaier,[4] from whom it received the name of "urotropin," Richardson,[5] Churchman,[6] Crowe,[2] and others, have studied the action of the drug on bacteria and have found it of greatest use in genito-urinary and biliary infections. We have not had opportunity to study its

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* From the Laboratory of Dr. John H. Musser.

[1] Falk and Tedesko: Wien. klin. Wchnschr., 1909, p. 954.

[2] Crowe: Bull. Johns Hopkins Hosp., 1908, p. 109.

[3] Crowe: Bull. Johns Hopkins Hosp., 1909, p. 102.

[4] Nicolaier: Centralbl. f. d. med. Wissensch., 1894, xxxii, 897; Deutsch. med. Wchnschr., 1895, p. 541.

[5] Richardson: Jour. Exper. Med., 1899, iv, 19.

[6] Churchman: Johns Hopkins Hosp. Rep., 1906, xiii, 189.

action on pulmonary conditions, but believe that it might be used to advantage in certain respiratory conditions.

CONCLUSIONS

As a result of our work we draw the following conclusions:

1. Salicylic acid is excreted, if at all, in the sputum in such small quantities as to make it useless in the diagnosis of pulmonary conditions.
2. Hexamethylenamin, when given by mouth, is excreted in the sputum of tuberculosis, pneumonia, bronchitis and asthma.
3. There seems to be no selective action in the excretion of the drug, and the detection of formaldehyd in the sputum cannot be used diagnostically.

Clinical material was secured from patients of Drs. S. Solis-Cohen, Riesman and Ashton of the Philadelphia General Hospital, Dr. Landis of the Phipps Institute, and Dr. Musser of the Presbyterian and University hospitals. To these gentlemen and to Drs. Rehfuss and Jackson, resident physicians in the University and Philadelphia hospitals respectively, we wish to express our thanks for cooperation in this work.

248 South Twenty-First Street.

AN OBSCURED ALCOHOLIC MULTIPLE NEURITIS IN A CASE APPARENTLY OF FRANK OPIUM ADDICTION

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History.—Nov. 20, 1910, Miss M., aged 32, was brought in an ambulance to the hospital for treatment for drug addiction —"the laudanum habit," she phrased it. She complained of nervousness, diarrhea and vomiting. The picture presented was emphatically that of the opium addict: the facies typical, narcomania pronounced, atrophy of breasts, cessation—for more than a year—of menstruation. There was no history of alcoholism.

Personal History.—The patient was one of a family of four children; family history negative except for alcoholism in the father. She appeared fairly well nourished and no organic lesion was evident. She could stand on her feet for but a few minutes at a time and was ataxic. She was unable to sleep and suffered with severe abdominal cramps, except when under the influence of the narcotic. She had a poor appetite, having been a small eater since using the drug in large amount. She seemed possessed of good intellect, but stated that she was in a continuous state of terror, agitation and foreboding. She expressed great remorse on account of her habit, but was afraid she would die if the drug were discontinued.

History of Drug Habit.—Fifteen years previously, on advice of a fellow sufferer from dysmenorrhea, the patient began the use of Squibb's Diarrhea Mixture. Thirty drops was the original dose, taken several times daily during the menstrual period. This was continued for one year. Then an increase of dosage ensued with a more or less continuous use of the mixture. A gradual increase in amount and decrease in intervals followed and during the previous six years the patient had been taking from 4 to 6 ounces of the preparation daily. She was getting the equivalent of from 3 to 4 grains of morphin every day.

Treatment.—A rapid withdrawal of the drug was indicated and was instituted the second day after admission. On the third day of treatment her narcotic, as well as the occasional substitution of morphin, was discontinued. Veronal was used during the following week, when sleep came naturally. Toward the end of the second week, the patient began to show considerable restlessness and complained of numbness and burning of hands and feet; gradual loss of power in both soon followed, with great tenderness over the nerve-trunks and muscles of the extremities. The diagnosis of multiple neuritis was now made; but just why it should have occurred was difficult to explain, until the large alcoholic content of the diarrhea mixture was recognized.

Squibb's Diarrhea Mixture[1] consists of the following:

Tr. opium	m. vi.	(content of alcohol, 91 per cent.)
Tr. capsicum	m. iii.	(content of alcohol, 48 per cent.)
Spts. camphor	m. vi.	(content of alcohol, 93 per cent.)
Chloroform	m. iiss.	(content of alcohol, 1 per cent.)
Alcohol	m. xivss.	(content of alcohol, 95 per cent.)

Total alcoholic content, 83.1 per cent.

In the mixture the patient had been getting, for six years, from 3 to 4 ounces of alcohol daily. The patient's inability to stand and her ataxia, mentioned in the history, now became significant as of alcoholic origin. These had been, in the first diagnosis, passed over as merely symptomatic of opium addiction, the case seemed to be so clearly one of that addiction alone. On closer investigation into the history of the case, the significant fact was now brought out that on the morning before admission the patient had been frightened into hurrying to the hospital, because on attempting to get out of bed her legs had refused to support her. This fact, had it been known, would have pointed to an oncoming neuritis, of probable alcoholic etiology. The seemingly well-nourished condition of this patient, unusual in an opium habitué with a habit of such long duration, seemed now attributable to the food value of the alcohol regularly consumed.

Outcome.—The neuritis progressed rapidly; complete paralysis of hands and feet, with characteristic hand- and wrist-drop, was present at the end of the third week. Muscular atrophy of the extremities became progressively more marked to the end of the third month. Most of the classic symptoms and signs of multiple neuritis, involving sensory, motor and trophic centers, appeared during the course of the disease. Mental symptoms were not present, nor did any joint adhesions occur. The patient slept well, ate heartily, and was cheerful. Two months after the onset, faint motor power became possible in the index-finger of the right hand. This inaugurated a gradual return of muscular ability, which has advanced steadily but slowly to the time of making this report —four and one-half months from time of the patient's entrance to the hospital. The ankle-drop was still complete, but on April 1, for the first time, the patient was able to stand, being partly supported by the nurse. The weight increased steadily during the previous six weeks, the muscles were regaining their former size, menstruation was reestablished five weeks after treatment began and recurred normally, and the breasts returned to more normal size. The original tremor of hands and tongue disappeared, but the deep reflexes (notably the plantar and patellar) were still completely absent. The urine on admission contained hyaline and granular casts (not in great numbers), acetone and albumin; on April 4 it was normal. The hemoglobin ranged between 80 and 85 per cent.

This has seemed to me to be an especially interesting case, owing to the etiologic factors which may have contributed to the inducement of the neuritis. The patient's anemia, produced by the opium, presented favorable soil for the development of neuritis; and in addition to the deleterious effects of this drug on metabolism, we must take into account the probable injury produced by the chloroform in the mixture. An amount of chloroform varying from 1 to 2 drams was ingested daily. Now any substance which interferes with the oxygenizing processes of the blood, must lower resistance to other toxic substances such as alcohol. In the blood chloroform is carried, for the most part, by the red cells, and is said to retard the reduction of oxyhemoglobin (Cushny). It is well known that chloroform will produce fatty degenerative changes throughout the body, its effects on metabolism resembling closely those of phosphorus poisoning. It is to be noted, too, in connection with thi case, that the effects of this drug are especially marked when it is taken into the stomach because of the slower absorption and consequent more prolonged action. An additional reason for emphasizing the chloroform factor is the fact that it belongs to the same narcotic group as alcohol—the methane series—and produces similar effects.

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[1] Based on N. F. The formula differs slightly in Squibb' "Materia Medica."

116 Dithridge Street.

MYASTHENIA GRAVIS

FRANK W. ACKER, M.D.
DENVER

I am reporting this case because of the rarity of the disease and to assist the profession in the diagnosis, should they meet with this condition. Some text-books do not mention it.

It is, as the name implies, a grave asthenia or fatigue of the musculature of the body, due to an exhausted condition of the nervous system. In this case, I did not make the diagnosis, but thought it a case of bulbar paralysis, so I called several consultants to help me out; but none of them had ever heard of such a condition, until Dr. Hall was called. He immediately recognized it as myasthenia gravis.

ETIOLOGY AND PATHOLOGY

The etiology is obscure, but several theories are held. One theory is that it is produced by a toxin in the blood which causes the fatigue. Another theory is that it follows infections which cause a toxic neuritis. Link believes that it is due to lymphorrhagia into the muscles, interfering with the lymphatic circulation, thus preventing the removal of fatigue products; but the majority of men seem to support the toxic theory.

The pathologic changes are mainly in the muscles, the nervous system being apparently normal in most cases. There occurs between the muscle fibers a lymphorrhagia, consisting of small lymphoid cells about again as large as red blood-cells; occasionally cells of larger type are found.

REPORT OF CASE

Patient.—M., aged 16, white, was of negative family history. The patient was a well-built girl for her age, with good color, and a well-developed body. She had always had the best of health until March, 1910. At that time she attended a dance in a very light gown, came out into the cold air in a very heated condition and rode home several miles. Since that time the symptoms enumerated below appeared and grew rapidly worse.

Symptoms.—Diplopia, ptosis of upper lids, difficult swallowing and chewing, collection of food in the cheeks, inability to control movements, especially after any kind of exercise; difficult respiration and tachycardia; difficult speech and pronunciation; weakness of neck muscles, causing the patient to rest her head against something; inability to cross knees; a lack of ambition and complaint of becoming tired after any small amount of exercise.

Course of Disease.—The patient's muscles became stiff, and it became more difficult for her to perform any movement. She felt very much better in the morning after she had rested during the night. The urine was negative. The patient died from dyspnea and cardiac failure the same night that Dr. Hall was called in.

DIAGNOSIS, PROGNOSIS AND TREATMENT

I regarded the case as one of bulbar palsy, as it had so many of the symptoms of that condition; in fact, bulbar paralysis is a part of this disease. Besides the typical symptoms of this disease, in the diagnosis the myasthenic reaction can be used, which consists in the electrical examination of the muscles. If a rapidly intermittent current be applied to the affected muscles, they respond well at first, but rapidly the contractions become less, until there is no response; this according to the degree of asthenia in the affected muscles.

The prognosis in these cases is, as a general rule, unfavorable. From one year to two years is the usual length of time the patient lives. My patient, from the time of the first symptoms, lived nine months.

In the treatment of this condition the following points should be observed:

1. All infections and toxic agents should be removed. 2. The patient should take rest. 3. Special attention should be paid to elimination. 4. Tonics such as strychnin and arsenic should be administered. 5. The diet should be of the highest concentration and easy of mastication, as the patient cannot chew and swallow well.

St. Joseph's Hospital.

OPERATION FOR PEDUNCULATED EXOSTOSIS OF THE EXTERNAL AUDITORY MEATUS

S. B. MUNCASTER, M.D.
WASHINGTON, D. C.

Exostoses of the auditory canal are at times as hard as ivory; it is almost impossible to cut them with the sharpest instrument or to drill them with the keenest burr.

A simple and easy method is to make a notched tooth saw out of No. 1 snare wire, or No. 1 piano wire. A piece of such wire twelve inches long is placed on a hard board and nicked obliquely one inch in the center of it, about 100 times. For this purpose, a sharp, heavy knife is used, the blade of which is not brittle. This will make sharp teeth that will saw through the hardest bone.

An application of cocain, 4 per cent., and solution of epinephrin, 1 to 1,000, is made to contract the tissues and for local anesthesia. The canal is washed with solution of bichlorid of mercury, 1 to 5,000, using an ear syringe.

The wire tooth saw must be adjusted around the growth with an ear snare handle. After it is adjusted the assistant holds the wire in place while the operator withdraws the snare handle. The ends of the wire are then twisted around two pieces of wood—one and a half inches long and about one-fourth inch in diameter—for handles.

The base of the growth is then sawed through and removed with a pair of forceps. It is advisable to saw slowly to prevent heat and breaking of the wire. When the base is wider than the body of the growth this wire tooth saw will not be of any service.

If the patient is disposed to be nervous, an anesthetic should be administered.

907 Sixteenth Street.

Intracranial Complications of Middle Ear Disease.—A point of importance in diagnosis of intracranial complications secondary to middle ear disease, says W. Taylor in the *Practitioner*, is that when sinus infection is associated with any other intracranial complication, such as cerebral abscess, the phenomena of the sinus infection predominate, and signs characteristic of the other complaint will only manifest themselves after the sinus trouble has been removed by operation.

Therapeutics

ACUTE ENTERITIS OF ADULTS AND OLDER CHILDREN

There is perhaps danger of over-refinement in giving separate descriptions to disorders affecting different localities of the digestive tract. There are mentioned gastritis, duodenitis, jejunitis, ileitis, typhlitis, colitis, sigmoiditis, and proctitis, but three divisions are certainly convenient; gastritis, enteritis and colitis. While these are not mutually exclusive, the symptoms indicative of disorders of these three divisions of the alimentary canal are certainly distinctive. Duodenitis may be associated, and often is, with gastritis, and enteritis and colitis also are closely connected.

It may also seem an excess of refinement to give separate descriptions to enteritis as it occurs in individuals of different ages, but the disease as it affects infants is so different in its etiology, symptomatology and management from enteritis affecting older children and adults, that to discuss them separately is not only convenient, but practical.

The common causes of acute enteritis are the ingestion of an excessive amount of food, or of food which is not in proper condition to be eaten. In this latter class are included unripe fruit, over-ripe fruit, vegetables, meats and other articles which are not fresh or which may have already commenced to undergo decomposition. It may also be caused by a chilling of the surface of the body, such as becoming uncovered in bed at night when an open window allows the wind to blow on the body, or by chilling of the feet through dampness or through inadequate shoes and socks. Various forms of secondary enteritis, such as may be observed in typhoid fever, cholera, and tuberculosis, must be mentioned in order to make the account complete, but these secondary types will not be discussed in this connection.

The most common and the most important symptoms of acute enteritis are pain and diarrhea. Either of these symptoms may appear before the other, or they may appear coincidently. Other characteristic symptoms are tenderness over certain portions of the abdomen, distention of the intestines with gas, and rumbling noises or borborygmi caused by the movements of gas and fluid from one part of the intestines to another.

When a physician is called to a patient suffering with pain and diarrhea, the first question which arises in his mind is whether to relieve the pain at once by administering an anodyne, or to remove the cause of the trouble by administering a cathartic. If the disease is due to the eating of an excessive amount of food or to improper food and the diarrhea has not been so abundant as to render it probable that the original offending matter has been thoroughly removed from the intestine, and if the pain is not severe, it is certainly wise to commence treatment by the administration of a cathartic. The best of all drugs for this purpose is castor oil, which may be administered in a dose of 15 c.c. (½ an ounce, a tablespoonful) in black coffee or in lemon juice. If for any reason (as, for example, a great distaste of the patient for the drug) it seems better to give some other medicine, the sulphate of magnesium may be selected. This may be given in a dose of 15 grams (½ an ounce) with a little ginger and water, and should be repeated in three hours if in that time it has not acted thoroughly. A dose of calomel (2 or 3 grains) with bicarbonate of sodium (from 5 to 10 grains) may be given instead of the above, if deemed advisable, but for the condition described the castor oil, or Epsom salt, or Rochelle salt is better. After the intestine has been well emptied, or at the beginning of treatment, if the pain is excessive, morphin should be administered for the relief of the pain. If the pain was so great that it has seemed wise to give an anodyne before giving the cathartic, a hypodermatic injection of ¼ grain of sulphate of morphin and 1/150 of a grain of sulphate of atropin may be given to an adult. Another hypodermatic injection of morphin alone, ⅛ of a grain, should be given in an hour, if the pain is not entirely relieved. After the pain has been relieved and after the patient awakens from sleep, if this has followed the hypodermatic injection, the cathartic should be given in accordance with the principles already laid down.

If the pain is not severe, or if, for any reason, it seems unwise to give the patient morphin, other drugs may be employed. The spirit of chloroform is useful for this purpose. It may be combined with other carminatives and anodyne drugs, as, for instance, in the following prescription:

℞	Gm. or c.c.		
Spiritus chloroformi	5		fl. ʒiss
Tincturæ cardamomi comp.	25	or	fl. ℥i
Spiritus vini gallici	ad 100		ad fl. ℥iv

M. et Sig.: Two teaspoonfuls, in water, every hour.

While these medicines are being administered internally, or while they are acting, external applications should be made to the abdomen. Perhaps nothing is more useful than a mild mustard paste, made in the following way: Mix two tablespoonfuls of flour with sufficient hot water to make a paste, then mix thoroughly with this paste one tablespoonful of ground mustard Spread this on a cloth and apply to the middle of th abdomen. After this has thoroughly reddened the skin it may be removed and a hot flaxseed poultice may b substituted for it. If the severity of the symptoms i not sufficient to warrant the trouble involved in th preparation of this application, a rubber bag, partl filled with hot water, may be applied to the abdomen. I this is not at hand, several thicknesses of flannel, heate in the oven, may be applied.

Although all irritation and fermentation may ceas after the clearing out of the bowels and the stopping o the peristaltic cramps, still it is generally wise to sooth the irritated membrane with bismuth, and stop fermentation with salol, as:

℞	Gm. or c.c.		
Bismuthi subcarbonatis	10		ʒiis
Phenylis salicylatis	3	or	gr. xl

M. et fac chartulas 10

Sig.: One powder every two hours.

In the after-treatment, the matter of food is of grea importance. It is wise to withhold all solid food entirel for several hours after the attack and until the intesti has been thoroughly emptied and the pain has entire ceased. At first only warm drinks should be given. little warm water may be given at intervals of from on half an hour to an hour, and a little later warm mi may be given at intervals of two hours. When the acti symptoms have entirely subsided, solid food may administered. This also should be given warm. O of the best forms of solid food for early administrati is a soft boiled egg, or a coddled egg, prepared by coo ing, after it has been opened, in hot water. Next to th is a small piece of fresh meat; a broiled lamb chop, piece of broiled steak, a piece of rare roast beef, or roa amb may be given. A little later the patient may be allowed stale bread with a little butter, a small baked potato, or a little thoroughly boiled rice. Boiled or baked custard made with milk and eggs may also be allowed. These foods are almost entirely digested in the stomach, with the exception of the rice, bread and potato, and even these are partially digested in the stomach if they are thoroughly chewed. Articles of food which are not digested in the stomach should not be allowed until the patient has thoroughly recovered from the enteritis, and then they should be taken only gradually and in small amounts. Among these foods are included especially fruits and vegetables, which should be taken only after several days, and at first in small amounts and not frequently.

Persons who are susceptible to attacks of acute enteritis should be particular always to protect the body by suitable and adequate clothing. Warm stockings and heavy shoes should keep the feet from the cold and damp ground, and woolen underclothing should be used, except possibly in the very warmest weather in the middle of summer. Care should be taken to avoid unripe and overripe fruit and vegetables, meats and other articles of food which are not fresh. Excessive eating and too rapid eating should always be avoided. The individual who eats a moderate amount of food of good quality and avoids exposure to cold will rarely be troubled with acute enteritis.

WARTS—VERRUCA

A wart is an over-growth of a papilla of the corium of he skin. It consists of one or more vascular loops surounded and held together by connective tissue which is covered by a layer of epithelial cells. It is common on he hands of young people and on the genital organs of young adults.

The cause of the abnormal growth has not been definitely established. In some instances it appears to be associated with some disturbance of the nervous system. At other times it would appear to be associated with auto-intoxication accompanying constipation. In still other cases, local irritation seems to give rise to it; and n the opinion of some writers it is due to the action of bacteria.

In the majority of persons the presence of a few warts gives rise to so little trouble that they will not devote he time and attention necessary to their successful treatment. In the occasional cases in which the patient really desires to get rid of the trouble, the treatment should be both general and local. If there are evidences of autontoxication, as indicated by intestinal fermentation and constipation, repeated small doses of sulphate of magnesium will often prove beneficial. The dose may range from 5 or 10 grains (0.30 or 0.60 gram) for a child to ½ dram or 1 dram (2 or 4 grams) for an adult, given dissolved in water, on an empty stomach, once, twice, or three times a day. If there are signs of intestinal putrefaction, as shown by indican in the urine, a saline alkaline cathartic should not be selected, as it tends to prolong rather than stay the condition. A castor oil purge, then vegetable laxatives should be selected.

In other cases, particularly if the patient is nervous and anemic, Fowler's solution of arsenic may be given in doses of 1 or 2 drops for a child, and 3 or 4 drops for an adult, given diluted in water, three times a day, after eating.

If there is indigestion, as indicated by flatulence and a coated tongue, without constipation, dilute hydrochloric acid, given in doses of from 5 to 10 drops, well diluted with water, after meals, may prove useful.

The external treatment generally proves more interesting to the patient. It is commonly observed that the warts frequently disappear without treatment, perhaps on account of some change in manner of life, or on account of increased cleanliness. One of the most satisfactory methods of treating small warts, when not very numerous, is by direct application, strictly limited to the wart itself, of glacial acetic acid. Sometimes bathing the warts with a strong solution of salicylic acid or of boric acid, or of resorcin, will result in their removal.

In many cases, however, the most satisfactory method is by removing them with a knife, curved scissors, or a curette. If such operative measure is undertaken, the wart and the surrounding skin should be carefully cleansed by means of a bichlorid of mercury solution. The wart may be anesthetized by a spray of ethyl chlorid. It is then seized with a pair of forceps and gently lifted up, when it may be cut off, either with a knife or a pair of curved scissors. It is generally well to curette the base of the wound after removal of the wart. If there is much hemorrhage, it can usually be stopped by pressure, or by the application of a solution of sulphate of iron. If the bleeding stops by pressure, the wound should be touched with phenol (carbolic acid) and dressed with a dry dusting powder, such as boric acid or 1 per cent. salicylic acid in talcum powder. The nitrate of silver stick (or a 25 per cent. solution) may be substituted for the phenol for treatment of the wound left after excision.

When the warts occur about the genital organs they are usually due to purulent discharges, or to excessive mucous or sebaceous secretions. In these cases great attention to cleanliness is always essential. Bathing with a strong bichlorid of mercury solution is useful, but it will frequently be necessary to excise them. An excellent dusting powder for use in these cases is composed of the following:

℞	Gm.		
Zinci oxidi			
Acidi tannici			
Hydrargyri chloridi mitis, āā	5	or	āā ʒi

M. et Sig.: Apply externally.

To prevent a return of these genital warts daily bathing with peroxid of hydrogen solution and the free use of talcum powder are generally efficient.

Operation and Sunshine in Treatment of Tuberculous Peritonitis.—The details of seventy-one operative cases are tabulated by Y. Takaki to emphasize the well-known advantages of a long median incision and exposure of the intestine and omentum to the sunlight for twenty minutes after evacuation of the ascites. The temperature may run up after operation for a few days but subsides harmlessly. He does not attempt to operate when the temperature is already high, but waits for it to subside, the final outcome being better. A second operation became necessary in two of his patients, and the nodules and adhesions found at the first operation had all vanished. His communication is published in the *Sei-i-kwai*, March 10, 1911, page 19. His youngest patient was 8 and the oldest 54 years old; in twenty-three of his sixty-seven cases the onset was sudden and stormy, suggesting acute appendicitis or peritonitis in some instances. There was complicating acute peritonitis in one case, extensive intestinal hemorrhage in two. Complicating pulmonary lesions were benefited by the operation in some cases. On the whole the outlook for the ascitic form is seen to be good, and fair for the fibrous form, while there is little hope in the ulcerative form.

STATE BOARD STATISTICS FOR 1910

THE ANNUAL PRESENTATION BY THE COUNCIL ON MEDICAL EDUCATION OF RESULTS OF STATE BOARD EXAMINATIONS

On pages 1566 to 1575 will be found three tables, A, B and C, giving in detail the results of the various state medical license examinations held during 1910. Complete reports were received from all states.

Tables A and B have been arranged so that, read from left to right, they give the results by colleges, showing the number of graduates appearing for examination in each state, whether they passed or failed, the total number examined during the year, the number who passed, the number who failed, the percentage of failures and the number of states in which graduates of each school appeared for examination. Read from above downward, they give the results by states, showing the number registered and rejected from each college, the total number examined, the total number registered, the total number rejected and the percentage of rejections. The fact that the majority of graduates take the license examination in the state in which the college is located is shown by the dark diagonal zone made by the grouping of figures, passing from the upper left to the lower right corner of each table. This shows also that the states which harbor low-grade medical schools are themselves the recipients of the greater portion of the ill-trained output of such schools. These tables are worthy of much careful study, for many important deductions are possible.

Caution in Forming Conclusions

In making comparisons on the basis of these statistics several factors should be carefully considered. The number examined is important since, if all other conditions are equal, the larger the number of graduates examined, the more accurate is the finding. But other conditions are seldom equal. The number of states in which a school's graduates have been examined is important. The larger this number the more accurate will be the conclusions. Again, the character of the board making the examination and the methods employed are important factors to be considered, since some boards hold very careful examinations and include practical laboratory and clinical tests, or they may mark the papers more severely, while others, especially partisan boards, may be very lenient. In this connection it should be stated that although conditions are undergoing a steady improvement it is still true that the character of the license examination as usually conducted at the present time is such that graduates of colleges conducted largely by quiz-class methods may easily be successful in passing them. Therefore, the statistics herewith presented should be taken only as part of any investigation of medical schools, although it is an important part.

Graduates of All Years Examined in 1910.

Table A shows the results for all candidates who took examinations in 1910, regardless of the years in which they graduated. This shows that altogether 7,004 were examined last year, as compared with 7,287 in 1909; 7,770 in 1908, and 7,271 in 1907. Of those examined 18.4 per cent. failed, as compared with 19.6 per cent. in 1909; 21.7 per cent. in 1908, and 21.3 per cent. in 1907.

There were 121 medical colleges in the United States which still grant degrees and which had graduates examined. Foreign graduates were examined in 20 states, the total number
being 108. The largest number of foreigners examined in an
state was 41 in New York. Graduates of Canadian school
were examined in 25 states, more appearing naturally in th
border-line states. The figures for the Canadian colleges ar
given separately in order to show the number of candidate
coming from each as well as to show the successes of thei
graduates at the examinations. Altogether 112 candidate
from Canadian colleges were examined, of which number 1
or 16.1 per cent. failed. Of all Canadian colleges, the Un
versity of Toronto had the largest number examined. Lava
University has the highest percentage of failures. There we
no failures recorded for graduates from McGill, or from th
University of Manitoba.

Undergraduates Examined During 1910

Line 130 of Table A shows the number of non-graduat
examined in four states during 1910. Altogether 353 no
graduates were examined, of which number 161 or 45.6 p
cent. failed. North Carolina is required by an amendment
its practice act to register non-graduates, who are permitt
to practice only in the sparsely settled mountain district
The open door for these candidates still remains only in Ma
sachusetts, Mississippi, Oregon and Tennessee, and the pe
centages of failures in these states this year for no
graduates were respectively, 87.3, 70.9, 0.0, and 15.0. T
largest number registered was in Tennessee where, out of t
315 candidates registered during the year in that state, 1
or 45.1 per cent., were non-graduates.

Recent Graduates Examined During 1910

Table B gives the results for graduates of 1906 to 19
inclusive, which were examined during 1910. This table
particularly important, since it deals with recent graduat
and is, therefore, the fairest basis for comparison betwe
colleges. The fairest estimate of a medical college from t
standpoint of failures at state board examinations would
obtained from this table. Of all candidates examined in 19
5,678, or 80.7 per cent., were recent graduates, and of t
number 14.9 per cent. failed, as compared with 18.4 per ce
for all candidates. The figures for medical schools which ha
ceased to exist either through merger or otherwise have be
included in the line for miscellaneous colleges.

Old Practitioners Examined During 1910

Table C is so arranged as to show in comparison the resu
for graduates of all years (first column), for recent gradua
(second column), the graduates of 1905 and previous ye
(third column), and the graduates of 1910 (fourth colum
Of the graduates of 1905 and previous years, or "old pra
tioners," 973 were examined and of this number 283, or
per cent. failed, as compared with 14.9 per cent. of failu
for recent graduates. This high percentage of failures
probably due chiefly to the long time these candidates h
been out of college and to the fact that they are required
take the same examination as recent graduates. Justice
such candidates, most of whom have already been licen
but who, for good reasons, may desire to change their l
tions, is the strongest argument for interstate reciprocity
medical licensure, or for special percentage allowances at
examinations for years of practice. The total number of th

Total Results
Comparison with Previous Years

	Table A				B		C		A		K	
Year.	Examined.	Total Examined—Passed.	Examined—Failed.	Percentage Failed.	Recent Grads. Examined.	Percentage Failed.	Older Pract. Examined.	Percentage Failed.	Non-Grads. Examined.	Percentage Failed.	Regist'd Without Written Examination.	Total Registered.
1904	7035	5672	1363	19.3	4773	14.1	579	29.7	515	52.6	999	6671
1905	7170	5680	1490	20.8	6054	16.2	690	37.7	472	61.9	394	6074
1906	8035	6368	1667	20.7	6250	16.4	793	27.1	703	51.3	1497	7865
1907	7271	5723	1548	21.3	5922	15.1	675	27.7	674	69.6	1426	7149
1908	7770	6084	1686	21.7	6477	17.8	796	31.5	494	56.8	1276	7360
1909	7287	5857	1430	19.6	5891	15.4	958	30.0	438	54.1	1373	7230
1910	7004	5712	1292	18.4	5678	14.9	973	29.1	353	45.6	1640	7352

candidates will naturally diminish each year as increased reciprocal relations are established, since, as a rule, the states which do not have reciprocal relations with other states (e. g., California, Florida, Washington, see Table L) examined the largest numbers of old practitioners.

TABLE D.—COLLEGES GROUPED BY STATES
Showing the Number Examined and Percentage of Failures

All Colleges of	Graduates.								State Rank According to the Number Examined.	Rank According to Successes at Examinations.
	Of 1910.		Of 1906 to 1910.		Of 1905 and Previous.		Of all years.			
	Number Examined.	Per Cent. Failed.	Number Examined.	Per Cent. Failed.	Number Examined.	Per Cent. Failed.	Number Examined.	Per Cent. Failed.		
Alabama	56	26.8	81	25.9	2	50.0	83	26.5	20	27
Arkansas	36	33.3	44	34.1	....	.....	44	34.1	25	30
California	43	9.3	76	14.5	11	36.3	87	17.2	16	20
Colorado	9	0.	14	0.	1	0.	15	0.	33	1
Connecticut	9	0.	24	4.2	4	0.	28	3.6	30	3
District of Columbia	25	4.0	97	21.6	13	7.7	110	20.0	15	23
Georgia	147	7.5	174	13.2	8	50.0	182	14.8	10	18
Illinois	539	8.7	722	12.5	104	21.2	826	13.6	1	17
Indiana	56	1.8	60	5.0	....	.....	60	5.0	24	5
Iowa	87	2.3	103	4.9	17	23.5	120	7.5	13	10
Kansas	33	0.	37	2.7	3	66.7	40	7.5	26	10
Kentucky	199	19.6	229	23.1	13	38.4	242	24.0	8	26
Louisiana	101	6.9	116	6.9	10	0.	126	6.4	12	7
Maine	22	9.1	24	8.3	8	0.	32	6.7	29	8
Maryland	279	16.5	404	18.1	48	37.5	452	20.1	6	24
Massachusetts	133	9.0	240	15.8	30	20.0	270	16.3	7	19
Michigan	121	1.7	142	2.8	31	16.1	173	5.2	11	6
Minnesota	31	9.7	67	10.4	17	5.9	84	9.5	19	15
Mississippi	15	53.3	23	52.2	....	.....	23	52.2	31	32
Missouri	360	8.9	461	17.6	49	42.9	510	20.6	4	25
Nebraska	68	1.5	79	2.5	7	28.6	86	4.7	17	4
New Hampshire	7	0.	21	4.8	1	100.0	22	9.1	32	14
New York	279	9.3	475	6.9	54	16.7	529	7.9	3	11
North Carolina	41	36.6	63	42.8	3	66.7	66	43.9	22	31
Ohio	169	8.3	188	10.1	24	37.5	212	13.2	9	16
Oklahoma	....	....	....	....	....	.....	....	....	....	....
Oregon	16	12.5	32	15.6	1	100.0	33	18.2	28	21
Pennsylvania	452	5.1	591	6.9	80	10.0	671	7.3	2	9
South Carolina	41	29.3	58	27.6	3	33.3	61	27.9	23	28
Tennessee	285	23.2	410	28.0	56	42.9	466	29.8	5	29
Texas	78	0.	82	0.	3	33.3	85	1.2	18	2
Vermont	17	11.8	30	6.7	5	20.0	35	8.6	27	13
Virginia	74	4.1	101	7.9	11	9.1	112	8.0	14	12
Wisconsin	48	18.7	63	20.6	5	0.	68	19.1	21	22
Totals Examined in 1910	3875	10.7	5331	14.1	622	24.8	5953	15.3	....	....

This table gives data relating to the group of colleges in each state. For example, it shows that of all the medical schools in New York 529 graduates of various years were examined by state boards during 1910, of which number 7.9 per cent. failed. Of the 475 who graduated in recent years, however (1906 to 1910 inclusive), 6.9 per cent. failed, while of the 54 who graduated previous to 1906, 16.7 per cent. failed.

The ninth column gives the rank of each state group of colleges according to the number of applicants. The Illinois group of colleges leads, having 826 graduates examined by state boards during 1910, followed by Pennsylvania with 671, New York with 529, Missouri with 510 and Tennessee with 466.

The tenth column gives the rank of each state group of colleges according to the success of the graduates at state board examinations. It is interesting to compare the figures of these two last columns. While the Illinois group ranks first according to the number examined it ranks seventeenth in the success of its graduates at examinations. While Pennsylvania ranks second as to the number examined, it ranks ninth in the success of its graduates at examinations and while Tennessee ranks fifth as to the number examined, it ranks twenty-ninth in the success of its graduates at examinations

Graduates of 1910 Examined During 1910

Table C also gives the results for the graduates of 1910 who were examined during the year by state boards, and shows that 3,976 or 56.5 per cent. of all candidates examined during the year graduated in 1910. Educational statistics show that the medical colleges of the United States graduated 4,440 students last year; therefore, about 90 per cent. of all graduates in 1910 took examinations for license during that year. In some of the states graduates in medicine are allowed to serve hospital internships without first becoming licensed practitioners, which doubtless accounts for some of the remaining 10 per cent. Of those examined 432, or 10.9 per cent., failed.

Table C permits of an interesting study of medical schools from the standpoint of state board examinations. For some colleges, the percentages of failures are high for old practitioners but much less for recent graduates and for graduates of 1910. Other colleges, however, show no improvement either for recent graduates, or for graduates of 1910. In the latter instance a knowledge of these colleges, based on a careful study and which included inspections of the colleges, bears out what the figures of this table indicate, that some of these institutions are teaching medicine no better to-day than they did years ago.

Results for Larger Colleges
Comparison with Previous Years (Table E).

Year.	Colleges Represented.	Total Examined.	Per Cent. Failed.	Colleges, 100 or More Examined.	Total Examined.	Per Cent. Failed.	Colleges, 50 to 100 Examined.	Total Examined.	Per Cent. Failed.	Colleges, Less than 50 Examined.	Total Examined.	Per Cent. Failed.	Foreign and Nongrads. Examined.	Per Cent. Failed.
1904	149	6241	16.4	14	2271	11.7	28	1817	16.9	107	2153	21.0	794	43.1
1905	153	6411	18.3	14	2350	12.4	37	2543	17.7	102	1518	28.9	759	51.1
1906	146	6938	17.3	16	2504	14.5	34	2381	16.9	96	2043	21.3	1097	42.5
1907	146	6207	13.8	12	1626	12.7	36	2578	14.7	98	2003	13.6	1064	55.5
1908	137	6491	17.2	19	2596	15.6	26	1825	15.5	92	2070	20.8	1270	14.6
1909	149	6341	16.2	17	2476	16.9	27	1920	12.3	90	1945	19.2	946	42.6
1910	121	5953	15.3	17	2379	13.3	25	1791	13.7	79	1783	19.3	573	37.9

Study of Totals and Percentages

A study of totals and percentages as compared with previous years is of interest. The total examined and the percentage of failures, shown in Table A, are the lowest since the compiling of these statistics was begun in 1904. The total examined in 1910 shows a decrease of 1,031 below 1906, when 8,035 candidates were examined.

Other deductions from the larger tables have been made and are presented in Tables D to M, which are worthy of careful study.

Study of Colleges by State Groups

Table D is based on the first four large tables and gives the results for the group of colleges located in each state. It shows what states are furnishing the largest numbers of physicians and the failure percentages indicate what kind of training these colleges are furnishing, so far as may be judged from the failures of their graduates before state boards. By comparing the percentages of the first column with the other columns it can be seen whether there has been any reduction in failures for graduates of recent years. Of the 34 states having medical colleges which grant degrees, 15 furnished 100 or more candidates examined. Of these 15 groups of colleges, 6 had failure percentages of less than 10 per cent.; 4 had failure percentages between 10 and 20, and 5 had over 20 per cent. of failures. The highest failure percentage was obtained by the Mississippi group. Of the states having 100 or more candidates examined, however, the highest failure percentage was obtained by the Tennessee group, which had 29.8 per cent., followed by the Kentucky group, with 24.0 per cent. Other deductions are given with the table.

Study of Larger Colleges

Table E is also based on the three large tables and gives the results of state board examinations as they affect the 42 largest medical colleges. Although these colleges represent less than one-third of the medical colleges in the United States, they furnish nearly two-thirds of all the candidates for license. This table shows that the graduation of large classes by a medical college does not prove excellence of teaching since several colleges having 100 or more examined have very high failure percentages and this holds true even for the graduates of 1910. In fact, the larger the college from the standpoint of the number of students and graduates the more serious is inferior teaching ability, indicated by a high failure percentage. In fairness to the medical student, and in the interests of the public, such schools should greatly strengthen their teaching facilities or reduce the size of their classes.

Altogether for these schools 563, or 13.4 per cent., failed, as compared with 19.2 per cent. of failures for the 1783 candidates from the 79 colleges having less than 50 each examined.

Besides the graduates of the medical colleges of the United States, 1,051 candidates were examined, made up of 112 graduates of Canadian colleges, 108 foreign college graduates, 478 graduates of miscellaneous colleges and 353 non-graduates. Of these 1,051 candidates, 384, or 36.5 per cent., failed.

Results in Home States and Elsewhere

Table F is of much interest, because it shows for each college the results of examinations in the state where the college is located, as compared with the results of examinations in other states, where there is no possibility of local influence. Of all recent graduates examined in 1910, 3,191, or about 60

TABLE E.—COLLEGES HAVING FIFTY OR MORE EXAMINED

Table Shows Total Number Examined, Percentage of Failures and Number of States in Which Each College Had Representatives

College.	Graduates, All Years.			Graduates of 1906-1910.			Graduates, 1905 and previous.			Graduates of 1910.			Margin Number.
	No. Examined.	Per Cent. Failed.	No. States.	No. Examined.	Per Cent. Failed.	No. States.	No. Examined.	Per Cent. Failed.	No. States.	No. Examined.	Per Cent. Failed.	No. States.	
University of Louisville, Medical Department	236	22.5	27	223	21.5	24	13	38.4	11	194	18.0	19	40
Northwestern University Medical School	206	5.3	20	185	4.9	17	21	9.5	11	136	2.2	11	30
University of Pennsylvania, Department of Medicine	196	2.6	29	164	2.4	25	32	3.1	15	124	1.6	16	100
College of Physicians and Surgeons, Chicago	185	14.1	24	154	14.3	20	31	12.9	15	120	3.3	15	25
Jefferson Medical College	174	4.6	33	149	2.7	31	25	16.0	13	105	0.	20	97
Memphis Hospital Medical College	135	31.1	13	118	30.5	10	17	35.3	9	99	26.3	8	106
Chicago College of Medicine and Surgery	133	12.0	18	131	11.5	17	2	50.0	2	108	8.3	11	23
Rush Medical College	130	7.7	21	90	0.	16	40	25.0	15	65	0.	9	32
Tulane University of Louisiana, Medical Department	120	5.0	16	110	5.5	13	10	0.	8	97	5.2	10	42
University of Maryland, School of Medicine	116	20.7	21	107	20.6	18	9	22.2	6	85	20.0	13	48
Columbia University, College of Physicians and Surgeons	116	0.9	20	100	1.0	16	16	0.	10	43	2.3	7	74
St. Louis University, School of Medicine.—R.	109	4.6	14	106	2.8	13	3	66.7	2	90	0.	8	65
Universities of Nashville and Tennessee, Medical Department	109	22.9	21	90	16.7	16	19	52.6	12	53	11.3	10	109
Baltimore Medical Department	108	24.1	25	95	20.0	22	13	53.8	8	57	10.5	11	44
Meharry Medical College	103	42.7	17	99	42.4	17	4	50.0	4	65	36.9	15	107
Tufts College Medical School	102	9.8	10	96	9.4	8	6	16.7	4	61	8.2	5	52
University of Michigan, Department of Medicine and Surgery	101	5.9	16	80	1.2	11	21	23.8	11	67	0.	7	55
Harvard Medical School	99	5.1	25	84	3.6	22	15	13.3	11	43	0.	9	51
Washington University, Medical School	95	3.2	8	92	3.3	8	3	0.	3	88	3.4	5	68
Barnes Medical College	90	31.1	18	77	28.6	17	13	46.2	8	60	25.0	13	61
Medico-Chirurgical College of Philadelphia	87	13.8	16	75	13.3	10	12	16.7	10	69	11.6	7	98
College of Physicians and Surgeons, Baltimore	85	15.3	20	75	12.0	17	10	40.0	8	59	13.6	16	45
Johns Hopkins University, Medical Department	84	1.2	24	74	0.	22	10	10.0	7	44	0.	16	46
University and Bellevue Hospital Medical College	84	6.0	14	77	2.6	8	7	42.9	7	43	2.3	4	82
Atlanta College of Physicians and Surgeons	81	11.1	6	78	10.7	5	3	33.3	3	69	5.8	5	17
Long Island College Hospital	80	13.7	8	76	14.5	4	4	0.	4	41	14.6	3	78
State University of Iowa, College of Medicine	78	7.7	10	67	5.9	9	11	18.1	6	54	3.7	4	35
Cornell University Medical College	76	0.	13	72	0.	9	4	0.	4	50	0.	3	75
University of Pittsburgh, Medical Department	75	12.0	3	75	12.0	3	..	....	..	60	8.3	2	101
St. Louis College of Physicians and Surgeons	67	41.8	18	56	48.2	14	11	9.1	8	19	15.8	5	66
University Medical College, Kansas City	67	17.9	14	56	12.5	8	11	45.5	9	51	7.8	7	67
University of Minnesota, College of Medicine and Surgery	65	7.7	9	50	8.0	9	15	6.7	7	30	10.0	3	57
Hahnemann Medical College and Hospital, Philadelphia	63	14.3	15	56	14.3	13	7	14.3	6	39	12.8	7	96
Medical College of the State of South Carolina	61	27.9	6	58	27.6	6	3	33.3	3	41	29.3	6	103
Milwaukee Medical College, Dept. of Medicine of Marquette University	61	21.3	6	56	23.2	5	5	0.	3	44	20.5	5	120
Indiana University School of Medicine	60	5.0	7	60	5.0	7	..	....	..	56	1.8	6	33
Atlanta School of Medicine	59	17.0	8	59	17.0	9	..	....	..	50	12.0	8	18
Maryland Medical College	59	45.8	13	53	43.4	10	6	66.7	5	34	44.1	9	47
Hahnemann Medical College and Hospital, Chicago	57	17.5	19	49	14.3	16	8	37.5	6	28	7.1	5	26
Vanderbilt University, Medical Department	55	9.1	19	45	6.7	17	10	20.0	8	26	7.7	12	111
John A. Creighton Medical College	53	1.9	8	50	2.0	8	3	0.	2	42	2.4	3	69
Albany Medical College	50	6.0	8	42	7.1	2	8	0.	6	26	11.5	1	73
Totals	4170	13.4	..	3709	12.5	..	461	19.1	..	2735	10.0	..	...

This table is especially interesting, since it gives data relating to the 42 larger medical colleges arranged according to the number of graduates examined. This allows of comparisons between colleges having classes of nearly equal size. This time as in 1909 the University of Louisville Medical Department had the largest number examined, which place was held in 1908 by Jefferson Medical College and in the three previous years by the College of Physicians and Surgeons of Chicago.

Of the 17 colleges having 100 or more examined, 9 have failure percentages of less than 10, while 6 stand out prominently with large failure percentages of 20.7, 22.5, 22.9, 24.1, 31.1 and 42.7. This marked difference holds even in respect to recent graduates (of 1906 to 1910, inclusive).

Of the 25 colleges having between 50 and 100 graduates examined, 11 had failure percentages of less than 10; 9 had failure percentages between 10 and 20 and 5 had failure percentages above 20, the 3 highest having 31.1, 41.8 and 45.8 per cent.

The average percentage of failures for these larger colleges for graduates of 1905 and previous years, was 19.1; for graduates of 1906 to 1910 inclusive (recent graduates), 12.5; for graduates of 1910, 10.0 and for graduates of all years, was 13.4. Of the 42 colleges, 23 obtained failure percentages below the average. Of the 6,431 college graduates examined by state boards in 1910, these larger schools furnished 4,170, or 64.8 per cent.

STATE BOARD STATISTICS FOR 1910

TABLE F.—COMPARISON OF RESULTS IN HOME STATES AND ELSEWHERE. BASED ON TABLE B.

College.	Total Examined.	Results in Home State.			Results in Other States.		
		Passed.	Failed.	Per Cent. Failed.	Passed.	Failed.	Per Cent. Failed.
ALABAMA.......................... **—17.9**	**81**	**45**	**19**	**29.7**	**15**	**2**	**11.8**
Birmingham Medical College	35	22	9	29.0	3	1	25.0
University of Alabama	46	23	10	30.3	12	1	7.7
ARKANSAS.......................... **+ 9.0**	**44**	**20**	**9**	**31.0**	**9**	**6**	**40.0**
College of Physicians and Surgeons	21	5	6	54.5	6	4	40.0
University of Arkansas	23	15	3	16.7	3	2	40.0
CALIFORNIA.......................... **—16.2**	**76**	**57**	**11**	**16.2**	**8**	**0**	**0.**
California Eclectic Medical College	3	2	1	33.3	....	....	.....
College of P. and S., Los Angeles	16	11	2	15.4	3	0	0.
College of P. and S., San Francisco	18	11	5	31.3	2	0	0.
Cooper Medical College	21	16	2	11.1	3	0	0.
Hahnemann Medical Coll. of the Pacific	5	4	1	20.0	....	....	.....
Oakland Coll. of Medicine and Surgery	3	3	0	0.	....	....	.....
University of California	10	10	0	0.	....	....	.....
COLORADO.......................... **—**	**14**	**12**	**0**	**0.**	**2**	**0**	**0.**
University of Colorado	14	12	0	0.	2	0	0.
CONNECTICUT.......................... **+ 8.3**	**24**	**12**	**0**	**0.**	**11**	**1**	**8.3**
Yale Medical School	24	12	0	0.	11	1	8.3
DISTRICT OF COLUMBIA.......... **— 7.5**	**97**	**25**	**9**	**26.5**	**51**	**12**	**19.0**
George Washington University	33	15	2	11.8	14	2	12.5
Georgetown University	25	6	2	25.0	16	1	5.9
Howard University	39	4	5	55.6	21	9	30.0
GEORGIA.......................... **+31.5**	**174**	**101**	**0**	**0.**	**50**	**23**	**31.5**
Atlanta College of Phys. and Surgs	78	53	0	0.	17	8	32.0
Atlanta School of Medicine	59	35	0	0.	14	10	41.7
Georgia College of Eclectic M. & S	5	....	....	....	5	0	0.
Hospital Medical College, Atlanta	7	....	....	....	7	0	0.
Medical College of Georgia	25	13	0	0.	7	5	41.7
ILLINOIS.......................... **+ 3.6**	**722**	**445**	**57**	**11.4**	**187**	**33**	**15.0**
Bennett Medical College	45	23	8	25.8	9	5	35.7
Chicago College of Med. and Surg	131	91	9	9.0	25	6	19.4
College of Medicine and Surg., Ph.M	21	8	8	50.0	4	1	20.0
College of Phys. and Surgs., Chicago	154	94	13	12.1	38	9	19.1
Hahnemann Med. College and Hospital	49	25	4	13.8	17	3	15.0
Hering Medical College	10	3	2	40.0	4	1	20.0
Jenner Medical College	20	15	4	21.1	1	0	0.
National Medical University	6	1	5	83.3	....	....	.....
Northwestern University Medical School	185	119	1	0.8	57	8	12.3
Reliance Medical College	11	7	3	30.0	1	0	0.
Rush Medical College	90	59	0	0.	31	0	0.
INDIANA.......................... **+31.4**	**60**	**53**	**1**	**1.9**	**4**	**2**	**33.3**
Indiana Univ., School of Medicine	60	53	1	1.9	4	2	33.3
IOWA.......................... **+18.8**	**103**	**82**	**1**	**1.2**	**16**	**4**	**20.0**
Drake University, College of Medicine	25	23	0	0.	1	1	50.0
State Univ. of Iowa, Coll. of Medicine	67	50	1	2.0	13	3	18.7
State Univ. of Iowa, Homeopathic Dept	11	9	0	0.	2	0	0.
KANSAS.......................... **+14.3**	**37**	**30**	**0**	**0.**	**6**	**1**	**14.3**
Kansas Medical College	14	12	0	0.	2	0	0.
Univ. of Kansas, School of Medicine	23	18	0	0.	4	1	20.0
KENTUCKY.......................... **+10.9**	**229**	**90**	**19**	**17.4**	**86**	**34**	**28.3**
Louisville National Medical College	6	0	1	.100	1	4	80.0
University of Louisville, Med. Dept	223	90	18	16.7	85	30	26.1
LOUISIANA.......................... **+ 2.3**	**116**	**63**	**4**	**5.9**	**45**	**4**	**8.2**
Flint Medical College	6	1	2	66.7	3	0	0.
Tulane University Medical Department	110	62	2	3.1	42	4	8.7
MAINE.......................... **+50.0**	**24**	**20**	**0**	**0.**	**2**	**2**	**50.0**
Medical School of Maine	24	20	0	0.	2	2	50.0
MARYLAND.......................... **— 0.5**	**404**	**93**	**21**	**18.4**	**238**	**52**	**17.9**
Baltimore Medical College	95	21	2	8.7	55	17	23.6
College of Physicians and Surgeons	75	11	1	8.3	55	8	12.7
Johns Hopkins University	74	20	0	0.	54	0	0.
Maryland Medical College	53	5	8	61.5	25	15	37.5
University of Maryland	107	36	10	21.7	49	12	19.7
MASSACHUSETTS.......................... **— 5.8**	**240**	**123**	**27**	**18.0**	**79**	**11**	**12.2**
Boston University	24	13	0	0.	10	1	9.1
College of Physicians and Surgeons	36	6	18	75.0	5	7	58.3
Harvard Medical School	84	42	2	4.5	39	1	2.5
Tufts College Medical School	96	62	7	10.1	25	2	7.5
MICHIGAN.......................... **+ 0.7**	**142**	**110**	**3**	**2.7**	**28**	**1**	**3.4**
Detroit College of Medicine	35	33	1	2.9	1	0	0.
Detroit Homeopathic College	6	4	2	33.3	....	....	.....
Univ. of Michigan, Dept. of M. & S	80	60	0	0.	19	1	5.0
Univ. of Michigan, Homeopathic College	21	13	0	0.	8	0	0.
MINNESOTA.......................... **— 5.0**	**67**	**35**	**5**	**12.5**	**25**	**2**	**7.5**
Univ. of Minnesota, Coll. of M. & S	50	31	4	11.4	15	0	0.
Hamline University	17	4	1	20.0	10	2	16.7
MISSISSIPPI.......................... **—32.9**	**23**	**8**	**11**	**57.9**	**3**	**1**	**25.0**
Mississippi Medical College	23	8	11	57.9	3	1	25.0
MISSOURI.......................... **+11.2**	**461**	**146**	**18**	**11.0**	**231**	**66**	**22.2**
American Medical College	6	3	2	40.0	1	0	0.
Barnes Medical College	77	15	5	25.0	40	17	29.8
Eclectic Medical University, Kansas City	9	....	....	....	6	3	33.3
Ensworth Medical College	31	7	3	30.0	12	9	42.9
Kansas City Hahnemann Medical Coll	28	4	0	0.	19	5	20.8
St. Louis University	106	42	0	0.	61	3	4.7
St. Louis Coll. of Physicians and Surgs	56	11	5	31.3	18	22	55.0
University Medical College, Kansas City	56	16	3	15.8	33	4	10.8
Washington University	92	48	0	0.	41	3	6.8
NEBRASKA.......................... **+13.3**	**79**	**64**	**0**	**0.**	**13**	**2**	**13.3**
John A. Creighton Medical College	50	39	0	0.	10	1	9.1
Lincoln Medical College	15	11	0	0.	3	1	25.0
University of Nebraska	14	14	0	0.	0	0	.....
NEW HAMPSHIRE.......................... **+ 7.2**	**21**	**7**	**0**	**0.**	**13**	**1**	**7.2**
Dartmouth Medical School	21	7	0	0.	13	1	7.2
NEW YORK.......................... **— 3.2**	**475**	**373**	**30**	**7.4**	**69**	**3**	**4.2**
Albany Medical College	42	38	3	7.3	1	0	0.
Columbia Univ. Coll. of P. & S	100	65	1	1.5	34	0	0.
Cornell University Medical School	72	64	0	0.	8	0	0.
Eclectic Medical College, New York	12	6	4	40.0	2	0	0.
Fordham University	2	2	0	0.	0	0	0.
Long Island College Hospital	76	60	9	13.0	5	2	28.6
N. Y. Homeopathic Med. Coll. & Hosp	25	17	4	19.0	4	0	0.
N. Y. Med. Coll. & Hosp. for Women	2	0	2	.100	0	0	0.
Syracuse University	27	21	3	12.5	3	0	0.
University and Bellevue Hospital	77	65	1	1.5	10	1	9.1
University of Buffalo	40	35	3	7.9	2	0	0.
NORTH CAROLINA.......................... **+26.2**	**63**	**15**	**5**	**25.0**	**21**	**22**	**51.2**
Leonard School of Medicine	45	5	3	37.5	17	20	54.0
North Carolina Medical College	18	10	2	16.7	4	2	33.3
OHIO.......................... **+22.1**	**188**	**140**	**8**	**5.4**	**29**	**11**	**27.5**
Cleveland College of Phys. and Surgs	20	19	0	0.	1	0	0.
Cleveland Homeo. Medical College	9	4	1	20.0	4	0	0.
Eclectic Medical College	30	7	2	22.2	10	11	52.4
Ohio-Miami Medical College	44	35	4	10.3	5	0	0.
Pulte Medical College	5	3	0	0.	2	0	0.
Starling-Ohio Medical College	45	42	1	2.3	2	0	0.
Toledo Medical College	9	9	0	0.	0	0	0.
Western Reserve University	26	21	0	0.	5	0	0.
OREGON.......................... **—21.8**	**32**	**18**	**5**	**21.8**	**9**	**0**	**0.**
Willamette University	11	7	1	12.5	3	0	0.
University of Oregon	21	11	4	26.7	6	0	0.
PENNSYLVANIA.......................... **+ 3.7**	**591**	**336**	**23**	**4.1**	**214**	**18**	**7.8**
Hahnemann Medical College and Hosp	56	27	4	12.9	21	4	16.0
Jefferson Medical College	149	59	0	0.	86	4	4.4
Medico-Chirurgical College of Phila	75	56	8	12.5	9	2	18.1
Temple University	35	32	3	8.6	....	....	.....
University of Pennsylvania	164	87	2	2.2	73	2	2.7
University of Pittsburgh	75	59	6	9.2	7	3	30.0
Woman's Med. Coll. of Pennsylvania	37	16	0	0.	18	3	14.3
SOUTH CAROLINA.......................... **+ 7.2**	**58**	**34**	**12**	**26.1**	**8**	**4**	**33.3**
Med. Coll. of the State of So. Carolina	58	34	12	26.1	8	4	33.3
TENNESSEE.......................... **+22.8**	**410**	**117**	**17**	**12.7**	**178**	**98**	**35.5**
Coll. of Physicians and Surgs., Memphis	21	6	2	25.0	8	5	38.4
Knoxville Medical College	4	1	0	0.	0	3	.100
Memphis Hospital Medical College	118	33	2	5.7	49	34	41.0
Meharry Medical College	99	17	7	29.2	40	35	46.7
Tennessee Medical College	24	19	1	5.0	1	3	75.0
Univ. of Nashville and Tennessee	90	29	4	12.1	46	11	19.3
University of West Tennessee	9	2	1	33.3	2	4	66.7
Vanderbilt University	45	10	0	0.	32	3	8.6
TEXAS.......................... **—**	**82**	**72**	**0**	**0.**	**10**	**0**	**0.**
Baylor University	9	8	0	0.	1	0	0.
Forth Worth University	21	19	0	0.	2	0	0.
Southwestern University Medical College	16	11	0	0.	5	0	0.
University of Texas	36	34	0	0.	2	0	0.
VERMONT.......................... **+ 0.9**	**30**	**15**	**1**	**6.3**	**13**	**1**	**7.2**
University of Vermont	30	15	1	6.3	13	1	7.2
VIRGINIA.......................... **+16.4**	**101**	**61**	**1**	**1.6**	**32**	**7**	**18.0**
Medical College of Virginia	39	28	0	0.	11	0	0.
University of Virginia	31	20	0	0.	11	0	0.
University College of Medicine	31	13	1	7.2	10	7	41.2
WISCONSIN.......................... **+41.0**	**63**	**45**	**7**	**13.5**	**5**	**6**	**54.5**
Marquette University	56	39	7	15.2	4	6	60.0
Wisconsin Coll. of Phys. and Surgeons	7	6	0	0.	1	0	0.
Totals.......................... **+ 9.9**	**5331**	**2867**	**324**	**10.2**	**1710**	**430**	**20.1**

In this table the number of graduates examined in the state in which the college is located are grouped in one column, while graduates of that college examined in other states are in another column. For example, under Maryland, this table shows that, of the 95 graduates of Baltimore Medical College examined by State Boards during 1910, 23 were examined in Maryland of which number 21 passed and 2, or 8.7 per cent. failed, while 72 were examined in other states of which number 55 passed and 17, or 23.6 per cent. failed. This table shows that the graduates have better chances of passing examinations in the state in which their colleges are located than they have elsewhere. This should always be considered in making comparisons between colleges. A college having a low standard, by having all its graduates examined in the home state, may sometimes show a lower percentage of failures than a college of much higher grade which has graduates examined by several states.

The heavy-faced figures give the results by states. The first column of heavy-faced figures shows the differences between the percentages of examinations in the home state and the examinations elsewhere. The plus sign indicates that graduates have better chances of success in the state where the colleges from which they graduated are located; the minus sign indicates that the chances are better elsewhere. The most marked variations in 1910 were in the examination of the graduates of the colleges of Maine, 50.0 per cent., of Wisconsin, 41.0 per cent., of Georgia, 31.5 per cent. and of Indiana, 31.4 per cent., in all of which the chances of the graduates were better in the home state. The marked variations where the graduate's chances were better elsewhere were in Mississippi, 32.9 per cent., Oregon, 21.8 per cent., and in California, 16.2 per cent. The totals show that on the average the chances of success were 9.9 per cent. better if the graduate took the examination in the state where his college was located.

per cent., took their license examinations in the state where the colleges from which they graduated were located. Of this number only 10.2 per cent. failed on the average, whereas, of the 2,140 candidates examined in other states, 20.1 per cent. failed. This would indicate that as a rule the student's chances of passing the license examination are better if he stays in the college's home state. In this connection it is interesting to note that not a single graduate of any one of the Nebraska colleges failed in the Nebraska examinations, although of the graduates of these colleges who were examined in other states, 13.3 per cent. failed. The student's chances for success at home and elsewhere were equal or nearly so in 5 instances; they were better in the home state in 21 instances, while in only 8 instances the student's chances were better if he went to some other state.

Total Results for Five Years

Table G shows, so far as reports were obtainable, the number registered and the number rejected in each state for each of the past five years. A comparison of this table with the statistics in the last educational number of The Journal (Aug. 20, 1910, p. 682), shows what would be expected, that the states having the largest number of medical graduates examine the largest numbers of physicians. In 1906 several states registered all of the majority of their applicants on the presentation of satisfactory credentials without written examinations. Now, only one state, New Mexico, will register candidates on presentation of a diploma, without examination. This table shows only those registered by examination. Another table (K) shows the total registration by all methods.

Classification of Colleges

Tables H, I and J give a classification of the medical colleges of the United States on the basis of the failures of their graduates at state board examinations during the past year. This classification is based on the examination of *recent graduates*, as shown in Table B. In forming conclusions, the caution already given should be observed, of noting the number examined, the number of states in which representatives appeared, the character of the board making the examination and the character of the examination. To form a more exact judgment one should compare the percentage of failures received by any college this year with those received in the classifications published in previous years. Careful investigation shows that a college cannot be considered a high-grade medical school merely because its graduates occasionally show a low percentage of failures at state board examinations. The fact is, several poorly equipped and low-standard colleges appear in the first list. On the other hand, some good schools appear in the second list. For the majority of colleges, however, the classification is fairly accurate. A comparison of this classification with that based on the actual inspection of the colleges by the Council on Medical Education will be of interest (see The Journal A. M. A., June 18, 1910, p. 2062).

Table H gives a list of 57 colleges which obtained failure percentages below 10 per cent., 24 of which had no failures whatsoever and 42 had only 5 per cent. or less. The failure percentage for the entire group was 3.5. Table I shows 22 colleges whose failure percentages were between 10 and 20 per cent., of which number 11 had percentages below that for the group, which was 13.7. Table J includes 42 colleges having failure percentages of 20 per cent., or above, of which number 25 had above 30 per cent., 14 had above 40 per cent. and 8 had percentages of 50 per cent., or higher. The average percentage for all candidates from this group of colleges was 31.9.

A comparison of the classification this year with those of previous years shows an increase in the number of colleges having above 20 per cent. of failures and a decrease in those having between 10 and 20 per cent. It will be interesting to note the changes in these totals hereafter as state boards more generally adopt the use of practical examinations.

Classification of Colleges
Comparison with Previous Years (Tables H, I, J).

	Colleges Having Less than 10 Per Cent.	Colleges Having 10 to 20 Per Cent.	Colleges Having Above 20 Per Cent.	Unclassified Colleges.	Total Colleges.
1904........	47	27	38	37	149
1905........	45	22	40	46	153
1906........	62	24	43	20	149
1907........	64	27	39	18	148
1908........	48	29	46	15	138
1909........	58	31	38	7	134
1910........	57	22	42	0	121

Table G.—Physicians Examined by State Boards, 1906 to 1910, Inclusive

State.	1906		1907		1908		1909		1910		Totals.			
	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Registered.	Rejected.	Examined.	Rejected.	Registered.	Percentage Rejected.
Alabama...........	138	22	142	38	66	66	7	20	94	64	657	447	210	32.0
Arizona...........	35	4	29	2	36	4	19	6	15	9	159	134	25	15.7
Arkansas...........	152	73	72	106	120	85	111	131	96	28	974	551	423	43.4
California...........	190	44	118	84	145	96	184	73	204	47	1,185	841	344	29.0
Colorado...........	...	...	50	6	52	14	36	15	48	5	226	186	40	17.7
Connecticut...........	84	28	64	17	67	16	52	13	69	18	428	336	92	21.5
Delaware...........	11	1	4	2	11	0	19	2	21	2	73	66	7	9.6
Dist. of Col...........	63	34	59	37	53	36	46	21	32	13	394	253	141	35.8
Florida...........	66	7	72	8	79	10	70	12	102	15	441	389	52	11.8
Georgia...........	164	5	139	22	150	14	143	28	148	9	822	744	78	9.5
Idaho...........	42	12	38	7	52	16	54	23	47	24	315	233	82	26.0
Illinois...........	748	69	580	52	646	96	645	117	631	100	3,684	2,250	434	11.8
Indiana...........	228	12	172	17	172	7	102	3	97	9	819	771	48	5.9
Iowa...........	166	29	146	26	139	43	98	14	113	4	778	662	116	15.0
Kansas...........	180	27	125	14	116	18	121	20	66	25	712	608	104	14.6
Kentucky...........	52	13	48	19	107	61	120	18	119	35	592	446	146	24.7
Louisiana...........	133	14	153	7	145	29	121	33	104	34	773	656	117	15.1
Maine...........	80	8	74	4	92	11	55	10	73	5	412	374	38	9.2
Maryland...........	112	44	139	41	132	71	130	33	131	32	865	644	221	25.6
Massachusetts*.....	270	120	226	118	238	108	213	95	197	100	1,685	1,144	541	32.1
Michigan...........	162	6	150	8	113	6	140	2	131	3	721	696	25	3.5
Minnesota....	104	31	80	35	76	25	90	25	76	22	564	426	138	24.4
Mississippi*...........	156	144	157	191	138	184	130	154	84	150	1,488	665	823	55.3
Missouri...........	249	193	186	86	181	50	212	70	181	23	1,431	1,009	422	29.5
Montana...........	24	25	34	14	51	27	68	23	73	24	363	250	113	31.1
Nebraska...........	58	25	68	14	103	16	74	8	80	0	446	383	63	14.1
Nevada...........	2	0	10	1	17	0	9	0	12	1	52	50	2	3.8
New Hampshire.....	34	17	19	11	37	16	20	10	34	8	206	144	62	30.1
New Jersey...........	80	13	73	15	89	17	76	12	63	17	455	381	74	16.3
New Mexico...........	...	...	5	3	30	2	11	4	6	1	62	52	10	16.1
New York...........	629	56	691	54	679	73	566	72	515	72	3,407	8,080	327	9.6
North Carolina.....	87	41	111	20	95	26	111	18	79	15	603	483	120	19.9
North Dakota.......	60	10	49	4	52	10	41	6	42	5	279	244	35	12.6
Ohio...........	222	16	179	9	182	6	192	13	172	10	1,001	947	54	5.3
Oklahoma...........	95	28	...	...	34	10	92	44	100	42	445	321	124	27.9
Oregon*...........	65	56	62	56	43	63	95	50	93	55	638	358	280	43.9
Pennsylvania.......	519	73	465	54	485	49	474	27	451	52	2,649	2,394	255	9.6
Rhode Island........	54	30	36	23	29	17	23	10	23	10	255	165	90	35.3
South Carolina.....	39	13	41	17	47	21	46	33	61	44	362	234	128	35.4
South Dakota.......	26	11	23	5	58	6	60	21	52	9	271	219	52	19.2
Tennessee*...........	150	96	133	140	213	87	277	4	315	52	1,467	1,088	379	25.8
Texas...........	159	53	187	64	143	23	181	19	162	5	996	832	164	16.5
Utah...........	37	7	26	0	27	5	28	4	34	4	172	152	20	11.6
Vermont...........	35	0	40	7	45	6	38	2	21	1	195	179	16	8.2
Virginia...........	123	35	124	33	128	53	136	40	122	14	808	633	175	21.7
Washington...........	137	45	163	38	182	60	148	49	154	43	1,019	784	235	23.1
West Virginia.......	84	72	92	9	102	18	105	10	88	25	605	471	134	22.3
Wisconsin...........	52	2	62	5	80	7	56	13	71	7	355	321	34	9.6
Wyoming...........	12	3	7	5	7	2	12	0	10	0	58	48	10	17.1
Totals...........	8,035		7,271		7,770		7,287		7,004		37,367			
Registered........	6,368		5,723		6,084		5,857		5,712		29,744			
Rejected..........	1,667		1,548		1,686		1,430		1,292		7,623			
Per Cent. Rej.. .	20.7		21.3		21.7		19.6		18.4		20.4			

This table gives the number of candidates registered by examination by each state during each of the last five years, as well as the number rejected. The last four columns give the totals for the five years and the percentage rejected by each state.

Six states registered over 1,000 candidates by examination, these being Illinois, Massachusetts, Missouri, New York, Pennsylvania and Tennessee. Over 3,000 were registered in Illinois and New York. Of the 1,088 candidates registered in Tennessee in the last five years, 322, or 29.6 per cent., were non-graduates.

The highest percentage of rejections was 55.3 in Mississippi, followed by Oregon, Arkansas and District of Columbia, with 43.9, 43.4, and 35.8, respectively. The states marked with an asterisk (*) included non-graduates among those examined, and for that reason would be expected to have higher percentages rejected.

The lowest failure percentages were in Michigan, 3.5; Nevada, 3.8; Ohio, 5.3, and Vermont, 8.2.

TABLE H.—COLLEGES HAVING LESS THAN 10 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1910. BASED ON TABLE B.

College	Total . Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No of States.
CALIFORNIA					
Cooper Medical College	21	19	2	9.5	3
Oakland College of Medicine and Surgery	3	3	0	0.	1
University of California, Medical Dept	10	10	0	0.	1
COLORADO					
University of Colorado, Medical Department	14	14	0	0.	3
CONNECTICUT					
Yale Medical School	24	23	1	4.2	6
GEORGIA					
Georgia Coll. of Eclectic Medicine and Surg	5	5	0	0.	2
Hospital Medical College, Atlanta	7	7	0	0.	1
ILLINOIS					
Northwestern University, Medical School	185	176	9	4.9	17
Rush Medical College	90	90	0	0.	16
INDIANA					
Indiana University, School of Medicine	60	57	3	5.0	7
IOWA					
Drake University, College of Medicine	25	24	1	4.0	3
State University of Iowa, Coll. of Medicine	67	63	4	5.9	9
State University of Iowa, Homeopathic Dept	11	11	0	0.	3
KANSAS					
Kansas Medical College	14	14	0	0.	3
University of Kansas, School of Medicine	23	22	1	4.4	3
LOUISIANA					
Tulane University, Medical Department	110	104	6	5.5	13
MAINE					
Medical School of Maine	24	22	2	8.3	4
MARYLAND					
Johns Hopkins University, Medical Dept	74	74	0	0.	22
MASSACHUSETTS					
Boston University School of Medicine	24	23	1	4.2	7
Harvard Medical School	84	81	3	3.6	22
Tufts College Medical School	96	87	9	9.4	8
MICHIGAN					
Detroit College of Medicine	35	34	1	2.9	2
University of Michigan, Dept. of Med. and S.	80	79	1	1.2	11
University of Michigan, Homeopathic Coll	21	21	0	0.	7
MINNESOTA					
University of Minnesota, Coll. of Med. and S.	50	46	4	8.0	9
MISSOURI					
St. Louis University, School of Medicine	106	103	3	2.8	13
Washington University, Medical Department	92	89	3	3.5	8
NEBRASKA					
John A. Creighton Medical College	50	49	1	2.0	8
Lincoln Medical College	15	14	1	6.7	4
University of Nebraska, College of Medicine	14	14	0	0.	1
NEW HAMPSHIRE					
Dartmouth Medical School	21	20	1	4.8	5
NEW YORK					
Albany Medical College	42	39	3	7.1	2
Columbia Univ., Coll. of Phys. and Surgs	100	99	1	1.0	16
Cornell University Medical College	72	72	0	0.	9
Fordham University, School of Medicine	2	2	0	0.	1
Univ. and Bellevue Hosp. Medical College	77	75	2	2.6	8
University of Buffalo, Medical Department	40	37	3	7.5	3
OHIO					
Cleveland Coll. of Physicians and Surgeons	20	20	0	0.	2
Ohio-Miami Medical College	44	40	4	9.1	4
Pulte Medical College	5	5	0	0.	3
Starling-Ohio Medical College	45	44	1	2.2	3
Toledo Medical College	9	9	0	0.	1
Western Reserve University, Medical Dept	26	26	0	0.	6
OREGON					
Willamette University, Medical Department	11	10	1	9.1	3
PENNSYLVANIA					
Jefferson Medical College	149	145	4	2.7	31
Temple University, Medical Department	35	32	3	8.6	1
University of Pennsylvania, Dept. of Med	164	160	4	2.4	25
Woman's Medical College of Pennsylvania	37	34	3	8.1	13
TENNESSEE					
Vanderbilt University, Medical Department	45	42	3	6.7	17
TEXAS					
Baylor University, College of Medicine	9	9	0	0.	2
Fort Worth University, Medical Department	21	21	0	0.	2
Southwestern University Medical College	16	16	0	0.	3
University of Texas, Dept. of Medicine	36	36	0	0.	3
VERMONT					
University of Vermont, College of Medicine	30	28	2	6.7	9
VIRGINIA					
Medical College of Virginia	39	39	0	0.	7
University of Virginia, Dept. of Medicine	31	31	0	0.	9
WISCONSIN					
Wisconsin Coll. of Physicians and Surgeons	7	7	0	0.	2
Totals	2567	2476	91	3.5	..

TOTAL REGISTRATION IN 1910

The tables thus far described have referred only to the results of examinations and to those registered on that basis. Table K, however, shows the total number who received licenses in each state, including those registered by examination, by reciprocity, and under various exemption clauses. Above 100 were registered in 28 different states, above 200 in 10, above 300 in 5 and above 400 in 3, the largest numbers being registered in Illinois with 675, in New York with 592, in Pennsylvania with 451, in Texas with 341 and in Tennessee with 330. Non-graduates were registered in 4 states, there being 142 registered in Tennessee, 39 in Mississippi, 6 in Massachusetts and 5 in Oregon. Altogether 7,352 physicians were licensed during 1910.

Table L gives those registered without examination on presentation of satisfactory credentials, which included a license issued by some other state. This is usually described by the term "reciprocity," which conveys the idea that the state which accepts the license of another must be granted the same courtesy by the state issuing the original license. The term does not well describe this method of registration, however, since some state boards consider it more fair to the physician to accept his credentials, if satisfactory, whether the state board issuing the original license returns the favor or not. Had not reciprocal relations been established by the 34 states shown in the table, 1,502 physicians, the majority of whom have been in practice for many years, would have been compelled to undergo the ordeal of a second trying examination.

TABLE I.—COLLEGES HAVING BETWEEN 10 AND 20 PER CENT. OF FAILURES BEFORE STATE BOARDS IN 1910. BASED ON TABLE B.

College.	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No of States.
CALIFORNIA					
College of Phys. and Surgs., Los Angeles	16	14	2	12.5	3
DISTRICT OF COLUMBIA					
George Washington Univ., Dept. of Medicine	33	29	4	12.1	14
Georgetown University, School of Medicine	25	22	3	12.0	10
GEORGIA					
Atlanta College of Physicians and Surgeons	78	70	8	10.7	5
Atlanta School of Medicine	59	49	10	17.0	9
ILLINOIS					
Chicago College of Medicine and Surgery	131	116	15	11.5	17
College of Physicians and Surgeons	154	132	22	14.3	20
Hahnemann Med. Coll. and Hosp., Chicago	49	42	7	14.3	16
MARYLAND					
College of Physicians and Surgeons	75	66	9	12.0	17
MINNESOTA					
Hamline University, Medical Department	17	14	3	17.7	8
MISSOURI					
Kansas City Hahnemann Medical College	28	23	5	17.9	7
University Medical College, Kansas City	56	49	7	12.5	8
NEW YORK					
Long Island College Hospital	76	65	11	14.5	4
New York Homeopathic Medical College	25	21	4	16.0	3
Syracuse University, College of Medicine	27	24	3	11.1	4
OHIO					
Cleveland Homeopathic Medical College	9	8	1	11.1	5
OREGON					
University of Oregon, Medical Department	21	17	4	19.0	3
PENNSYLVANIA					
Hahnemann Medical College and Hospital	56	48	8	14.3	13
Medico-Chirurgical College of Philadelphia	75	65	10	13.3	10
University of Pittsburgh, School of Medicine	75	66	9	12.0	3
TENNESSEE					
Tennessee Medical College	24	20	4	16.7	3
Univ. of Nashville and Tenn., Med. Dept	90	75	15	16.7	16
Totals	1199	1035	164	13.7	..

RECIPROCITY AND EDUCATIONAL STANDARDS

As at present administered, reciprocal relations between some states are tending to lower rather than to elevate educational standards. A study of these statistics will show that in several instances such relations exist between states differing widely in their standards of education and in the methods and severity of their examinations. It can be seen, therefore, that a loosely administered provision for reciprocity provides a wide-open door through which unqualified candidates can obtain registration. There are some boards, however, which wisely reserve and exercise the right to reject any candidate who does not possess satisfactory credentials even though he is licensed in a state with which it has reciprocal relations. Some boards also wisely require that the applicant, before he is eligible to registration through reciprocity, must have been engaged in the actual and reputable practice of his profession for at least a year, in the state where the original license was granted. Without this provision a candidate may be tempted to obtain his original license in the state giving the easiest examination and, on the other hand, a state board may be tempted to make its examination less severe for the sake of obtaining additional fees. Hence, without the one-year-residence clause, standards of examination are apt to be lowered. In the establishing of reciprocal relations, therefore, the state board should reserve and exercise the discretionary power to refuse to register any candidate who could not originally have registered in that state and secondly, the board should require that the applicant shall have been in the actual practice of medicine for at least a year before he is eligible to registration under the reciprocity provision.

TABLE J.—Colleges Having Over 20 Per Cent. of Failures Before State Boards in 1910. Based on Table B.

College.	Total Examined.	Number Passed.	Number Failed.	Per Cent. Failed.	No of States.
ALABAMA					
Birmingham Medical College	35	25	10	28.6	4
University of Alabama, Medical Department	46	35	11	23.9	6
ARKANSAS					
College of Physicians and Surgeons	21	11	10	47.6	3
University of Arkansas, Medical Department	23	18	5	21.8	6
CALIFORNIA					
California Eclectic Medical College	3	2	1	33.3	1
Coll. of Phys. and Surgs., San Francisco	18	13	5	27.8	3
Hahnemann Medical College of the Pacific	5	4	1	20.0	1
DISTRICT OF COLUMBIA					
Howard University, Medical Department	39	25	14	35.9	19
GEORGIA					
Medical College of Georgia	25	20	5	20.0	6
ILLINOIS					
Bennett Medical College	45	32	13	28.9	11
College of Medicine and Surgery, Ph.M.	21	12	9	42.9	6
Hering Medical College	10	7	3	30.0	6
Jenner Medical College	20	16	4	20.0	2
National Medical University	6	1	5	83.3	1
Reliance Medical College	11	8	3	27.3	2
KENTUCKY					
Louisville National Medical College	6	1	5	83.3	5
University of Louisville, Medical Department	223	175	48	21.5	24
LOUISIANA					
Flint Medical College	6	4	2	33.3	3
MARYLAND					
Baltimore Medical College	95	76	19	20.0	22
Maryland Medical College	53	30	23	43.4	10
University of Maryland, School of Medicine	107	85	22	20.6	18
MASSACHUSETTS					
College of Physicians and Surgeons	36	11	25	69.4	5
MICHIGAN					
Detroit Homeopathic College	6	4	2	33.3	1
MISSISSIPPI					
Mississippi Medical College	23	11	12	52.2	2
MISSOURI					
American Medical College	6	4	2	33.3	2
Barnes Medical College	77	55	22	28.6	17
Ensworth Medical College	31	19	12	38.7	7
St. Louis College of Physicians and Surgs.	56	29	27	48.2	14
Eclectic Medical University, Kansas City	9	6	3	33.3	4
NEW YORK					
Eclectic Med. Coll. of the City of New York	12	8	4	33.3	2
N. Y. Med. Coll. and Hospital for Women	2	0	2	100.	1
NORTH CAROLINA					
Leonard School of Medicine	45	22	23	51.1	11
North Carolina Medical College	18	14	4	22.2	6
OHIO					
Eclectic Medical College	30	17	13	43.3	11
SOUTH CAROLINA					
Medical Coll. of the State of So. Carolina	58	42	16	27.6	6
TENNESSEE					
College of Phys. and Surgeons, Memphis	21	14	7	33.3	6
Knoxville Medical College	4	1	3	75.0	3
Memphis Hospital Medical College	118	82	36	30.5	10
Meharry Medical College	99	57	42	42.4	17
University of West Tennessee, Med. Dept.	9	4	5	55.6	5
VIRGINIA					
University College of Medicine	31	23	8	25.8	10
WISCONSIN					
Marquette University, Medical Department	56	43	13	23.2	5
Totals	1565	1066	499	31.9	..

In the light of the above statement in regard to reciprocity, it will be interesting to study Table M which shows in what states the original licenses were granted of those who were registered elsewhere under the reciprocity provision during the last four years.

In Conclusion

In the publication of these statistics, our endeavor has been to give an absolutely fair presentation of facts, a knowledge of which is always beneficial. Without question this annual presentation of the results of state licensing examinations has had a most helpful influence on medical education and medical licensure in this country. We reiterate our acknowledgments to the state licensing boards, whose ready cooperation and complete reports have made the publication of these data possible.

TABLE K.—Registrations by State Boards During 1910

States.	By Examination.			By Reciprocity.	Without Written Exam. or Under Exemption.	Total Registered.
	Graduates, 1906-1910.	Graduates, 1905 and Previous.	Non-graduates.			
Alabama	88	6	......	......	......	94
Arizona	10	5	......	......	......	15
Arkansas	85	11	......	36	......	132
California	125	79	......	......	......	204
Colorado	45	3	......	121	......	169
Connecticut	57	12	......	2	......	71
Delaware	19	2	......	......	......	21
District of Columbia	29	3	......	7	......	39
Florida	69	33	......	......	......	102
Georgia	145	3	......	29	1	178
Idaho	29	18	......	......	......	47
Illinois	604	27	......	44	......	675
Indiana	93	4	......	35	......	132
Iowa	111	2	......	48	......	161
Kansas	63	3	......	61	......	127
Kentucky	110	9	......	17	3	139
Louisiana	96	8	......	6	......	110
Maine	62	11	......	5	......	78
Maryland	126	5	......	12	......	143
Massachusetts	170	21	6	......	......	197
Michigan	123	8	......	40	......	171
Minnesota	62	14	......	50	......	126
Mississippi	39	6	39	......	......	84
Missouri	174	7	......	57	7	245
Montana	47	26	......	......	......	73
Nebraska	78	2	......	63	......	143
Nevada	3	9	......	11	......	23
New Hampshire	30	4	......	2	......	36
New Jersey	51	12	......	218	......	281
New Mexico	3	3	......	......	90	96
New York	468	47	......	42	35	592
North Carolina	76	3	......	17	......	9
North Dakota	31	11	......	28	......	7
Ohio	162	10	......	49	......	221
Oklahoma	67	33	......	148	......	24
Oregon	50	38	5	......	......	9
Pennsylvania	437	14	......	......	......	451
Rhode Island	18	5	......	......	......	2
South Carolina	58	3	......	1	.	6
South Dakota	36	16	......	......	......	5
Tennessee	159	14	142	15	......	33
Texas	130	32	......	179	......	34
Utah	33	1	......	14	......	4
Vermont	19	2	......	7	......	2
Virginia	108	14	......	16	......	13
Washington	79	75	......	......	......	15
West Virginia	84	4	......	24	......	11
Wisconsin	61	10	......	82	2	15
Wyoming	8	2	......	16	......	2
Totals	4830	690	192	1502	138	735

This table shows the total number registered during 1910 in each st by the various methods. The first column shows the recent gradua registered, the second column, the old practitioners (graduates of 1 and previous years), the third column the non-graduates, and the fou column shows the number licensed through reciprocity. It is interest to note that states which have registered large numbers through r procity have examined very few old practitioners. The chief exc tion is New York, which has arranged reciprocal relations with o seven other states. The fifth column shows those registered with written examination under various exemption clauses. The last colu shows the total number of physicians registered in each state dur the year.

TABLE L.—PHYSICIANS REGISTERED THROUGH RECIPROCITY BY STATE EXAMINING BOARDS DURING 1910.

State Board of	Total Reg. through Reciprocity, Ea. State.	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Dist. of Columbia	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	N. Carolina	N. Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	S. Carolina	S. Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	W. Virginia	Wisconsin	Wyoming	U. S. Pub. Health and Marine Hosp. Service.	Canada
Arkansas	36												4	2		1	5	7							8											5							3		1							
Colorado	121				2								17	2	15	10	3	1		1		2	1	1	14	2	4			1		6			5			20				2	2		1		2	3	3	1		
Connecticut	2					1																										1																				
Dist. of Col.	7							1												1																										3		2				
Georgia	29									1				1	1		1		1	1												1				8						10				3			1			
Illinois	44													4	6	4	3		1	3		5	1				2	1		1				2	2	1								1				4	3			
Indiana	35					1							11		2	2	8					4	1		1										4											1						
Iowa	48					1							27	1		4							3		3		7								1														1			
Kansas	61			8									10	2	10		6								6		4								1	3						1	1					7	1			1
Kentucky	17													2						2		1			1											1				1		8				1						
Louisiana	6			2									1				1								1																					1						
Maine	5																			1		1																							3							
Maryland	12								2								1			1							1						2							1			1			2		1				
Michigan	40					1					1		12	2	2		1			2					1		1			1		2	1		6	1										1		2	3			
Minnesota	50							1					25		7	1			2	1		2			1		1			1				2	1														5			
Missouri	57			1		3							12	3	13	4	5			5		1	1				3							1						2			3									
Nebraska	63			1		2							16	1	14	7	1		1			2	1		9											1						1			1			2	3			
Nevada	11												3	1						1		1	1				4																									
New Hampshire	2										1																																		1							
New Jersey	218							3					2						3													206						1							2			1				
New York	42													1								11								9					3										15				2			1
No. Carolina	17								1				3				1			3		1																								6					2	
No. Dakota	28												13									1	10													1													3			
Ohio	49								1				10	9		1			3	3		10								1		4											1		1			5				
Oklahoma	148			3							8		35	5		23	15					1	1		24	1	2				1		1									21				5		1	1			
So. Carolina	1																																													1						
Tennessee	15										4			3			3										1						1																3			
Texas	179			37					3				34	6	4	6	13		1	4		5	3		16		11	1		1				3	12										1	4		13	1			
Utah	14					1							7				2					2										2																				
Vermont	7												1						3										1	1					1																	
Virginia	16							1	3								1	1		2					1								2									1						3	1			
Wyoming	24																3			2															6								11			2						
W. Virginia	82					3							40	4	6		1			8		1	7		3		1	1				2			2							1	1			1						
Wisconsin	16								1				3	1	4								1		2										1					1					1			1				
*Total	1502	0	0	52	2	13	0	6	11	1	14	0	286	50	84	63	74	9	15	41	0	51	31	1	91	3	42	3	1	16	1	224	7	8	45	21	0	21	0	5	0	45	23	1	27	31	2	45	31	1	2	2

*Total received from each state through reciprocity.

This table shows the number of physicians registered by each state through reciprocity during 1910. "Reciprocity" is not the best term to use, however, since some states, Colorado for instance, register candidates who have satisfactory credentials including licenses, regardless as to whether the state issuing the original license reciprocates with those or not. Taking New York as an example, reading from left to right, the table shows that New York registered a total of 42 applicants through reciprocity during 1910, of which number 1 came from Indiana, 11 from Michigan, 9 from New Jersey, 3 from Ohio, 15 from Vermont, 2 from Wisconsin and 1 from Canada. Reading from above downward, the table shows that 224 physicians left New York during 1910 and registered in other states under the reciprocity provision, of which number 6 registered in Colorado, 1 in Connecticut, 1 in Georgia, 2 in Michigan, 206 in New Jersey, 4 in Ohio, 2 in Utah and 2 in Wisconsin. New Jersey leads, having registered 216 physicians through reciprocity, followed by Texas which registered 179, Oklahoma with 148, Colorado with 121 and Wisconsin with 82. It is interesting to note in what states the original licenses were issued. The table shows that of the 1,502 applicants registered through reciprocity, 286, or 19 per cent. obtained their original licenses in Illinois and 224, or 15 per cent. were first registered in New York, but 206 of the latter were registered in New Jersey. The states which furnished the three next highest numbers were Missouri with 91, Iowa with 84, and Kentucky with 74.

Altogether 1,502 licenses were issued through reciprocity in 1910, an increase of 335 over 1909, 410 over 1908, 513 over 1907 and 817 over 1906.

TABLE M.—RECIPROCAL REGISTRATIONS IN FOUR YEARS
Showing what states issued the original licenses

State	Physicians Going from States Named During				Totals
	1907	1908	1909	1910	
Alabama*	2	4	2	..	8
Arizona*	..	1	2	..	3
Arkansas	1	..	1	52	54
California*	2	2	1	2	7
Colorado	5	10	12	13	40
Connecticut*	..	2	2	..	4
Delaware	1	2	1	6	10
District of Columbia	15	14	13	11	53
Florida*	..	..	1	1	2
Georgia	10	18	10	14	52
Idaho*	..	1	1	..	2
Illinois	240	225	320	286	1,071
Indiana	30	33	46	50	159
Iowa	126	94	77	84	381
Kansas	33	32	41	63	169
Kentucky	21	53	30	74	178
Louisiana	3	..	2	9	14
Maine	16	24	18	15	73
Maryland	25	30	25	41	121
Massachusetts*	6	3	3	..	12
Michigan	62	63	51	51	227
Minnesota	29	23	35	31	118
Mississippi*	1	1	1	1	4
Missouri	79	61	58	91	289
Montana*	..	..	..	3	3
Nebraska	30	47	53	42	172
Nevada	2	4	2	3	11
New Hampshire	1	2	8	1	12
New Jersey	27	46	29	16	118
New Mexico*	..	1	7	1	9
New York	79	100	59	224	462
North Carolina	1	4	7	7	19
North Dakota	3	6	5	8	22
Ohio	39	35	47	45	166
Oklahoma	4	3	5	21	33
Oregon*	..	1	..	..	1
Pennsylvania*	15	15	7	21	58
Rhode Island*	..	1	1	..	2
South Carolina	2	4	7	5	18
South Dakota*	4	1	1	..	6
Tennessee	5	14	21	45	85
Texas	12	10	4	23	49
Utah	1	3	4	1	9
Vermont	12	20	24	27	83
Virginia	11	15	26	31	83
Washington*	..	..	..	2	2
West Virginia	6	21	36	45	108
Wisconsin	27	42	46	31	146
Wyoming	1	..	2	1	4
U. S. Army	..	..	3	..	3
U. S. P. H. & M. Hosp. Serv.	..	..	..	2	2
Canada	..	..	..	2	2
Foreign and Miscellaneous	..	..	10	..	4
Totals	989	1,091	1,167	1,502	4,749

This table shows that 4,749 candidates were registered through reciprocity during the last four years and that there was a positive increase each year over the registration of the previous year. A study of the totals for the different states shows that of the 4,749 registered during the four years 1,071 or 22.6 per cent. obtained their original licenses in Illinois. This is more than twice the number coming from any other state. The states furnishing the next highest numbers are New York, with 462, Iowa with 381, and Missouri with 289. The states marked with an asterik (*) do not have reciprocal relations and would not appear in this table except for the fact that some states, like Colorado, and New Jersey, will accept a physician's credentials if satisfactory, whether the state issuing his original license returns the favor or not.

TABLE A.—PHYSICIANS EXAMINE

Marginal Number	NAME OF COLLEGE	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	
		Alabama		Arizona		Arkansas		California		Colorado		Connecticut		Delaware		District of Columbia		Florida		Georgia		Idaho		Illinois		Indiana		Iowa		Kansas		Kentucky		Louisiana		Maine		Maryland		Massachusetts		Michigan	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	ALABAMA																																										
1	Birmingham Medical College.—R	22	9																	2	0													1	0								
2	University of Alabama, Med. Dept.—R	23	10	1	0													6	0															3	1								
	ARKANSAS																																										
3	College of Physicians and Surg.—R					5	6																											1	1								
4	Univ. of Arkansas, Med. Dept.—R					15	3	1	0									1	0					0	1									0	1								
	CALIFORNIA																																										
5	California Eclectic Med. College.—E							3	2																																		
6	College of P. and S., Los Angeles.—R			2	0			11	2																																		
7	Coll. of P. and S., San Francisco.—R							12	6																																		
8	Cooper Medical College.—R							16	2																																		
9	Hahnemann Medical College of Pacific.—H							4	1																																		
10	Oakland College of Med. and Surg.—R							3	0																																		
11	Univ. of California, Med. Dept.—R							10	0																																		
	COLORADO																																										
12	Univ. of Colorado, Med. Dept.—R							1	0	12	0																																
	CONNECTICUT																																										
13	Yale Medical School							1	0			12	0																														
	DISTRICT OF COLUMBIA																																										
14	George Washington University.—R							1	1							15	2			1	0	1	0	1	0													2	0				
15	Georgetown Univ., School of Med.—R			1	0							4	0			6	2							1	0															1	1		
16	Howard University, Med. Dept.—R											0	1	1	0	4	5	2	0	3	0			2	0					1	0	1	0					2	1	1	2		
	GEORGIA																																										
17	Atlanta College of Physicians and Surg.—R	1	5					1	0									11	3	53	0																						
18	Atlanta School of Medicine.—R	3	6															4	1	35	0																	1	0				
19	Georgia College of Eclectic M. and S.—E																	4	1																								
20	Hospital Medical College, Atlanta.—E																	7	0																								
21	Medical College of Georgia.—R	1	0															3	1	13	0																	0	1	0	2		
	ILLINOIS																																										
22	Bennett Medical College.—R									1	0											0	1	23	8	1	0			0	1												
23	Chicago Coll. of Med. and Surg.—R							0	1													1	1	91	9	6	0	1	0			1	0										
24	College of Med. and Surg.—Ph.M.																							8	8	1	0	1	0			1	0										
25	College of Physicians and Surg.—R	1	1	0	1			10	0			0	1									2	2	94	13	1	0	1	0			1	1					1	0				
26	Hahnemann Medical College and Hosp.—H			2	0			1	1			2	0									1	0	25	4	1	1	3	0											1	0		
27	Hering Medical College.—H									1	0													3	2	1	0	1	0														
28	Jenner Medical College.—R																							15	4	1	0																
29	National Medical University.—P																							1	5																		
30	Northwestern Univ. Med. School.—R			1	0			5	0									3	0			8	2	121	1	2	0	1	0	2	0			1	0					1	0		
31	Reliance Medical College.—R																							7	3																		
32	Rush Medical College.—R					1	0	6	3	3	0							2	0			1	1	63	0			1	0														
	INDIANA																																										
33	Indiana Univ., School of Med.—R																							1	0	53	1													0	1		
	IOWA																																										
34	Drake University, College of Medicine.—R							0	1													0	1					23	0														
35	State University of Iowa, College of Med.—R							5	0							1	0					0	2					50	1														
36	State University of Iowa, Homeo. Dept.—H									1	0							1	0			1	0					9	0														
	KANSAS																																										
37	Kansas Medical College.—R																													12	1												
38	Univ. of Kansas, School of Med.—R																													18	0												
	KENTUCKY																																										
39	Louisville National Medical College.—R																	1	0													0	1					0	1				
40	Univ. of Louisville, Med. Dept.—R	5	1	1	2	0	1	1	1	1	1											1	0	13	0	9	0			1	1	92	18	3	2					1	0		
	LOUISIANA																																										
41	Flint Medical College.—R																			1	0													1	2								
42	Tulane University, Med. Dept.—R	3	1	1	0	11	0	2	1									6	0	3	0			1	0									65	2					1	0		
	MAINE																																										
43	Medical School of Maine.—R							1	0			1	0					1	0																	20	0			4	1		
	MARYLAND																																										
44	Baltimore Medical College.—R			1	0			1	0			7	5									1	0	1	0	1	0							1	1	3	0	21	4	5	2		
45	College of Physicians and Surg.—R							0	1			2	2	2	0																							12	1	3	0		
46	Johns Hopkins Univ., Med. Dept.—R	3	0					5	0			4	0													1	0			1	0	1	0					22	0	3	0		
47	Maryland Medical College.—R	1	0									0	2																					0	1	2	0	5	9	2	4		
48	Univ. of Maryland, School of Med.—R							2	1			0	2	1	1			3	0	1	0	1	0	1	0													36	11	6	I		
	MASSACHUSETTS																																										
49	Boston University School of Medicine.—H											4	1											1	0											4	0			13	0		
50	College of Physicians and Surgeons.—R											1	1																							4	2			6	18		
51	Harvard Medical School.—R					1	0	3	0	2	0	3	0					2	0					1	0	1	0									9	0	1	0	42	2	2	
52	Tufts College Medical School.—R							1	0			1	0																							10	1			62	7	1	
	MICHIGAN																																										
53	Detroit College of Medicine.—R							2	0															2	0																	34	
54	Detroit Homeopathic College.—H																																									4	
55	Univ. of Mich., Dept. of M. and S.—R					1	0	6	0									1	0			3	0			2	0											1	0			61	
56	University of Mich., Homeo. College.—H																							1	0	1	0					1	0							1	0	13	
	MINNESOTA																																										
57	Univ. of Minn., College of M. and S.—R							2	0													1	0																				
58	Hamline University, Med. Dept.—R							1	1													1	0																				
	MISSISSIPPI																																										
59	Mississippi Medical College.—R																																										
	MISSOURI																																										
60	American Medical College							0	1																																		
61	Barnes Medical College.—R	0	1			1	1			0	1							3	0			3	0	20	11			2	0	3	0												
62	Eclectic Medical University, Kansas City					4	0															0	1							1	3												
63	Ensworth Medical College.—R					0	1			0	1											1	1					2	1	1	6			0	1								
64	Kansas City Hahnemann Med. College.—H					10	0																							3	2												
65	St. Louis University, School of Medicine.—R			1	0			2	0													2	1	45	11	1	0			2	2	1	0										
66	St. Louis College of Phys. and Surgs.—R					2	5			0	1											1	0	8	10	0	1	1	0	1	1	1	0										
67	University Medical College, Kansas City.—R			1	0	6	0	1	1																			5	1	13	3												
68	Washington University, Med. Dept.—R					1	0																	36	1					1	0												
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49		Totals:	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Ex. in	Marginal Number
Minnesota		Mississippi		Missouri		Montana		Nebraska		Nevada		New Hampshire		New Jersey		New Mexico		New York		North Carolina		North Dakota		Ohio		Oklahoma		Oregon		Pennsylvania		Rhode Island		South Carolina		South Dakota		Tennessee		Texas		Utah		Vermont		Virginia		Washington		West Virginia		Wisconsin		Wyoming							
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
																										1	0																													35	25	10	28.6	4	1
		1	0																							0	1													2	0															48	36	12	25.0	7	2
																										5	3																													21	11	10	47.6	3	3
																										1	0																													23	18	5	21.8	6	4
																																																								5	3	2	40.0	1	5
																																																1	0							16	14	2	12.5	3	6
0	1													1	0													1	0																			1	0							22	15	7	31.8	5	7
										3	0																	2	0																			1	0							24	22	2	8.3	4	8
								1	0																																															6	5	1	16.7	2	9
																																																								3	3	0	0.	1	10
																		0	1																																					11	10	1	9.1	2	11
																										1	0			1	0																									15	15	0	0.	4	12
				1	0													7	1									1	0			3	0							1	0							1	0							28	27	1	3.6	8	13
														1	0			3	0			1	0					3	0					0	1	1	0									2	0	1	0	1	0					38	34	4	10.5	15	14
																		4	0											3	0	0	1			1	0			1	0					1	0			1	0					28	24	4	14.3	12	15
		1	1	1	0															2	0			1	0	1	0			2	2			0	2											2	0	1	0	2	0					44	30	14	31.8	20	16
																																		4	1					2	0															81	72	9	11.1	6	17
		0	1																	1	0									1	1			3	1																			1	0	59	49	10	17.0	8	18
																														1	0																									6	5	1	16.7	2	19
																																																								7	7	0	0.	1	20
																																		4	3													1	0							29	22	7	24.1	7	21
						1	0	1	0													0	1			0	1			3	0					2	1											0	2							47	32	15	31.9	12	22
1	1			1	0	1	2													1	0	3	0			1	1	1	0	4	1					1	0					1	0					1	0			1	0			133	117	16	12.0	18	23
																						0	1																	1	0															21	12	9	42.9	6	24
2	0			1	0	8	1	2	0	1	0											1	0					1	4							10	0			2	0	1	0			1	0	11	1	1	1	6	0			185	159	26	14.1	24	25
						3	0											0	1							1	0	2	1	0	1					0	1			1	0	1	0			1	0	1	0			1	0			57	47	10	17.5	19	26
								1	0																			0	1																											10	7	3	30.0	6	27
																																																								20	16	4	20.0	2	28
																																																								6	1	5	83.3	1	29
4	4			2	0	4	3			1	0											4	0					1	0							6	0					5	0					17	1			6	0			206	195	11	5.3	20	30
																														1	0																									11	8	3	27.3	2	31
4	0			1	0	6	1			1	0											2	0	1	0	1	0	8	1							5	0	1	0	1	0	4	0					7	4					1	0	130	120	10	7.7	21	32
						1	0															0	1	1	0					1	0																									60	57	3	5.0	7	33
				1	0																															0	1																			27	24	3	11.1	5	34
						0	1																			2	0	3	0							3	1											7	1							78	72	6	7.7	10	35
																												2	0																			1	0							15	15	0	0.	6	36
				2	0																																											1	1							17	15	2	11.8	3	37
				3	0	1	1																																																	23	22	1	4.4	3	38
		0	2																							0	1																													6	1	5	16.7	5	39
		1	1	7	2	2	1					1	0													5	2	0	4	2	1			1	3			10	1	4	1	1	0			6	0	0	1	14	9			1	0	236	183	53	22.5	27	40
																										2	0																													6	4	2	33.3	3	41
		4	2															1	0	1	0					4	0							2	0			2	0	7	0															120	114	6	5.0	16	42
												1	0															1	0															1	0			0	1							32	30	2	6.7	9	43
		0	1			1	0					2	1	1	1			12	1	1	0							1	3	9	4	0	2	2	0			1	0					2	0	4	0	1	1	3	0					108	82	26	24.1	25	44
		1	0			1	0							2	0			3	2	1	1	1	0			1	0			12	1	5	0	0	1					1	0	1	0			3	0	1	1	20	3					85	72	13	15.3	20	45
1	0			2	0	1	0			1	0			3	0			16	0	1	0			1	0	0	1	2	0	7	0	1	0	1	0											3	0	2	0	1	0					84	83	1	1.2	24	46
																		2	0							1	0			10	5			0	2					0	1					6	2			3	1					59	32	27	45.8	13	47
1	0													1	1			1	0	12	0							1	0	12	4	0	1	1	2			1	0	1	0					5	0			5	0					116	92	24	20.7	21	48
												2	0					3	2													1	1															1	0							33	29	4	12.1	8	49
												0	3																																	0	1									36	11	25	69.5	5	50
				1	0							4	0	1	0			6	3	1	0	1	0	1	0	2	0					3	0	1	0					1	0	1	0	1	0			3	0							99	94	5	5.1	25	51
												8	1					4	0													2	0					1	0									2	1							102	92	10	9.8	10	52
						1	0																					2	0	1	0																	1	0			1	0			45	44	1	2.2	8	53
																																																								6	4	2	33.3	1	54
1	0					3	0							0	1			0	1			2	0					2	1									2	0			1	0					9	3							101	95	6	5.9	16	55
																		3	0											1	0																									21	21	0	0.	7	56
32	4					5	1															5	0					2	0							5	0											7	0			1	0			65	60	5	7.7	9	57
4	1					1	1															5	0					1	0							1	0											1	0			1	0			19	16	3	15.8	9	58
		8	11																																			3	1																	23	11	12	52.2	2	59
				3	2																					1	1													1	0															8	4	4	50.0	4	60
0	1			15	5	1	1	1	0																	5	3	1	3							2	0			3	0							1	1	1	0					90	62	28	31.1	18	61
																														1	0																									10	6	4	40.0	4	62
				7	3	0	1	8	0																																							1	0							35	20	15	42.9	10	63
				4	0	2	1																			2	1									0	1			1	1							1	1							29	23	6	20.7	8	64
1	0			42	0	1	0																			3	0	1	0													2	0					0	1							109	104	5	4.6	14	65
		0	1	12	5																	1	0			2	1	3	1	1	0									3	1	1	1					1	0	1	0					67	39	28	41.8	18	66
				16	3	1	1	1	0																	7	0	1	1	1	1									1	0							0	1					1	0	67	55	12	17.9	14	67
				48	0			1	0																	2	1	1	1																			2	0							95	92	3	3.2	8	68
22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							

TABLE A.—PHYSICIANS EXAMINED B

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	NEBRASKA																																										
69	John A. Creighton Medical College.—R							2	0									0	1																								
70	Lincoln Medical College.—E																					0	1							1	0												
71	University of Nebraska, College of Med.—R																	1	0			1	1																				
	NEW HAMPSHIRE																																										
72	Dartmouth Medical School.—R											2	0																							1	0			9	1		
	NEW YORK																																										
73	Albany Medical College.—R																	2	0	1	0																						
74	Columbia University, Coll. of P. and S.—R	1	0					7	0			2	0					1	0	1	0			1	0					3	0					3	0	1	0	3	0		
75	Cornell University Medical College.—R	1	0									1	0											1	0			1	0					1	0	1	0			1	0		
76	Eclectic Med. Coll., of City of New York.—E																																										
77	Fordham University, School of Medicine.—R																																										
78	Long Island College Hospital.—R							1	0			2	0																														
79	New York Homeo. Med. Coll. and Hosp.—H							1	0			1	0																														
80	N. Y. Med. Coll. and Hosp. for Women.—H							1	0																																		
81	Syracuse University, College of Medicine.—R							1	2																																		
82	Univ. and Bellevue Hosp. and Med. Coll.—R	1	0					2	0			2	0			1	0							1	0	1	0			0	1												
83	University of Buffalo, Medical Dept.—R							1	0													1	0	1	0							1	0									1	0
	NORTH CAROLINA																																										
84	Leonard School of Medicine.—R	2	7													1	0	1	0	5	2																	0	1	0	1		
85	North Carolina Medical College																	1	0																								
	OHIO																																										
86	Cleveland College of P. and S.—R							1	1																																		
87	Cleveland Homeo. Medical College.—H					1	0	1	2																																		
88	Eclectic Medical College.—E					0	1	0	1	0	1											1	0	2	1	1	1			0	1	2	1							0	1		
89	Ohio-Miami Medical College.—R									1	0																					3	0										
90	Pulte Medical College.—H							1	1																	1	0																
91	Starling-Ohio Medical College.—R							1	0													1	0																				
92	Toledo Medical College.—R																																										
93	Western Reserve University, Medical Dept.—R							1	1																			1	0														
	OREGON																																										
94	Willamette University, Medical Dept.—R																					1	0																				
95	University of Oregon, Medical Dept.—R							1	0																																		
	PENNSYLVANIA																																										
96	Hahnemann Med. College and Hospital.—H							3	1			4	0											1	0	1	0					1	0			2	1			1	0		
97	Jefferson Medical College.—R	2	0			3	0	4	1	1	0	4	0	4	0	0	1	2	0			2	0	5	0			5	0									3	0	2	0	1	0
98	Medico-Chirurgical College of Philadelphia.—R			1	0									2	0			1	0			2	0			0	1											1	0				
99	Temple University, Medical Department.—R																																										
100	Univ. of Pennsylvania, Dept. of Med.—R	2	0	1	0			1	0			1	0	3	0			5	0			1	0	2	0	3	0	2	0							5	0	14	0	5	0		
101	Univ. of Pittsburgh, School of Medicine.—R																																										
102	Womans Med. Coll. of Pennsylvania.—R									1	0			1	0	0	1									1	0													1	0		
	SOUTH CAROLINA																																										
103	Med. Coll. of the State of So. Carolina.—R			0	2			2	0									5	2	2	0																						
	TENNESSEE																																										
104	College of Physicians and Surgs., Memphis.—R					2	2																											1	0								
105	Knoxville Medical College.—R	0	1																	0	1																						
106	Memphis Hospital Medical College.—R	2	4	1	0	13	3											2	0			0	2											13	12								
107	Meharry Medical College.—R	0	6			4	3											3	1	15	4			2	4							2	4	1	3								
108	Tennessee Medical College.—R																																										
109	Univs. of Nashville and Tenn., Med. Dept.—R	10	5	0	1	5	0	0	1									3	1	3	0	1	2	1	0							2	0	7	0								
110	University of West Tennessee, Med. Dept.—R																																										
111	Vanderbilt University, Med. Dept.—R	4	0			1	1	4	0	2	0							3	0	1	0			3	0							2	0	2	0								
	TEXAS																																										
112	Baylor University, College of Medicine.—R					1	0																											0	1								
113	Fort Worth University, Medical Dept.—R																																										
114	Southwestern University Medical College.—R					4	0																																				
115	University of Texas, Dept. of Medicine.—R																																										
	VERMONT																																										
116	University of Vermont, College of Med.—R							1	0			3	1					1	0																	1	0			3	0		
	VIRGINIA																																										
117	Medical College of Virginia.—R																	1	0	1	0			1	0																		
118	University of Virginia, Dept. of Med.—R	2	0									1	0	1	0	2	1																					2	0				
119	University College of Medicine.—R											1	0					1	0																			0	1	0	2		
	WISCONSIN																																										
120	Marquette University, Medical Dept.—R																			1	0																						
121	Wisconsin Coll. of Phys. and Surgs.—R																																										
	CANADIAN																																										
122	Laval University, Medical Dept							2	0																											4	1			0	3		
123	Manitoba Medical College																																										
124	McGill University, Medical Faculty							2	0													1	0	2	0											2	0			4	0		
125	Queens University, Medical Faculty					1	0					1	0													1	0	1	0									1	0				
126	University of Toronto, Faculty of Med							1	1													1	0													1	0						
127	Western University, Medical Dept							1	0																																		
128	Foreign Colleges	2	0					6	1					1	1	1	1	2	1					6	2	0	1											1	0	6	4	1	0
129	Miscellaneous Medical Colleges	2	7	0	3	3	1	34	7	22	0	3	2	5	0	1	0	6	3	6	2	4	5	16	12	5	3	2	1	2	3	6	10	3	6	1	0	4	2	3	6	13	0
130	Undergraduates																																							6	41		
	Totals by States	158		24		124		251		53		87		23		45		117		157		71		731		106		117		91		154		138		78		163		297		134	
	Totals—Examined—Passed	94		15		96		204		48		69		21		32		102		148		47		631		97		113		66		119		104		73		131		197		131	
	Totals—Examined—Failed	64		9		28		47		5		18		2		13		15		9		24		100		9		4		25		35		34		5		32		100		3	
	Percentage of Failures	40.5		37.5		22.6		18.7		9.4		20.7		8.7		28.9		12.8		5.7		33.8		13.7		8.5		3.4		27.5		22.7		24.6		6.4		19.6		33.6		2.2	
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							
Minnesota		Mississippi		Missouri		Montana		Nebraska		Nevada		New Hampshire		New Jersey		New Mexico		New York		North Carolina		North Dakota		Ohio		Oklahoma		Oregon		Pennsylvania		Rhode Island		South Carolina		South Dakota		Tennessee		Texas		Utah		Vermont		Virginia		Washington		West Virginia		Wisconsin		Wyoming		Totals:	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Ex. in	Marginal Number
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
						3	0	39	0																			3	0							2	0											1	0					2	0	53	52	1	1.9	8	69
								11	0																																													2	0	15	14	1	6.7	4	70
								14	0																			0	1																									18	16	2	11.1	4	71
												7	1																			1	0																							22	20	2	9.1	5	72
		1	0			1	0											38	3											1	0	1	0															2	0							50	47	3	6.0	8	73
2	0			2	0	2	0							5	0			67	1							1	0	2	0	5	0	2	0															4	0							116	115	1	0.9	20	74
1	0					1	0					1	0	1	0			64	0																															1	0					76	76	0	0.	13	75
														2	0			6	4																																					12	8	4	33.3	2	76
																		2	0																																					2	2	0	0.	1	77
1	0													2	2			60	9															1	0							1	0					1	0							80	69	11	13.7	8	78
														3	0			18	5																																					28	23	5	17.9	4	79
																		0	2																																					3	1	2	66.7	2	80
1	0																	21	3											1	0					1	0																			30	25	5	16.7	5	81
						1	0							3	0			65	2							1	0	0	1							0	1			1	0															84	79	5	6.0	14	82
																		35	4							0	1																			1	1			1	0					48	42	6	12.5	9	83
																				5	3					1	1			0	1			0	5			1	0							7	4									48	23	25	52.1	12	84
																1	0			10	2													0	2					1	0									1	0					18	14	4	22.2	6	85
																								20	0					1	0																									23	22	1	4.4	3	86
						1	0											1	0					4	1	3	2			1	0											1	0													18	13	5	27.8	8	87
																								7	2	1	0	0	1	2	0					2	0													2	4					35	20	15	42.9	15	88
						1	0																	35	4																															44	40	4	9.1	4	89
																								3	0					1	0																									7	6	1	14.3	4	90
				1	0																			43	1					1	0																									48	47	1	2.1	5	91
																								9	0																															9	9	0	0.	1	92
																								21	0			1	0													1	0					2	0							28	27	1	3.6	6	93
																												7	2																			2	0							12	10	2	16.7	3	94
																												11	4																			5	0							21	17	4	19.0	3	95
3	1													3	1			2	0					2	0	1	0			28	4															1	1					1	0			63	54	9	14.3	15	96
3	2	1	0			2	0			1	0			12	1			6	0	11	.	1	0	3	0	2	1	3	1	61	0	2	0	1	0					2	0	6	0					5	1	5	0	1	0			174	166	8	4.6	33	97
														2	2			2	0	1	0			1	0	1	0	1	0	57	8									1	0	1	1					1	0							87	75	12	13.8	16	98
																														32	3																									35	32	3	8.6	1	99
3	0	1	0											14	0			11	1	5	0			3	0	1	0	0	1	90	2							1	0	2	0	2	0			6	0	4	1	2	0	1	0			196	191	5	2.6	29	100
																												2	2	59	6																			5	1					75	66	9	12.0	3	101
				1	0	1	0							3	0			6	2									1	0	16	0									3	0	1	0							2	0					41	38	3	7.3	14	102
																																		34	13											1	0									61	44	17	27.9	6	103
		3	3																							1	0											6	2	1	0					1	0									135	93	42	31.1	13	104
		0	1																	0	1																	1	0																	5	1	4	80.0	5	105
	17	10				1	1									1	0											0	1									35	2	14	0					1	0									135	93	42	31.1	13	106
		1	2	2	1															1	0			1	0	3	3			0	2			0	2			18	7	5	0									1	2					103	59	44	42.7	17	107
																				1	2							0	2									21	1									0	2							29	22	7	24.1	4	108
		6	6	1	0	0	1									1	1	1	0							3	1			2	0			1	0			30	5	7	0							0	1							109	84	25	22.9	21	109
																				1	0					1	2							0	1			2	1							0	1									9	4	5	55.6	5	110
		3	0	1	1	1	0													1	0					2	1							1	2			11	0	6	0					1	0	1	0							55	50	5	9.1	19	111
																																								9	0															11	10	1	9.1	3	112
																										2	0													19	0															21	21	0	0.	2	113
																										1	0													11	0															16	16	0	0.	3	114
				1	0													2	0																					34	0															37	37	0	0.	3	115
												4	0																	1	0	2	1											15	1			1	0							35	32	3	8.6	10	116
		1	0															1	0	2	0									1	0			1	0											29	0			5	0					43	43	0	0.	10	117
		1	0																							1	0											3	0							21	0			2	0					37	36	1	2.7	10	118
														2	1			0	1	5	1					1	0					0	1													13	1			1	0					32	24	8	25.0	11	119
1	4					1	0															3	0																									0	2			42	7			61	48	13	21.3	6	120
																						1	0																													6	0			7	7	0	0.	2	121
0	2											3	2									1	0					0	1			0	2											1	0											22	11	11	50.0	9	122
1	0																																															2	0							3	3	0	0.	2	123
3	0					1	0					1	0					4	0			2	0			1	0	1	0	1	0					1	0											1	0			1	0			28	28	0	0.	16	124
						1	0							0	1			8	0			1	1	1	0					1	0					1	0																			20	18	2	10.0	12	125
3	0					3	0											4	1			5	0	1	0			1	0	2	1																	5	1							31	27	4	12.9	11	126
																						1	0	2	0			2	1																			1	0							8	7	1	12.5	5	127
3	0					2	0			3	0			1	5			20	21	1	0			5	0			1	1	2	0									1	0	1	0	1	0			1	0			2	0			108	70	38	35.2	24	128
(	1	1	6	2	1	5	6			1	1			0	1	3	0	6	1	14	5	1	1	6	2	23	12	8	15	11	4	0	1	3	3	8	3	23	7	11	2	1	2			7	3	28	13	7	4			1	0	478	311	167	34.9	45	129
		39	95																									5	0									142	25																	353	192	161	45.6	4	130
98		234		204		97		80		13		42		80		7		587		94		47		182		142		148		503		33		105		61		367		167		38		22		136		197		113		78		10		7004	....	....	.....	..	
76		84		181		73		80		12		34		63		6		515		79		42		172		100		93		451		23		61		52		315		162		34		21		122		154		88		71		10		....	5712	....	.....	..	
22		150		23		24		0		1		8		17		1		72		15		5		10		42		55		52		10		14		9		52		5		4		1		14		43		25		7		0		....	....	1292	....		
22.4		64.1		11.3		24.7		0.		7.7		19.0		21.2		14.3		12.3		16.0		10.6		5.5		29.6		37.2		10.3		30.3		41.9		14.8		14.2		3.0		10.5		45		10.3		21.8		22.1		6.4		0		....	....	....	18.4	..	....
22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							

TABLE B.—GRADUATES OF 1906 TO 1910 INCLUSIV

Marginal Number	NAME OF COLLEGE	1 Alabama		2 Arizona		3 Arkansas		4 California		5 Colorado		6 Connecticut		7 Delaware		8 District of Columbia		9 Florida		10 Georgia		11 Idaho		12 Illinois		13 Indiana		14 Iowa		15 Kansas		16 Kentucky		17 Louisiana		18 Maine		19 Maryland		20 Massachusetts		21 Michigan	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	ALABAMA																																										
1	Birmingham Medical College.—R.	22	9																	2	0													1	0								
2	University of Alabama, Med. Dept.—R.	23	10	1	0													6	0															3	1								
	ARKANSAS																																										
3	College of Physicians and Surgs.—R.					5	6																											1	1								
4	Univ. of Arkansas, Med. Dept.—R.					15	3	1	0									1	0					0	1									0	1								
	CALIFORNIA																																										
5	California Eclectic Med. College.—E.							2	1																																		
6	College of P. and S., Los Angeles.—R.			2	0			11	2																																		
7	Coll. of P. and S., San Francisco							11	5																																		
8	Cooper Medical College.—R.							16	2																																		
9	Hahnemann Medical College of Pacific.—H.							4	1																																		
10	Oakland College of Med. and Surg.—R.							3	0																																		
11	Univ. of California, Med. Dept.—R.							10	0																																		
	COLORADO																																										
12	Univ. of Colorado, Med. Dept.—R.									12	0																																
	CONNECTICUT																																										
13	Yale Medical School											12	0																														
	DISTRICT OF COLUMBIA																																										
14	George Washington University.—R.							1	1							15	2			1	0	1	0	1	0													2	0				
15	Georgetown Univ., School of Med.—R.			1	0							4	0			6	2							1	0															1	1		
16	Howard University, Med. Dept.—R.											0	1	1	0	4	5	2	0	3	0			2	0					1	0							2	1	0	2		
	GEORGIA																																										
17	Atlanta College of Physicians and Surgs.—R.	1	5															11	2	53	0																						
18	Atlanta School of Medicine.—R.	3	0															4	1	35	0																	1	0				
19	Georgia College of Eclectic M. and S.—E.																	4	0																								
20	Hospital Medical College, Atlanta.—E.																	7	0																								
21	Medical College of Georgia.—R.	1	0															1	1	13	0																	0	1				
	ILLINOIS																																										
22	Bennett Medical College.—R.									1	0											0	1	23	8	1	0			0	1												
23	Chicago Coll. of Med. and Surg.—R.							0	1													1	1	91	9	6	0	1	0			1	0										
24	College of Med. and Surg.—Ph.M.																							8	8	1	0	1	0			1	0										
25	College of Physicians and Surgs.—R.							4	0													1	2	94	13	1	0	1	0			0	1					1	0				
26	Hahnemann Medical College and Hosp.—H.			2	0			1	0			2	0									1	0	25	4	1	1	2	0											1	0		
27	Hering Medical College.—H.									1	0													3	2	1	0	1	0														
28	Jenner Medical College.—R.																							15	4	1	0																
29	National Medical University.—P.																							1	5																		
30	Northwestern Univ. Med. School.—R.			1	0			4	0													5	2	119	1	2	0	1	0	2	0									1	0		
31	Reliance Medical College.—R.																							7	3																		
32	Rush Medical College.—R.							3	0	2	0											1	0	59	0			1	0														
	INDIANA																																										
33	Indiana Univ., School of Med.—R.																							1	0	53	1													0	1		
	IOWA																																										
34	Drake Univ., College of Medicine.—R.																					0	1					23	0														
35	State Univ. of Iowa, Coll. of Med.—R.							3	0							1	0					0	1					50	1														
36	State Univ. of Iowa, Homeo. Dept.—H.									1	0											1	0					9	0														
	KANSAS																																										
37	Kansas Medical College.—R.																													12	0												
38	Univ. of Kansas, School of Med.—R.																													18	0												
	KENTUCKY																																										
39	Louisville, National Medical College.—R.																	1	0													0	1					0	1				
40	Univ. of Louisville, Med. Dept.—R.	5	1	1	2	0	1			1	0											1	0	12	0	9	0			1	1	90	18	3	2								
	LOUISIANA																																										
41	Flint Medical College.—R.																			1	0													1	2								
42	Tulane University, Med. Dept.R.	3	1			10	0	1	1									6	0	3	0													62	2					1	0		
	MAINE																																										
43	Medical School of Maine.—R.																																			20	0			1	1		
	MARYLAND																																										
44	Baltimore Medical College.—R.			1	0			1	0			7	5									1	0	1	0	1	0							1	1	2	0	21	2	5	2		
45	College of Physicians and Surgs.—R.											2	1	2	0																							11	1	3	0		
46	Johns Hopkins Univ., Med. Dept.—R.	3	0					5	0			3	0													1	0			1	0							20	0	3	0		
47	Maryland Medical College.—R.	1	0									0	2																					0	1	2	0	5	8	1	4		
48	Univ. of Maryland, School of Med.—R.											0	2	1	1			3	0	1	0			1	0													36	10	4	1		
	MASSACHUSETTS																																										
49	Boston Univ. School of Medicine.—H.											2	0											1	0											3	0			13	0		
50	College of Physicians and Surgeons.—R.											1	1																							4	2			6	18		
51	Harvard Medical School.—R.					1	0	3	0	2	0	2	0					1	0					1	0	1	0									7	0	1	0	42	2	1	0
52	Tufts College Medical School.—R.											1	0																							10	1			62	7	1	0
	MICHIGAN																																										
53	Detroit College of Medicine.—R.																																									33	1
54	Detroit Homeopathic College.—H.																																									4	[illegible]
55	Univ. of Mich., Dept. of M. and S.—R.							1	0									1	0							2	0															60	0
56	University of Mich., Homeo. College.—H.																							1	0	1	0					1	0							1	0	13	0
	MINNESOTA																																										
57	Univ. of Minn., Coll. of M. and S.—R.							1	0													1	0																				
58	Hamline University, Med. Dept.—R.							1	1													1	0																				
	MISSISSIPPI																																										
59	Mississippi Medical College.—R.																																										
	MISSOURI																																										
60	American Medical College.—																																										
61	Barnes Medical College.—	0	1			1	1			0	1							1	0			3	0	20	9			2	0	2	0												
62	Eclectic Medical University, Kansas City					4	0															0	1							1	2												
63	Ensworth Medical College.—R.					0	1			0	1											1	1					2	1	1	5												
64	Kansas City Hahnemann Medical College.H.					10	0																							3	2												
65	St. Louis University, School of Medicine.—.R.			1	0			2	0													1	0	45	1	1	0			2	2	1	0										
66	St. Louis College of Phys. and Surgs.—R.					1	5			0	1													8	10	0	1	1	0	1	1												
67	University Medical College, Kansas City.—R.					6	0																					3	1	13	3												
68	Washington University, Med. Dept.—R.					1	0																	35	1					1	0												
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							
Minnesota		Mississippi		Missouri		Montana		Nebraska		Nevada		New Hampshire		New Jersey		New Mexico		New York		North Carolina		North Dakota		Ohio		Oklahoma		Oregon		Pennsylvania		Rhode Island		South Carolina		South Dakota		Tennessee		Texas		Utah		Vermont		Virginia		Washington		West Virginia		Wisconsin		Wyoming		Totals:	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Ex. in	Marginal Number
P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
																										0	1																													35	25	10	28.6	4	1
		1	0																																					1	0															46	35	11	23.9	6	2
																										5	3																													21	11	10	.47.6	3	3
																										1	0																													23	18	5	21.8	6	4
																																																								3	2	1	33.3	1	5
																																																1	0							16	14	2	12.5	3	6
														1	0																																	1	0							18	13	5	27.8	3	7
										2	0																	1	0																											21	19	2	9.5	3	8
																																																								5	4	1	20.0	1	9
																																																								3	3	0	0.	1	10
																																																								10	10	0	0.	1	11
																										1	0			1	0																									14	14	0	0.	3	12
				1	0													5	1									1	0			3	0							1	0															24	23	1	4.2	6	13
														1	0			2	0			1	0					1	0					0	1	1	0									1	0			1	0					33	29	4	12.1	14	14
																		3	0											3	0									1	0					1	0			1	0					25	22	3	12.0	10	15
		0	1	1	0															2	0			1	0	1	0			2	2			0	2											1	0	1	0	1	0					39	25	14	35.9	19	16
																																		4	1					1	0															78	70	8	10.3	5	17
		0	1																	1	0									1	1			3	1																			1	0	59	49	10	17.0	9	18
																														1	0																									5	5	0	0.	2	19
																																																								7	7	0	0.	1	20
																																		4	3													1	0							25	20	5	20.0	6	21
						1	0	1	0																	0	1			2	0					2	1											0	1							45	32	13	28.9	11	22
1	1			1	0	1	1													1	0	3	0			1	1	1	0	4	1											1	0					1	0			1	0			131	116	15	11.5	17	23
																						0	1																	1	0															21	12	9	42.9	6	24
1	0			1	0	6	1	1	0													1	0					0	3							8	0			1	0	1	0			1	0	5	1	1	1	3	0			154	132	22	14.3	20	25
																		0	1									2	0	0	1									1	0	1	0			1	0	1	0			1	0			49	42	7	14.3	16	26
								1	0																			0	1																											10	7	3	30.0	6	27
																																																								20	16	4	20.0	2	28
																																																								6	1	5	83.3	1	29
4	4			1	0	4	2															3	0					1	0							6	0					5	0					12	0			5	0			185	176	9	4.9	17	30
																														1	0																									11	8	3	27.3	2	31
3	0			1	0	4	0															1	0	1	0			3	0							2	0	1	0			4	0					3	0					1	0	90	90	0	0.	16	32
						1	0															0	1	1	0					1	0																									60	57	3	5.0	7	33
				1	0																																																			25	24	1	4.0	3	34
						0	1																					2	0							2	1											4	0					1	0	67	63	4	5.9	9	35
																																																								11	11	0	0.	3	36
				1	0																																											1	0							14	14	0	0.	3	37
				3	0	1	1																																																	23	22	1	4.4	3	38
		0	2																							0	1																													6	1	5	83.3	5	39
		1	1	6	2	2	0					1	0													4	2	0	3	2	1			7	3			10	1	3	1	1	0			6	0			14	9			1	0	223	175	48	21.5	24	40
																										2	0																													6	4	2	33.3	3	41
		4	2																	1	0					4	0							2	0			1	0	6	0															110	104	6	5.5	13	42
												1	0																																			0	1							24	22	2	8.3	4	43
						1	0					2	1	1	1			11	0											8	4	0	2	2	0			1	0					2	0	4	0	0	1	3	0					95	76	19	20.0	22	44
		1	0			1	0							2	0			3	1	1	1					1	0			12	1	4	0	0	1					1	0	1	0			1	0			20	3					75	66	9	12.0	17	45
1	0			2	0	1	0			1	0			3	0			13	0	1	0			1	0			2	0	7	0	1	0	1	0											2	0	1	0	1	0					74	74	0	0.	22	46
																		2	0											10	5															6	2			2	1					53	30	23	43.4	10	47
1	0													1	1			1	0	12	0							1	0	12	4	0	1	1	2			1	0							4	0			5	0					107	85	22	20.6	18	48
												1	0					2	1																													1	0							24	23	1	4.2	7	49
												0	3																																	0	1									36	11	25	69.4	5	50
				1	0							2	0	1	0			5	1	1	0			1	0	2	0					2	0									1	0	1	0			2	0							84	81	3	3.6	22	51
												8	1					2	0													2	0															1	0							96	87	9	9.4	8	52
																														1	0																									35	34	1	2.9	2	53
																																																								6	4	2	33.3	1	54
1	0					2	0															1	0					1	0									2	0			1	0					7	1							80	79	1	1.2	11	55
																		3	0											1	0																									21	21	0	0.	7	56
1	4					1	0															3	0					1	0							3	0											4	0			1	0			50	46	4	8.0	9	57
4	1					0	1															5	0					1	0							1	0															1	0			17	14	3	17.7	8	58
		8	11																																			3	1																	23	11	12	52.2	2	59
				3	2																																			1	0															6	4	2	33.3	2	60
				15	5	0	1	1	0																	4	1	1	2							2	0			1	0							1	1	1	0					77	55	22	28.6	17	61
																														1	0																									9	6	3	33.3	4	62
				7	2			8	0																																															31	19	12	38.7	7	63
				4	0	2	1																			2	1													1	0							1	1							28	23	5	17.9	7	64
1	0			12	0	1	0																			3	0	1	0													2	0													106	103	3	2.8	13	65
		0	1	11	5																					1	0	0	1	1	0									3	1	1	1					1	0							56	29	27	48.2	14	66
				16	3	1	0	1	0																	6	0			1	0																									56	49	7	12.5	8	67
				48	0			1	0																	2	1	0	1																			1	0							92	89	3	3.3	8	68
22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							

TABLE B.—GRADUATES OF 1906 TO 1910 INCLUSI

Marginal Number	NAME OF COLLEGE	1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	
		Alabama		Arizona		Arkansas		California		Colorado		Connecticut		Delaware		District of Columbia		Florida		Georgia		Idaho		Illinois		Indiana		Iowa		Kansas		Kentucky		Louisiana		Maine		Maryland		Massachusetts		Michigan	
		P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F
	NEBRASKA																																										
69	John A. Creighton, Medical College.—R.							1	0									0	1																								
70	Lincoln Medical College.—E.																					0	1							1	0												
71	University of Nebraska, College of Med.—R.																																										
	NEW HAMPSHIRE																																										
72	Dartmouth Medical School.—R.											2	0																							1	0			9	1		
	NEW YORK																																										
73	Albany Medical College.—R.																																										
74	Columbia Univ. Coll. of Phys. and Surgs.—R.	1	0					4	0			1	0							1	0									3	0							1	0	3	0		
75	Cornell University Medical College.—R.	1	0																					1	0			1	0					1	0	1	0			1	0		
76	Eclectic Med. Coll., of City of New York.—E.																																										
77	Fordham University, School of Medicine.—R.																																										
78	Long Island College Hospital.—R.											2	0																														
79	New York Homeo. Med. Coll. and Hosp.—H.							1	0																																		
80	N. Y. Med. Coll. and Hosp. for Women.—H.																																										
81	Syracuse University, College of Medicine.R.																																										
82	University and Bellevue Hosp. and Med. Coll.—R.							2	0			2	0			1	0									1	0																
83	University of Buffalo, Medical Dept.—R.																															1	0									1	0
	NORTH CAROLINA																																										
84	Leonard School of Medicine.—R.	2	7															1	0	5	1																	0	1	0	1		
85	North Carolina Medical College																	1	0																								
	OHIO																																										
86	Cleveland, Ohio, College P. and S.—R.																																										
87	Cleveland Homeo. Medical College.—H.																																										
88	Eclectic Medical College.—E.					0	1			0	1													2	1	1	1			0	1	2	1										
89	Ohio-Miami Medical College.—R.									1	0																					3	0										
90	Pulte Medical College.—H.																									1	0																
91	Starling-Ohio Medical College.—R.																					1	0																				
92	Toledo Medical College.—R.																																										
93	Western Reserve University, Medical Dept.—R.							1	0																			1	0														
	OREGON																																										
94	Willamette University, Medical Dept.—R.																					1	0																				
95	University of Oregon, Medical Dept.—R.							1	0																																		
	PENNSYLVANIA																																										
96	Hahnemann Med. College and Hospital.—H.							2	1			4	0													1	0					1	0			2	1			1	0		
97	Jefferson Medical College.—R.	2	0			2	0	1	0	1	0	3	0	4	0	0	1	1	0			2	0	5	0			5	0									3	0			1	0
98	Medico-Chirurgical Coll. of Philadelphia.—R.													2	0							1	0			0	1											1	0				
99	Temple University, Medical Department.—R.																																										
100	Univ. of Pennsylvania, Dept. of Med.—R.	2	0									1	0	2	0			1	0			1	0			3	0	1	0							5	0	14	0	4	0		
101	Univ. of Pittsburgh, School of Medicine.—R.																																										
102	Woman's Med. Coll. of Pennsylvania.—R.									1	0			1	0	0	1																							1	0		
	SOUTH CAROLINA																																										
103	Med. Coll. of the State of So. Carolina.—R.			0	2			1	0									4	2	2	0																						
	TENNESSEE																																										
104	College of Physicians and Surgs., Memphis.—R.					2	2																											1	0								
105	Knoxville Medical College.—R.	0	1																	0	1																						
106	Memphis Hospital Medical College.—R.	2	4			12	2											2	0															12	11								
107	Meharry Medical College.—R.	0	5			4	3											2	1	15	4			2	4							2	4	1	3								
108	Tennessee Medical College.—R.																																										
109	Universities of Nashville and Tenn., Med. Dept.—R.	9	5			4	0											3	1	3	0			1	0							2	0	7	0								
110	University of West Tennessee, Med. Dept.—R.																																										
111	Vanderbilt University, Medical Department.—R.	3	0					4	0	2	0							1	0	1	0			3	0							1	0	2	0								
	TEXAS																																										
112	Baylor University, College of Medicine.—R.					1	0																																				
113	Fort Worth University, Medical Dept.—R.																																										
114	Southwestern University Medical College.—R.					4	0																																				
115	University of Texas, Dept. of Medicine.—R.																																										
	VERMONT																																										
116	University of Vermont, College of Medicine.—R.							1	0			1	0																							1	0			2	0		
	VIRGINIA																																										
117	Medical College of Virginia.—R.																	1	0					1	0																		
118	University of Virginia, Dept. of Medicine.—R.	2	0									1	0	1	0	1	0																					2	0				
119	University College of Medicine.—R.																	1	0																			0	1	0	2		
	WISCONSIN																																										
120	Marquette University, Medical Dept.—R.																			1	0																						
121	Wisconsin College of phys. and Surgs.—R.																																										
	CANADIAN																																										
122	Laval University, Medical Dept.																																			2	1			0	1		
123	Manitoba Medical College																																										
124	McGill University, Medical Faculty							1	0															2	0											2	0			3	0		
125	Queen's University, Medical Faculty					1	0					1	0													1	0	1	0									1	0				
126	University of Toronto, Faculty of Medicine							1	0																																		
127	Western University, Medical Dept.							1	0																																		
128	Foreign Colleges							3	1							1	1	1	1																					0	3		
129	Miscellaneous Medical Colleges	2	7			1	0	11	2	20	0	3	1	5	0			1	2	5	1	3	1	12	10	2	1	2	0			4	7	0	2			4	2	1	3	9	0
	Total by States	150		14		110		144		49		70		20		41		81		152		41		698		99		114		81		142		123		67		154		220		126	
	Totals—Examined—Passed	88		10		85		125		45		57		19		29		69		145		29		604		93		111		63		110		96		62		126		170		123	
	Totals—Examined—Failed	62		4		25		19		4		13		1		12		12		7		12		94		6		3		18		32		27		5		28		50		3	
	Percentage of Failures	41.3		28.6		22.7		13.2		8.2		18.6		5.0		29.3		14.8		4.6		29.3		13.5		6.1		2.6		22.2		22.5		22.0		7.5		18.2		22.8		2.4	
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21	

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							
Minnesota		Mississippi		Missouri		Montana		Nebraska		Nevada		New Hampshire		New Jersey		New Mexico		New York		North Carolina		North Dakota		Ohio		Oklahoma		Oregon		Pennsylvania		Rhode Island		South Carolina		South Dakota		Tennessee		Texas		Utah		Vermont		Virginia		Washington		West Virginia		Wisconsin		Wyoming		Totals:	Examined—Passed	Examined—Failed	Percentage of Failures	No. States by m	Marginal Number
	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F	P	F						
						3	0	39	0																																							1	0					2	0	50	49	1	2.0	8	69
								11	0																			1	0							2	0																	2	0	15	14	1	6.7	4	70
								14	0																																															14	14	0	0.	1	71
												7	0																			1	0																							21	20	1	4.8	5	72
						1	0											38	3																																					42	39	3	7.1	2	73
	0			2	0	2	0							4	0			65	1							1	0			5	0	1	0															3	0							100	99	1	1.0	16	74
												1	0	1	0			64	0																																					72	72	0	0.	9	75
														2	0			6	4																																					12	8	4	33.3	2	76
																		2	0																																					2	2	0	0.	1	77
														2	2			60	9																							1	0													76	65	11	14.5	4	78
														3	0			17	4																																					25	21	4	16.0	3	79
																		0	2																																					2	0	2	.100	1	80
1	0																	21	3											1	0					1	0																			27	24	3	11.1	4	81
														2	0			65	1							1	0	0	1																											77	75	2	2.6	8	82
																		35	3																																					40	37	3	7.5	3	83
																				5	3					1	1			0	1			0	4			1	0							7	4									45	22	23	51.1	11	84
																1	0			10	2													0	2					1	0									1	0					18	14	4	22.2	6	85
																								19	0					1	0																									20	20	0	0.	2	86
						1	0											1	0					4	1	1	0			1	0																									9	8	1	11.1	5	87
																								7	2			0	1	2	0					1	0													2	4					30	17	13	43.3	11	88
						1	0																	35	4																															44	40	4	9.1	4	89
																								3	0					1	0																									5	5	0	0.	3	90
																								42	1					1	0																									45	44	1	2.2	3	91
																								9	0																															9	9	0	0.	1	92
																								21	0			1	0													1	0					1	0							26	26	0	0.	6	93
																												7	1																			2	0							11	10	1	9.1	3	94
																												11	4																			5	0							21	17	4	19.0	3	95
2	1													3	1			2	0					1	0	1	0			27	4																					1	0			56	48	8	14.3	13	96
3	2	1	0			2	0							9	0			4	0	11	0	1	0	3	0	1	0	2	1	59	0	2	0	1	0					1	0	6	0					3	0	5	0	1	0			149	145	4	2.7	31	97
														1	0			1	0							1	0			56	8									1	0	1	1													75	65	10	13.3	10	98
																														32	3																									35	32	3	8.6	1	99
1	0	1	0											8	0			8	0	5	0			3	0	1	0	0	1	87	2							1	0	1	0	2	0			5	0	1	1	2	0					164	160	4	2.4	25	100
																												2	2	59	6																			5	1					75	66	9	12.0	3	101
				1	0	1	0							3	0			5	2									1	0	16	0									1	0	1	0							2	0					37	34	3	8.1	13	102
																																		34	12											1	0									58	42	16	27.6	6	103
		3	3																							1	0											6	2	1	0															21	14	7	33.3	6	104
		0	1																																			1	0																	4	1	3	75.0	3	105
		10	15			0	1																					0	1									33	2	10	0					1	0									118	82	36	30.5	10	106
		1	2	2	1															1	0			1	0	3	3			0	1			0	2			17	7	5	0									1	2					99	57	42	42.4	17	107
																				1	1							0	2									19	1																	24	20	4	16.7	3	108
		5	4			0	1									1	0	1	0							2	0			2	0			1	0			29	4	5	0															90	75	15	16.7	16	109
																				1	0					1	2							0	1			2	1							0	1									9	4	5	55.6	5	110
		3	0	1	1	1	0													1	0					2	0							1	2			10	0	5	0							1	0							45	42	3	6.7	17	111
																																								8	0															9	9	0	0.	2	112
																										2	0													19	0															21	21	0	0.	2	113
																										1	0													11	0															16	16	0	0.	3	114
				1	0													1	0																					34	0															36	36	0	0.	3	115
												4	0																	1	0	2	1											15	1			1	0							30	28	2	6.7	9	116
																				2	0									1	0			1	0											28	0			5	0					39	39	0	0.	7	117
																										1	0											1	0							20	0			2	0					31	31	0	0.	9	118
														2	1			0	1	5	1					1	0					0	1													13	1			1	0					31	23	8	25.8	10	119
1	4																					2	0																									0	2			39	7			56	43	13	23.2	5	120
																						1	0																													6	0			7	7	0	0.	2	121
0	1											2	2									1	0									0	1																							11	5	6	54.5	6	122
																																																														123
2	0											1	0					3	0			1	0					1	0	1	0																	1	0			1	0			19	19	0	0.	12	124
														0	1			6	0			1	0	1	0					1	0					1	0																			16	15	1	6.3	11	125
2	0					3	0											3	1			4	0	1	0			1	0	1	0																	1	0							18	17	1	5.6	9	126
																						1	0	2	0			1	0																			1	0							6	6	0	0.	5	127
						1	0							0	1			7	4					2	0					1	0											1	0	1	0							1	0			30	19	11	36.7	12	128
0	1	0	1	1	1	1	3			0	1			0	1	1	0	1	0	14	[illegible]	1	0	3	1	5	2	2	4	8	1	0	1	2	3	4	1	20	5	4	0	1	0			5	2	7	3	7	2					247	172	75	30.4	10	129
81		84		197		61		78		4		37		60		3		511		87		33		171		87		79		483		25		98		39		183		132		35		20		119		92		107		68		8		5678					
62		39		174		47		78		3		30		51		3		468		76		31		162		67		50		437		18		58		36		159		130		33		19		108		79		84		61		8			4830				
19		45		23		14		0		1		7		9		0		43		11		2		9		20		29		46		7		40		3		24		2		2		1		11		13		23		7		0				848			
23.4		53.6		11.7		22.9		0.		25.0		18.9		15.0		0.		8.4		12.6		6.1		5.3		2.30		36.7		9.5		28.0		40.8		7.7		13.1		1.5		5.7		5.0		9.2		14.1		21.5		10.3		0.					14.9		
22		23		24		25		26		27		28		29		30		31		32		33		34		35		36		37		38		39		40		41		42		43		44		45		46		47		48		49							

TABLE C.—GRADUATES EXAMINE

Marginal Number	NAME OF COLLEGE	Graduates of All Years.					Graduates of 1906-1910.					Graduates of 1905 and Previous.					Graduates of 1910.				
		Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States
	ALABAMA																				
1	Birmingham Medical College.—R.	35	25	10	28.6	4	35	25	10	28.6	4	....	....	....	....	....	22	14	8	36.4	3
2	University of Alabama, Medical Department.—R.	48	36	12	25.0	7	46	35	11	23.9	6	2	1	1	50.0	2	34	27	7	20.6	6
	ARKANSAS																				
3	College of Physicians and Surgeons.—R.	21	11	10	47.6	3	21	11	10	47.6	3	....	....	....	....	....	18	9	9	50.0	3
4	University of Arkansas, Medical Dept.—R.	23	18	5	21.8	6	23	18	5	21.8	6	....	....	....	....	....	18	15	3	16.7	2
	CALIFORNIA																				
5	California Eclectic Medical College.—E.	5	3	2	40.0	1	3	2	1	33.3	1	2	1	1	50.0	1	2	1	1	50.0	1
6	College of P. and S., Los Angeles.—R.	16	14	2	12.5	3	16	14	2	12.5	3	....	....	....	....	....	10	10	0	0.	2
7	College of P. and S., San Francisco.—R.	22	15	7	31.8	5	18	13	5	27.8	3	4	2	2	50.0	3	4	3	1	25.0	1
8	Cooper Medical College.—R.	24	22	2	8.3	4	21	19	2	9.5	3	3	3	0	0.	3	16	14	2	12.5	2
9	Hahnemann Medical College of the Pacific.—H.	6	5	1	16.7	2	5	4	1	20.0	1	1	1	0	0.	1	1	1	0	0.	1
10	Oakland College of Medicine and Surgery.—R.	3	3	0	0.	1	3	3	0	0.	1	....	....	....	....	....	3	3	0	0.	1
11	University of California, Medical Dept.—R.	11	10	1	9.1	2	10	10	0	0.	1	1	0	1	100.0	1	7	7	0	0.	1
	COLORADO																				
12	University of Colorado, Medical Dept.—R.	15	15	0	0.	4	14	14	0	0.	3	1	1	0	0.	1	9	9	0	0.	2
	CONNECTICUT																				
13	Yale Medical School.	28	27	1	3.6	8	24	23	1	4.2	6	4	4	0	0.	3	9	9	0	0.	2
	DISTRICT OF COLUMBIA																				
14	George Washington University.—R.	38	34	4	10.5	15	33	29	4	12.1	14	5	5	0	0.	4	10	10	0	0.	4
15	Georgetown University, School of Medicine.—R.	28	24	4	14.3	12	25	22	3	12.0	10	3	2	1	33.3	3	7	7	0	0.	4
16	Howard University, Medical Department.—R.	44	30	14	31.8	20	39	25	14	35.9	19	5	5	0	0.	5	8	7	1	12.5	8
	GEORGIA																				
17	Atlanta College of Phys. and Surgs.—R.	81	72	9	11.1	6	78	70	8	10.7	5	3	2	1	33.3	3	69	65	4	5.8	5
18	Atlanta School of Medicine.—R.	59	49	10	17.0	8	59	49	10	17.0	9	....	....	....	....	....	50	44	6	12.0	8
19	Georgia College of Eclectic M. and S.—E.	6	5	1	16.7	2	5	5	0	0.	2	1	0	1	100.0	1	5	5	0	0.	2
20	Hospital Medical College, Atlanta.—E.	7	7	0	0.	1	7	7	0	0.	1	....	....	....	....	....	6	6	0	0.	1
21	Medical College of Georgia.—R.	29	22	7	24.1	7	25	20	5	20.0	6	4	2	2	50.0	2	17	16	1	5.9	2
	ILLINOIS																				
22	Bennett Medical College.—R.	47	32	15	31.9	12	45	32	13	28.9	11	2	0	2	100.0	2	33	26	7	21.2	6
23	Chicago College of Medicine and Surgery.—R.	133	117	16	12.0	18	131	116	15	11.5	17	2	1	1	50.0	2	108	99	9	8.3	11
24	College of Medicine and Surgery.—Ph.M.	21	12	9	42.9	6	21	12	9	42.9	6	....	....	....	....	....	13	9	4	30.8	3
25	College of Physicians and Surgeons.—R.	185	159	26	14.1	24	154	132	22	14.3	20	31	27	4	12.9	15	120	104	16	3.3	15
26	Hahnemann Medical College and Hospital.—H.	57	47	10	17.5	19	49	42	7	14.3	10	8	5	3	37.5	6	28	26	2	7.1	5
27	Hering Medical College.—H.	10	7	3	30.0	6	10	7	3	30.0	6	....	....	....	....	....	9	7	2	22.2	5
28	Jenner Medical College.—R.	20	16	4	20.0	2	20	16	4	20.0	2	....	....	....	....	....	19	15	4	21.1	1
29	National Medical University.—P.	6	1	5	83.3	1	6	1	5	83.3	1	....	....	....	....	....	....	....	....	....	....
30	Northwestern University Medical School.—R.	206	195	11	5.3	20	185	176	9	4.9	17	21	19	2	9.5	11	136	133	3	2.2	11
31	Reliance Medical College.—R.	11	8	3	27.3	2	11	8	3	27.3	2	....	....	....	....	....	8	8	0	0.	2
32	Rush Medical College.—R.	130	120	10	7.7	21	90	90	0	0.	16	40	30	10	25.0	15	65	65	0	0.	9
	INDIANA																				
33	Indiana University, School of Medicine.—R.	60	57	3	5.0	7	60	57	3	5.0	7	....	....	....	....	....	56	55	1	1.8	6
	IOWA																				
34	Drake University, College of Medicine.—R.	27	24	3	11.1	5	25	24	1	4.0	3	2	0	2	100.0	2	23	23	0	0.	2
35	State University of Iowa, College of Med.—R.	78	72	6	7.7	10	67	63	4	5.9	9	11	9	2	18.1	6	54	52	2	3.7	4
36	State Univ. of Iowa, Homeopathic Dept.—H.	15	15	0	0.	6	11	11	0	0.	3	4	4	0	0.	3	10	10	0	0.	[illegible]
	KANSAS																				
37	Kansas Medical College.—R.	17	15	2	11.8	3	14	14	0	0.	3	3	1	2	66.7	3	12	12	0	0.	1
38	University of Kansas, School of Medicine.—R.	23	22	1	4.4	3	23	22	1	4.4	3	....	....	....	....	....	21	21	0	0.	2
	KENTUCKY																				
39	Louisville National Medical College.—R.	6	1	5	16.7	5	6	1	5	83.3	5	....	....	....	....	....	5	1	4	80.0	4
40	University of Louisville, Medical Dept.—R.	236	183	53	22.5	27	223	175	48	21.5	24	13	8	5	38.4	11	194	159	35	18.0	19
	LOUISIANA																				
41	Flint Medical College—R.	6	4	2	33.3	3	6	4	2	33.3	3	....	....	....	....	....	4	2	2	50.0	3
42	Tulane University, Medical Department.—R.	120	114	6	5.0	16	110	104	6	5.5	13	10	10	0	0.	8	97	92	5	5.2	10
	MAINE																				
43	Medical School of Maine.—R.	32	30	2	6.7	9	24	22	2	8.3	4	8	8	0	0.	6	22	20	2	9.1	3
	MARYLAND																				
44	Baltimore Medical College.—R.	108	82	26	24.1	25	95	76	19	20.0	22	13	6	7	53.8	8	57	51	6	10.5	11
45	College of Physicians and Surgeons.—R.	85	72	13	15.3	20	75	66	9	12.0	17	10	6	4	40.0	8	59	51	8	13.6	16
46	Johns Hopkins University, Medical Dept.—R.	84	83	1	1.2	24	74	74	0	0.	22	10	9	1	10.0	7	44	44	0	0.	16
47	Maryland Medical College.—R.	59	32	27	45.8	13	53	30	23	43.4	10	6	2	4	66.7	5	34	19	15	44.1	9
48	University of Maryland, School of Medicine.—R.	116	92	24	20.7	21	107	85	22	20.6	18	9	7	2	22.2	6	85	68	17	20.0	13
	MASSACHUSETTS																				
49	Boston University School of Medicine.—H.	33	29	4	12.1	8	24	23	1	4.2	7	9	6	3	33.3	5	15	15	0	0.	4
50	College of Physicians and Surgeons.—R.	36	11	25	69.4	5	36	11	25	69.4	5	....	....	....	....	....	14	7	7	50.0	3
51	Harvard Medical School.—R.	99	94	5	5.1	25	84	81	3	3.6	22	15	13	2	13.3	11	43	43	0	0.	9
52	Tufts College Medical School.—R.	102	92	10	9.8	10	96	87	9	9.4	8	6	5	1	16.7	4	61	56	5	8.2	5
	MICHIGAN																				
53	Detroit College of Medicine.—R.	45	44	1	2.2	8	35	34	1	2.9	2	10	10	0	0.	7	34	33	1	2.9	2
54	Detroit Homeopathic College.—H.	6	4	2	33.3	1	6	4	2	33.3	1	....	....	....	....	....	5	4	1	20.0	1
55	Univ. of Mich., Dept. of Med. and Surg.—R.	101	95	6	5.9	16	80	79	1	1.2	11	21	16	5	23.8	11	67	67	0	0.	7
56	Univ. of Michigan, Homeopathic College.—H.	21	21	0	0.	7	21	21	0	0.	7	....	....	....	....	....	15	15	0	0.	3
	MINNESOTA																				
57	Univ. of Minn., Coll. of Medicine and Surg.—R.	65	60	5	7.7	9	50	46	4	8.0	9	15	14	1	6.7	7	30	27	3	10.0	3
58	Hamline University, Medical Department.—R.	19	16	3	15.8	9	17	14	3	17.7	8	2	2	0	0.	2	1	1	0	0.	1
	MISSISSIPPI																				
59	Mississippi Medical College.—R.	23	11	12	52.2	2	23	11	12	52.2	2	....	....	....	....	....	15	7	8	53.3	2
	MISSOURI																				
60	American Medical College.—E.	8	4	4	50.0	4	6	4	2	33.3	2	2	0	2	100.0	2	5	4	1	20.0	2
61	Barnes Medical College.—R.	90	62	28	31.1	18	77	55	22	28.6	17	13	7	6	46.2	8	60	45	15	25.0	13
62	Eclectic Medical University, Kansas City	10	6	4	40.0	4	9	6	3	33.3	4	1	0	1	100.0	1	8	6	2	25.0	3
63	Ensworth Medical College.—R.	35	20	15	42.9	10	31	19	12	38.7	7	4	1	3	75.0	4	20	16	4	20.0	3
64	Kansas City Hahnemann Medical College.—H.	29	23	6	20.7	8	28	23	5	17.9	7	1	0	1	100.0	1	19	19	0	0.	6
65	St. Louis University, School of Med.—R.	109	104	5	4.6	14	106	103	3	2.8	13	3	1	2	66.7	2	90	90	0	0.	8
66	St. Louis College of Phys. and Surgs.—R.	67	39	28	41.8	18	56	29	27	48.2	14	11	10	1	9.1	8	19	16	3	15.8	5
67	University Medical College, Kansas City.—R.	67	55	12	17.9	14	56	49	7	12.5	8	11	6	5	45.5	9	51	47	4	7.8	7
68	Washington University, Medical Dept.—R.	95	92	3	3.2	8	92	89	3	3.3	8	3	3	0	0.	3	88	85	3	3.4	5

R—Regular; H—Homeopathic; E—Eclectic; Ph.M—Physiomedical; P—Panpathic.

NAME OF COLLEGE	Graduates of All Years.					Graduates of 1906-1910.					Graduates of 1905 and Previous.					Graduates of 1910.					Marginal Number
	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent. Failed	Number of States	
NEBRASKA																					
n A. Creighton Medical College.—R	53	52	1	1.9	8	50	49	1	2.0	8	3	3	0	0.	2	42	41	1	2.4	3	69
coln Medical College.—E	15	14	1	6.7	4	15	14	1	6.7	4	.....	.....	.....	.....	....	12	12	0	0.	3	70
versity of Nebraska, College of Med.—R	18	16	2	11.1	4	14	14	0	0.	1	4	2	2	50.0	3	14	14	0	0.	1	71
NEW HAMPSHIRE																					
tmouth Medical School.—R	22	20	2	9.1	5	21	20	1	4.8	5	1	0	1	100.0	1	7	7	0	0.	3	72
NEW YORK																					
any Medical College.—R	50	47	3	6.0	8	42	39	3	7.1	2	8	8	0	0.	6	26	23	3	11.5	1	73
umbia Univ. Coll. of Phys. and Surgs.—R	116	115	1	0.9	20	100	99	1	1.0	16	16	16	0	0.	10	43	42	1	2.3	7	74
nell University Medical College.—R	76	76	0	0.	13	72	72	0	0.	9	4	4	0	0.	4	50	50	0	0.	3	75
ectic Medical College of City of N. Y.—E	12	8	4	33.3	2	12	8	4	33.3	2	.....	.....	.....	.....	....	10	6	4	40.0	2	76
dham University, School of Medicine.—R	2	2	0	0.	1	2	2	0	0.	1	.....	.....	.....	.....	....	2	2	0	0.	1	77
ng Island College Hospital.—R	80	69	11	13.7	8	76	65	11	14.5	4	4	4	0	0.	4	41	35	6	14.6	3	78
York Homeopathic Med. Coll. and Hosp.—H.	28	23	5	17.9	4	25	21	4	16.0	3	3	2	1	33.3	2	16	13	3	18.7	2	79
Y. Med. Coll. and Hospital for Women.—H	3	1	2	66.7	2	2	0	2	100.0	1	1	1	0	0.	1	2	0	2	100.0	1	80
acuse University, College of Medicine.—R	30	25	5	16.7	5	27	24	3	11.1	4	3	1	2	66.7	1	21	18	3	14.3	3	81
versity and Bellevue Hospital Med. Coll.—R	84	79	5	6.0	14	77	75	2	2.6	8	7	4	3	42.9	7	43	42	1	2.3	4	82
versity of Buffalo, Medical Dept.—R	48	42	6	12.5	9	40	37	3	7.5	3	8	5	3	37.5	7	25	22	3	12.0	1	83
NORTH CAROLINA																					
nard School of Medicine.—R	48	23	25	52.1	12	45	22	23	51.1	11	3	1	2	66.7	3	28	16	12	42.9	6	84
th Carolina Medical College	18	14	4	22.2	6	18	14	4	22.2	6	.....	.....	.....	.....	....	13	10	3	23.1	3	85
OHIO																					
veland College of Phys. and Surgs.—R	23	.22	1	4.4	3	20	20	0	0.	2	3	2	1	33.3	2	20	20	0	0.	2	86
veland Homeo. Medical College.—H	18	13	5	27.8	8	9	8	1	11.1	5	9	5	4	44.4	4	5	4	1	20.0	2	87
ectic Medical College.—E	35	20	15	42.9	15	30	17	13	43.3	11	5	3	2	40.0	5	22	13	9	40.9	8	88
o-Miami Medical College.—R	44	40	4	9.1	4	44	40	4	9.1	4	.....	.....	.....	.....	....	43	39	4	9.3	3	89
te Medical College.—H	7	6	1	14.3	4	5	5	0	0.	3	2	1	1	50.0	1	5	5	0	0.	3	90
rling-Ohio Medical College.—R	48	47	1	2.1	5	45	44	1	2.2	3	3	3	0	0.	3	42	42	0	0.	2	91
edo Medical College.—R	9	9	0	0.	1	9	9	0	0.	1	.....	.....	.....	.....	....	9	9	0	0.	1	92
stern Reserve University, Medical Dept.—R	28	27	1	3.6	6	26	26	0	0.	6	2	1	1	50.0	2	22	22	0	0.	2	93
OREGON																					
lamette University, Medical Dept.—R	12	10	2	16.7	3	11	10	1	9.1	3	1	0	1	100.0	1	4	4	0	0.	3	94
versity of Oregon, Medical Dept.—R	21	17	4	19.0	3	21	17	4	19.0	3	.....	.....	.....	.....	....	12	10	2	16.7	2	95
PENNSYLVANIA																					
hnemann Medical College and Hosp.—H	63	54	9	14.3	15	56	48	8	14.3	13	7	6	1	14.3	6	39	34	5	12.8	7	96
ferson Medical College.—R	174	166	8	4.6	33	149	145	4	2.7	31	25	21	4	16.0	13	105	105	0	0.	20	97
lico-Chirurgical College of Philadelphia.—R	87	75	12	13.8	16	75	65	10	13.3	10	12	10	2	16.7	10	69	61	8	11.6	7	98
nple University, Medical Dept.—R	35	32	3	8.6	1	35	32	3	8.6	1	.....	.....	.....	.....	....	35	32	3	8.6	1	99
versity of Pennsylvania, Dept. of Medicine.—R.	196	191	5	2.6	29	164	160	4	2.4	25	32	31	1	3.1	15	124	122	2	1.6	16	100
versity of Pittsburgh, School of Med.—R	75	66	9	12.0	3	75	66	9	12.0	3	.....	.....	.....	.....	....	60	55	5	8.3	2	101
man's Med. Coll. of Pennsylvania.—R	41	38	3	7.3	14	37	34	3	8.1	13	4	4	0	0.	3	20	20	0	0.	5	102
SOUTH CAROLINA																					
l. Coll. of the State of South Carolina.—R	61	44	17	27.9	6	58	42	16	27.6	6	3	2	1	33.3	3	41	29	12	29.3	6	103
TENNESSEE																					
lege of Physicians and Surgs., Memphis.—R	21	14	7	33.3	6	21	14	7	33.3	6	.....	.....	.....	.....	....	15	11	4	26.7	5	104
oxville Medical College.—R	5	1	4	80.0	5	4	1	3	75.0	3	1	0	1	100.0	1	1	1	0	0.	1	105
nphis Hospital Medical College.—R	135	93	42	31.1	13	118	82	36	30.5	10	17	11	6	35.3	9	99	73	26	26.3	8	106
harry Medical College.—R	103	59	44	42.7	17	99	57	42	42.4	17	4	2	2	50.0	4	65	41	24	36.9	15	107
nnessee Medical College.—R	29	22	7	24.1	4	24	20	4	16.7	3	5	2	3	60.0	3	19	19	0	0.	2	108
v. of Nashville and Tennessee Med. Dept.—R.	109	84	25	22.9	21	90	75	15	16.7	16	19	9	10	52.6	12	53	47	6	11.3	10	109
versity of West Tennessee, Med. Dept.—R	9	4	5	55.6	5	9	4	5	55.6	5	.....	.....	.....	.....	....	7	3	4	57.1	5	110
nderbilt University, Medical Dept.—R	55	50	5	9.1	19	45	42	3	6.7	17	10	8	2	20.0	8	26	24	2	7.7	12	111
TEXAS																					
ylor University, College of Medicine.—R	11	10	1	9.1	3	9	9	0	0.	2	2	1	1	50.0	2	9	9	0	0.	2	112
t Worth University, Medical Dept.—R	21	21	0	0.	2	21	21	0	0.	2	.....	.....	.....	.....	....	21	21	0	0.	2	113
uthwestern University Medical College.—R	16	16	0	0.	3	16	16	0	0.	3	.....	.....	.....	.....	....	16	16	0	0.	3	114
versity of Texas, Dept. of Medicine.—R	37	37	0	0.	3	36	36	0	0.	3	1	1	0	0.	1	32	32	0	0.	2	115
VERMONT																					
versity of Vermont, College of Med.—R	35	32	3	8.6	10	30	28	2	6.7	9	5	4	1	20.0	3	17	15	2	11.8	4	116
VIRGINIA																					
dical College of Virginia.—R	43	43	0	0.	10	39	39	0	0.	7	4	4	0	0.	4	33	33	0	0.	4	117
iversity of Virginia, Dept. of Med.—R	37	36	1	2.7	10	31	31	0	0.	9	6	5	1	16.7	4	19	19	0	0.	4	118
versity College of Medicine.—R	32	24	8	25.0	11	31	23	8	25.8	10	1	1	0	0.	1	22	19	3	13.6	4	119
WISCONSIN																					
rquette University, Medical Dept.—R	61	48	13	21.3	6	56	43	13	23.2	5	5	5	0	0.	3	44	35	9	20.5	5	120
sconsin College of Physicians and Surgs.—R	7	7	0	0.	2	7	7	0	0.	2	.....	.....	.....	.....	....	4	4	0	0.	1	121
CANADIAN																					
val University, Medical Dept	22	11	11	50.0	9	11	5	6	54.5	6	11	6	5	45.5	8	1	0	1	100.0	1	122
nitoba Medical College	3	3	0	0.	2	.....	.....	.....	.....	....	3	3	0	0.	2	.....	.....	.....	.....	....	123
Gill University, Medical Faculty	28	28	0	0.	16	19	19	0	0.	12	9	9	0	0.	9	7	7	0	0.	5	124
een's University, Medical Faculty	20	18	2	10.0	12	16	15	1	6.3	11	4	3	1	25.0	3	2	2	0	0.	2	125
iversity of Toronto, Faculty of Medicine	31	27	4	12.9	11	18	17	1	5.6	9	13	10	3	23.1	8	1	1	0	0.	1	126
stern University, Medical Dept	8	7	1	12.5	5	6	6	0	0.	5	2	1	1	50.0	1	3	3	0	0.	2	127
reign Colleges	108	70	38	35.2	24	30	19	11	36.7	12	78	51	27	34.6	21	3	3	0	0.	2	128
cellaneous Medical Colleges	478	311	167	34.9	45	247	172	75	30.4	40	231	139	92	40.0	39	84	70	14	16.7	17	129
dergraduates	353	192	161	45.6	4	.....	.....	.....	.....	....	.....	.....	.....	.....	....	.....	.....	.....	.....	....	130
otals	7004	5712	1292	18.4	....	5678	4830	848	14.9	....	973	690	283	29.1	....	3976	3544	432	10.9	...	

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[*For other information see second page following reading matter*]

SATURDAY, MAY 27, 1911

VALUE OF STATE BOARD STATISTICS

For the eighth consecutive year we present this week tabulated statistics based on the examinations conducted by state medical examining and licensing boards. With the exception of one or two of the minor sectarian boards, our returns for the year 1910, published in this issue, are complete; in fact we have not heretofore had such ready and complete cooperation on the part of the state licensing boards. This is in marked contrast with the conditions in 1903, when reports from a large number of boards could not be obtained for the simple reason that no records whatever were kept by them.

As the first essential of any progressive business enterprise is a system of records by which it may be known just how much is being accomplished each day as compared with the same day of the previous week, month or year, so in the effort to improve the training of physicians and to safeguard better the public against incompetence, the collection and publication of accurate statistics based on the examinations of state licensing boards are extremely important and helpful.

These statistics, which appear on pages 1558 to 1575, are worthy of careful study. As will be noted (Table A), they show for each state the medical college at which each applicant obtained his degree, the total number of applicants examined, the number registered, the number rejected and the percentage rejected. They show the number of non-graduates examined and (Table K) the number registered under exemption clauses or through interstate reciprocity. They also allow of comparisons of the results in any one state with the results in other states. Occasionally it is seen that a state board registers every applicant who applies; and again a board may appear to be very lenient with graduates of medical schools located in its own state (Table F), although the graduates of those schools may receive high failure percentages elsewhere.

For each medical college, these statistics show (Tables A and B) in what states its graduates appeared for examination, the number who passed and failed in each state, the total examined in all states, the number who passed, the number who failed and the percentage of failures. They permit a comparative study of medical colleges and furnish an important side-light on any investigation of medical colleges which may be undertaken.

These statistics also show the number of candidates coming from Canadian and other foreign medical colleges. In short, they give an accurate record of the number and source of those who are entering the practice of medicine each year in this country—information which was not available prior to 1904 when The Journal began the publication of these statistics.

Without the data published this week, it could not be known that 7,352 physicians were licensed in this country during 1910, and that this included 5,712 who were registered by examination, 138 who were registered under the various exemption clauses and 1,502, mostly old practitioners, who were registered under the provision for reciprocity.

But these statistics have been much more than a mere numerical record of the physicians examined and licensed. They have exerted and are exerting a tremendous influence toward the betterment of conditions underlying the education and the licensing of physicians. Probably no one has recognized the value of these statistics more than have the state licensing boards themselves. As a result, in many states splendid systems of record-keeping are now to be found where formerly, in several states at least, no records whatever were kept, and in many others the systems were far from perfect. Again, there has been a marked progress in the methods of conducting examinations and in the character of those examinations.

The publication of these statistics showing the failures of college graduates at the state license examinations has also stimulated the colleges to make improvements in their equipment, to secure better teachers and to adopt better methods of teaching.

It should be stated that from the official data in the possession of the Council on Medical Education, which has in charge the collection and tabulation of these statistics, a check is now provided for every report whereby duplications are avoided, errors are corrected and the statistics are rendered accurate and reliable. We again express our acknowledgments not only to the officers of the state licensing boards whose carefully prepared reports have made the publication of these statistics possible, but also to the medical colleges whose earnest cooperation in sending complete lists of their graduates has aided in making these statistics accurate.

The colleges and the state boards have reason to feel gratified, therefore, not only because of the direct aid which these statistics are capable of furnishing, but also because the publication of this valuable information, made possible by their carefully prepared reports, is doing much to unify and to better the conditions underlying the training and the licensing of physicians in this country.

PROTECTIVE INOCULATION AGAINST DYSENTERY

In this country bacillary dysentery occurs under two special conditions, namely, as a variety of summer diarrhea in infants and as an institutional disease, especially in hospitals for the insane, the so-called institutional dysentery. In both cases there is need of effective prevention. Protective inoculation does not appear to have given satisfactory results heretofore. Inoculation or active immunization against bacillary dysentery was introduced by Shiga[1] in 1898; he inoculated himself, but concluded that the method would not be generally applicable because of the rather severe local and general reactions, and this conclusion seems to coincide with those reached by others. Shiga, as well as Dopter and others, consequently tried a mixed, active and passive, immunization, using heat-killed bacilli in suspension and mixed with specific immune serum. With this method Shiga (1898-1900) inoculated about 10,000 men in certain parts of Japan where dysentery was epidemic, and while he did not seem to secure any evident protective effect, yet the mortality, which had been 20 per cent. to 30 per cent., was reduced to nearly zero.

Unfortunately the dosage used by Shiga and others in their injections of vaccines and serum is rather indefinite, the bacillary suspension not being standardized, and for this and other reasons, protective inoculation against bacillary dysentery would seem to merit further study by newer and more discriminating methods. It having been found in previous studies[2] that the commonest cause of infantile dysentery as seen in the outpatient department of the Infants' Hospital in Boston is the dysentery bacillus (Flexner type), Lucas and Amos[3] last summer inoculated a series of children living under conditions in which they were likely to acquire infection with dysentery bacilli. They inoculated ninety-five children, all under two years of age, giving one or two injections of 50,000,000 heat-killed bacilli with one cubic centimeter of antidysenteric serum. The exact nature and virtues of this serum they do not state. In no case did the injection do harm, the reactions being mostly mild and brief. Of the ninety-five children, two died of acute infectious diarrhea within a few weeks after the inoculation, while of ninety-seven children observed as controls at the same time, three died of the same cause. The results consequently simply indicate that the inoculation probably did no harm; much more work must be done before we can learn definitely whether the method used by the Boston workers is an effective method for preventing infection with dysentery bacilli in young children. The method might be expected to be effective — unless perchance the dose given of killed bacilli is too large—and possibly the fact that in six of the inoculated children the stools were found to harbor dysentery bacilli while no symptoms of any active infection developed should be regarded as evidence of active protection. Further evidence is needed to establish definite conclusions.

In the case of institutional dysentery it is perhaps easier to obtain conditions that are more favorable for securing decisive results, as shown by the recent work of Dick,[4] who found that the dysentery in the insane asylum and poorhouse of Cook County (Chicago), Illinois, which as a rule flares up each summer, is of bacillary nature, the Shiga bacillus predominating. Apparently the transmission and spread may be attributed to contact and transfer by flies, the infection being maintained from season to season, probably by carriers. On the basis of the results of animal experiments Dick prepared a vaccine of standardized suspension of twenty-four-hour growths of different strains of bacilli, sterilized by heating for an hour and a half at 60 C. At first two doses were given, the first being 10,000,000 bacilli and the second, one week later, 15,000,000. It should be noted that in these experiments comparatively small doses were used. The patients in certain wards were divided so that sixty-two received the injections while the other sixty-two served as controls. Of the latter, four developed dysentery, while of the inoculated, only one developed a dysenteric attack; this attack began on the second day and ran its course in forty-eight hours. There were in some of these cases rather severe local reactions, especially after the second injection, and there occurred a marked rise in specific opsonins and other antibodies. In the second series only one dose of 15,000,000 bacilli was given. This series comprised seventy cases in all; in the control cases three developed dysentery while of the inoculated all remained free. Incidentally it may be noted that Dick also obtained indications that the dysenteric vaccine may be of curative value and that he found the opsonic index to be of greater aid in reaching a diagnosis than the agglutination test. In view of these results it would seem advisable to practice inoculation according to Dick's plan in order to prevent dysentery, especially in institutions in which the opportunities are so favorable for contact infection. It would seem to be indicated also that in the case of children new experiments should be made with small doses.

THE OPIUM PROBLEM, ORIENTAL AND OCCIDENTAL

The announcement by President Taft of the names of the American delegates to the approaching International Opium Conference to be held at the Hague calls attention once more to the opium problem. When the International Opium Conference met at Shanghai in 1909, the American Bishop Brent of the Philippine Islands was made the presiding officer, and Americans were prominent in its organization. After the close of the meeting Dr. Hamilton Wright of Maine, who had been active in its proceedings, was commissioned by our Secretary of State, Mr. Knox, to gather materials for the better knowledge of the situation with respect to the opium and other habit-forming drugs. His investigations have brought to light rather startling facts. The International Opium Conference was originally arranged for in order to prevent the exploitation of the Oriental peoples, and especially to protect the Chinese and the Filipinos from those who are willing to make money out of them by the sale of habit-forming drugs regardless of their evil effects. There is no doubt that the meetings will accomplish much good for these purposes, but just at present the investigations for which they were the incentive, have produced quite another and no less interesting result.

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[1] See his article in Modern Medicine, 1907, ii, 781.

[2] Lucas, W. P., Fitzgerald, J. G., and Schorer, E. H.: Methods of Serum Diagnosis in Bacillary Dysentery (Infectious Diarrhea) in Infants, The Journal A. M. A., Feb. 5, 1910, p. 441.

[3] Jour. Exper. Med., 1911, xiii, 486.

[4] Jour. Infect. Dis., 1911, viii, 386.

Dr. Wright has found that we in the United States are consuming as large an amount of habit-forming drugs per capita as is consumed in the Chinese Empire. Our consumption of opium is nearly 500,000 pounds, while it is calculated that less than one-seventh that amount would surely suffice for all the medical needs of the people of this country. Besides it is alleged that we are using nearly 200,000 ounces of cocain, although less than one-twelfth of that amount should supply every legitimate medical need. While we are deeply intent on saving the Orientals from exploitation by greedy and conscienceless Occidentals, let us not forget that we have the same problem at home. It has developed within a comparatively short time. It is probable that our over-indulgence in opium is at the present time actually doing more harm than the same habit is doing in China, where, as pointed out by Dr. Archdall Reid some time ago, the people are growing accustomed to it and are not so much injured by it as they were at the beginning.

Opium and many other toxic substances seem to follow the same rule as the infectious diseases. When a race has been exposed to the action of such harmful agents for some time, it becomes more or less immune to their effect. This immunity is acquired through the gradual elimination of those whose characters are so weak that they are unable to resist the craving. This is illustrated very well by the fact that the nations that have been longest subjected to the temptations and the dangers of alcoholic liquors are those which now suffer least from them, while nations newly exposed, such as savages, suffer as severely from them as they do from the infectious diseases when newly introduced. This acquired immunity is very costly, however, and is not the ideal mode of protection. It would be much better if we could by moral means lessen the dangers. While we are planning to apply these means to the East, we must remember that charity begins at home and secure their application as far as possible in our own country. For this the first important step is knowledge of conditions as they actually are and that seems to have been brought to us by the recent investigation.

THE PLAGUE

The great epidemic of plague which has been sweeping through a number of the provinces of China has developed a rather curious situation, referred to in this week's letter from our Manila correspondent, which does not augur well for the permanent suppression of the plague in that country, or for the early effective development of a correct public attitude toward epidemic diseases or public sanitary measures.

This epidemic originated in the north, in that part of Manchuria over which Russia and Japan have control. It seems that both of these countries, having in view chiefly commercial and territorial advantage, did not take sufficient precautions to prevent the spread of an outbreak in that section along the lines of their railroads, and last fall the annual migration of coolies to the south carried the plague with it. Thus the great epidemic started.

It is charged that both Russia and Japan should have taken more stringent precautions against allowing this spread of the disease to occur. Japan, by applying her experience in the sanitation of large bodies of troops in the Russo-Japanese War and her recognized efficiency in sanitary matters, should have been able to check the situation in its incipiency. Both of these nations, it would seem, devoted more energy to developing their strategic and military power in the north than to subduing the epidemic, with the result that the plague gained a strong foothold in China.

The Chinese government, however, in pursuance of its recent policy of adoption of western modern methods in government and in all that pertains thereto, on the outbreak of the plague called together a plague commission, similar, perhaps, to other medical commissions of recent times, composed of representatives of the principal governments of the world, for the purpose of studying the plague situation and devising means for its control. Two representatives of the United States government from the medical service in Manila are now in China with a well-equipped laboratory and are studying the plague situation. Already results in its suppression have been accomplished in communities where proper measures could be instituted and carried out. The Chinese government has liberally financed the commission and seems to be in earnest in accomplishing something in the way of eradicating the plague from her dominions.

The attitude of the people in some of the provinces toward the plague and other epidemics—curious enough in Western eyes—is to be reckoned with if wide-spread results in the control of plague and other epidemics are to be attained. Our correspondent relates a conversation with a Chinese acquaintance. In reply to a representation of the necessity of acting quickly in case the disease should appear in the community and of suppressing it at once, the native said that the spread of the plague would be a good thing since it would give better opportunity for the people who remained. He believed that epidemics were necessary from time to time, as otherwise the country would be largely overpopulated, rendering subsistence almost impossible. Our correspondent cites another instance in which the people of a province even rejoiced because a famine had resulted in the death of thousands of people. They pointed to the fact that the province was now prosperous and happy; that the people had plenty of work and plenty to eat.

Though China as a whole is not overpopulated, many provinces under present methods of cultivation of the soil are subject to famine at almost any time and, with the rapid multiplication of the population in the fat years, much of the country might speedily be populated beyond the subsistence line. We of the West cannot learn to recognize the plague as a blessing; but we must recognize that the hard conditions of existence perpetually on the brink of famine complicate immensely the problem of dealing with epidemics.

TO SAVE THE BABIES

The death-rate among infants and young children has been one of the crying disgraces of civilization. Herod's slaughter of the innocents, the story of which has served to horrify the world for twenty centuries, merely hastened the death of many of these babies, as probably the greater part of those whom his ruthless order condemned would have died within a few years from infantile ailments and zymotic diseases. Through the middle ages and up to the present day, the death-rate of infants has had an unknown, but undoubtedly an enormous influence in keeping down the average, while the infant mortality among savages and barbarous nations is too dreadful to contemplate. It has remained for the present generation to realize that "race suicide" as a national peril is not to be compared to "child murder" by removable social and economic causes.

One of the most important problems confronting us is that of child conservation. A movement for the salvation of the child is of far greater importance than the efforts to save our forests, rivers and mineral deposits from spoliation. This is so evident that it is necessary only to demonstrate the facts to secure instant public response. Learning from previous efforts that public education and the arousing of popular interest must precede all attempts to improve conditions, those behind this most important crusade have wisely inaugurated a system of public exhibits in the larger cities.

The Child Welfare Exhibit held in New York was open to the public for a month and was visited by a quarter of a million people, an average of 8,000 per day. The second Child Welfare Exhibit, just held in Chicago, was viewed, during the first ten days in which it was open, by over 265,000 people, or about 26,000 per day. This enormous attendance is attributed by the local papers to the energy of the Chicago managers and to the activity of school teachers and others in spreading the news of the exhibit throughout the entire city. Yet these methods would have been futile had it not been that the public was ready to take an interest in the subject. In no other way is it possible to account for the spontaneous outpouring of people of all classes.

An account of some of the more striking features of the exhibit appeared in The Journal last week. It is difficult, however, to convey an adequate idea of the graphic character of this exposition, while it is impossible for any description to do justice to the crowds of eager people who poured through the Coliseum which contained the exhibit. Mothers from the slums with babies in their arms and with numerous offspring trailing behind, wealthy women of well-known families, eager to acquire information, business men, workingmen, physicians, scientists, politicians, clergymen, trained nurses — all visited the exhibit and all came away impressed with the enormous and unpardonable waste of child life and with the crying need for better methods of prevention. It is impossible to overestimate the value of such educational exhibits. Steps should be taken to render such collections permanent for use in other cities, or at least to utilize some of the valuable material for further education. Since the one educational shortcoming of such an exposition—if the paradox may be pardoned—is that it is too vast and complex to be readily grasped and understood in all its parts, it would be of great value if single features could be placed on display so as to enforce a single lesson at a time. If these special exhibits were shown in much-frequented places, such as public libraries, the waiting-rooms of railway stations and the rest-rooms of department stores, they would be viewed by thousands who never enter a museum or exposition. The presentation of the Child Welfare Exhibit, admirable as it is in itself, should be regarded merely as a starting-point in the education of the public along these lines.

Current Comment

A PRELIMINARY EDUCATION IN PHYSICS, CHEMISTRY, BIOLOGY AND MODERN LANGUAGES

As a part of the education which should be preliminary to the study of medicine, courses in physics, chemistry, biology and modern languages have been especially urged during the last several years by the Council on Medical Education. The importance of the sciences named does not depend so much on the bare knowledge obtained from them as on the training the student receives. In the work in these sciences, and particularly in the laboratory work, the student, under able instructors, acquires the ability to think for himself; he develops the scientific spirit; he learns the use of the microscope and becomes acquainted with the methods and value of experimentation. A reading knowledge of French and German is an invaluable aid to the medical student since it furnishes access to all of the world's recent medical knowledge, a large portion of which appears in the languages named. That is the minimum preliminary education which should be insisted on in this country, not because it is the minimum requirement in every other civilized nation, which is a fact, but because the student really needs that training in order to master the complex courses in the modern medical curriculum and to do his part in solving the intricate problems which now confront the medical world. In the medical course of to-day the ability of the student to think, to observe and to do research work is very essential. This was not so necessary twenty-five or thirty years ago. Experience has shown that the needed qualifications are best developed by thorough courses, under expert teachers, in physics, chemistry, biology and modern languages. These are the reasons for urging those courses as a part of the minimum requirement for admission to medical schools in this country.

NOSTRUM-PROMOTING AS SHORT-STORY MATERIAL

The character and schemes of the patent-medicine faker and the weaknesses of human nature which enable him to take advantage of the public make splendid material for the short-story writer. In a tale of this sort which appeared in the March *Red Book Magazine*, one of a pair of bunco men of the J. Rufus Wallingford type grew a beard, physician style, and acquired a medical vocabulary by reading up in second-hand medical books. Arriving in the town which was to be exploited, he hired the best suite at the hotel and gave out an interview to the local paper which informed the wondering community that "Hank Dusenberry's clay-hole up in the foothills is nearly as good as a diamond-mine. . . . After long and secret experimentation, Dr. Henry Hicks Hudson, the eminent eastern expert, who arrived here yesterday . . . has disclosed to the reporter of the *Weekly Independent* that the discovery of the clay marks one of the epochs in the progress of medical science, second in greatness perhaps only to Koch's discovery of the cholera bacillus. Dr. Hudson's name will rank with those of Lister and Pasteur." The modest scientist reluctantly admitted to the "representatives of the mighty press" that he had used the mud, "which we scientists call Antispasmodyne," with magical results in the most hopeless and stubborn cases of locomotor ataxia, rheumatism, lumbago and even Bright's disease. He also announced his intention of giving to the local merchants the entire lucrative trade of the immense sanitarium which he proposed to erect—on the very reasonable condition, as was soon evident, of their taking stock in the new enterprise. The distinguished scientist's business partner, meanwhile, was recruiting from the cheap lodging-houses of the nearest large city patients, who, by the time they arrived at the sanitarium, had been transformed into millionaires afflicted with sciatica, appendicitis, etc. The "suckers" bit; the stock was sold; but the fake patients struck for more money and made trouble which brought the story to a humorous close. It is worth reading. The magazines seem more willing to print such stories of late, even though there is a possibility that their advertising receipts may be affected. Probably this is because of the fact that the public is becoming interested in the exposures of nostrums and quackery.

MUD THERAPY

By an interesting coincidence, just after the preceding was written, there arrived in the mail a letter originally sent to a physician, reading, in part, as follows:

> The management of the ——— Moor Bath Co., of ———, desires to call the attention of the public at large, and especially those suffering from Rheumatism, Gout, Lumbago, Neuralgia, Kidney and Liver Diseases, Grippe, Nervous Exhaustion, Eczema and Skin Diseases of all kinds, and also those who need rest and quiet, to the cures and beneficial results attained through the use of Moor Baths, such as given by the ——— Moor Bath Co.
>
> We are aware of the fact that the Moor Baths have become famous on account of their pleasing results. We also know that thousands have been cured of Rheumatism and its kindred diseases by the use of Moor Baths after all else had failed them.
>
> The Moor Baths are reconstructive, dissolve and draw all impurities out of the body. Pure air, pure water, pure food and quiet life will do the rest. This natural combination of remedial agents as found at ——— cannot be duplicated elsewhere. ———, one of the foremost health resorts, as such, needs no introduction. Its pleasing climate, beautiful surroundings, its sparkling mineral waters and clean government are known the world over and make it an ideal spot for an institution of this kind.

By the time one has read thus far, one is convinced that there is nothing left to do but to pack up at once and go to the Moor Baths. Reading on, one finds the phrases "most desirable," "one of the grandest views imaginable," "most modern in the world, absolutely fireproof," etc. A remarkable parallel with the plot of the short story referred to in the preceding comment is found in the following paragraph:

> The original discovery of this Moor bed at ——— is due to a prominent doctor, for many years an assistant at the European Moor Baths, who pronounced the same to be of great medicinal value, a claim which has since then been fully substantiated by some of our foremost chemists by careful analyzation.

In making these quotations, of course, we do not intend to suggest that the Moor Baths are not all that they are said to be. By no means. They may be even more wonderful. We merely quote from this letter because it is interesting and instructive.

PROGRESSIVE MEDICAL LEGISLATION

During the session of legislative activity now nearly over, much has been accomplished for medical education. Not only has legislation establishing higher standards of preliminary education and providing increased appropriations for medical education been adopted, but also legislation tending to lower educational standards, in at least one instance, has been defeated. In Utah and in North Dakota amendments to the practice act have just been secured, providing respectively for one and two years in a college of liberal arts, or its equivalent, in addition to a standard four-year high-school education as their minimum requirement of preliminary education, making nine states which now have adopted these higher standards. In Minnesota, on the other hand, legislation which would have lowered the excellent standard fixed by the licensing board of that state encountered signal defeat. Reports also have been received of the defeat of other vicious legislation such

lls providing for separate boards and special stand-
for osteopaths, chiropractics and optometrists.
se results are most encouraging and are a sure indi-
n that more reasonable standards of medical educa-
are to be generally adopted in the near future. The
that the legislatures of Alabama and Nebraska each
opriated $100,000 for the development of their
university medical schools and that North Caro-
and Oregon appropriated respectively $40,000 and
000 for a similar purpose, constitute an assurance
our state legislatures are going to assume a larger
e of the responsibility of providing a suitable train-
for those who are to care for the sick and injured.

HE EDUCATIONAL FUNCTION OF HOSPITALS

any of those who are in control of our large hospitals
ot seem to have realized that, to do the most good
ny community, a hospital should exercise a dual
tion. First, it should take the best possible care of
patients who come under its roof and, second, it
ld act as an educational agency, by which doctors,
ents, interns and research workers are made more
iliar with the nature and symptoms of diseases, the
ods of diagnosis and the means of preventing or
ng them; by which nurses are educated in the latest
ine care of the sick, and by which the patients them-
s and indirectly the general public are led to recog-
the importance of dieting, rest and quiet, and the
e of aseptic or antiseptic methods and the other
tices of the hospital routine. The patient undoubt-
receives a better treatment in a hospital where the
ding staff is composed of physicians acquainted
the latest and best methods of diagnosis and treat-
t; and this is more apt to be the case in the hos-
l in which teaching and research are being done.
same is true to a certain extent where interns
nurses are in attendance. It is doubtless a fact
the two chief functions of a hospital are inter-
ndent, and that each is best performed only where
functions are fulfilled. It is to be hoped, therefore,
a careful reading of the important article on this
ect in this week's issue, by Dr. James B. Herrick,
convince those who are in control of our large hos-
ls of the increased usefulness which those institu-
s can render the community if they are fully exer-
g their educational function.

S. WEIR MITCHELL

here are comparatively few literary records compar-
to that of Dr. S. Weir Mitchell, who, now in his
ty-third year, has just published his latest novel,
n Sherwood, Ironmaster," which shows no falling
in his power of writing and of holding his reader.
n it is remembered that he has been easily among
first of American neurologists in a specialty which
nore comprehensive perhaps than any other and
ires immense professional industry of the man who
ntains himself in it as Dr. Mitchell has done, his
ary ability and activity are notable phenomena. He
robably one of the oldest, if not the oldest, of living
productive literary men; and this fact, to say nothing of the professional activities he may still keep up, makes his latest achievement the more remarkable. Everything he does is done well.

A GOOD DOCTOR

Statements are commonly heard that the function of a medical school is "to make good doctors," or to produce "well-trained practitioners"; or other general expressions have been used which have still left it with the hearer to form his own conception of what was meant by the expressions used. The article by Dr. E. P. Lyon which appears in this issue of THE JOURNAL, however, sets forth so clearly and logically the essential qualifications of "the good physician," as to leave the reader no possible ground for misunderstanding. Dr. Lyon shows that the "good physician" must have accurate powers of observation, must "mix his seeing with brains," must know how to conduct experiments, must be able to form accurate conclusions and must be a man of character. The article explains also what the medical school must have in the way of courses, equipment and teachers in order to develop these qualities in its students. Furthermore, this paper clearly demonstrates why higher entrance standards are needed; why it is essential for a college to have full-time, expert teachers; why well-equipped laboratories should be provided and why some research is valuable in the undergraduate course of the medical school. In short, the article shows that the medical course to-day should be in accord with the abundance of known facts in modern medicine.

Medical News

CALIFORNIA

Change in Meeting Place.—The Los Angeles County Medical Association now meets in the cafeteria rooms on the fourth floor of the Hamburger Building.

Personal.—Dr. and Mrs. J. Edson Kelsey and family, Berkeley, sailed for the Orient, May 24.—Dr. Ernest B. Hoag, for two years medical director of the Berkeley schools, has resigned, to take effect at the end of the school year.——Dr. Charles Hamilton English, San Francisco, who was stricken with cerebral hemorrhage, May 8, is reported to be improving.

ILLINOIS

Personal.—Dr. Henry T. Godfrey, Galena, has announced his approaching retirement from practice.——Dr. George H. Hunt, Paris, was painfully injured in an automobile accident in Chicago, May 18.

Result of Intern Examination.—Of the 145 who took the recent examination for positions as interns in the Cook County Institutions, a woman graduate of Rush Medical College is said to have obtained the highest standing, 93.40 per cent. Of the 40 who received appointments, 15 were graduates of Northwestern University Medical School, 10 each of Rush Medical College and the College of Physicians and Surgeons, 4 of Loyola University, and 1 was an aluminus of the Chicago College of Medicine.

State Society Election.—At the sixty-first annual meeting of the Illinois State Medical Society, in Aurora, May 16-18, these officers were elected: president, Dr. L. H. A. Nickerson, Quincy; vice-presidents, Drs. J. W. MacDonald, Aurora, and J. E. Miller, Danville; secretary, Dr. Edmund W. Weis, Ottawa (reelected); treasurer, Dr. Everett J. Brown, Decatur (reelected); councilors, Drs. Jeremiah H. Stealy, Freeport; James W. Pettit, Ottawa, and Elmer B. Cooley, Danville; delegates to the American Medical Association, Dr. Alexander H. Ferguson and Hugh T. Patrick, Chicago, and Everett J. Brown, Decatur, and alternates, Drs. Clifford U. Collins, Peoria; Samuel C. Stremmel, Macomb, and George S. Rainey, Salem. Springfield was selected as the place of meeting for 1912, and a resolution was adopted asking the state legislature to make a fixed annual appropriation of $100,000 for the maintenance of the medical department of the state university.

Chicago

Small-Pox in Hospital.—Three cases of small-pox, in an intern, a nurse and a patient, respectively, have been discovered in St. Bernard's Hospital, and the patients have been removed to the Isolation Hospital. All the inmates, physicians, nurses and help at the hospital have been vaccinated.

Annual Meeting of Pathologic Society.—The annual meeting of the Chicago Pathologic Society was held May 8 and the following officers were elected: president, Dr. Alice Hamilton; vice-president, Dr. Edward C. Rosenow; secretary, Dr. George H. Weaver (reelected); treasurer, Dr. Alexander A. Goldsmith; censors, Drs. Emil Ries, H. Gideon Wells and Lorenzo N. Grosvenor, and publication committee, Drs. Ludvig Hektoen, F. Robert Zeit and H. Gideon Wells.

Personal.—Dr. William A. Evans, health commissioner, retired May 20 and Dr. Gottfried Koehler, assistant commissioner of health, has been placed in temporary charge of the health department.——Dr. Joseph E. Raycroft has accepted the professorship of physical education at Princeton University.——Dr. B. Brindley Eads was seriously injured in a collision between his automobile and a street car, May 18.——Dr. B. Barker Beeson sailed from New York for London, May 20.

INDIANA

District Meeting.—The Ninth Councilor District Society held its annual meeting in Kokomo, May 19. The following officers were elected: president, Dr. Edgar Cox, Kokomo; vice-presidents, Drs. Wm. J. Fernald, Frankfort, and Kenton C. Hershey, Carmel; secretary and treasurer, Dr. Paul J. Barcus, Crawfordsville, and assistant secretary, Dr. George T. Williams, Crawfordsville.

Personal.—Dr. Geo. W. Miller, Covington, has been admitted to the practice of law in the state of Indiana. He does not intend to give up the practice of medicine at present, but eventually intends to take up legal medicine as a specialty.——Dr. William H. Johnson, a member of the city council of Indianapolis, who has been seriously ill at his home, is reported to be improving.——Dr. Eric A. Crull has resigned as president of the Fort Wayne Antituberculosis Society.

Hospital News.—A new free colored hospital will be opened in Indianapolis, June 1. At the eighth annual convention of the State Sisters of Charity (colored), which met in Indianapolis, May 15 and 16, $500 was subscribed toward the hospital fund.——A contract for the new addition to the Methodist Episcopal Hospital, Indianapolis, has been let for $67,676. The total cost will approximate $125,000. During the past week more than $80,000 has been subscribed in Indianapolis for this institution.

IOWA

Medical Women Elect Officers.—At the annual meeting of the Iowa Society of Medical Women in Des Moines, May 17, the following officers were elected: president, Dr. Jennie G. Ghrist, Ames; vice-presidents, Drs. Georgia Stewart, Des Moines, and Jessie B. Hudson, Iowa City; secretary, Dr. Lena A. Beach, Cherokee, and treasurer, Dr. Grace Jerger, Waterloo.

Personal.—Dr. George E. Decker, Davenport, has resigned as a member of the State Board of Health, giving as his reason "the inadequate appropriations made by the state for the work of the board" and "the ill-advised and carelessly drawn, if not absolutely vicious, health legislation of the last two general assemblies."——Dr. Albert C. Moerke, Burlington, president of the State Board of Health, has resigned, giving as his reason the failure of the recent legislature to provide a sufficient appropriation for carrying on the work of the board.——Dr. Gardner A. Huntoon, Des Moines, has been appointed a member of the State Board of Health, vice Dr. Alfred P. Hanchett, Council Bluffs, term expired.

KANSAS

State Society Meeting.—The forty-ninth annual meeting of the Kansas Medical Society was held in Kansas City, May 3-5. The following officers were elected: president, Dr. John T. Axtell, Newton; vice-presidents, Drs. George M. Gray, Kansas City; Horace G. Welch, Hutchinson, and Anderson Lincoln, Kansas City; secretary, Dr. Charles S. Huffm Columbus, and treasurer, Dr. Lewis H. Munn, Topeka.

Personal.—Dr. Andrew H. Fabrique, Wichita, was made life member of the Sedgwick County Medical Society at meeting, April 11.——Dr. Francis H. Slack of the Univers of Kansas, Lawrence, formerly director of the Boston B teriologic Laboratory, has been offered the secretaryship the Boston Board of Health.——Dr. Louis O. Nordstr Salina, has been elected president, and Dr. J. Albert Fult Kansas City, secretary and treasurer of the Alumni Asso tion of the Medical Department of the Kansas State U versity.

MARYLAND

Personal.—Dr. Luther H. Keller, Hagerstown, has b elected vice-president of the Washington County Confeder Memorial Association.——Dr. Thomas C. Bussey, Texas, reported to be seriously ill as the result of cerebral hem rhage.——Dr. Lewis K. Woodward has been elected a mem of the common council and treasurer of Westminster.—— Frederick W. Steiner has been elected a member of the Bo of Health of Havre-de-Grace.

Baltimore

Scotch Gynecologists in Baltimore.—Dr. Munro Kerr of University of Glasgow was the guest of Dr. Howard A. K last week. He was entertained by Dr. Kelly at a dinner the Maryland Club.

Commencements.—The commencement exercises of the rious medical colleges in Baltimore will be held as follo University of Maryland and Baltimore Medical College, J 1; College of Physicians and Surgeons, June 6, and Jo Hopkins University, June 13.

Bust to be Unveiled.—At the commencement exercises of University of Maryland, a bronze bust of the late Dr. Ja Harris, founder of the department of dentistry, and giver the university by the senior dental class, will be unvei The presentation will be made by Prof. John C. Hemm and a brief address will follow by Professor Heatwole.

Personal.—Dr. Robert L. Mitchell is reported to be ill scarlet fever at Sydenham Hospital.——Dr. Delano Fitzge has returned home after six months in Egypt.——Dr. Dur McCalman was thrown from his automobile recently, frac ing his clavicle.——Dr. John C. Hemmeter has been detaile do original investigation for the government at the ma biologic laboratory, Wood's Hole, Mass.

MASSACHUSETTS

Sanitarian Appointed Professor.—George Chandler Whi New York City, of wide repute as a lecturer and au on technical subjects, has accepted an appointment as fessor of sanitary engineering at Harvard University and begin his duties with the coming academic year.

Personal.—Dr. Herbert G. Leslie has been elected se physician of Amesbury.——Dr. Edward J. Brearton has appointed assistant examining physician in the departmen public works of Dorchester.——Dr. William J. Teahan been appointed medical examiner for Holyoke, vice Dr. F Holyoke, retired.

State Society to Meet.—The Massachusetts Medical So will hold its one hundred and thirtieth anniversary me June 13-14, under the presidency of Dr. George B. Shat Boston, at Harvard Medical School. The Shattuck le will be given on the evening of June 13 in the Boston Me Library by Dr. Richard C. Cabot, Boston, on "Observa Regarding the Relative Frequency of the Different Dis Prevalent in Boston and Vicinity."

MISSOURI

State Medical Association Meeting.—At the annual me of the Missouri State Medical Association, held in K City, May 16-18, Sedalia was selected as the next pla meeting. The following officers were elected: president Robert H. Goodier, Hannibal; vice-presidents, Dr. Wils Ferguson, Sedalia; J. Henry Amerland, St. Louis; Charl Lester, Kansas City; George W. Vinyard, Jackson, and M. Stone, Laredo; secretary, Dr. Edward J. Goodwin, St. (reelected), and treasurer, Dr. J. Franklin Welch, Salis

MONTANA

Tuberculosis Exhibit Opens.—The exposition under auspices of the National Association for the Study and vention of Tuberculosis opened in Butte, May 9. Dr. Is. D. Freund presided at the opening meeting.

Red Cross Society Formed.—The Montana State Board of the American Red Cross has been organized with Governor Norris as president. The board will serve as a standing committee on finance for the Red Cross and will receive contributions for relief purposes.

County Society Meetings.—The annual meeting of the Lewis and Clark County Medical Association was held in Helena, April 27. Dr. Maria M. Dean was elected president; Dr. Sidney A. Cooney, vice-president; Dr. Barnard V. McCabe, secretary; Dr. George W. King, treasurer, and Dr. Ben C. Brooke, delegate to the state association, all of Helena.——Fergus County Medical Association, at its annual meeting held in Lewistown, elected the following officers: president, Dr. Charles C. Wallin, Lewistown; vice-presidents, Drs. C. E. Hagen, Hedgesville, and Arthur E. Myrick, Stanford; secretary and treasurer, Dr. John T. Foley, Lewistown; delegates to the state association, Drs. Abraham Poska, Philbrook, and Willard A. Long, Lewistown, and alternates, Drs. C. E. Hagen, Hedgesville, and S. Sheridan Owen, Moore.

NEW JERSEY

Readjustment of Medical Staff.—An entire change in the classification of assistant physicians at the New Jersey State Hospital for the Insane, Morris Plains, is to be made to go into effect June 1. The medical staff was formerly composed of the medical director and a staff known as first to sixth assistant physicians. Under the new classification the medical director will be chief of staff as before, Dr. Britten B. Evans, Morris Plains. Drs. E. Moore Fisher, Morris Plains, and Louis K. Henschel, N. Y. City, will be known as senior assistants and the remaining three members of the staff, Drs. George A. Anderson, Marcus A. Curry and George B. Hampton, are to be known as junior assistants. Three more junior assistants are required on the medical staff and a competitive examination is to be held June 1 to determine the names to be submitted to the board of managers at its next meeting.

NEW YORK

Tuberculosis Commission Bill.—The assembly has passed the Goodwin Bill creating a commission to consist of three members to be appointed by the governor of the state, the State Commissioner of Health, a physician, a state senator and three assemblymen, to investigate generally the prevalence of tuberculosis in the state with special reference to methods of prevention.

Cancer Hospital Assured.—Governor Dix has signed the bill appropriating $65,000 to establish in Buffalo a hospital to investigate the cause, nature, treatment, prevention and cure of cancer and allied diseases. The management is to be by a board of seven trustees, including the state commissioner of health, Drs. Roswell Park, Charles Cary and William H. Gratwick, Buffalo; Frederick C. Stevens, Attica; John G. Milburn and Charles S. Fairchilds, New York City.

Personal.—Dr. Elbert M. Somers of the St. Lawrence State Hospital, Ogdensburg, has been appointed by the State Lunacy Commission as medical inspector for the commission to succeed Dr. Robert Doran who was recently appointed superintendent of the Long Island State Hospital.——Dr. Julius A. Klaks, Buffalo, has been elected health officer of Depew.——Dr. Nathan William Soble, Rochester, chairman of the tuberculosis committee of the public health association of Rochester, has been elected vice-president.

Urge Further Antituberculosis War.—Joseph H. Choate in a letter to the State Charities Aid Association declares that the "no uncared for tuberculosis in 1915" movement will be accomplished if the present rate of progress is maintained. The number of county hospitals authorized to do this work has increased during the past year from eight to sixteen, of dispensaries from fifteen to twenty-five, of visiting nurses from thirty-two to thirty-nine and of localities providing special relief from eight to fifteen. The letter has been sent to 1,500 officers of antituberculosis committees and calls on them to prosecute the work with vigor in the assurance of success in view of the progress already made.

New York City

Sanitary Object Lessons.—A department of public health has been established in connection with the American Museum of Natural History. The formal inauguration of this new feature of public education took place, May 22.

For Conservation of Vision.—The American Association for the Conservation of Vision has received a certificate of incorporation from the Supreme Court. This association proposes to investigate all the conditions and causes which result in blindness and impaired vision, the relation of impaired vision to general health and the means of prevention of blindness.

Personal.—Dr. and Mrs. Leonard Weber sailed for Europe, May 13.——Dr. Justin Herold was operated on, May 5, and is progressing satisfactorily.——Dr. Minas S. Gregory fell down-stairs in Bellevue Hospital on May 16, injuring his spine and breaking two ribs.——Dr. Edward Quintard has received a bequest of $5,000 under the will of the late John Henry Flagg in recognition of his "skilful and untiring services" to the deceased.——Dr. Aurelio A. Dubari has returned from Europe.

NORTH CAROLINA

News Notes of Hospitals.—An anonymous donor has presented Rex Hospital, Raleigh, with an *x*-ray outfit valued at $1,500.——The new City Hospital at Goldsboro is nearly completed.——Drs. John L., Benjamin F. and Robert C. McMillan have opened the McMillan Hospital at Red Springs.——Dr. Frank T. Merriwether, Asheville, tendered the members of the Buncombe County Medical Society a reception at the opening of the new operating rooms recently added to the Merriwether Hospital.

Health Officers Appointed.—Dr. James P. Battle, Nashville, has been elected health officer and quarantine officer of Nash County.——Dr. John Bynum, Winston-Salem, has been elected superintendent of health of Forsyth County.——Dr. Edwin M. Brown, Washington, has succeeded Dr. Plummer A. Nicholson as superintendent of Beaufort County Board of Health.——Dr. Marvin L. Smoot, Salisbury, has been elected superintendent of health and quarantine for Rowan County.——Dr. Henry D. Stewart, Monroe, has been reelected superintendent of health of Union County.——Dr. R. Morrison King, Concord, has been elected health officer of Cabarrus County.——Dr. James M. Covington, Jr., Wadesboro, has been appointed quarantine officer for Anson County.

PENNSYLVANIA

Appropriation for State Charitable Institutions.—The state, semi-state and charitable institutions of Pennsylvania appealed to the legislature for appropriations amounting to nearly $115,000,000, but the bill passed by the house committee carried an appropriation of less than one-fourth of that amount, or about $26,000,000.

Results of Free Antitoxin.—A remarkable saving of child life is shown by the latest figures tabulated by State Health Commissioner Dixon as to the free distribution of diphtheria antitoxin among the poor. A year ago he decided to distribute and urge the use of 5,000-unit initial doses of antitoxin. The death-rate at that time among the little children of the poor stricken with diphtheria and who were being treated with 3,000-unit doses of antitoxin was about 8 per cent. That meant a most gratifying saving of life for instead of 42 per cent. of death as is the case in diphtheria without the use of antitoxin, it meant that only 8 per cent. proved fatal. But now out of 1,225 cases of diphtheria treated with the 5,000-unit doses distributed by the State Health Department, there were only eighty-one deaths, or 6.61 per cent., the lowest death-rate *in* the record of the department's work.

Philadelphia

Willard Memorial Service.—Services in memory of Dr. De Forrest Willard, who occupied the chair of orthopedics in the University of Pennsylvania, were held at the Second Presbyterian Church on May 8, members of the medical profession and university students participating.

Addition to Woman's Hospital.—The Woman's Hospital of Philadelphia, is now celebrating its fiftieth anniversary by placing a roof garden on the building. This will contain public and private wards, with sun parlor, sheltered walk, diet kitchen and a fire tower. The partitions will all be of glass.

Steamer Detained at Quarantine.—The Italian steamer *Verona* from Genoa for Philadelphia, via New York, was detained several hours at the state quarantine, Marcus Hook, May 10, on account of the discovery of a suspicious rash on two children of the steerage. After observation, it was reported that the children were suffering from chicken-pox and the steamer was released.

Personal.—Dr. Allen J. Smith, dean of the medical school of the University of Pennsylvania, has been appointed professor of pathology, vice Dr. Richard M. Pearce, who will take the chair of research medicine.——Dr. Wendell Reber has been appointed visiting ophthalmologist to the Philadelphia General Hospital, vice Dr. Charles A. Oliver, deceased.——Dr. H.

Maxwell Langdon has been appointed one of the chiefs of the eye dispensary of the Presbyterian Hospital.

Eligible List for Blockley.—Of the 143 young physicians examined by the Civil Service Commission for the 28 positions as interns in the Philadelphia General Hospital, only 3 failed to obtain the required average of 70 per cent. The general average obtained by the successful applicants was 80.6 per cent. Of those who successfully passed the examination, 73 are graduates of Jefferson Medical College; 29 of the Medico-Chirurgical College, 28 of the University of Pennsylvania, 9 of Temple University and 4 of the Woman's Medical College.

Milk Show Opens.—The first Philadelphia Milk Show opened May 20, at 10 o'clock; about 700 people visited the rooms before noon. The thing that most pleased the sanitation and health experts was the keen interest exhibited by all and the careful attention given to the impromptu lectures on the various exhibits. At 12:20, Dr. H. Brooks Mills, by means of motion pictures, demonstrated in the lecture hall, adjoining the exhibition rooms, the evils of the ordinary housefly. At 3 p. m., the mayor delivered the address of welcome and addresses were made by Dr. Joseph S. Neff, director of public health and charities; Dr. Samuel McC. Hamil, chairman of the Philadelphia Pediatric Society Milk Commission, and Dr. Charles J. Hatfield, vice-chairman of the executive committee of the milk show presided. In the evening, addresses were made by Drs. Lawrence F. Flick, Randle C. Rosenberger and John C. Gittings. The show was open all the following week and a feature of Monday, May 22, was that all lectures and demonstrations were given in Yiddish.

Open-Air School Opens.—The open-air school for tuberculous children on the roof of the College Settlement Building was opened May 16. It is conducted under the auspices of the Board of Public Education, the Phipps Institute and the College Settlement. The Phipps Institute supplies the management of the school, the nurse and the food; the Board of Education furnishes the teacher, text-books, desks and the pupils, who are transferred from various schools, and the College Settlement gives the use of the roof, shelter, playgrounds, bathing and cooking facilities. The class is to be made up of twenty pupils, gathered from schools in walking distance from the College Settlement and will continue through the summer. Ten pupils reported the first day and were each given a tooth brush, tooth powder, mouth wash, wash rag, brush and comb and nail brush and instruction in the use of these articles was the first lesson given. The school will open at 8 o'clock each morning, which is the hour for the bath. At 8:30, breakfast is served and at 9, lessons begin in the open air and continue until 10:30. From 10:30 to 11, there will be games, followed by a wash and rest until noon when a hot dinner will be served in the dining room of the Settlement Building. From 1 to 3, complete relaxation and rest, the children lying extended; from 3 to 4:30 lessons and games and then rest until 5:30, when the children are sent home after indulging in a good wash. Dr. Frank Craig is in direct charge of the work. The Phipps Institute plans to erect a large new school at Seventh and Lombard Streets, to which on completion, this class will be moved and as many more like it established as funds will permit.

GENERAL

Clinical Investigators Elect.—At the annual meeting of the American Society for Advancement of Clinical Investigation, held in Atlantic City, May 8, Dr. Theodore C. Janeway, New York City, was elected president; Dr. Joseph Sailer, Philadelphia, vice-president; Dr. Wilder Tileston, New Haven, Conn., secretary, and Dr. George Blumer, New Haven, Conn., treasurer.

Therapeutic Society Meets.—At the twelfth annual meeting of the American Therapeutic Society, held in Boston, May 13, the following officers were elected: president, Dr. Alexander D. Blackader, Montreal, Que.; vice-presidents, Drs. Howard Van Rensselaer, Albany, N. Y.; Robert T. Morris, New York City, and Clarence J. Blake, Boston; secretary, Dr. Noble P. Barnes, Washington, D. C., and treasurer, Dr. A. Ernest Gallant, New York City.

The Care of Epileptics.—The National Association for the Study of Epilepsy and Care and Treatment of Epileptics will hold its tenth annual meeting in St. Louis, June 16, under the auspices of the St. Louis Medical Society. The date set for this meeting will allow the members to attend the meeting of the American Medico-Psychological Society in Denver and will not interfere with their attendance at the American Medical Association at Los Angeles.

Medical Library Association Meeting.—The fourteenth annual meeting of the Medical Library Association was held May 9-10 in Atlantic City. On the first day the president's address was delivered by Dr. John H. Musser, Philadelphia, and papers were read on "Hospital Records in Relation to the Hospital Library," by Mrs. Grace W. Myers, Boston; on the "Establishment of Medical Libraries in County Medical Societies," by Dr. Carl Black, Jacksonville, Ill., and on "The Changes in Medical Periodical Literature Since January, 1909," by C. Perry Fisher, Baltimore.

Warning Concerning Subscription Company.—Correspondents at various points in the northwest write that they paid subscriptions to The Journal to "A. S. Brown," who claimed to represent the Seattle Subscription Company, of Seattle, Wash. These letters have come from Montana, Dakota and Oregon. One physician writes:

> "A short time ago I was 'stung' by a medical magazine canvasser. . . . He was a well-dressed young fellow . . . offered any of the medical magazines at a reduction in the regular cost. . . . I had been intending to subscribe for . . . and I gave him an order and paid $4.20 (regular price $5.00). He had a small, black, leather-covered handbook that was pretty well worn and contained a list of all medical magazines, the regular price of each, the price this company was making and the price he would make if more than one was taken."

The Journal has repeatedly called attention to the danger of paying money to unknown persons. The more flattering the offer the more suspicious one should be. In this instance, it seems that there is no such concern as the Seattle Subscription Company; at least several of those who have written say that the postoffice returned their letters with the information that this company could not be found.

The Plague.—The international plague conference which met last month at Mukden apparently did not accomplish much; but it was an epoch-marking event in that it showed how China has cast off its ancient medicine and turned to the West for aid in warding off the threatened epidemic. This conference and also the general subject of plague are discussed by our Manila correspondent in this issue. The disease seems to have been stamped out in Manchuria, after causing 31,450 deaths according to the official records, and it has subsided in northern China, but our British exchanges state that in India there were 166,135 deaths from the plague during March, a total of 332,554 during the first three months of the year. March and April have shown the maximal mortality each year during the present siege of plague in India. Egypt still has a few scattered cases of the plague as also the western South American countries and southern Russia.

MANILA LETTER

(From Our Regular Correspondent)

Manila, April 4, 1911.

The Alleged Economic Value of Plague and Other Scourges

Some weeks ago I reported to The Journal some phases of the plague situation and scare in Shanghai, China. After many deaths among the Chinese and several among the Europeans, the pestilence seems to have been got rid of. Among the results other than the loss of life, are to be counted more or less political wrangle and a furtherance of sanitary measures and of medical education in this part of China. The medical missionaries, the few hospitals and the Chinese may be said to be cooperating more closely, and a new medical school, based on Western principles, is almost in view. Before the Shanghai pestilence was eradicated, another more serious epidemic of plague broke out in Manchuria. The epidemic in Manchuria has been decidedly more extensive and severe, and conditions at times have been alarming. The cities of Mukden and Harbin have been the principal sufferers. The reported conditions at Mukden remind one of the great plague year in London, so well described by DeFoe. At one time the spread of the disease was becoming so extensive that the foreign legations at Peking threatened to be abandoned entirely. It is interesting to note that the spread of the contagion was limited almost entirely to the regions supplied by the railroads, and Russia and Japan have been severely criticized in this regard.

The Manchurian epidemic of plague is not the bubonic form which is so prevalent in southern China and India. It is the so-called pneumonic plague, the etiology and distributing agent of which is practically unknown. It is interesting and gratifying to note with what promptness and foresight the Chinese government has risen to the occasion and is attempting the eradication of the epidemic. Aside from strict quarantine measures, the government has asked all the great powers to send delegates to an international plague commission for the study and prevention of this particular plague. The Chinese themselves are supplying ample funds for the commission and are placing every facility at their disposal.

Dr. Richard Pearson Strong, chief of the Biological Laboratory, Bureau of Science, Manila, and Dr. Oscar Teague of the same laboratory are representing the United States government on the commission. They left for Manchuria in February and took with them a large supply of laboratory apparatus and chemicals. We have as yet no report of their work, further than that they have their laboratory established and are finding conditions fairly favorable for investigation.

As is usually the case when there is any extensive disturbance in China, the foreign nations are accused (and perhaps rightly so in the majority of cases) of using it each to further individual ends, so Russia and Japan each and jointly have been facing serious indictments during the present epidemic. At any rate Russia seems unduly active on the western frontier and Japan, although the Mikado is reported to have given a half million yen ($250,000) toward the eradication of the plague, seems to have urgent need for an increase in her military strength on the Korean border and in Manchuria. Some of the Japanese papers which are supposed to reflect much of the sentiment of the government are maintaining that it is time for Japan to take the plague situation in hand. The following regarding the plague situation in Manchuria forms part of the report of an inquiry made by the *National Review* of Shanghai: "Other features of the situation are commented on in the same interviews, and we gather that Japan, in spite of her vaunted medical advances and her superior civilization, is in very large measure responsible for the spread of the pestilence to the south. In November and December the railway authorities knew that there was plague in the north, and they also knew that with the approach of Chinese New Year thousands of coolies would be returning to their homes. They would very probably carry the plague with them, but in spite of this knowledge the railways carried trainload on trainload of these coolies. Then one day two deaths took place among the coolies who were traveling from Mukden to Shanhaikwan on the Chinese railroad. Plague was discovered and the whole trainload was sent back to Mukden. Only then did the other railroads take steps which should have been taken months before and which would have prevented the spread of the disease to China proper. This, dear readers, is Russo-Japanese efficiency, of which we have further examples reported from Mukden and Harbin by the Peking *Daily News*, in which a telegram states that these two governments are putting hindrances in the way of the Chinese authorities in their battle with the plague. Hence the responsibility for the spread of the disease from the area in which it originally occurred rests almost entirely with the Russo-Japanese agreement. Responsibilities generally carry with them opportunities, and so on the present occasion we learn that the two powers are strengthening their forces in Manchuria.

"It is pleasant to turn from this side of the question to what the Chinese government is doing. The cooperation of foreigners is everywhere being sought; funds are being provided without stint, as in Harbin, where the Manchurian viceroy has appropriated 150,000 taels for the work of prevention; there is ready acquiescence in the proposals of competent medical men in every one of the large centers where the pest is being fought; the Chinese government is sending its available men from every quarter; the senior students of the medical schools in Peking are being drafted to the work for inspection purposes; materials and prophylactics are being hurried from Europe; and, generally, it may be said that every effort of which any government under the circumstances would be capable is being put forth by the Chinese government. Observers on the spot testify to these things universally, and the result is that during the last two or three days the news from every point has been more satisfactory. The actual number of cases is less, the fatalities are fewer, the arrangements are being rapidly perfected, and if the present resistance to the spread of the epidemic can be maintained there is some hope of seeing its extinction at a not distant date. The strict quarantine that is being enforced at all ports regarding vessels from the infected area may cause temporary inconvenience, but it will undoubtedly prove an effective barrier to the further march of the pestilence, and the fact that there has been a fall of two feet of snow will naturally impede travel on foot and thus hinder the spread of the disease."

BLESSED BE THE PLAGUE!

The foregoing cannot, however, be taken to reflect the attitude of more than the Chinese government, and a limited number of the more highly educated (as viewed by western standards). The average Chinaman more probably holds views more like this. I was talking recently with a native friend about the possibility of Hankow's receiving a visit from the plague scourge. Being anxious to impress him with a sense of the gravity of the situation, I laid on the color with a big brush. "Supposing," I said, "just one man were to arrive here with the seeds of the disease and were to take up his abode in one of the crowded inns, it is so contagious that probably all the people in the inn would get infected, and every one of them would ultimately die. Before that, most of them would have gone away, as it takes from three to five days from the infection till the sickness sets in, and wherever they went they would infect others in the same way, till the people would soon be dying in hundreds and thousands. If it started among the poor people in the mat huts, it would simply clean them out. Sometimes whole regions are depopulated. Once, twenty years ago, on the Canton border in south Huan, we went through a district where, for a whole day's journey, there was not an inhabitant left. Some kind of plague had killed most of them and the rest had run away. The houses were well built and the fields were fertile, but except a few dogs there was no one about, and whoever wished was quite welcome to take possession."

At this point my native friend broke in with his views. To my amazement he declared that that was splendid, and just the very thing which Hupeh wanted. He said that there were far too many people in the province, and that there were not fields enough for all of them to till, nor rice enough to fill their mouths. Every year they were increasing, as all the young people married and had big families. Because of this China was weak. If you put too many goldfish in the globe they will die, and if you sow your vegetables and flowers too thick they will not come to anything. It was just the same with people. And unless something happened to reduce their numbers they would be in time compelled to eat each other, which would be a worse state of affairs than the plague. What answer to make to this I did not know, and do not know yet.

A friend of mine was recently traveling through the districts in Kiangsu where the famine raged so frightfully in 1907, and he was similarly nonplussed when he found the people everywhere speaking of the famine as a great blessing, because ever since then there had been food and to spare for all, and plenty of work for those who wished to labor. The question of the rapid multiplication of Oriental people, in connection with the present advance of Christianity and civilization, is one which in a few generations will become serious. It is estimated that, given peaceful times and prosperous years, the population of this empire could be doubled in a generation. There are 400,000,000 now. Supposing that, by the end of a century, this number is doubled three times, we then arrive at the appalling total of 3,200,000,000 of people. Hitherto the increase has been held in check by the constantly recurring calamities of war, famine and pestilence. It is estimated that the Taiping, the Yunnan and the Kansuh Muhamadan rebellions resulted in the destruction of fifty millions of lives. The Shansi and Shantung famine of 1878 is said to have swept away from nine and a half to thirteen millions. This is within comparatively recent times, and never a year passes without similar disasters on a smaller scale. But we are looking forward to a period when, through the increase in knowledge, the prevalence of higher principles, and the advance in the organization the above-mentioned trinity of evil will be shorn of its strength; and what then? The answer is not easy. Meanwhile it may be asserted that China as a whole is not overpopulated. Science may yet teach us how to increase vastly the fruitfulness of the earth. Our hope is that the same advance in knowledge and better principles which create the difficulty will also provide the cure.

LONDON LETTER

(From Our Regular Correspondent)

LONDON, May 12, 1911.

Inspection of the Stomach

At the Royal Society of Medicine Dr. William Hill, laryngologist, and Dr. Herschell, gastrologist, demonstrated a new form of gastroscope. The principle is to pass under cocain anesthesia an open endoscope of Killian's pattern through the mouth, pharynx and esophagus, under direct vision throughout, into the stomach. A cap with a tap for inflation at its side and a round aperture in its upper surface is then attached by means of a bayonet joint to the proximal extremity of the tube. Through the round aperture, which has a rubber lining, an indirect periscopic tube, which accurately fits the aperture, with a terminal lamp on the cystoscopic principle, is passed into the stomach through the lumen of the direct vision outer tube. Inflation is commenced before the inner optical tube reaches the stomach. The upper part of the pyloric antrum, the pyloric orifice, and the adjacent portion of the lesser curvature, all in the field at the same time, were shown to the members of the society. Examination of the cardiac orifice is best done with the outer inflating portion of the apparatus, which has a plane glass window at the proximal end to prevent the escape of air when inflating. The rest of the stomach, especially the pyloric vestibule and lesser curvature, the most frequent sites of election of morbid lesions, are more efficiently examined on the cystoscopic principle by the indirect vision periscope inserted through the outer tube. The essence of the method is that the gastroscope is not, as in previous methods, passed into the stomach blindly. In previous methods this was done and resulted in casualties which discredited the method. Drs. Hill and Herschell are now studying the normal appearances of the interior of the stomach. They have not yet begun to use the instrument for diagnosis in the pyloric region. In acute ulcer and hemorrhage they would hesitate to use the instrument, but they think that it will prove useful in the diagnosis of chronic ulcer from malignant disease.

The British Medical Association and the Metric System

In pursuance of the instruction of the annual representative meeting, the council of the British Medical Association has considered the question how the metric system can be adopted with the least inconvenience for prescribing and dispensing. The council recognizes that the full adoption of the system depends on its being made the method according to which students are trained, so that they will learn to think of quantities primarily in grams, centimeters, etc., instead of, as at present, in grains and minims, etc. It therefore recommends that the teaching of pharmacology, both theoretical and practical, shall henceforth be according to the metric system. The advantages of the system, in addition to the simplification of calculations, are (1) the assimilation of the measures used in the laboratory to those adopted in practice, which will make the reports of the investigator more readily intelligible to the doctor and tend to keep him in closer touch with science, and (2) the gain to the work of all nations by being stated in terms mutually intelligible. But the difficulties of introducing the system at present are considerable, as almost all doctors are trained only in the English system and find it hard to adapt themselves to the new system, even when they dispense their own medicines. When they do not dispense there is a difficulty in bringing about cooperation between physician and pharmacists. For doctors trained in the present system the council recommends the adoption of a transitional procedure which would enable them at once to adapt their prescriptions to the metric system and so avoid the drawbacks of a divergence between junior and senior practitioners. The difficulty of the doctor trained to think in terms of grains and minims is to translate his terms into grams and cubic centimeters. If absolute exactitude were necessary he would require the constant use of tables of equivalents. But it is not, as the common mode of administering drugs by spoonfuls shows. The council therefore has recommended the adoption of an ingenious suggestion made by Dr. R. C. Buist, by which a prescription according to the present system may be automatically converted into the metric system. This is done by taking the figure 16 as the factor for converting grams into grains and cubic centimeters into minims. The error is not great, as the exact factors are respectively 15.4324 and 16.906. Now in ordinary prescribing sixteen doses are usually ordered in a mixture, as represented by tablespoonful doses of an 8-ounce mixture. If therefore as many grams or cubic centimeters are dispensed in the whole mixture as grains are ordered for a single dose according to the old system a closely approximate result will be produced. Thus all the doctor need to do is to write a single dose according to the old system, omitting the symbols, and the dispenser may be instructed in such case to follow the metric system. Obviously a similar plan can be adopted for mixtures in which the dose is in teaspoonfuls, that is, ounce or 2-ounce mixtures, the only requisite being that there should be sixteen doses in the mixture. In ordering pills or powders a different procedure must be adopted. In the old system fractions or small multiples of a grain are used. The prescriber must therefore become familiar with the fact that 1 grain = 0.06 gm., which is near enough for practical purposes. To facilitate the work of the dispenser the number of pills or powders ordered should be a multiple of ten.

Felt Manufacture and Anthrax

An important government report on this subject by Mr. H. Verney, an inspector of factories, has been issued. He discusses the preliminary processes in the manufacture of felt and the possibility of eliminating blood-stained material. The raw materials are chiefly East Indian wool, jute, and wool waste. The various ingredients are mixed and placed in superimposed layers. The wool is tightly compressed and has to be pulled apart with considerable force. In doing this some of the dust escapes which may contain the spores of anthrax. A machine called the "willow" is used to tear the fibers apart and in this process a cloud of dust is driven into the face of the attendant. What is required is a willow with an automatic feed and delivery. The material then goes through further teasing in a machine called a "devil" and is then carded, which straightens out and cleans the fibers. In the latter process dust and short dusty fibers are produced. To make the process safer an improved type of willow and the provision of overalls and respirators are considered necessary. It appears almost impossible to eliminate blood-stained material from the wool.

Accidents and the Negligence of the Public

A curious question has engaged the attention of the court of appeal. A man after descending the stairs of a railway station slipped on a piece of banana-skin on the platform, fell against a wall, and sustained a compound fracture of the right arm. He sued the railway company for negligence on the grounds that it was the company's duty to remove dangerous things from their passages. The jury decided in his favor and awarded him $2,500. The company appealed, showing that its servants had orders to sweep their premises twice a day and to remove dangerous matter. There was no evidence as to how the banana-skin came to be on the platform or that any opportunity to remove it had been neglected. The verdict of the lower court was set aside, the presiding judge in the higher court, Lord Justice Williams, pointing out that the onus was on the plaintiff to show that the accident was due to want of reasonable care on the part of the defendants. There was no evidence to show when the banana-skin had been thrown down. It might have been dropped within a second of the accident.

The Crusade Against Tuberculosis

The campaign against tuberculosis continues to develop throughout the country. Of the thirty-five large cities other than London, thirty-three have made arrangements for the bacteriologic examination of the sputum of suspected persons; twenty-one have by-laws against spitting; nine use their isolation hospitals for the reception of patients; three use the workhouse, and two are building sanatoriums for themselves. With regard to notification some difference of opinion and practice exists. The advantages are obvious, but the difficulty is that the subjects of tuberculosis are often shunned as if they were lepers. Of the large cities only four have made notification compulsory but in most of them voluntary notification exists. In London notification of all pauper cases is compulsory. The rooms occupied by a consumptive are disinfected and in some cases this is done weekly. Numerous voluntary agencies engage in the struggle against tuberculosis in cooperation with the sanitary authorities. They visit the patients and provide clothing, food and other necessaries. In London there are three tuberculosis dispensaries at work and five others are being established. These are all supported by voluntary contributions, though they work in connection with the sanitary authorities. The after-care of patients discharged from sanatoriums is receiving attention. At Bradford there is a Civic Guild of Help which sees that the patient lives, as far as possible, under the same conditions as at the sanatorium.

PARIS LETTER

(*From Our Regular Correspondent*)

Paris, May 5, 1911.

The Effect of Altitude on Aviators

On April 24, Dr. René Cruchet, *agrégé* professor of the Faculté de médecine de Bordeaux, reported before the Académie des Sciences the result of studies that he, with Dr Moulinier, professor at the Ecole de santé navale de Bordeaux had made on a number of aviators. The physiologic troubles felt in an aeroplane ascent are very similar to those which are felt in mountain-climbing, but are felt at a much lower altitude, that is, between 800 and 1,200 meters (about 2,600 to 3,900 feet). Above 1,500 meters (about 5,000 feet) the cold becomes extremely painful and hinders the movements of the aviator very much. The cold on mountains does not become troublesome until a much higher altitude is reached. In the aeroplane ascent the respiration becomes shorter, the heart beats more rapidly; soon headache encircles the temples and a kind of malaise, sometimes affecting the stomach, is soon felt. Humming, whistling or ringing is heard in the ears and hypo-acusia appears. Finally, a violent desire to urinate appears, growing more and more imperative. All the preceding troubles are intensified in the descent; and in addition a burning sensation is felt over the face, which is red and congested; then a headache much more intense than in the ascent, and an invincible desire to sleep. This phenomenon corresponds with what occurs daily in the descent of high mountains by cable road, the Jungfrau, for instance. These disturbances become accentuated on the aviator's landing and even persist several hours afterward, the headache being sometimes accompanied by vertigo. After measuring the blood-pressure before the ascent and at the minute of landing, Drs. Cruchet and Moulinier ascertained that there was at the latter moment a hypertension, both minimum and maximum, shown by differences of from 0.5 to 0.3 cm. of mercury according to the altitude attained. This is one of the most remarkable facts ascertained, in view of the fact that free circulation of air, as well as fatigue, brings about a lowering of blood-pressure. The phenomena of hypertension, of headache, of auditory troubles and of sleepiness increasing during the rapid descent and persisting after landing are due, essentially, to the swiftness with which aviators after reaching a high altitude return to the ground. After taking thirty, thirty-five or forty minutes to reach a height of 2,000 or 3,000 meters, they descend in from five to seven minutes, that is to say, at the rate of 300 to 400, or even 500, meters per minute. Our organism, and specially our circulatory system, is not made to adapt itself to the different atmospheric pressure which the aeroplane attains in so short a space of time. These facts, therefore, not only have a scientific interest, but show that aviators should descend much more slowly than they do at present.

Superintensive and Intermittent Treatment of Syphilis with Mercury in Several Forms

On May 2, Dr. L. Jacquet, physician of the hospitals of Paris, read before the Académie de médecine a paper insisting on the fact that salvarsan, whatever its merits, ought not to cause mercury to be forgotten. Dr. Jacquet declares that the full potentialities of mercury have not yet been demanded from it, and he claims to have a method of administering mercury superior in certain respects to the usual methods. He administers simultaneously, for short periods, lasting from one to five days (1) two pills, each 5 cg. of proto-iodid of mercury, during each of the principal meals; (2) a wash of 20 gm. of Van Swieten's liquor (a solution of 1 part of mercuric chlorid in 100 parts of alcohol and 900 parts of water) in 100 gm. of warm water, to which is added a little laudanum; (3) friction with 2 gm. of mercurial ointment (50 per cent. mercury); (4) an injection of 1 cg. of biniodid of mercury. Then there is a complete pause for five, ten or fifteen days; after this pause, a resumption of the same doses, and so on for three, four or five consecutive periods.

Not counting the gram of mercury incorporated in the ointment, of which the absorbed portion cannot be estimated, though it must be considerable, as has been shown by the well-known curative effect of the rubs, the total of 8 cg. of pure mercury daily absorbed is arrived at. But this superintensive treatment makes use of all the channels of penetration by which medicine can be absorbed, and that without irritation, since, while the total mass of mercury absorbed is enormous, the effort demanded of each channel of absorption is moderate. Moreover, the treatment is discontinuous, that is to say, by successive mercurial attacks, sufficiently distant from each other so that elimination may occur.

Dr. Jacquet has treated about eighty patients in this way. During the first stage, the chancre has visibly retrogressed and so has the adenitis and the duration seems to have been considerably shortened. During the second period, action is rapid on the roseola and on the greater number of the cutaneous syphilids. There is very weak action or none at all on the mucous tracts, as is usual in the classic treatment. Here, without doubt, salvarsan is greatly superior. On the other hand, a remarkable action has been observed on the general phenomena and on the nervous reactions of the period. During the tertiary period, Dr. Jacquet expects only success, and has obtained results as remarkable as with salvarsan. The superintensive treatment is indicated in all cases in which one wishes to act quickly and forcibly and in which one cannot or does not wish to employ salvarsan. It ought to be instituted only on patients daily and minutely observed, and only after the mouth and the teeth have been put in perfect order, and it has been ascertained that the kidney and the renal functions are intact. At the first untoward sign the treatment ought to be suspended.

BERLIN LETTER

(*From Our Regular Correspondent*)

BERLIN, May 5, 1911.

Personal

Professor Gerhardt, director of the medical clinic at Basel and son of the renowned clinician, has been called to Würzburg as successor of Prof. v. Leube.

At the end of the summer semester Professor Trendelenburg, the prominent Leipsic surgeon, will resign his teaching position, although he is only 67.

Professor Eversbusch, director of the Munich eye clinic, celebrated his twenty-five year jubilee as professor.

Privy councilor Professor Lent recently died at the age of 79. Lent has rendered great service in the field of public sanitation and in working for the professional interests of German physicians. He was one of the founders of the German medical league (*Aerztevereinsbund*), and for a long time its second chairman, and the chairman of the executive committee of the Prussian Medical Chamber (*Aerztekammer*).

Annual Meeting of the German Surgical Society

In the latter part of April the *Chirurgen-Kongress* was held as usual in Berlin. The attendance at the meeting is increasing from year to year; this year there were quite 900 surgeons present. The first session was opened by the president, Professor Rehn, of Frankfort, with a memorial address on von Langenbeck whose hundredth birthday was celebrated November 9 of last year. Of the numerous subjects treated at least the most important may be mentioned.

DISINFECTION OF HANDS AND FIELD OF OPERATION

Küttner of Breslau discussed disinfection of the hands and field. Among chemical disinfectants the phenol preparations have constantly gained more adherents. Alcohol has established its power of fixing germs, but the views regarding its practical application are still at variance. Tincture of soap is not as reliable in its action as was formerly assumed. Heusner's method with iodobenzin has an established position; rubber gloves are used at septic operations by almost all operators, but not by so many in aseptic operations. The use of tincture of iodin for the rapid disinfection of the operation field is continually gaining more adherents, although Kocher of Bern holds that evidence has not yet been produced for its superior efficacy.

EXOPHTHALMIC GOITER

Kocher reported on hyperthyroidism and its treatment. In all cases of this disease he has found pathologic changes in the thyroid gland with increase of its secretion and increase in the iodin content of the secreted fluid. Experimentally the disease can be produced by injection of the expressed juice of the thyroid gland, or by the substance of the gland, or by iodin and the thyroid juice. Undesignedly the symptom-complex of exophthalmic goiter has been aggravated in man by the action of these medicaments. A change in the blood picture occurs as a result of the internal secretion of the thyroid gland. On the basis of this blood finding the diagnosis may be made of excessive secretion in the thyroid gland. There are, however, clinical pictures that vary from the genuine hyperthyroidism which are to be explained by the supposition that the juice of the thyroid acts on different nerves. As causes of the disease, severe psychic shock, the use of iodin in diseases of the thyroid, and infectious diseases must be considered. The phenomena are increased at the time of certain physical changes in women. As the entire disease depends on an excessive increase of the glandular function, improvement can be effected only by surgical measures; that is, by removal of part of the diseased gland. Failures occur only from the removal of too little of the thyroid. The mortality of his 535 operations on the thyroid has been 3.1 per cent. The best remedy is early operation at the beginning of the disease. Klose of Frankfort has produced the disease experimentally by injection of the expressed juice of the diseased human gland; he regards this affection as an iodin poisoning. Garrè of Bonn has seen marked improvement in the heart symptoms of exophthalmic goiter after removal of the thymus. In his opinion, there are cases which are produced by a disease of the thymus gland. Halsted of Baltimore discussed the danger of tetany from the removal of small glandular formations lying by the side of the thyroid gland. This may be avoided by careful operation and by the administration of chemical remedies. Dollinger of Budapest recommended partial removal of the outer wall of the orbit in extreme exophthalmos to prevent changes in the cornea and pain. Eiselsberg of Vienna also regards this disease as an affection of the thyroid and internal treatment as unsuccessful. The operation is more dangerous than other thyroid operations because, as a rule, the patients come too late and as a consequence much greater heart changes have occurred. He has had six deaths among seventy-one operative cases, which is chiefly to be explained by the fact that the patients came to operation too late. His curative results have been brilliant. He is very enthusiastic for early operation. Küttner of Breslau has investigated cases of severe and long-continued disease, and has found that patients treated with internal remedies have all remained uncured. Of the others over 69 per cent. were cured or materially benefited. Schultze of Berlin found among twenty cases eighteen in which the thymus was demonstrable by fluoroscopy, and in eight of nine fatal cases he found the thymus enlarged. This confirms the experience of Garrè regarding the influence of the thymus in the origin of exophthalmic goiter. Rehn of Frankfort obtained a marked improvement by operation in a case of severe psychic affection. Kocher of Bern has frequently seen psychic symptoms without operation, but he has been unable to find any case of an unfavorable effect of the operation.

TRANSPLANTATION OF TISSUES AND PARTS OF LIMBS

Lexer of Jena made an extensive report on the transplanting of skin, mucous membrane, fatty tissues, nerves, blood-vessels, tendons and periosteum. In the transplantation of tendons the favorable action of a functional stimulus is especially important. The periosteum is well suited for free transplantation both in the same organism and in other individuals. Cartilaginous tissue, on account of the easily accessible sources from which it can be taken, is especially suitable for transplantation in the same individual. From these two peculiarities of bone and cartilage, results the possibility of transplantation of entire joints which has been executed with success by the author. The transplantation of entire limbs has given no utilizable results from experimental work. Our surgical technic justifies us in the hope that a nearer approach to the solution of all these questions will be made. König, of Greifswald, has made attempt to close open wounds of the mucous membrane by free transplantation. This has been successful even with large openings in the stomach and intestine. The method has the disadvantage that it gives ready opportunity for broad adhesions. In closure of openings of the bladder and rectum, the results were good. Hohmeier, of Greifswald, has further tested the above question by experiment, especially in closing wounds of the air passages. Schöne, of Marburg, discussed the possibility of transplanting tissues from a foreign species. The difficulty of securing healing depends on the peculiarity of the metabolism. Landois, of Breslau, introduced parathyroids into the circulation but the transference was not successful. According to Rehn, transplantation of fatty tissue does well in the same individual but badly in a foreign organism. For bridging gaps in bone as well as in bone operations in general, the horn of animals is very suitable. Küttner made a further report on a patient in whom the head of the femur had been removed and was replaced by the corresponding part of the femur of a cadaver. As the patient had died later of a new tumor formation, preparation of the transplanted part could be shown, and a completely solid union of the two parts was evident. In addition a second patient was shown who had been operated on in a similar way, nine months before, and in whom various subsequent operations had not endangered the union of the implanted part of the cadaver; also Roentgen pictures of a third patient were shown. The method of Lexer thus makes it possible with the parts of a cadaver to realize a temporary and probably a permanently successful transplantation of a joint. Tilmann, of Cologne, replaced the loss of a lower jaw by bone from the tibia, but the bone later was thrown off. Goebell, of Kiel, cured a dislocation of a patella by transplantation of tendons and he has successfully sutured bone with strips of periosteum. Baum, of Kiel, tried to cure pseudarthrosis by transplantation of bone but without success. Eiselsberg, of Vienna, replaced parts of the urethra by blood-vessels, and Streissler, of Graz, by the vermiform appendix. Friedrich, of Marburg, warned against too extensive resection and transplantation in malignant tumors of the bone because new tumors very easily arise in such cases. Müller, of Rostock, warned against too great expectations from the transplantation of bones from the cadaver. Bramann, of Halle, has closed defects in the dura mater with fat, and König, of Greifswald, has replaced the lacking lower jaw with ivory. Lexer, of Jena, presented a patient who had suffered an extensive ulceration and constriction of the esophagus from drinking sulphuric acid. Lexer made a new esophagus, from the stomach to the neck, out of a strip of intestine and the skin, with excellent functional results. The patient was presented and ate and drank solid and liquid substances, and the passage of food into the stomach could be observed.

MALIGNANT TUMORS

Werner, of Heidelberg, stated that he had not seen much good result from the injection of serum for the cure of malignant tumors. Moreover, no marked success has been achieved by other remedies, such as the *x*-ray and radium. He recommended open treatment of the wound and its subsequent treatment with *x*-ray in case of very advanced, scarcely operable tumors. In other respects, he regards operation as the most effective means for the treatment of malignant growths. Bier, of Berlin, showed a patient who had been cured of a very extensive inoperable cancer by an incomplete operation and subsequent treatment with boric acid-gelatin. Dreyer, of Breslau, has used salvarsan in a case of malignant adenomas with good results.

OPERATIONS ON HEART AND LUNGS

Hesse, of Dresden, reported seven cases of wounds of the heart, with six operative cures, and he gave in conclusion some hints on the operative technic and after-treatment of such patients. E. Hesse, of St. Petersburg, reported twenty-one wounds of the heart which he had operated on in the last seven years, curing six of the patients. All those in whom the auricle was injured, died. It is of very great importance that the patient come to operation very early. Fuchsig, of Schärding, operated with success on a wound of the heart complicated by a wound of the diaphragm. Wilms, of Heidelberg, recommended an intercostal incision in order to expose the heart; he has performed four operations on the heart, with the loss of two patients. Schumacher, of Zurich, called attention to the possibility of securing the atrophy of a certain part of the lung and thereby curing an inflammatory process in it. Two operations of this sort have already been made. A careful study of the anatomic distribution of the vessels will facilitate operations of this kind. Müller reported the operative removal of a tuberculous lobe of the lung. Kümmell, of Hamburg, removed an entire lung on account of a tumor formation but the patient died later as the result of purulent inflammation of the bronchi. Körte, of Berlin, and Friedrich reported a large number of operations on account of tuberculosis. Wullstein, of Halle, suggested that the lung might atrophy after ligation of the bronchi.

MOVABLE CECUM

Wilms discussed movable cecum and chronic typhlitis. The attacks of pain which formerly were ascribed to typhlitis may be occasioned by adhesions in the region of the appendix and cecum or ascending colon, so that dragging takes place when the intestine becomes full, or by kinks or torsion of the colon at the hepatic flexure or the attachment of the cecum, temporarily occluding the intestine. Wilms described still another clinical picture which has nothing to do with the above-mentioned lesions, but is the result of stagnation of the intestinal contents in the cecum. The contents may remain in the cecum for twenty-four hours or more, as can be shown by the Roentgen pictures. It becomes inspissated there, so that the other parts of the large intestine are subjected to increased labor in driving on the stool. Such patients generally suffer from a chronic constipation. The cause for the long stay of the intestinal contents in the cecum must be a reversed peristalsis in the ascending colon. This, in connection with the pathologic contraction produced by inflammatory irritation, explains the attacks of pain. These spastic contractions of the cecum and colon, which are secondarily stretched unduly long, cause dragging of the movable cecum on its mesentery. The pains with this chronic typhlitis are dragging pains, aggravated by a slight inflammatory condition in the region of the mesenteric nerves. For the recognition of this condition, in addition to palpation, by which a gurgling tumor is recognizable, the Roentgen picture is unconditionally essential. The successes achieved by Wilms by fastening up the cecum indicate that not only can the pains be relieved but that the chronic constipation ay be permanently cured. Not less than 75 per cent. of the itients operated on had normal stools after the operation ithout further treatment, while previously a stool could be cured only by the use of laxatives. In case of an unusually rge cecum, Wilms recommends the exclusion of the cecum direct union of the lowest part of the small intestine, xt the cecum, with the transverse colon. An operation ould be undertaken if the internal treatment of the conipation is difficult on account of social reasons or has been isuccessful. De Quervain, of Basel, discussed the question w far we are justified in treating chronic disease of the lon by operative measures. The exclusion of the greater rt of the large intestine, recommended by some, has rightly en condemned, as a vegetable diet is not tolerated in such ses. He recommends merely the implanting of the cecum to the transverse colon. Sonnenburg, of Berlin, could not ree with Wilms, since the cecum when it is movable causes mptoms only if inflammatory conditions are present. The entgen picture is unreliable. According to his experience, would warn against too hasty resort to operation. Even copexy frequently has not the desired result. Stierlin, of isel, reported three cases of severe obstipation operated on th success. The results achieved were demonstrated by the ray. Klose, of Frankfort, holds torsion of the cecum to be e cause of the disturbances, and also frequently the cause acute appendicitis. Dreyer, of Breslau, found a movable cum in 67 per cent. of his necropsy investigations and conlers this anomaly, therefore, not the cause of the symptoms. ilms' method of fastening up the cecum does not correspond the physiologic requirements. Fromme, of Berlin, regards certain mobility of the cecum in women as necessary. rte, of Berlin, is accustomed to operate only with a view of eventing an acute attack in case of chronic lesions of the pendix. Sprengel, of Braunschweig, takes a similar view. hn, of Frankfort, supported the view of Wilms.

Association News

THE LOS ANGELES SESSION

Additional Data About Railroad Trains and Reunions at the Annual Session

THE JOURNAL contained last week an illustrated article on s Angeles, the programs of the sections, the lists of hotels, ins, routes, entertainments, etc. Twenty-seven pages were voted to the coming meeting at Los Angeles, June 27 to 30. uch of this matter had previously been published in THE URNAL. The following are additional items which have been ceived since.

HARVARD MEDICAL ALUMNI REUNION

A reunion and dinner of graduates of the Harvard Medical hool who are attending the session of the American Medical sociation at Los Angeles will be held Tuesday evening, June , at the University Club. All Harvard men are cordially ged to attend and to send word of their intention to Dr. liott Alden, 609 Exchange Building, Los Angeles, or to comnicate with him at Registration Headquarters on their rival in Los Angeles. DAVID CHEEVER, M.D., Secretary.
20 Hereford Street, Boston.

SPECIAL TRAIN FROM TEXAS

Texas members have arranged to run a special train to the Angeles session over the Fort Worth and Denver City ilway. The train will leave Fort Worth at about 11 p. m., ne 21, and will reach the official route of the American dical Special at Trinidad, Colo., some three hours ahead that special. It is anticipated that enough will go in this rty to fill one good-sized train. Further particulars may had from Dr. Holman Taylor, Fort Worth, secretary of the ate Medical Association of Texas.

A KENTUCKY TRAIN

Dr. A. T. McCormack, Bowling Green, Ky., announces that Kentucky party will leave Louisville for Chicago, over Monon Route, at 8:06 a. m., Wednesday, June 21. From icago the route will be over the Santa Fe. Pullman reservans for the trip may be made through Mr. E. H. Bacon, of Passenger Department of the Monon, in Louisville. The tire expense of the trip should not exceed $150 for each person, including hotel bills and everything. At an additional expense of about $55.50 the trip through the Yellowstone Park may be made.

A CAR FROM OKLAHOMA

Members of the Southwest Medical Association and their friends are invited by the officers of that body to join the A. M. A. special. A special Pullman will leave Oklahoma City, Okla., via A. T. & S. F. and will be attached to the A. M. A. special at Newton, Kansas. For reservation or further particulars address the ticket agent of the A. T. & S. F. R. R., Oklahoma City, Okla.

SPECIAL PARTY RETURNING

A party will leave Los Angeles, Sunday, July 2, stopping at Santa Barbara, San Francisco, Portland, Tacoma and Seattle, with a daylight boat ride across the sound to Vancouver. From this point the homeward trip will be through the gorgeous scenery of the Canadian Pacific railway, with stopovers at Banff and other points and at Rochester, Minn. Round trip tickets must be purchased before starting, and should specify this route. For full information and itinerary, address Dr. Charles Wood Fassett, secretary, Medical Society of the Missouri Valley, St. Joseph, Mo.

RATES IN THE FAR WEST

The Southern Pacific has made a rate of one and one-third fare for the round trip in California, Nevada and Oregon. This is on the certificate plan. Arrangements will be made for the signing of the certificates at Los Angeles at or near the Registration Department in the Hamburger Building.

ANOTHER ROUTE FROM CHICAGO

Dr. Liston H. Montgomery, president of the American Association of Medical Examiners, has submitted the following itinerary and general information and invites readers of THE JOURNAL and their friends to consider its advantages. Leave Chicago 10:45 p. m., Wednesday, June 21, by the C. & N. W. Ry., in special Pullman cars running to Los Angeles without change. This train will arrive at Denver June 23, 7:30 a. m., and cross the Rockies on the Denver and Rio Grande by way of the famous Tennessee Pass, Grand Cañon of the Arkansas and the Royal Gorge of the Grand River, the mightiest chasm in the universe traversed by steel rails. At Salt Lake City there will be a stop-over of three hours with a complimentary organ recital in the Mormon Temple. Los Angeles is reached at 4:30 p. m., Sunday, June 25. The cost per capita for twenty-one days' outing from Chicago to Los Angeles, San Francisco, and return is, approximately, $160, a liberal estimate. As described in THE JOURNAL last week, for a little additional cost one may return by the northern routes through the great northwest and Puget Sound region and the beauties of the Canadian Pacific.

THE BURLINGTON TRAIN

The large number of prominent Chicago and eastern physicians who have made reservations for space on the Scenic Colorado Special organized by a committee consisting of Drs. Robert T. Gillmore, Charles B. Reed and Sydney Kuh, plainly indicates that this cool and attractive route, coupled with the desirable stop-over and side-trip features which have been arranged, is a favorite. This train will leave the Union Depot, Chicago, at 11 p. m., Wednesday, June 21, via the Burlington Route and will run through the heart of delightful Colorado via the scenic line of the Denver & Rio Grande R. R. to Salt Lake City, thence via the San Pedro, Los Angeles & Salt Lake R. R. (Salt Lake Route) direct to Los Angeles, arriving at noon, Monday, June 26. Among the desirable features of this route are visits to Denver, "Queen City of the Plains," Colorado Springs and Manitou, "The Saratoga of the West"; a trip to the summit of Pike's Peak, a trip through the famous Royal Gorge; miles of grand mountain scenery; a plunge in Glenwood's great, open-air swimming pool and a special recital on the organ in the tabernacle of the Mormons. Officials of the Burlington declare that this special train de luxe will be one of the finest trains that ever left Chicago and suggest that those who have not done so should make their reservations without delay through Dr. Robert T. Gillmore, 31 North State Street, or Mr. A. J. Puhl, General Agent, Passenger Department of the Burlington Route, 141 South Clark Street, Chicago.

Marriages

Anna Francis Ries, M.D., Ogden, Utah, and Maurice Foster Finley of Bishop, Cal., at Salt Lake City, Utah, May 12.

Wallace Joseph Charles Aubry, M.D., Champlain, N. Y., to Miss Dora Thomas of Granville, N. Y., May 10.

Edgar Lee White, M.D., Lewiston, Ida., to Miss Catherine Leyden Rouse of Spokane, Wash., April 7.

Harvey M. Rauch, M.D., Pittsburg, Pa., to Miss Laredo Shafer of Somerset, Pa., May 10.

Stillwell Corson Burns, M.D., to Miss Reba Faunce Eyre, both of Philadelphia, May 10.

Samuel Wilcox Forney, Chicago, to Miss Vera J. Aldrich of Petoskey, Mich., March 22.

Jay L. Armstrong, M.D., to Miss Katherine A. Stevens, both of Chicago, May 14.

Deaths

Andrew Marcus Trawick, M.D. Vanderbilt University, Nashville, Tenn., 1881; a member of the American Medical Association; formerly president of the Nashville Academy of Medicine; a Confederate veteran; formerly a clergyman of the Methodist and Cumberland Presbyterian churches; died at his home in Nashville, May 8, from septicemia following an operation for facial neuralgia, seven weeks before, aged 64.

William Henry Bell, M.D. Toronto School of Medicine, 1864; a member of the Indiana State Medical Society and its president in 1883; formerly a member of the American Medical Association; from 1865 to 1868 attending physician in the Southern Ohio Hospital for the Insane, Dayton; for twenty years local surgeon of the Wabash System; died at his home in Logansport, May 3, from cerebral hemorrhage, aged 71.

James W. Morgan, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1876; assistant surgeon of the Fortieth Iowa Volunteer Infantry during the Civil War; a practitioner since 1859; a member of the staff of the Moline Public Hospital and St. Anthony's Hospital, Rock Island, Ill.; chief examiner and medical director of the Home Forum; died at his home in Moline, May 11, from heart disease, aged 73.

Elisha Leach, M.D. University of Michigan, Ann Arbor, 1854; city physician of Detroit in 1870 and a member of the health board in 1887; for twenty years a practitioner of that city and later a resident of Galveston and Corpus Christi, Tex.; for many years a member of the American Medical Association; died in the Spohn Sanitarium, Corpus Christi, Dec. 2, 1910, from acute dysentery, aged 80.

Daniel J. Langton, M.D. Jefferson Medical College, 1880; of Shenandoah, Pa.; a member of the American Medical Association; a trustee of the State Hospital for Injured Persons of the Anthracite Coal Regions of Pennsylvania, Fountain Springs; coroner of Schuylkill County in 1880; a member of the board of health of Shenandoah; died in Atlantic City, N. J., May 13, from pneumonia, aged 53.

William Chalmers Baird, M.D. Medico-Chirurgical College of Philadelphia, 1896; a member of the American Medical Association and American Association of Life Insurance Examining Surgeons; formerly of McKeesport, Pa., but forced in 1905 to go to Colorado on account of tuberculosis; died at his home in Colorado Springs, May 8, two days after an operation for disease of the bladder, aged 39.

William Richard Cunningham Latson, M.D. Eclectic Medical College of the city of New York, 1904; of New York City; editor of a magazine known as *Health Culture*; was found dead in his apartment in New York City, May 11, from the effects of a gunshot wound of the head, believed to have been self-inflicted in accordance with a suicide pact, aged 40.

Benjamin F. Keables, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1852; a member of the Iowa State Medical Society; surgeon of the Third Iowa Volunteer Infantry during the Civil War; representative in the state legislature in 1872 to 1874; for fifty-eight years a practitioner of Pella; died at his home, May 9, from cystitis, aged 82.

Henry Clay Hendrick, M.D. University of Michigan, Ann Arbor, 1853; a member of the American Medical Association; surgeon of the 157th New York Volunteer Infantry and later division surgeon during the Civil War; a member of the Cortland County (N. Y.) Board of Pensions; died at his home in McGraw, May 5, aged 83.

Cumberland George Herndon, M.D. University of Virginia, Charlottesville, 1873; Medical Inspector U. S. Navy, retired in 1905 for incapacity resulting from an incident of service, after thirteen years and four months sea service, and fifteen years and ten months shore duty; died at his home in Washington, D. C., May 6, aged 60.

William Henry Harrison, M.D., New York University, New York City, 1885; formerly of Easton, Pa.; professor of materia medica and obstetrics, and instructor in diseases of the mind and nervous system in Flint Medical College, New Orleans; died in that city, May 8, aged 58.

Robert Harris Hargrove, M.D. Vanderbilt University, Nashville, 1881; Bellevue Hospital Medical School, 1882; of Alpine; a member of the Medical Association of the State of Alabama; died at the home of his sister near West Harpeth, Tenn., May 8, from cerebral hemorrhage, aged 50.

William Russell Dunham, M.D. Harvard Medical School, 1865; a member of the Cheshire County (N. H.) Medical Society, Connecticut River Medical Society and New Hampshire Association of Military Surgeons; died at his home in Keene, May 8, from heart disease, aged 77.

Samuel Stuart Hackwell, M.D. Detroit College of Medicine, 1905; of Blaney, Mich.; a member of the Michigan State Medical Society; school examiner of Schoolcraft County for several years; died at the University Hospital, Chicago, May 1, from tumor of the brain, aged 32.

Alexander Miller Stout, M.D. Georgetown University, Washington, D. C., 1880; a member of the American Medical Association and superintendent of the Chicago City Hospital for Contagious Diseases; died in that institution, May 20, from cerebral hemorrhage, aged 57.

Norman F. Hill, M.D. University of Maryland, Baltimore 1882; of Baltimore; surgeon-in-chief of the Baltimore Cit Passenger Railway Company for twenty-seven years; died i Mercy Hospital in that city, May 12, after an operation fo cholelithiasis, aged 63.

Edwin Neville Dougherty, M.D. New York University, New York City, 1896; for several years tenement house inspecto under the department of health of New York City; died a his home at Waterbury, Conn., May 8, from nephritis, aged 38

Lester Bomar Bell, M.D. Rush Medical College, 1906; healt officer of Cushing, Wis., and proprietor of a private hospita in that place; died at his home, May 10, from injuries receive in an automobile accident twelve hours before, aged 27.

Lester Augustus Elster, M.D. Bellevue Hospital Medica College, 1867; a veteran of the Civil War; for thirteen year chief of staff of the Mendocino State Hospital, Eureka, Cal. died at his home in Alameda, Cal., May 1, aged 68.

William C. Coburn, M.D. Philadelphia University of Me icine and Surgery, 1886; for many years a practitioner Washburn, Wis.; died at his home at Diamond Lake, Apr 28, from cerebral hemorrhage, aged about 70.

Reuben Alexander Wall, M.D. University of Maryland, Ba timore, 1904; for several years medical examiner for th Baltimore and Ohio Railroad at Fremont, W. Va.; died a his home in Baltimore, May 4, aged 34.

John Quarles Sutton, M.D. Vanderbilt University, Nas ville, Tenn., 1887; a member of the Tennessee State Medic Association; died at his home in Chattanooga, May 12, fro carcinoma of the stomach, aged 48.

Paul DeWitt Hale, M.D. Medical College of Ohio, Cincinna 1901; was found unconscious in his office in Dayton, O., M 9, and died from heart disease, a few moments later in t Miami Valley Hospital, aged 33.

Coleman E. Riggan, M.D. Memphis (Tenn.) Hospital Me ical College, 1896; a member of the American Medical Ass ciation; died at his home in Monroe, Okla., April 17, fro lobar pneumonia, aged 57.

Otero Crandall Reynolds, M.D. University of Louisvi (Ky.), 1878; a member of the Nebraska State Medical As ciation; died at his home in Lincoln, May 16, from cereb hemorrhage, aged 53.

Edward Haddock Pollack, Jr., M.D., New York University,
ew York City, 1897; a member of the Medical Society of
e County of Kings; died at his home in Brooklyn, Jan. 17,
ed 35.

Morris Beckstead, M.D. McGill University, Montreal, 1878;
r twenty-five years a practitioner of Lisbon, N. Y.; died at
s home in that place, May 7, from nervous breakdown,
ed 56.

Wilson Levi Hawkes, M.D. Medical School of Maine, Bruns-
ick, 1872; a member of the Maine Medical Association; died
his home in York Harbor, May 4, from nephritis, aged 63.

Austin D. Roth, M.D., Drake University, Des Moines, Ia.,
08: of Marshalltown, Ia.; died at St. Thomas' Hospital,
arshalltown, May 8, from tuberculous meningitis, aged 33.

Emery Miller, M.D. Jefferson Medical College, 1894; a mem-
r of the Altoona (Pa.) Medical Society; died at his home
Duncansville, May 10, from acute pancreatitis, aged 41.

Aaron Busby (license, Ohio, years of practice, 1896); for
venty-five years a practitioner of Stark County, O.; died at
s home in Osnaburg, May 9, of tuberculosis, aged 67.

John Ross Trott, M.D. Missouri Medical College, St. Louis,
57; for many years a resident of Virden, Ill.; died in San
iego, Cal., from cerebral hemorrhage, May 3.

Leonidas C. Taylor, M.D. Jefferson Medical College, 1848;
ed at the home of his son in Oxford, N. C., April 23, from
e effects of a fall two days before, aged 87.

Andreas Quisling, M.D., State University of Iowa, College
Homeopathic Medicine, Iowa City, 1893; died at his home
Madison, Wis., May 6, aged 52.

Adam Lutheran Jackson, M.D. Columbus (O.) Medical Col-
ge, 1878; died at his home in Columbus, May 7, from cere-
al hemorrhage, aged 61.

Herbert Stanton Darling, M.D. Jefferson Medical College,
83; died at his home in Fredericktown, O., March 16, from
rdiac asthma, aged 49.

Henry A. Jones, M.D. Hospital College of Medicine, Louis-
lle, Ky., 1903; died at his home in Louisville, May 10, from
eumonia, aged 31.

Jacob W. Myers, M.D. Bennett Medical College, Chicago,
81; died at his home in Goshen, Ind., May 6, from nephritis,
ed 70.

Andrew J. Bevan, M.D. University of Pennsylvania, Phila-
lphia, 1886; died at his home in Bryn Mawr, Pa., May 9,
ed 62.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

ONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

CHICHESTER'S DIAMOND BRAND PILLS

W. A. Puckner and L. E. Warren

A preparation known as "Chichester's Diamond Brand Pills"
. and has been for years, extensively advertised in news-
pers, drug journals, etc. While in these advertisements noth-
g is said regarding the therapeutic uses of the preparation,
e public to a large extent, knows it and buys it as an aborti-
cient remedy. This is shown by letters which THE JOURNAL
ceives of which the following is an example:

> If it is possible would you kindly give me the ingredients
> Chichester's Diamond Brand Pills? They are sold to pro-
> e abortion and are guaranteed under the Food and Drugs
> t, the serial number being 1867.

A trade package, "large size," of Chichester's Diamond
rand Pills was purchased on the open market and examined
ith especial reference to the presence of commonly reputed
ortifacient drugs. The pills were put up in a small tin
x, "elegantly and artistically decorated in red, black and
ld,"—"air, dust and moisture-proof, with hinged lid," on
hich is printed:

"Distributed by Chichester Chemical Co."

The package contained twenty pills and considerable advertising matter, wrappings, etc. Attention is called to some of the statements in a booklet contained in the package entitled:

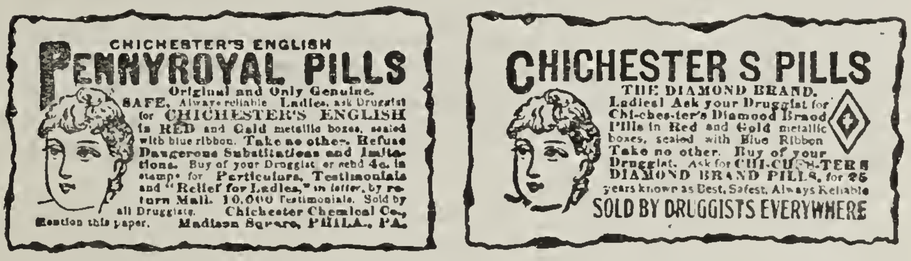
> "Relief for Ladies. Directions for Use of Chichester's Diamond Brand Pills."
> "To Our Old Customers,
> "Change of Name.
>
> "Our Remedy was formerly called 'Chichester's English Pennyroyal Pills,' but on account of unscrupulous imitations offered under the name of 'pennyroyal' our remedy will hereafter be known only as 'Chichester's Diamond Brand Pills.' "
>
> "Treatment may be begun at any time, although in some instances the pills are more effective if taken about the regular time for the menstrual flow. As a rule, however, it is found that more satisfactory results are secured by beginning treatment at once and continuing it until the pills give relief."

Only one small page each is devoted to "Amenorrhea," "Dysmenorrhea" and "Directions," the remainder is taken up with testimonials, cautions to "Take no other," "Refuse all others," "Beware of imitations," etc.

EXAMINATION

The aggregate weight of the pills contained in the package amounted to 8.7963 gm., or about 0.44 gm. for each pill. The pills, when deprived of their coatings, weigh about 0.2600 gm. (4 grains) each, this coating constituting nearly half their original weight. The coatings consist essentially of calcium carbonate, although a small quantity of sugar is present.

By the usual tests the presence of some preparation of aloes and of ferrous sulphate was demonstrated. Tests for the presence of black hellebore, tansy, pennyroyal, savin and certain other reputed abortifacients resulted, in each case, negatively. Ergot or its preparations could not be detected.



CHICHESTER'S ENGLISH
PENNYROYAL PILLS
Original and Only Genuine.
SAFE. Always reliable. Ladies, ask Druggist for CHICHESTER'S ENGLISH in RED and Gold metallic boxes, sealed with blue ribbon. Take no other. Refuse Dangerous Substitutions and Imitations. Buy of your Druggist or send 4c. in stamps for Particulars, Testimonials and "Relief for Ladies," in letter, by return Mail. 10,000 Testimonials. Sold by all Druggists. Chichester Chemical Co.,
Mention this paper. Madison Square, PHILA., PA.

BEFORE

CHICHESTER S PILLS
THE DIAMOND BRAND.
Ladies! Ask your Druggist for Chi-ches-ter's Diamond Brand Pills in Red and Gold metallic boxes, sealed with Blue Ribbon. Take no other. Buy of your Druggist. Ask for CHI-CHES-TER S DIAMOND BRAND PILLS, for 25 years known as Best, Safest, Always Reliable
SOLD BY DRUGGISTS EVERYWHERE

AFTER

Photographic reproductions (reduced) of advertisements of Chichester Pills before and after the passage of the Food and Drugs Act. The Association chemists found no pennyroyal in these pills and under the pure food law it would be illegal to call them "Pennyroyal Pills." Was this responsible for the change in name?

While the identification of mixed plant extracts, especially those which contain constituents not readily isolated, is a matter of great difficulty and is often impossible, it would appear, from the examination, that the chief medicinal constituents of the pills are aloes and iron sulphate, the latter ingredient being present to the extent of about ½ grain to each pill. The statement of the manufacturer that the pills are sugar coated is scarcely warranted by the facts. The change of name from "Chichester's English Pennyroyal Pills" to one in which the word "*Pennyroyal*" does not occur is significant in view of the fact that no pennyroyal could be found in the pills. Under the Food and Drugs Act it would be illegal to sell as "Pennyroyal Pills," pills that did not contain that constituent.

A package of these pills retails for $2, or at the rate of 10 cents for each pill. An examination of the price lists of several large manufacturers of pharmaceuticals reveals that pills very nearly corresponding to the above may be bought in quantities for about 22 cents a hundred. The profits in retailing at $10 per hundred ought to be satisfying even to the most avaricious.

EDITORIAL NOTE: The above calls attention to a vicious state of affairs—the selling to the public of drugs of reputed abortifacient properties. We believe there is not a state in the Union which has not adopted laws against it, but in spite of this, these preparations, in thin disguises, are shamelessly advertised in newspapers and as shamelessly and boldly sold over the counters of many drug stores. While it is true that many of these nostrums are merely fraudulent, rather than dangerous, yet not a few contain potent and—for the purpose for which sold—villainous drugs.

As shown by our chemists, Chichester's Diamond Brand Pills seem to be simply the old aloes and sulphate of iron pills with slight modification. While these pills were sold originally as "pennyroyal" pills, the Food and Drugs Act, which forbids lying on labels, has apparently compelled the manufacturers to omit the word "pennyroyal."

Since it is well known that there is no drug or combination of drugs which, taken by the mouth, will with certainty produce abortion, it is not probable, to judge from the constituents found in these pills, that they would produce the result desired by the purchaser. Nevertheless, the use of this nostrum is pernicious and in the interest of public health and public morals its sale, and the sale of similar nostrums, should be prohibited.

THE LIMITATIONS OF TABLET-MAKING

To the Editor:—From time to time I notice in the columns of The Journal, assays of the tablet and pill products of different manufacturers and as a rule they are found wanting in label-stated quantity of ingredients; I think that I am in a position to throw some light on this subject and to relieve some of our reputable manufacturers from the suspicion of intentional fraud. In the first place, let me say that many substances are put in tablet and pill form which never should be exhibited in this manner as they are of a volatile nature and are bound to deteriorate.

A number of years ago, I was foreman of manufacturing in the pill and allied departments of Parke, Davis & Co. and when I was given charge, I was instructed to spare no expense nor trouble to make each preparation which left my department, the best of its kind, both in the exactness of its compounding and in pharmaceutical elegance. Shortly after assuming charge I was "called on the carpet" and the "riot act" was read to me in very plain and unmistakable tones; someone had made a comparative analysis of some of the products of a number of leading manufacturers and ours was away down the list. I did not have much to say but went back to my office to think.

Up to that time, no book account had been kept with each formula as issued; a formula was written for a certain number of pills and the ingredients were most carefully weighed and the weights checked. The ingredients were then carefully mixed and the total mass was made up to a certain specified weight and this was divided into a specified number of pills each having a specified weight. If a pound, or 7,000 grs., of pill mass was to be cut into ¼ gr. pills, manifestly, there would be 28,000 pills as the result and it seems that it had always been assumed as an established fact that it must be so. In cutting these pills sixteen of them should weigh 4 grains (a large number being taken to obviate individual variation) and at frequent intervals the forewoman would go from table to table making these weights and I may say that the perfect exactness of division was often a wonder to me.

After I had thought over my troubles a while, I asked myself whether this thing really worked out in practice as well as in theory; so I went to the dry-room and called out a formula of ¼ gr. morphin sulphate pills which had just been cut and which should number 70,000. On counting an ounce and weighing the remainder, I found that instead of 70,000, I had 110,000. Investigation of other formulas showed a like result, the variation being greater in the smaller pills; analyses of goods on hand showed them all deficient and, worst of all, no one could even suggest an explanation.

I immediately made up one pound of "dummy" mass and gave to our most expert girl to cut into ¼ gr. pills; I watched every move, myself, and weighed repeated lots of thirty-two pills each to be certain that each weighed exactly ¼ gr.; when the result was weighed and counted, I had some 34,000 instead of 28,000 pills. This thing went on day after day until the entire department was upset; finally, after studying this matter for days, I was sitting by one of the tables watching the girl work and I noticed that from time to time she would pick up a small camel's-hair brush and dipping it in a pile of terra alba on her table would, very lightly, brush over the strips and partly cut pills; I at once asked her how much of this material was required to cut a pound of mass; she replied, "hardly any." By weighing the supply before using and again after a pound had been cut, it was found that ½ ounce of this powder was consumed in cutting 1 pound of mass into ¼ gr. pills. This meant 21 grains, which divided into ¼ gr. pills, made an addition t the written formula of 872 pills and we had found the lea which had been going on for years. After this, each formul for small pills was made up ½ ounce short to the pound an an allowance of dusting powder of an equal amount was mad for each pound and we found that our formulas came ou within a very few pills of the calculated amount. The wid variations which had been discovered we found to be due t the careless use of powder by some of the girls, who wou use their dusting powder in a very lavish manner.

I have explained this incident at length as illustrative the troubles against which the most honest manufacture will occasionally run and let me say, to the credit of the fir mentioned, that, instantly, on the discovery of this fault their goods, all orders for small pills were cancelled until su a time as they could be filled with genuine goods and th all the goods on hand were thrown out and as much as po sible of outstanding stock in the hands of wholesale hous was called in.

I notice in a recent issue of The Journal an account[1] analysis of tablets containing phenol and that all were de cient—and why should they not be? It is not good sense put volatile substances into pills and tablets and expect t full amount to remain, especially in pills, which have to dried, somewhat, before coating and must of necessity lo a great part of all volatile ingredients before being coated.

E. B. Patterson, M.D., Sandpoint, Ida

Editorial Note: Dr. Patterson's letter will be read wi interest by all who believe in scientific prescribing. It bea out exactly what has been said several times in The Journ We have never accused "reputable manufacturers" of inte tionally defrauding their customers by failing to put in their tablets the advertised ingredients. We have more th once stated that the discrepancies which have been fou between the real composition of tablets and their adverti composition is due to attempts to achieve what is ph maceutically impossible rather than to any studied atten to defraud. Dr. Patterson says: "Many substances put in tablet and pill form which never should be exhibi in this manner;" in expressing an opinion on the same po The Journal stated editorially as recently as May 6 of t year: "It is pharmaceutically impossible—or at least co mercially impracticable—to manufacture, in tablet form, so of the combinations that are listed in the manufactur catalogues." The criticism that The Journal makes agai manufacturers in this matter is, that in spite of the fact t the Association chemists have repeatedly shown that it impossible to put up certain drug combinations in tablet fo the manufacturers persist in marketing such tablets. Patterson is eminently correct when he says: "It is not g sense to put volatile substances into pills and tablets expect the full amount to remain." Yet this lack of sens shown by most of the large pharmaceutical houses.

It is pleasing to learn that the firm for which Dr. Patte worked cancelled its orders and called in out-standing stock soon as it discovered that its tablets were not true to la This, as our correspondent says, was some years ago. Ap ently a different attitude is taken to-day. This same fir with several others—when shown over two years ago that bismuth, opium and phenol tablets were not what they claimed to be, made no effort, apparently, either to withd its product, cease manufacturing it, or even modify the la to conform to the facts. It was for this reason that manufacturer—with others—was criticized by The Journa

In thinking over the details of tablet making, desc by Dr. Patterson, one is led far afield. Many of the com tablet mixtures on the market to-day put out by va firms have but a small sale. They are only made to competition between manufacturers. In the hundred combinations that exist, one wonders how many really co the true proportions of the drugs ascribed to them and therefore be prescribed with any degree of scientific accu All of which leads back to the proposition repeatedly adva in these pages: Simplicity in prescribing is essentia scientific accuracy.

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[1] Puckner, W. A., and Hilpert, W. S.: Tablets of Bis Opium and Phenol, The Journal A. M. A., May 6, 1911.

Correspondence

Reprints and Journals Wanted

To the Editor:—The Medical Library Association is particularly anxious to find the following reprints and journals:

Any numbers of the *American Journal of Medical Sciences* previous to 1882 and after 1899.
Medical and Surgical Reports of the Boston City Hospital, Vols. VII, VIII, XVI and later.
Proceedings of the Philadelphia Pathological Society, Vol. XII, except Nos. 1 and 3, Vol. XIII, except Nos. 2 and 4.
Pearce, R. M.: The General Infections and Complications and Scarlet Fever, 1898.
Harrington, Charles, and Pearce, R. M.: Formaldehyd as a Practical Disinfectant and an Aid in the Practice of Surgery, 1898.
Pearce, R. M.: Scarlet Fever, Its Bacteriology, Gross and Minute Anatomy, 1899.
Harrington, Charles, and Pearce, R. M.: Proprietary Domestic Disinfectants, a Bacteriological Study, 1899.
Councilman, W. T., Mallory, F. B., and Pearce, R. M.: A Study of the Bacteriology and Pathology of 220 Fatal Cases of Diphtheria, 1900.
Musser, J. H., Gwyn, N., and Pearce, R. M.: Abscess of the Brain Due to a Streptothrix.

JOHN RUHRÄH, Treasurer, Medical Library Association.
1211 Cathedral Street, Baltimore.

The Contaminated Fly

To the Editor:—While we all realize the part played by common house-flies in carrying infection, perhaps we have not fully understood their capacity to act as incubators and storehouses for specific bacilli. I practice in a healthy town of 3,000 inhabitants where cases of typhoid are not numerous; they always appear sporadically—never to the extent of an epidemic. These cases usually appear in neighborhoods in which the drinking-water is obtained from rather shallow wells, and for this reason the appearance of an occasional case of typhoid fever has always been attributed to a contaminated water-supply. These neighborhoods usually have many flies, and no systematic effort is made to exclude them from the houses. During the latter part of the summer of 1910 a man died from typhoid fever in one of the localities I speak of. A visitor, who called to see the sick man before he died, afterward told me that she saw a bed-pan containing one of the patient's typhoid stools in the back yard with hundreds of flies about it. Every one of those flies would probably go away loaded with typhoid bacilli. There are always enough flies that find some warm crack or crevice in which to hibernate through the winter to renew the supply the next spring. Many of them must go into winter quarters loaded with bacilli; and the favorable surroundings that would enable the fly to live over winter would enable the bacilli to retain their vitality also. In communities like ours where health conditions are usually good my observations have made me believe that the fly is to be regarded with far more suspicion than the water-supply.

WILLIAM M. GREGORY, Berea, Ohio.

Magnesium Sulphate Treatment of Dysentery

To the Editor:—On the first appearance of mucus and blood in the stools the patient with dysentery should be put to bed and kept there till the stools are free from blood and mucus and the patient free from pain. Liquid diet should be given and the patient should not be allowed to sit up. When the patent is first put to bed he should be given an enema of a quart of warm water that has been boiled, to which two heaping tablespoonfuls of magnesium sulphate have been added and thoroughly dissolved. This should be introduced into the lower colon by means of a fountain syringe with the regular hard rubber rectal tip that comes with the syringe; a rectal or colon tube should never be used, for it wounds the inflamed surfaces. The enema should be repeated every four hours until the actions are free from blood and mucus and the patient free from pain. The patient should be urged to retain the enema each time as long as possible before expelling it, for the longer it is retained the better, as it reduces pain and inflammation. In addition the patient should take the following:

℞	gm. or c.c.		
Magnesium sulphate	45	or	℥iss
Aromatic sulphuric acid	15		℥ss
Deodorized tincture of opium	8		ʒii
Distilled water to make	180		℥vi

M. Shake and take two teaspoonfuls in water every two hours till actions are free from blood and mucus and patient free from pain, then less frequently, as indicated; but give an occasional dose for twenty-four to forty-eight hours.

For children the enema should be the same as for adults and the syringe and tip the same. The child should be placed on its back in its mother's or a nurse's lap with newspapers under it so that the water will flow into a basin when the bowel gets full. The tip should not be removed, but the water should be allowed to pass out by it when the child strains, the water flowing into the colon all the while till all the quart is used, and then repeated as in the adult. A child two or three years old should be given 10 or 15 grains of magnesium sulphate, half a drop to two drops tincture opium and two or three drops aromatic sulphuric acid every two hours till feces are free from blood and mucus and the child free from pain.

Patients should never be allowed to sit up until all symptoms have disappeared.

This treatment has given me good and prompt results.

A. A. BARGE, M.D., Newnan, Ga.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SULPHUR REACTION IN THE URINE OF CANCER PATIENTS

To the Editor:—In THE JOURNAL, May 6, page 1371, is an abstract of an article by Salomon and Saxl in the *Wiener klinische Wochenschrift*, 1911, No. 13, page 449. Please give me the technic of this sulphur reaction in the urine of cancer patients.

W. D. ROBBINS, Chicago Heights, Ill.

ANSWER.—For this reaction, dilute 150 c.c. of urine with 100 c.c. distilled water (albuminous urine must first be boiled, treated with a small quantity of acetic acid and carefully filtered); then add 150 c.c. Salkowsky's barium solution (a mixture of 2 parts barium hydroxid solution, saturated at room temperature, with 1 part barium chlorid solution saturated at room temperature). Filter and to the clear filtrate add more reagent to insure complete precipitation. Then the ethereal sulphates are removed from the entire filtrate, by adding 30 c.c. hydrochloric acid (sp. gr. 1.12), transferring to a 500 c.c. flask, covering with a small funnel and heated to boiling on an asbestos mat, with a small flame for an hour. The flask is then covered with a beaker and allowed to stand on a water bath till the supernatant liquid is clear (requiring from four to twenty-four hours). Now filter twice through a double "barium filter," small; wash the flask with sodium hydroxid solution and distilled water; boil again, using same precautions as above, and filter through a double "barium filter." (If there is still more precipitate formed, place the flask on the water bath again.) Now treat 200 c.c. of the filtrate with 3 c.c. strong hydrogen peroxid solution (perhydrol Merck) and boil fifteen minutes, covering again with the funnel, in the same flask. Now the liquid is poured into a sedimentation glass and then observed in from one-half to four hours. In cases of carcinoma a decided sediment will be observed while a normal urine may show a trace of such a sediment; as a rule normal urine does not show a sediment in four hours—but some time later a trace of ethereal sulphate not properly removed as above may show. The sediment obtained in case of carcinoma is usually somewhat colored, but this color can be removed by alcohol-ether.

LITERATURE ON RATTLESNAKE POISONING

To the Editor:—Please give me literature on rattlesnake poisoning, particularly on the pathology and treatment.

J. M. WALSH, Fort Pierre, S. D.

ANSWER.—The following references may be consulted:

Rogers, L.: Snake Bite Treated by Incision and Application of Permanganate of Potash, *Indian Med. Gaz.*, October, 1905; abstr. in THE JOURNAL, Dec. 9, 1905, p. 1830.
Ferguson, A. D.: Adrenalin Chlorid in the Treatment of Rattlesnake Bite, *Texas Med. News*, November, 1906.
Haw, W. H.: Two Cases of Snake-Bite with Suggestion for Treatment, *Lancet*, London, April 27, 1907; abstr. in THE JOURNAL, May 25, 1907, p. 1819.
Baler, F. C.: Rattlesnake Bite, with Recovery, *Northwest Lancet*, June 15, 1907.
Braddock, C. S.: Treatment of Snake Bites as Seen in the Jungle, *New York Med. Jour.*, Nov. 8, 1907; abstr. in THE JOURNAL, Nov. 23, 1907, p. 1803.

Willson, P.: Snake Poisoning in the United States, *Arch. Int. Med.*, June, 1908; discussed editorially in THE JOURNAL, July 11, 1908, p. 132.
White, C. S.: Case of Poisoning from the Bite of a Rattlesnake, THE JOURNAL, May 8, 1909.
Lyon, W. C.: Venomous Snakes of the United States, *Mil. Surg.*, October, 1910.

AVERAGE NUMBER OF TUBERCLE BACILLI DISCHARGED

To the Editor:—What is the number of tubercle bacilli which the average patient with a well-developed tuberculosis is supposed to discharge during the twenty-four hours? Please refer me to the original articles from which you have secured these figures.

D. V. S.

ANSWER.—Nuttall (in the *Bulletin of the Johns Hopkins Hospital*, May-June, 1891) estimated the number of tubercle bacilli in the sputum of three patients in the moderately advanced stage by a special technic fully described. He counted the number of tubercle bacilli in a drop obtained from sputum which had been homogenized. In the first case sixteen counts were made from January 10 to March 1; the quantity of sputum varied from 43 c.c. to 73 c.c., the number of bacilli present varying from 4,312,581,000 down to 1,695,184,000. In the second case, in which the sputum was very much less, varying in quantity from 1 to 10 c.c., the number of bacilli varied from 275,000 to 283,457,000. In the third case, the quantity of sputum varied from 10 to 60 c.c. and the number of bacilli varied from 12,996,000 to 70,474,000. During the observations the patients improved and it is interesting to note that the number of tubercle bacilli decreased. Many of the bacilli were unquestionably dead.

ANAPHYLAXIS AND SERUM TREATMENT

To the Editor:—Please answer the following questions:

1. May a person in whom horse-serum has been used develop symptoms of anaphylaxis if he is injected with the serum of an animal of a different species?

2. Can antitoxic globulin (antidiphtheric globulin) be used without fear of anaphylaxis?

E. WISLOCKI, San José, Cal.

ANSWER.—1. No. The substance producing the symptoms of anaphylaxis has been shown to be specific and therefore will not cause the reaction if an albumin, different from that originally used, is injected.

2. Anaphylactic symptoms are not so likely to develop after the use of antidiphtheric globulin, because less protein is used. So far as we know, however, there is no reason to suppose that anaphylaxis may not occur.

SOURCES OF WATER-SUPPLIES

To the Editor:—Please tell me if you know of any list published that gives the sources of the water-supplies of the principal cities and towns of the United States and Canada.

MORGAN WALCOTT, Tompkinsville, N. Y.

ANSWER.—You will find much information in "Clean Water and How to Get It," by Allen Hazen, published by John Wiley and Son. So far as we are aware, no complete list has been published. The purification of water for domestic use in America was discussed in the *Transactions of the American Society of Civil Engineers*, 1905, liv, Part D.

MEDICOLEGAL ASPECTS OF A FATAL GUNSHOT WOUND

To the Editor:—As a matter of interest from its medicolegal aspect, I would invite an expression of opinion on the following case of homicide by gunshot:

I was called to examine the body of a miner found dead in his cabin, and found the following external injuries: a bullet wound an inch from the right scapular border, at the level of the fourth rib, and another at the lower angle of the left anterior lumbar area. Both had the appearance of entrance wounds and were clean cut without eversion of tissue. There was no indication of scorching, nor were powder grains found on the clothing over the wounds after careful examination. The body was found lying on the back, crosswise of a bed, and underneath it, near the wound in the back, was found a 32-caliber revolver bullet, later identified as being from the gun proved to have been used in the case. Autopsy findings showed the course of the bullet to be as follows: the lower border of the fourth rib was struck, showing inversion of fragments; the bullet then punctured the upper lobe of right lung and passed through the lower lobe of the left lung and the small intestine at its upper portion. Death was due to excessive pulmonary hemorrhage.

Evidence at the coroner's inquest showed only one shot to have been fired, which was heard by several people. I testified that in my opinion the bullet entered the back and could have taken the course described, by its deflection downward from contact with the lower border of the fourth rib, and emerged low down in the abdominal wall on the left side. The guilty person later, after being arrested, confessed to having fired the shot, but made a plea of self-defense on the grounds that the deceased had him "down on his back and was going after a knife," and that he (the accused) "shot him in the belly."

The point in question is that the plea of self-defense hinges on my testimony that the entrance wound was at the back, and that the course of the bullet, as shown at autopsy, was not possible if fired from in front

H. C. M.

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 20, 1911.

Beatty, Theodore B., C.S., entered into contract for duty at Fort Douglas, Utah.

Bushnell, George E., lieut.-col., detailed to represent the Army at the seventh international congress against tuberculosis, to be held at Rome, Italy, September 24 to 30, 1911.

Hill, Eben C., lieut., granted six months' leave of absence on account of sickness.

Reynolds, F. P., Straub, Paul F., Munson, Edward L., majors, and Thomason, Henry D., captain, are detailed as instructors at the encampment of the sanitary troops, Ohio National Guard, to be held at Coshocton, Ohio, June 24, 1911.

Reynolds, Charles R., major, is detailed for duty at the encampment, Ohio National Guard, Coshocton, in the event that Major Straub shall not return to this city prior to June 24, 1911.

Graham, George D., D.S., orders relieving him from duty at Fort Shafter, H. T., and directing him to proceed to the Philippine Islands, is revoked.

Wolven, F. H., D.S., left Vancouver Barracks, Wash., for duty at posts in Alaska.

Maus, Louis M., colonel, left headquarters, department of the lakes, Chicago, Ill., on twelve days' leave of absence.

Purnell, Harry S., captain, granted ten days' leave of absence.

Medical Corps, U. S. Navy

Changes during the week ended May 20, 1911.

Boyd, J. C., medical director, detached from duty as a member of the naval retiring board, Washington, D. C., and ordered home.

Heneberger, L. G., medical director, detached from command of the Naval Medical School Hospital, Washington, D. C., and ordered to duty as a member of the naval retiring board, Washington, D. C.

Bertolette, D. N., medical director, detached from duty as president of the naval examining board and board of medical examiners and ordered to command the Naval Medical School Hospital, Washington, D. C.

Gardner, J. E., medical inspector, detached from the marine recruiting station, Boston, and ordered to duty as member of the naval examining board and board of medical examiners, Washington, D. C.

Payne, J. H., A. A. surgeon, ordered to the marine recruiting station, Boston.

Devalin, C. M., surgeon, detached from the Navy recruiting station, Detroit, and ordered to the navy recruiting station, New York.

Thompson, E., surgeon, detached from the Navy yard, Charleston, S. C., and ordered to duty in connection with fitting out the *Maine* and to duty on board that vessel when placed in commission.

Koltes, F. X., P. A. surgeon, ordered to the Navy recruiting station, Detroit.

Stuart, M. A., P. A. surgeon, detached from duty in the Panama Canal Zone and ordered to the Navy yard, Charleston, S. C.

Rossiter, P. S., P. A. surgeon, detached from the *Independenc* and ordered to command the naval hospital, Mare Island, Cal.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 17, 1911.

Brooks, S. D., surgeon, granted seven days' leave of absence fro May 17, 1911.

White, J. H., surgeon, detailed to represent the service at th annual meeting of the American Society of Tropical Medicine to b held at New Orleans, May 18-19, 1911.

Wertenbaker, C. P., surgeon, detailed to represent the service a the annual meeting of the Association of Surgeons of the Souther Railway Company to be held at Charlotte, N. C., May 29-31, 1911.

Nydegger, J. A., surgeon, granted one month's leave of absenc from April 24, 1911, on account of sickness.

Lavinder, C. H., P. A. surgeon, relieved from duty at th hygienic laboratory and directed to proceed to Savannah, Ga., an assume command of the service.

McMullan, John, P. A. surgeon, relieved from duty at Elli Island, N. Y., and directed to proceed to Baltimore and report t Surgeon W. P. McIntosh for duty in the medical examination arriving aliens. Granted twenty-one days' leave of absence fro May 9, 1911, on account of sickness.

Willie, C. W., P. A. surgeon, detailed to attend meeting of th National Dental Association at Cleveland, Ohio, May 10, 1911.

McClintic, T. B., P. A. surgeon, directed to proceed to Missoul Mont., via Helena, for the investigation of Rocky Mountain feve

Creel, R. H., P. A. surgeon, granted thirty days' leave of absen from June 1, 1911.

Jackson, J. M., Jr., A. A. surgeon, granted ten days' leave absence from May 12, 1911.

Miranda, R. U. Lange, A. A. surgeon, granted six months' lea of absence from June 3, 1911, without pay.

Ransom, Stacey A., A. A. surgeon, granted thirty days' leave absence from April 1, 1911, with pay, and six months, without pa from May 1, 1911.

Robinson, H. D., A. A. surgeon, granted nine days' leave absence from May 17, 1911.

Board of medical officers convened to meet at Stapleton, N. May 17, 1911, for the examination of an officer of the Revenu Cutter Service, to determine his fitness for promotion. Detail f the board: Surgeon H. W. Austin, chairman; Passed Assista Surgeon W. A. Korn, recorder.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

DIVISION OF FEES

Report of the Committee of the Columbus Academy of Medicine

The committee appointed by the Academy of Medicine to investigate the matter of alleged division of fees between physicians and specialists, reports as follows:

1. Careful investigation shows conclusively that there has been relatively very little of this division of fees in Columbus, and that the accounts of such division have been grossly exaggerated in the public prints. We realize, however, that such a practice, even by a small minority, may in time corrupt the whole body of the profession. The truth does not justify the wide aspersion which has been cast on the profession of this city.

2. Secret division of fees between specialists and general practitioners constitutes clearly a grave breach of the ethics of our profession. Its inevitable tendency is to lead thoughtless or unscrupulous physicians to refer their patients to specialists who offer the largest commission, rather than to those who render the best service. Such practice is admittedly unprofessional, and should be condemned in the strongest terms.

3. The causes of this condition are to be found largely in the great overcrowding of the profession, and in the multiplicity of specialists, and the remedy to reach this part of the evil is to diminish largely the number of physicians by increasing the requirements for admission to the profession, and to reduce the number of specialists by such legislation as will require a specialist, before posing as such, to pass special examinations to demonstrate his fitness and qualifications for the specialty which he proposes to enter. In the meantime, and while these reforms are pending, the evil must be firmly met by exposure of those who resort to these dishonest practices, by their expulsion from college organizations and from our medical societies, and by their exclusion from our hospitals.

4. The general practitioner has for several generations been in the habit of charging per visit instead of for services rendered. The profession of medicine is by its nature a conservative one, and changes its methods slowly. As one of the results, our system of charging has remained substantially the same; but this system is clearly unjust both to the physician and to his patients, and is a potent factor in the production of the division of fees. This also accounts very largely for the low estimate which the physician has seemed to place on the value of his services, and their estimate in the eyes of the laity. The patient has thus failed entirely to appreciate the particular service which his physician renders him in furnishing the specialist with the history and symptoms of the case, and he is therefore not prepared to receive a separate and appropriate charge for that service.

It is the duty of the Academy of Medicine to educate the unthinking public to appreciation of the fact that it takes, for illustration, more skill and a finer quality of judgment to carry a patient through months of critical expectancy to a successful accouchement than to amputate a leg, and that the physician should be paid accordingly. Until physicians demand fees in some proportion to services rendered, and without fixed rates, they will never be paid for what they do. "The dead-level fee—the same charge for everybody, for all kinds of cases—should have no place in medicine."

5. Until the public is so educated, however, we recommend as wise and proper in many instances, and most satisfactory to all concerned, the joint rendering of bills by each consultant in cases in which joint services have been rendered by the attending physician and specialist, with the distinct understanding that the factor of the former in these joint bills does not constitute a part of his regular family attendance, but is to be settled as a special service, so that both he and the specialist will be fairly and honorably remunerated for the value of services rendered. "The laborer is worthy of his hire," and should ask and receive neither more nor less than he has justly earned.

6. We commend the attitude taken by the Starling-Ohio Medical College in this matter, and we recommend the adoption of such by-laws by this academy as will render secret fee-splitting, no matter by what subterfuge, a cause for expulsion. We also recommend that officials in charge of our local hospitals adopt such rules as will debar from attendance at their hospitals, any physician or specialist found guilty of this offence.

HEALTH LEGISLATION IN ARKANSAS

The public health bill prepared by the Arkansas Medical Society has passed both houses of the legislature and is ready for the signature of the governor. This bill creates a department of health consisting of an advisory board of seven members and a commissioner of health appointed by the board. The members of the advisory board are to be appointed from the three schools of medicine. The commissioner is to receive a salary of $2,500 per annum. Members of the board are to receive a per-diem allowance of $5.00 and actual traveling expenses.

The board is given the power to make all necessary rules and regulations for the protection of the health of the people, which rules and regulations when promulgated are to have the force of statutory enactments. A hygienic laboratory and a bureau of vital statistics are also provided for. The model vital statistics bill of the American Medical Association is incorporated in the bill.

A bill has also passed both houses, authorizing the state to take over the two medical schools in Little Rock, namely, the Medical College of the University of Arkansas and the College of Physicians and Surgeons. These schools have agreed to turn over to the board of trustees of the State University all of their assets. The trustees of the State University will select a new faculty.

The passage of these two bills insures a single medical school of high grade for Arkansas and also establishes a health department capable of great service to the people. The adoption of the model bill for vital statistics as a part of the public health bill gives Arkansas the honor of being the first southern state to make adequate provision for the collection and recording of vital statistics. The people of the state are to be congratulated on having a legislature which is sufficiently broad-minded and progressive to enact such laws.

Qualifications of Native Chinese Physicians.—The following interesting quotation regarding Chinese physicians is taken from Jefferys and Maxwell's book, "Diseases of China":

"To become a physician a Chinese states to his friends and neighbors, 'I am a physician.' This is the limit of required preparation, although it is usually a development from a former apprenticeship. His diploma is the more or less handsome signboard which announces his determination to the neighborhood. The man whose father or uncle was a physician before him has the supposed advantage of inherited recipes and secret family remedies, and the farther back the medical ancestry the better. Main of Hongchow says: 'Native doctors do not know much and have forgotten much of the little they ever knew, and they are forever pouring drugs, of which they know little, into bodies of which they know less, and think nothing of putting a rusty needle into a patient's abdomen or clipping off an old-standing opacity of the cornea and sticking a dirty needle into an opaque lens in order to improve the sight!' The Chinese physician is usually a middle-aged man of dignified bearing, and his personality has much to do with his success. In the matter of ethics he has not much to boast of. He never does any earthly thing for anybody unless there is money in it, and he makes his deal in advance—so much down and so much guaranteed in case of cure. If he ever comes across a happy discovery, he buries it deep in his heart, strictly for personal private use. . . . He places the patient opposite his august self and begins and ends by feeling his various pulses two at a time. On the condition of the pulses depends much. It is customary to ask a few questions and listen to the patient's own story. He then writes a prescription for first, second or third rate medicine, according to the ability of the buyer. It is probable that a medical visitation is never completed without the administration of one or more drugs. No patient would be satisfied without them."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Delaware: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

Illinois: Coliseum Annex, Chicago, June 13-15. Sec., Dr. James A. Egan, Springfield.

Iowa: Capitol Bldg., Des Moines, June 5-7. Sec., Dr. Guilford H. Sumner.

Kansas: Hotel Grund, Kansas City, June 13. Sec., Dr. H. A. Dykes, Lebanon.

Kentucky: The Armory, Louisville, May 31. Sec., Dr. J. N. McCormack, Bowling Green.

Maryland: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

Michigan: University Bldg., Ann Arbor, June 13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

Minnesota: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

Missouri: Gymnasium of St. Louis University, St. Louis, June 12-14. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

New Jersey: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

New York: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division. Department of Education, Albany.

North Carolina: Charlotte, June 14. Sec., Dr. Benjamin K. Hays, Oxford.

Ohio: Columbus, June 6-8. Sec., Dr. George H. Matson, State House.

Pennsylvania: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

South Carolina: State House, Columbia, June 13. Sec., Dr. A. Earle Boozer.

Texas: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

Virginia: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

Wyoming: University of Wyoming, Laramie, June 6-8. Sec., Dr. J. B. Tyrrell.

Arizona January Report

Dr. Ancil Martin, secretary of the Board of Medical Examiners of Arizona, reports the written examination held at Phoenix, January 3-4, 1911. The number of subjects examined in was 9; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 9, of whom 5 passed and 4 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
University of Southern California	(1909)	83.4
Northwestern University Med. School..(1901) 75;	(1902)	79.6
University and Bellevue Hospital Medical College	(1910)	84.4
Starling Medical College	(1905)	77.5
FAILED		
State University of Iowa, College of Medicine	(1910)	73.1
College of Physicians and Surgeons, Keokuk	(1900)	72
Michigan College of Medicine and Surgery	(1902)	60.3
Washington University, St. Louis	(1903)	71

Colorado April Report

Dr. S. D. Van Meter, secretary of the Colorado State Board of Medical Examiners; reports the written and oral examination held at Denver, April 4, 1911. The number of subjects examined in was 8; total number of questions asked, 80; percentage required to pass, 75. Ten candidates were examined, of whom 7 passed, including one osteopath, and 3 failed. Thirty-one candidates were registered on presentation of satisfactory credentials, including state licenses. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Denver and Gross College of Medicine	(1910)	90.7
University of Colorado	(1911)*	84.2, 85, 85.2.
Kansas City Hahnemann Medical College	(1910)	75.2
University of Toronto, Ontario	(1909)	78.2
FAILED		
Kentucky School of Medicine	(1898)	56.5
Barnes Medical College	(1907)	65.5
Medico-Chirurgical College of Kansas City	(1901)	62.6

LICENSED ON PRESENTATION OF SATISFACTORY CREDENTIALS

College	Year Grad.	State Licenses
University of Southern California	(1909)	California
George Washington University (1905)	(1906)	Dist. Colum.
College of Physicians and Surgeons, Chicago	(1906)	Illinois
Rush Medical College	(1886)	S. Dakota
Chicago Homeopathic College	(1895)	Wisconsin
Hahnemann Med. College and Hospital, Chicago	(1885)	Iowa
Northwestern University Medical School	(1903)	Iowa
Chicago Medical College	(1875)	Kansas
University of Iowa, College of Medicine	(1897)	Wisconsin
University of Iowa, College of Homeo. Medicine	(1893)	Michigan
University of Louisville......(1883) Oklahoma;	(1904)	Kentucky
Tulane University of Louisiana	(1907)	Mississippi
College of Physicians and Surgeons, Baltimore	(1904)	W. Virginia
University of Maryland	(1903)	Nevada
Harvard University Medical School	(1895)	Wisconsin
Missouri Medical College.......(1878) Illinois;	(1895)	Kansas
American Medical College, St. Louis	(1905)	Missouri
Homeopathic Medical College of Missouri	(1908)	Missouri
Long Island College Hospital	(1899)	New York
Albany Medical College.....(1861) Mississippi;	(1891)	New York
University and Bellevue Hospital Med. College.	(2, 1906)	New York
Western Pennsylvania Medical College	(1888)	Penna.
Meharry Medical College	(1904)	Oklahoma
University of Texas	(1905)	Texas
University of Vermont	(1880)	Vermont
Queen's University, Kingston, Ontario	(1893)	Indiana

* These three applicants will be graduated in June, but took examinations in April. Licenses will not be issued until July meeting.

Rhode Island April Report

Dr. Gardner T. Swarts, secretary of the Rhode Island State Board of Health, reports the written examination held at Providence, April 6-7, 1911. The number of subjects examined in was 7; total number of questions asked, 70; percentage required to pass, 80. The total number of candidates examined was 4, of whom 2 passed and 2 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Harvard University Medical School	(1910)	87.5
University of Michigan, Dept. of Med. and Surg.	(1907)	87.7
FAILED		
Baltimore Medical College	(1909)	76.5
University of Vermont	(1910)	72

West Virginia April Report

Dr. H. A. Barbee, secretary of the State Board of Health of West Virginia, reports the written examination held at Huntington, April 10-12, 1911. The number of subjects examined in was 20; total number of questions asked, 120; percentage required to pass, 80. The total number of candidates examined was 24, of whom 17 passed and 7 failed. The following colleges were represented:

PASSED College	Year Grad.	Per Cent.
Howard University, Washington, D. C...(1909) 82;	(1910) 81	92
George Washington University	(1909)	80
University of Louisville	(1887)	80
Baltimore Medical College	(1894)	82
College of Physicians and Surgeons, Baltimore	(1910)	84
University of Michigan, Dept. of Med. and Surg.	(1900)	87
Western Pennsylvania Medical College	(1896)	83
University of Pennsylvania. (1908) 91; (1909) 87;	(1910)	83
University College of Med., Richmond..(1901) 86;	(1909)	86
University of Virginia	(1904)	87
Meharry Medical College	(1908)	82
University of Toronto, Ontario	(1910)	86
FAILED		
University of Louisville	(1910)*	
College of Physicians and Surgeons, Baltimore	(1910) 69	75
Detroit Homeopathic College	(1911)	76
Eclectic Medical College, Cincinnati	(1910) 76	77
Chattanooga Medical College	(1910)	78

* Withdrew after having taken two branches.

The following questions were asked:

ANATOMY AND EMBRYOLOGY

1. Name the bones of the head. Mention the coverings of the brain. 2. Give the branches of the common iliac artery. 3. Give the boundaries of Scarpa's triangle. 4. Give the blood and nerve supply of the stomach. 5. Describe the jugular vein and mention its surgical significance. 6. Give the origin and insertion of the sartorius muscle. 7. Name the divisions of the alimentary tract. 8. Name the ligaments of the knee-joint. 9. Describe the cervical plexus of nerves. 10. What is the vitelline membrane?

PHYSIOLOGY AND HISTOLOGY

1. Large intestine: describe it and give function. 2. Heart sounds: describe them and give causes. 3. Animal heat: how produced and how regulated? 4. Glycogen: where produced? and give its use. 5. Seventh or facial nerve: give origin, distribution and function. 6. Pancreas: describe it and give function. 7. White blood-corpuscles: describe them and give function. 8. What does the presence of indican in the urine indicate? 9. Give histology of a human tooth. 10. Describe histology of kidney.

BACTERIOLOGY AND HYGIENE

1. What is the difference between an antiseptic and a disinfectant? 2. Give reasons for and against vaccination. 3. Name five contagious diseases; name three infectious diseases. 4. Give four modes of administering antitetanic serum. 5. What is tuberculin? What is its use? 6. What is a fair average death-rate in the country; in towns of 5,000 to 20,000; in large cities? 7. What diseases are propagated by drinking water? 8. Name six preventable diseases. 9. How can malarial districts be made healthy? 10. How long does vaccination last?

CHEMISTRY AND MEDICAL JURISPRUDENCE

1. Explain the following terms: acid, base, salt, efflorescence and deliquescence. 2. Name three compounds of mercury and give their formulas and uses. 3. What is the chemical name for each of the following: oil of vitriol, sugar of lead, copperas, saltpeter, bluestone, lunar caustic and common salt? 4. Name four gases which are poisonous and four gases which are not poisonous. 5. What are the proteids, the carbodydrates, and fats? Give examples of foods which are rich in each of these constituents. 6. What is the composition of milk? Give its specific gravity. 7. Give tests for sugar and albumin in urine. 8. Differentiate death from carbon monoxid gas and potassium cyanid. 9. What qualifications are required for the legal practice of medicine in West Virginia? 10. Give your views as to capital punishment, methods, etc.

PRACTICE OF MEDICINE AND PEDIATRICS

1. Name possible causes of dropsical conditions of the abdomen and lower extremities. 2. Differentiate renal and hepatic colic. 3. Give the character of the fever course in chronic tuberculosis. 4. What is an exanthematous fever? 5. Give the outlines of the liver as revealed by percussion when the patient is in the recumbent position. 6. Diagnose and treat gastric ulcer. 7. Describe and give treatment of cancer of the stomach. 8. Intestinal worms, their varieties, symptoms and treatment. 9. What is modified milk, how prepared, indications for use? 10. Diagnose and treat cholera infantum.

SURGERY

1. Describe the clinical manifestations of carcinoma of the breast in the early stages. 2. Describe the clinical symptoms of rupture of a middle meningeal artery due to trauma without an external wound. 3. Describe the common forms of anal fistula and their treatment. 4. Give the pathology, symptoms and treatment of a felon. 5. Given a wound of the scalp, what investigation of the wound is necessary? Describe in detail the surgical treatment. 6. What are the symptoms and treatment of a gunshot wound of the kidney? 7. Give and explain the symptoms of a strangulated inguinal hernia. 8. How would you differentiate between a fracture at the neck of the femur without impaction and a dislocation? Give Bryant's and Nelaton's lines for making the measurements. 9. Describe the different avenues through which the urinary bladder in the male may be emptied surgically. 10. What are hemorrhoids, what causes them and how treated? Give palliative treatment and treatment for radical cure.

SPECIAL MEDICINE

1. Define vocal fremitus. Name conditions that increase and diminish this sign. 2. Describe physical signs and make diagnosis of mitral incompetency. 3. Diagnose sudden loss of vision. 4. Diagnose and treat infected wounds of the eye. 5. Describe fully technic of nasal examination. 6. How may the exanthemata affect the nasal mucosa? 7. Discuss the importance of acute laryngitis in constitutional diseases. 8. Name the indications for tracheotomy. Describe operation. 9. Describe technic and give diagnostic value of lumbar puncture. 10. Describe loss of tendon reflexes, exaggeration of same, pathology and diagnostic value.

MATERIA MEDICA AND THERAPEUTICS

1. How do the simple bitters aid digestion? Name one of the most common 2. Purgatives: name two saline, two drastic and two cholagogue, with dose of each. 3. Give mode of applying heat as a remedy, physiologic actions and therapy. 4. Define massage. Give method, physiologic effect and therapy. 5. What are cerebral sedatives? Name four, with indications for use. 6. Pilocarpus: physiologic action and therapy, with dose. 7. Anthelmintics: name four. Dose of each for 6-year-old child. 8. Name three new remedies with use and dose of each. 9. Poultices: how and of what made? Action and uses. 10. Write prescription for diarrhea in adult.

OBSTETRICS AND GYNECOLOGY

1. When would you use forceps, and how? 2. Give the indications for version and detail the operation. 3. What symptoms would lead you to suspect a threatened miscarriage. 4. Name the principal diseases and conditions during pregnancy, said to be caused by that condition. 5. How and how long would you treat a babe apparently dead when born? 6. Describe varicose veins of pregnancy. Give dangers of same. Give treatment. 7. Give the cause, prognosis and treatment of pernicious vomiting of pregnancy. 8. Patient 54 years old—give symptoms of malignancy of the uterus. 9. Define ectopic gestation, name varieties, give diagnosis, prognosis and treatment. 10. Define leukorrhea and give three causes.

MATERIA MEDICA AND THERAPEUTICS (HOMEOPATHIC)

1. What is a medicine? How are homeopathic medicines prepared? 2. Name four medicines whose effects are general on the human organism and give their action. 3. Give examples of four drugs whose effects are comparatively local or single. 4. Mention three or four drugs whose action is chiefly on the brain and spinal marrow. Describe their effects. 5. Name four drugs whose effects are chiefly on the digestive tract and give symptoms. 6. What symptoms are of most importance in making a prescription? 7. differentiate between uranium nitrate and phosphoric acid in diabetes. 8. What symptoms would lead you to prescribe merc. biniod. and in what diseases would you think of it? 9. What are the throat symptoms of apis mel, lachesis and phytolacca? 10. Give the headache of cannabis indica.

PRACTICE OF MEDICINE AND PEDIATRICS (HOMEOPATHIC)

1. Dysentery: etiology, complications and sequelæ; treat. 2. Cirrhosis of liver: etiology, symptoms and treatment. 3. Etiology and treatment of hemoptysis. 4. Rheumatism: give different forms; treat. 5. Intussusception: define, diagnose and treat. 6. Tonsillitis: differentiate from diphtheria; symptoms and treatment. 7. What diseases does meningitis complicate in children? 8. Intestinal catarrh of children: symptoms and treatment. 9. Describe the lumbricoides and give origin, symptoms and treatment. 10. Endocarditis in children: etiology, symptoms and treatment.

PRACTICE OF MEDICINE AND PEDIATRICS (ECLECTIC)

1. Give etiology, symptoms, diagnosis and treatment of chorea. 2. Define empyema; diagnose and treat. 3. Give etiology, diagnose and treat scoliosis. 4. Diagnose and treat incipient pulmonary tuberculosis. 5. Define tetanus; give the etiology, symptoms and treatment. 6. What symptoms would lead you to suspect malignant disease of the stomach. 7. Describe symptoms, diagnose and treat infantile spinal paralysis. 8. Discuss meningitis; make diagnosis and give treatment. 9. Describe management of "summer diarrheas" of children. 10. Discuss convulsions in children; give treatment.

MATERIA MEDICA AND THERAPEUTICS (ECLECTIC)

1. Give properties, therapeutic indications and dose of specific gelsemium veratrum. 2. Give the indications for aconite, belladonna, arsenic, nux vomica. 3. Define anodyne, anthelmintic, cholagogue, emmenagogue. Name two drugs of each class, giving dose. 4. Give properties, dose and therapeutic indications for potassium acetate, sodium sulphate, echinacea, bryonia. 5. Discuss physiologic action and therapeutic application of the nitrites. 6. Write a prescription for a stimulating expectorant. 7. Describe the physiologic action and therapeutic use of digitalis. 8. What remedies are usually indicated in acute catarrhal affections of the respiratory tract? 9. Define hemoptysis. How treat? 10. What remedies are commonly indicated in catarrh of the bile passages?

Wisconsin January Report

Dr. John M. Beffel, secretary of the Wisconsin Board of Medical Examiners, reports the written examination held at Milwaukee, Jan. 10-12, 1911. The number of subjects examined in was 21; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 21, of whom 18 passed, including 2 osteopaths, and 3 failed, including 1 osteopath. Twenty-three candidates were licensed through reciprocity, including one osteopath. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College......(1872) 83; (1896) 86;	(1910)	87
Bennett Medical College	(1911)	82
College of Physicians and Surgeons, Chicago	(1910)	85
Northwestern University Medical School (1881) 83;	(1898)	89
Chicago College of Medicine and Surgery	(1910)	76
University of Michigan, Dept. of Med. and Surg	(1910)	84
St. Louis University	(1910)	79
University of Pennsylvania	(1908)	87
Marquette University (1910) 75, 76, 80, 80.		
Wisconsin College of Physicians and Surgeons	(1906)	83

FAILED

College	Year Grad.	Per Cent.
Marquette University	(1910)	69 70

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Bennett Medical College	(1894)	Iowa
Rush Medical College.......(1882) Minnesota;	(1902)	Illinois
Chicago College of Medicine and Surgery	(1908)	Illinois
Illinois Medical College	(1908)	Illinois
College of Physicians and Surgeons, Chicago (1894) Indiana; (1908) Illinois.		
Hahnemann Medical College and Hospital, Chicago (1901) Iowa; (1907) Illinois; (1907) Minnesota.		
Northwestern University Medical School	(1908)	Illinois
Kansas Medical College	(1909)	Kansas
University of Michigan, Homeopathic College	(1907)	Indiana
Johns Hopkins University.....(1901) Missouri;	(1909)	Maryland
College of Physicians and Surgeons, Baltimore	(1901)	Maryland
University of Minnesota, College of Medicine	(1895)	Minnesota
St. Louis University	(1909)	Illinois
University of the City of New York	(1889)	N. Dakota
University of Nashville	(1909)	Illinois
Trinity Medical College, Ontario	(1897)	Kansas
University of Leipsig, Germany	(1889)	Iowa

Maine March Report

Dr. Frank W. Searle, secretary of the Maine Board of Registration of Medicine, reports the written examination held at Portland, March 14-15, 1911. The number of subjects examined in was 10; total number of questions asked, 90; percentage required to pass, 75. The total number of candidates examined was 19, of whom 15 passed and 4 failed. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Medical School of Maine	(1909)	89
Baltimore Medical College............(1906) 88;	(1910) 78	85
Harvard University Medical School	(1902)	91
College of Phys. and Surgs., Boston..(1909) 75.5;	(1910)	78
Boston University	(1901)	80
Ensworth Medical College	(1903)	76
Dartmouth Medical School............(1890) 79;	(1910)	90
Long Island College Hospital	(1910)	83
Bellevue Hospital Medical College	(1885)	78
Medico-Chirurgical College, Philadelphia	(1908)	90
Jefferson Medical College	(1910)	80

FAILED

College	Year Grad.	Per Cent.
Hahnemann Medical College and Hospital, Chicago	(1909)	67
University of Maryland	(1910)	74
College of Phys. and Surgs., Boston...(1908) 78.*	(1909)	76 †

* Fell below 60 in anatomy.

† Fell below 60 in pathology.

Book Notices

Atlas of Microscopic Diagnosis in Gynecology. With Preface and Explanatory Text by Dr. Rudolf Jolly, Priv. Doc., Chief Physician of the Gynecologic Clinic, University of Berlin. Only authorized English Translation by P. W. Shedd, M.D., New York. Cloth. Price, $5.50. Pp. 192, with 54 illustrations. New York: Rebman Co., (1911).

An English translation of Dr. Jolly's work on microscopic diagnosis in gynecology is here presented. It will prove valuable to physicians in general and in particular to those who make their own microscopic examinations without the facilities afforded by well-equipped laboratories. Jolly has confined himself almost exclusively to those specimens which can readily be obtained from curettments, and sections which are accessible to the average physician in order to enable him to make a scientific diagnosis. The plates have lost none of the clearness of outline and coloring that were of such special value in the original work. The clearly defined description in the English text, differentiating between the normal menstrual and premenstrual mucosa, the decidua menstrualis, and the decidua of endometritis, is of much worth to the diagnostician. The exceptional accuracy with which Jolly calls attention to the recognition of early malignancy and the differentiation between benign and malignant growths makes the book valuable to the student and general practitioner.

Report of the Department of Health of the City of Chicago. For the Years 1907, 1908, 1909, 1910. W. A. Evans, M.S., M.D., LL.D., Commissioner of Health. Cloth. Pp. 446. Chicago, 1911.

In his quadrennial report, Dr. William A. Evans, Commissioner of Health of Chicago, submits a summary of the activities of the department with explanatory statements, setting forth the details of the administration of the department, accompanied by articles on the various phases of public health work and suggestions as to the handling of public health problems. With the report are incorporated the reports of the School of Sanitary Instruction, which was incorporated in 1909 and has issued a series of weekly bulletins since that time; the Bureau of Contagious Diseases, the Infant Welfare Service, the Division of Hospital Control, Bureau of Sanitation (which includes the public baths and municipal lodging houses), the Municipal Laboratory, and the Bureau of Food Inspection and Vital Statistics. To this are appended the detailed mortality statistics of Chicago from 1907 to 1909 and a summary for 1910, a chronologic summary of the principal causes of mortality for the forty years from 1871 to 1910, and meteorologic data of Chicago, covering the same period, together with financial statements and departmental rules.

Outlines of Psychiatry. By William A. White, M.D., Washington, D.C. Nervous and Mental Disease Monograph Series No. 1. Third Edition. Paper. Price, $2.50. Pp. 272, with illustrations. New York: The Journal of Nervous and Mental Disease Publishing Co., 1911.

The author modestly calls his production "outlines" of psychiatry, though it deserves the name of text-book. With an easy and attractive style he has succeeded in crowding the substance of modern psychiatry into the insignificant space of 272 pages. We know of no other book of similar size on this subject which is so free from errors of style, etc., and yet so comprehensive in scope. Though it is primarily written for students, the general practitioner also will find its perusal advantageous. The Kraepelinian tendency prevails throughout the book. Nevertheless, theories emanating from other sources are discussed without partiality; consequently the subjects of psycho-analysis and the new psychotherapy are given adequate expression. Of the many excellent chapters the one on "Methods of Examination" deserves particular commendation. In addition, the type is clear, the paper good and the price moderate.

Eighth and Ninth Annual Reports of the Bureau of Science [Manila] to the Honorable, the Secretary of the Interior. By Richard P. Strong. For the Years Ending Aug. 1, 1909 and 1910, respectively. Paper. Pp. 62 and 70, respectively. Manila, 1910 and 1911.

These annual reports cover the work of the Bureau of Science of the Philippine Islands from August, 1908, to August, 1910. The report for 1908-09 presents the work of the biologic laboratory in the study of various tropical diseases in Manila and the provinces, among them being dysentery, leprosy, cholera and diphtheria; and the investigations of intestinal parasites and certain diseases in animals. The report also contains other matter not directly connected with zoology or medicine. The report for 1909-10 gives account of the further investigations concerning the diseases above mentioned. It has been the custom of the Bureau of Science in the Philippines to send parties of investigators into one of the provinces and study the diseases and parasites indigenous to that region in a rather intensive manner. This has led to important results and the reports of the work are of great interest.

Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States. For the Fiscal Year 1910. Cloth. Pp: 256. Washington: Government Printing Office, 1911.

The report of the Surgeon-General of the Public Health and Marine-Hospital Service for 1910 recounts the work of the bureau with especial reference to scientific research and sanitation; the supervision of viruses, serums, toxins and analogous products, including a list of establishments holding licenses for the manufacture, sale and barter of these products; investigations into certain epidemic diseases; studies of disinfectants; relations of the bureau to the pharmacopeia; the compilation of national, state and territorial health laws; and many other of the multifarious duties which are included in the work of the public health service. During the yea fifty-one special articles appeared in the weekly *Public Healt Report* and 364,306 copies of the various service publication were distributed. The surgeon-general invites attention t certain needs of the service: namely, the necessity of a large appropriation for printing, additions to the office force, an the passage of a bill containing provisions for the increase o the compensations of the commissioned medical corps and especially, for officers below the grade of assistant surgeon general.

Hookworm Disease. A Handbook of Information for All Wh Are Interested. Prepared Under the Direction of the State Boar of Health of Florida, by Dr. Hiram Byrd, Assistant State Healt Officer. Publication 79. October, 1910. Paper. Pp. 70, with 1 illustrations.

Florida was a pioneer state in the work of amelioratin conditions due to hookworm. For at least seven years systematic work to this end has been conducted by the state o its own hook (no pun), and at present it is not one of th states receiving assistance from the Rockefeller fund. In thi brochure (Publication 79) a history of the work in the stat is given, together with a description of the worm, its distribution, life cycle, the symptoms of uncinariasis, diagnosis an treatment, and some interesting reflections on the possibilit of finally eradicating it, which, according to Health Office Byrd, is remote. There is also a note on the Rockefeller Commission, and an interesting section on the influence of hookworm on racial development. The pamphlet is an interestin one on a large and important subject.

Diseases of Children for Nurses. Including Infant-Feedin Therapeutic Measures Employed in Childhood, Treatment for Eme gencies, Prophylaxis, Hygiene and Nursing. By Robert S. McComb M.D., Assistant Physician to the Dispensary and Instructor Nurses at the Children's Hospital of Philadelphia. Second Editio Cloth. Price, $2 net. Pp. 470, with 118 illustrations. Philad phia: W. B. Saunders Co., 1911.

This book, in addition to giving some anatomy and patho ogy, briefly describes many of the diseases of children so th the nurse may have a sufficient acquaintance with them a the measures employed in treating them to be able to wat intelligently for important symptoms, to take necessary ste in emergencies, and to carry out efficiently the directions the physician. The book is an elaboration of a course of le tures to nurses. It contains tables of weights and measur a list of the pharmacopeial preparations commonly used, list of abbreviations, a glossary of medical terms and an inde It is a clear, simple and well-written book for the nurse, mu of whose work is among children.

Diseases of the Joints and Spine. By Howard Marsh, M. M.C., Cantab., F.R.C.S., Master of Downing College and Profess of Surgery in the University of Cambridge. New and Enlarg Edition Thoroughly Revised by the Author and by C. Gordon W son, F.R.C.S., Surgeon to the Metropolitan Hospital. Price, $3. Cloth. Pp. 632, with 100 illustrations. Chicago: Chicago Medical Book Co., 1910.

This book, originally published in 1886, has been enlarged and largely rewritten. It contains much which is of interest, but not easily accessible to the general practitioner. The chapter on arthritis treats not only of tuberculosis, but also of syphilitic, gonorrheal, septic, rheumatic and gouty arthritis deformans, Charcot's disease of the joints, and many other joint diseases and disabilities. While the book is written from the standpoint of the general surgeon, by a man of experience, and is of positive value, it contains little or nothing of value on the mechanical treatment of joint diseases.

Personal Hygiene and Physical Training for Women. By Anna M. Galbraith, M.D., Author of "Hygiene and Physical Culture for Women," etc. Cloth. Price, $2 net. Pp. 371, with illustrations.

This book meets an evident need, for it is complete without being ultrascientific, and, while dealing with the complex relations of women to the demands of modern life, it is free from fads and unsound theories. The aim of the author has been to present the fundamental physiologic laws of personal hygiene as well as practical detailed directions for the proper development and care of the body. The book can be safely recommended to physicians who desire something of this sort to put into the hands of their women patients. It will also be of value to teachers.

Who's Who. 1911. [British.] An Annual Biographic Dictionary. Sixty-Third Year of Issue. Cloth. Price, $2.50 net. Pp. 2246. New York: The Macmillan Co., 1911.

This carefully prepared and relatively complete biographic dictionary of the living deserves much praise. Only those who have had to compile biographies appreciate the difficulties of such work. Modesty, fear, or carelessness causes many men whose names should appear in a work of this kind, and who have been asked for information, to refrain from furnishing it, and, of course, for all such omissions, not the individual, but the compiler or publisher must bear the undeserved blame.

The Medical Directory, 1911. Including the London Medical Directory, The Provincial Medical Directory, the Medical Directory for Wales, Scotland, Ireland, etc. Sixty-Seventh Annual Issue. Cloth. Price, 14 shillings net. Pp. 2128. London: J. & A. Churchill, 7 Great Marlborough Street.

The British medical directory for 1911 contains the names of 40,642 physicians, an increase for the year of 173. These are distributed as follows: London, 6,415; the provinces, 17,721; Wales, 1,336; Scotland, 3,958; Ireland, 2,724; abroad, 5,188, and in the United Services, 3,300. The directory has been prepared in the usual painstaking and exact way, but would, it is believed, be made of much more practical value if a general alphabetical index were added.

The Preservation of Sewage by the Aid of Chloroform and Cold Storage. Dr. Arthur Lederer and Harry B. Hommon. Paper. Pp. 16. Sewage Disposal Investigations, the Sanitary District of Chicago, 1910.

The authors advocate the addition of 10 c.c. of chloroform to 4 liters of sewage, followed by storage at 10° C., as the most effective method yet devised for checking the chemical changes which take place after collecting a sample of sewage. Cold storage alone is shown to be reasonably good, but higher temperatures, even when chloroform is used, are ineffective.

Text-Book of Massage. By L. L. Despard, Member and Examiner Incorporated Society of Trained Masseuses. Cloth. Price, $4 net. Pp. 290, with 204 illustrations. New York: Oxford University Press, 1911.

In this book the anatomy and principles of elementary physiology are well discussed, about half of the book being devoted to this phase of the subject. The various diseases and the movements indicated are described from the point of view of one who desires to cooperate with the attending physician. This is a good text-book for teaching scientific massage.

Memoranda on Poisons. By Thomas Hawkes Tanner, M.D., F.L.S. Eleventh Edition. By Henry Leffmann, A.M., M.D., Professor of Chemistry in the Woman's Medical College of Pennsylvania. Cloth. Price, 75 cents net. Pp. 167. Philadelphia: P. Blakiston's Son & Co., 1911.

Some modifications have been made in this little manual and some additions made, such as the synthetic substitutes for morphin, and information concerning food-poisoning.

A Manual of Physical Diagnosis. By Brefney Ralph O'Reilly, M.D., C.M., Demonstrator in Clinical Medicine and in Pathology, University of Toronto. Cloth. Price, $2 net. Pp. 369, with 49 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

This brief book covers in a systematic way the cardinal points in the examination of a patient, not attempting to enter into details minutely. It sets forth a comprehensive scheme for the examination of the patient, and in describing the different diagnostic procedures, is careful always to point out the significance and practical application of the findings. In an appendix are contained laboratory methods for examining the different secretions and excretions, etc., but, except in the case of the urine, which is rather fully treated, and the blood, to which fairly satisfactory consideration is given, the methods are given so briefly as perhaps to be of little practical value. The book is well illustrated and is a good brief work for the student or practitioner.

Medicolegal

Justifiable Prosecution for Illegally Practicing Medicine

The First Appellate Division of the Supreme Court of New York, in Schmidt vs. Medical Society of New York County (127 N. Y. S. 365), an action brought to recover damages for alleged malicious prosecution, reverses a judgment obtained by the plaintiff, and orders a new trial. The court says that it does not see how any person of ordinary intelligence would not have probable cause for believing that the plaintiff was engaged in the practice of medicine when the receipt of letters from the "Department of Glanderine," offering to cure of glanders a certain person in a hospital, the plaintiff's subsequent visits to the hospital, his conduct there, leaving medicine with directions as to its use, and permitting himself to be called a doctor, were considered. These facts, being uncontradicted and unexplained, justified the defendant in instigating his arrest on a charge of practicing medicine without being legally authorized to do so. The trial court should have so held and dismissed the complaint at the close of the plaintiff's case, and, having failed to do so, should have directed a verdict for the defendant at the conclusion of the whole case.

Before the plaintiff could succeed in this case, he had to establish by a fair preponderance of evidence that his prosecution was malicious, in other words, was without probable cause, and that he was acquitted. The trial court in this case was apparently of the opinion that actual guilt and probable cause must concur in order to constitute a defense. This is not the law; probable cause alone being a complete defense. It is not necessary that the accused, in order to justify a prosecution, should appear to be guilty beyond all reasonable doubt. The test as to whether reasonable or not must be applied at the time when the prosecution was commenced.

After a careful consideration of all the evidence adduced at the trial and giving the plaintiff the benefit of every disputed question of fact, the court is of the opinion that he not only failed to prove want of probable cause for the prosecution instigated by the defendant, but, on the contrary, the existence of probable cause was conclusively shown. There was nothing to indicate that the defendant was actuated by malice, or that it had any desire to do otherwise than carry out one of the objects of its incorporation, which was to prevent persons practicing medicine without being authorized to do so by the statutes of the state. It is unnecessary to determine whether the plaintiff was actually engaged in the practice of medicine within the meaning of the statute; it being sufficient for the purposes of this appeal that there was at least probable cause for the defendant's believing that he was doing so.

Manner and Time of Presenting Claim for Services Rendered Poor Person

The Supreme Court of Iowa, in Case vs. Davis County (129 N. W. R. 804) reverses a judgment obtained for medical and surgical services rendered to an alleged poor person, or pauper. As abstract propositions of law, the court says that it thinks that it may be conceded: (1) That in this proceeding the county could not be heard to question the legal residence of the patient in the county, or to deny his necessitous condition at the time the services were rendered; (2) that the plaintiff was not precluded by his act in filing a claim against the estate of the patient, or by the fact that his bill so filed was for a much less amount than was stated in his claim against the county; (3) that, even if the services were originally rendered without the order or sanction of the township trustees, its subsequent certification and approval by those officers cured the defect. But the court does not agree with the view that the presentation of the claim to the trustees and its rejection by them in 1905 were not a bar to its presentation and allowance by their successors in 1908.

The trustees who authorize the service, or have jurisdiction in matters of poor relief at the time the services are rendered and bill presented, constitute a quasi or sort of judicial body for the consideration and allowance or rejection of the claim. Having once acted, if the claimant is not satisfied with the finding, his remedy, as the court views it, is and ought to be by resort to the courts or by direct application to the board of supervisors. To say that, when his claim is rejected, he may await any number of years short of the statutory period of limitations when other trustees who may have no knowledge of the merits of the case have succeeded to the office, and then renew his claim and secure its allowance, would be to open the door to many abuses. The court does not mean by this to say that a board of trustees having once rejected a claim may not within a reasonable time reopen its consideration, and, if so convinced, reach an opposite conclusion.

Then, while the previous order or request of the trustees may not always be necessary as the foundation of a claim against the county for relief furnished the poor, and while the decision of the trustees, acting in good faith, that a person is a proper subject for public aid is not ordinarily reviewable by the board of supervisors, it has never been held, and it would be a most mischevious rule to establish, that a physician, merchant, or other person may, by securing a certificate from a complaisant board of township trustees, make the county his debtor for an uncollectable bill contracted by an impecunious customer or patient. Yet this was substantially what was alleged was done in this case, and, if the proof should bear out the allegation, it ought to be, and the court holds would be, a good defense. To hold otherwise would be to say that the county is helpless to protect itself against gross imposition.

Operating to Recover False Teeth Without Sufficient Justification—X-Ray Experiment Evidence

The Supreme Court of Kansas holds that, in the case of Wingfield vs. McClintock and others (113 Pac. 394), as to two of the defendants, who may be designated as Drs. M. and K., there was evidence that should have been submitted to the determination of the jury, so that a judgment rendered in their favor, on a demurrer to the plaintiff's evidence, is reversed. The action was brought by the plaintiff to recover damages for alleged negligence and unskilfulness of said defendants in performing a surgical operation on her husband, which resulted in his death. He was a farmer who went to bed one night to some extent under the influence of intoxicating liquor, awoke after midnight, and, missing his upper set of false teeth, declared that he had swallowed them. Dr. K. was sent for, examined the throat by inserting his finger and said that he felt the teeth, but that they were in a position that he could not get them. The physician returned to the city; the man and daughter followed him. In the evening an examination was made with an x-ray machine, Dr. K. reporting that he saw the teeth, and that the best thing to do would be to go to a hospital at Topeka, where Dr. M. had x-ray things in his office, the best in Kansas. The trip was taken, and, without further x-ray examination, after Dr. M. declared that he could not feel the teeth with a probe, the surgeons cut into the neck and through the esophagus, and afterward into the stomach, when Dr. M. said, "The teeth are not here. If you will look in the room where he slept last night, you will find them." There was a question for the determination of the jury as to whether the misapprehension of the patient or the failure to exercise care on the part of the surgeons, if there was such failure, was the proximate cause of the operations on the patient.

The court does not consider it necessary to discuss the degree of care and skill legally required of physicians and surgeons, because, if the evidence of the plaintiff be taken as true, as it must be as against a demurrer thereto, the surgeons proceeded to operate on the neck of the patient after they had demonstrated that the teeth were not in the esophagus, and on the stomach, without investigation, when they could have definitely determined whether or not the teeth were there, and without an operation.

Complaint was made that evidence of an x-ray shadow picture taken by placing under a dead body a set of false teeth composed of porcelain teeth set in gutta percha, being a view taken from the opposite side of the body, was rejected as evidence in illustration of what might have been disclosed by an x-ray examination on the living patient. Evidence of experiments offered as an illustration of a fact in issue, which experiments are taken under widely differing conditions from the facts sought to be illustrated, are not admissible in evidence. It is a matter of common knowledge that the presence of an opaque object in the human body may be discovered by the x-ray process, if no other opaque substance intervenes; yet, as the shadow picture may be greatly changed by different positions of the body with reference to the instrument and by other conditions, the introduction should be allowed of such experiment evidence only as clearly appears to be an aid to the jury in determining the fact in issue.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

American Assn. of Genito-Urinary Surgeons, New York, June 1-3
American Academy of Medicine, Los Angeles, June 23-26.
American Dermatological Association, Boston, May 25-27.
American Climatological Association, Montreal, Canada, June 13-14
American Laryn., Rhin. and Otol. Society, Atlantic City, June 1-3
American Laryngological Association, Philadelphia, May 29-31.
American Medico-Psychological Association, Denver, June 19-20.
American Otological Society, Atlantic City, June 26-27.
American Pediatric Society, Lake Mohonk, May 31-June 2.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1
Louisiana State Medical Society, Shreveport, May 30-June 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Rhode Island Medical Society, Providence, June 1.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

OHIO STATE MEDICAL ASSOCIATION

Annual Meeting, held at Cleveland, May 9-11, 1911

The President, Dr. R. E. Skeel, Cleveland, in the Chai

The list of officers elected was published in The Journa May 20, page 1489.

The Commercial Exhibit, in charge of Dr. F. C. Herric was restricted, as to proprietaries, to those mentioned in Ne and Nonofficial Remedies, the book published by the Counc on Pharmacy and Chemistry of the American Medical Associa tion. This procedure met with much favorable comment.

The Practice of Medicine

Dr. Robert E. Skeel, Cleveland: It is an unfortuna thing that the practice of medicine has never been satisfactori defined legally, and, therefore, hundreds of individuals a doing those things which medical men recognize as violatio of the law, but which the lay mind fails so to discern. T the latter, the practice of medicine is, in a large sense, tak to mean the administration of drugs and the performance operations, and anything which does not include one of the two acts is regarded as an entirely extra-professional affair. To the medical mind, the practice of medicine means the application of any and all methods which may prevent, alleviate or cure disease, regardless of the means employed; and the profession insists that if the law as it stands be applied to its members, it ought likewise be applied to all others who, under whatever name, are using means to accomplish the same end. General medical education is necessary in order to diagnose disease, to understand its natural evolution and life history and prevent the dissemination of communicable disease in the community. At every session of the legislature, bills are introduced looking to the licensing of individuals practicing on certain portions of the body and permitting them so to practice with lesser qualifications than those demanded of the medical practitioner, while other bills are from time to time introduced providing that certain methods of treatment of the entire body be exempted from the operation of the law. As an example of the first class there is the optometry bill and of the second the prayer cure. Carried out to its logical conclusion, the first would soon split the body into a number of organs, each under the care of an individual who knows little of it and nothing of any other; while the second would place the health of the entire state in the hands of a coterie of sublime egotists, who claim that they and they only have access direct to the Almighty—for a consideration.

It should lie with the authorities to see that each individual practicing is doing so legally. If licensed physicians would announce themselves as such, demanding of the state that it protect the name of physician or doctor from being used by any other than those so licensed, it would put the entire matter up to the people themselves and if they then choose an unlicensed practitioner it would be with their eyes open. Nothing would more quickly cure them of their dislike for expert opinion and sane leadership in sanitary and medical matters than would the undoubtedly disastrous result of a spread of contagion following the mutilation and non-enforcement of present sanitary laws. The average individual to-day has more respect for his own physician and less for the profession as a whole than ever before, for the reason that he knows his physician and what he stands for while he knows nothing of the medical profession and what it stands for. To-day a smattering of medical education is possessed by all but the absolutely ignorant, and medical science has reached a sufficient degree of accuracy so that a frank and open statement of a case is the best policy in private practice, and a similarly frank and free discussion of medical topics is the best public policy. Medical, not general, ignorance is responsible for the flourishing condition of the pathies, cults and crazes of all kinds. Physicians should never hesitate to appear before clubs of all kinds with well-prepared talks on popular medical subjects, where the hearers should be set right on the whole subject of medicine and its activities. While the intelligent portion of the public has a smattering of medical knowledge it is absolutely ignorant of the fundamental principles underlying medical science.

Medical Inspection of Public Schools

DR. M. COPLAN, Cleveland: From an economic and humanitarian point of view, there can be no more valuable service rendered to humanity than in the preservation of the health of the children, and this can be accomplished only through medical inspection in the public schools. Medical inspection should be an important branch of the educational system. In medical inspection the nurse is an important adjunct to the school inspector and to the defective children. It is the practical work of the nurse that has drawn public interest to the medical work in the school and vitalized the hitherto perfunctory routine of medical inspection. School instruction in sex hygiene, if done properly and systematically, is the only remedy and prophylaxis for the existing conditions as regards venereal diseases and the code of morals among classes of society. Children should be taught as carefully in matters pertaining to sex hygiene as in deportment and other branches of elementary and academic studies. The medical inspector and the school nurse can best impart this knowledge and picture the penalties of vice and transgression.

DR. A. M. CRANE, Marion: Sex hygiene should be taught in the schools in separate classes, and by a physician who is capable of approaching these topics in such a manner and using such language as will be understood by boys and girls. Object lessons should be employed, such as lantern slides and microscopic examinations that will demonstrate the evils to be incurred.

DR. J. M. RECTOR, Columbus: I wish to advocate instruction in preventive measures, such as are being carried out by the army and the navy and which have here greatly reduced the prevalence of venereal diseases.

Abdominal Pain

DR. R. H. GRUBE, Xenia: If Lennander's theory is true, and its corollary, that adhesions are chiefly the result of infantile colitis, the great necessity of preventing and of quickly curing bowel trouble in infants is apparent. While these almost startling views of Lennander have not been unqualifiedly received by the profession, they form a good working hypothesis for the interpretation of abdominal pain.

DISCUSSION

DR. G. F. ZINNINGER, Canton: The pain symptom is of great importance, as it is this that most frequently sends the patient to the physician, and without it patients would drift into much more serious stages of disease. No doubt better diagnosis can be secured by carefully analyzing the symptom of pain as it presents itself. I cannot accept the theory of Lennander in its entirety, but it is helpful in correcting some erroneous ideas. The end organs of the abdominal viscera may be different than those on the surface of the body, and we are told that the organs are insensitive to cutting, tearing or burning, but that a ligature around the appendix affords great pain. Cognizance should be taken of conditions in which pain is absent (as in tabes); also in which pain exists in the abdominal cavity while the disease is in some other part of the body, as the abdominal pain in pneumonia. The physical condition of the patient, the history and the symptom of pain should all be considered in forming a diagnosis.

DR. C. F. KLINE, Portsmouth: There is generally an absence of pain where the vagus nerve alone supplies, and it is supposed to not have many sensory fibers, but it is known that there are certain pains produced in the heart.

DR. R. K. UPDEGRAFF, Cleveland: What is green apple colic, or calomel colic, both of which are terminated by belladonna?

DR. R. H. GRUBE, Xenia: In people who are subject to these sharp attacks of colic, there are adhesions that have existed from infancy, and only when the intestine is drawn into increased activity by some agent such as calomel, is the pain elicited. Statistics give as high as 30 per cent. of all persons going to autopsy as having these adhesions.

Cardiac Syphilis

DR. ALFRED S. WARTHIN, Ann Arbor, Mich.: Cardiac syphilis must be regarded at present as the most important factor in the production of heart disease. In the children's department at Ann Arbor, twelve young people died suddenly with symptoms of cardiac insufficiency and without any suspicion of congenital syphilis. These children at autopsy showed nothing that would be attributed by the pathologist to syphilis; but on examination according to the method of Levaditi certain changes were found that have led me to believe that certain forms of myocarditis are always syphilitic. In going over thirty-five cases of acquired syphilis and staining the tissues that could still be prepared by the Levaditi method, the same form has been found associated with spirochetes. The majority of these were men who had been successfully treated seven to twenty years previously, and not even the attending physician associated the present condition with syphilis. The characteristic is the presence in the muscular fibers of light staining surfaces. There are peculiar fibroblastic cells that follow the course of the smaller vessels. The tissue retains an embryonic type. These characteristics might be interpreted as an edema at first sight. The muscle always shows a peculiar degeneration, and the characteristic appearance is that it fades away, without showing a marked contrast, but the paleness runs into the other fibers. In older hearts, fatty degeneration is very common. The tissue is full of spirochetes. The heart muscle is atrophic and the fibers smaller. The epicardium may show a few cells and there is a localization of the spirochetes, the same condition showing in the endocardium. No part of the heart is free from this. In one case, that of a child 2½ months dying suddenly, the heart alone contained these spirochetes. This localization of spirochetes is the important point. It is found many times after a man has no symptoms elsewhere in the body, and associated with weakness of the heart, likewise with sudden death.

DISCUSSION

Dr. John E. Greiwe, Cincinnati: Literature on the subject teaches that syphilis has a very definite area in the heart, i. e., very close to the aortic rings and aortic valves, but the case is now made out beyond the question of a doubt that every process of the myocardium is to be dealt with. These cases which have been looked on as edema of the muscular tissues occurring shortly before death, have been absolutely proved to be of syphilitic origin.

Dr. J. M. Rector, Columbus: Have you used salvarsan in any of these cases and with what result?

Dr. G. F. Zinninger, Canton: Are there any criteria for diagnosing these cases on clinical grounds ante mortem?

Dr. Kennon Dunham, Cincinnati: Has a similar condition been found in the lungs?

Dr. C. E. Norris, Akron: Can any reason be given as to why the spirochete of syphilis localizes in the heart tissues?

Dr. A. S. Warthin, Ann Arbor, Mich.: I have not had any opportunity to make an autopsy on cases in which salvarsan has been used, nor do I know why the heart is a place of selection for the spirochete, but when there are none elsewhere the heart will show great numbers of them. A large number of these cases show the typical syphilitic aortitis. I have not found in these cases either lesions or spriochetes in the lungs. The important thing is that enormous masses of these occur in a certain place and not in others, and why drugs and treatment will not affect them will have to be worked out afterward. I do not believe that a clinical diagnosis can be made. The diagnosticians have not suspected syphilis in a great many cases until the heart was examined. Just now the case is one for pathologists, but one must, in cases of sudden death, think of cardiac syphilis and look to the laboratory demonstration for the cause.

(*To be continued*)

MEDICAL ASSOCIATION OF GEORGIA

Sixty-Second Annual Session, held at Rome, April 19-21, 1911

The President, Dr. E. C. Davis, Atlanta, in the Chair

The officers elected were named in The Journal, April 29, page 1270.

Addresses of welcome were made by Judge Moses R. Wright of Rome and by Dr. W. W. Mangum on behalf of the local profession. Dr. Dunbar, Atlanta, responded in behalf of the association.

The Association of Uncinariasis in Cataracts

Dr. F. P. Calhoun, Atlanta: Some months after Harris announced the prevalence of hookworm in the South, there was found in an eye clinic in Atlanta a case in which there were mature cataracts. Examination of the feces confirmed the diagnosis of hookworm. This case and others subsequently found were reported by my father, and, with a number that have come under my own observation, lead me to believe that the anemia of hookworm can cause cataract. All these patients state that at one time they had good vision; there was sickness which developed after having the ground-itch (meaning anemia and its results), then occurred the gradual loss of sight and finally partial or total blindness. In all of these patients the age at which the sight commenced to fail is unusual for the development of cataract

DISCUSSION

Dr. W. E. Taylor, Atlanta: All sorts of general diseases affect the eye and therefore the examination of the eyes should be undertaken only by men who have had experience in this line of work.

Dr. R. P. Cox, Rome: Seven or eight years ago I made an examination of school children and found that 56 per cent. of the pupils had the disease in one way or another.

Dr. A. G. Fort, Lumpkin: In an examination of individuals almost if not completely blind, a large percentage will be found infected with hookworm disease. I do not believe that hookworm itself will produce blindness, but that there is some relationship between the hookworm toxemia and defective vision.

Dr. F. P. Calhoun, Atlanta: I am unable to say how cataracts are produced by hookworm, but it is often found that lens shows beginning cataract and this is excited to growth by the hookworm.

Treatment of Digestive Disturbances by the Surgeon

Dr. R. P. Glenn, Columbus, Ohio: Some of the conditions best treated by surgical measures are: 1. Gastric and duodenal ulcer with its proneness to become malignant will often yield to no measures with such promptness and satisfaction as to an operation. This is to be resorted to only after a reasonable time has been devoted to medical treatment. 2. Patients suffering from chronic cholecystitis or cholelithiasis, if not relieved by hexamethylenamin, olive oil and sodium phosphate are fit subjects for the surgeon. 3. The gall-bladder and appendix are responsible for a large majority of cases of so-called indigestion and when this is the case their drainage or removal is the only way to secure satisfactory results. 4. All physicians are familiar with the nervous and digestive symptoms which accompany gynecologic cases and how quickly they disappear when the cause is removed.

Psychotherapy in Habitual Constipation

Dr. E. T. Gibbs, Gainesville: In reporting this series o 106 cases of habitual constipation cured by psychotherapy no originality is claimed for the idea, as it was obtained fron Dubois of Berne, who has used the method for over thirty years. In the series were a number of cases of dilatation o the colon, with such symptoms as headache, vertigo, nausea gaseous eructations, slight dyspnea, pains in the back, and at times, various nervous symptoms. It seems to me tha the establishment of regular peristaltic action, a proper die and a reeducation of the patients' ideas concerning themselve has largely to do with their future well-being. In these case an effort has been made to use only rational persuasion. Particular pains are taken to make no statement that is no what I believe to be absolutely true. Then it will becom possible to persuade the patient of the logic of such a statement step by step. In a general conversation the patient ideas are studied and we find the obstacles which our co versation is to overcome. The influence of habit is emphasized and a few examples suitable for the individual patien are cited. It will be easy for the patient to recognize tha if the regular retiring hour is ten o'clock the eyelids wi become heavy at that hour. The patient may not hav analyzed these facts and applied the comparisons which w suggest. We can show him that when he is constantl devising means for the operation of his bowels they becon accustomed to the aid and wait for it. The functions digestion are gone over in a simple way and special stre is laid on peristalsis, mastication, deglutition, etc. No dire tions much out of the ordinary are given. Emphasis is place in the successive invitations given by getting out of be dressing, taking a glass of cold water, then breakfast a then going to the toilet. Coffee, dry toast and crisp bacon ma be ordered for breakfast. Directions are given as to the u and abuse of the abdominal muscles and the will power. enema may be given the third or fourth day, but do not t the patient this until the time arrives. Much depends getting the confidence of the patient. A certain amount enthusiasm, together with sincerity in expectation of outcom is a valuable, if not a necessary, adjunct to the physici giving the direction. Both highly intelligent and ignorant persons have alike responded to the treatment. The time of recovery in all cases was within six days. A liberal diet, especially of vegetables and fruits, free drinking of water and regularity of the chosen hour are all important.

Penetrating Wounds of the Abdomen

Dr. J. R. B. Branch, Macon: I have collected fifty cases from the Macon Hospital records, showing a mortality of 52 per cent. These patients were operated on by six different surgeons and we have reached the following conclusions: 1. In all penetrating wounds of the abdomen seen within twelve hours from the time of the injury, operation should be done as promptly as is consistent with good technic and skilful work. 2. The incision should be made large enough to insure a good survey of the abdominal viscera without unduly exposing them. 3. Extensive evisceration is unnecessary and unjustifiable, greatly increasing the mortality. 4. Unless the peritoneum is extensively soiled, intestinal content should be wiped away with salt gauze sponges; irrigation does more harm than good. 5. If the closure of the perforation, or destruction of the blood-supply threaten seriously the usefulness of a portion of the bowel, resection should be done. 6. If the peritoneal cavity is soiled extensively drainage is safer; otherwise the incision may be closed. 7. Post-operative treatment is very important. Fowler's position should be maintained.

DISCUSSION

Dr. W. P. Harbin, Rome: The great fault lies in waiting for symptoms which indicate perforation of the intestines. To follow such a policy is fatal in many instances. In any case of doubt regarding the perforation of the intestines it is better to open the abdomen at once. In many instances it is a long and tedious process to find a small perforation. I have a case in which failure to find an abrasion of the intestine led to the development of a fecal fistula three weeks after the operation.

Fifty-Seven Consecutive Operations for Fibroid Tumors of the Uterus

Dr. Edward G. Jones, Atlanta: The operations analyzed represent my own individual work. They are consecutive and comprise fifty-one abdominal hysterectomies, two abdominal myomectomies, three vaginal myomectomies and one celiotomy without removal of the tumor. The youngest patient was 21 years of age and the oldest 54. In regard to prior symptoms, forty complained of pelvic pain, six did not so complain, four had pain irregularly, and in seven cases no record was made. In regard to hemorrhage, no record was made in eight cases; in nineteen, hemorrhage was irregular and profuse; in fifteen neither irregular nor profuse; irregular in seven, and profuse in eight. Leukorrhea was profuse in thirty-three, slight in four, absent in twelve, and there was no record in eight cases. There was troublesome vesical irritation in thirty-three cases, no irritability in sixteen and no record in eight. Data in regard to childbearing in thirty-nine of these women showed that thirty-six had borne a total of sixty children. Of the thirty-six, thirteen had never been pregnant. There was a total of fifty abortions or miscarriages. As to postoperative history, forty-nine have reported the general health satisfactorily improved since the operation. No hernia has developed in any instance, and all have reported but seven. Of forty-four patients on whom hysteromyomectomy was done, a bloody discharge simulating menstruation is reported as occurring a few times in nine patients; in thirty-five there was none. In some of the cases the leukorrhea continued about as before the operation and in some it was less troublesome. Nine patients complain of slight bladder irritation since operation, but none of severe irritation. Such information as I have been able to secure indicates that when the menopause is brought on artificially by removing both ovaries, the symptoms experienced are less severe than with the natural menopause. No patient has developed serious mental disturbance. A few patients complain of the persistence of vague pain, but a number in whom such pain was to be expected because of extensive adhesions seemed to be surprisingly clear of it. Experience has taught me to be more and more careful to suspend the cervical stump, if left, by the round ligament or by the gathered peritoneum of the broad ligament. In none of these cases have gall-stones been discovered, though they were always sought by palpation. There were four deaths in this series of cases, but only one in the last thirty-seven.

DISCUSSION

Dr. S. T. Barnett, Atlanta: In making the amputation was the cervix included? I had the misfortune to lose two patients, owing, I believe, to the fact that the blood was impoverished; the hemoglobin percentage was so low that the women had no chance to survive the operation. They should have been given the opportunity to have the hemoglobin percentage brought up.

Dr. J. L. Campbell, Atlanta: I consider the care of the ureters as very important in these operations. I have found that giving methylene-blue twenty-four hours prior to the operation will stain the ureters a deep blue; since using this method I have never cut or tied the ureters. This method is valuable in operating on intraligamentous tumors where the tumor is between the broad ligament and the ureter. The patients on whom I have operated have experienced considerable trouble after their periods. I believe in leaving all the ovarian substance possible.

Dr. Floyd W. McRae, Atlanta: There is no danger to the ureters if one keeps close to the tumor he is removing. A careful surgeon never cuts or ties a ureter. I am interested in the way Dr. Jones has followed up the histories of his cases. We do not want to know merely whether the patient survived the operation, but we do want to know what the condition is three, four or five years afterward. I, too, wish to emphasize that we should leave as much of the ovarian tissue as possible.

Dr. E. G. Jones, Atlanta: Supravaginal amputation has been the operation of choice; I do not think that the mere fact that a woman has a cervix calls for its removal in these cases. In dealing with the ovaries as much of them should be left as possible; but, as a matter of fact, if one or both ovaries suffer from a surgical lesion and are left it shows bad surgery on the part of the operator.

Nausea and Vomiting; Their Clinical Significance

Dr. W. W. Jarrell, Thomasville: Nausea is an initial symptom of a condition of which vomiting is a later manifestation. This proposition, however, must be modified somewhat for we may find nausea without vomiting and vomiting without nausea. Nausea is classed with pain, hunger and thirst, all sensations which cannot be referred to any nerve center. Nausea may result from the stimulation of any of the senses, and it may attend certain intellectual processes; it is also a symptom of organic disease and the presence of toxins in the system. The non-toxic group comprehends such causes as repulsive sights, nauseous odors, suffocating heat, disgusting tastes and profound nervous shocks, either through the channels of sensation or through the intellectual faculties. The toxic group should be divided into organic and non-organic causes. The organic causes include diseased or changed conditions of the various viscera whereby their normal relations are disturbed or their normal functions become morbid. The non-organic class embraces those substances which through their chemical or physical characteristics, by their local or general action produce this sensation. In this group naturally fall foreign substances, be they indigestible foodstuffs or chemical poisons. These non-organic causes, even though they may occasion sudden death, are not, generally speaking, so insidious or dangerous as the organic type, and they are far more amenable to treatment. Nausea of the organic type is often very obscure in origin and its true significance may not be recognized till the condition is irremediable. Every viscus of the body may evince nausea as a symptom of derangement. The causes of vomiting, like those of nausea, may be classified as non-organic and organic, the terms having the same significance as in the classification of nausea. It is the organic type of vomiting with its complexity of causation that requires the exercise of one's keenest faculties to save him from false conclusions and serious mistakes. Nausea and vomiting are common to a multitude of conditions, varying from simple mechanical distention of the stomach to intestinal obstruction, from functional derangements to malignant diseases, from hysteria to morbid changes in the brain and cord. They are symptoms which should not be overlooked.

The Treatment of Fractures

Dr. T. J. Charlton, Savannah: One of the surprises that the Roentgen-ray has revealed is that the much-dwelt-on perfect apposition of the fragments is practically never obtained, and this regardless of the method of treatment. Return to function is the chief factor in the treatment of fractures, though to obtain this we have to accept a certain amount of deformity. There are three methods of treatment that have attracted much attention and are destined to influence all future treatment. First is the open treatment, of which Lane is the chief exponent. The second method is that of Bardenheuer of Cologne and consists of a more or less complicated system of extension and counter extension. The third method was introduced by Lucas-Championnière of Paris and consists of massage and movements, both active and passive, applied from the beginning of treatment and continued until the parts are restored to function. To secure the best results we must keep in mind that by the end of the second week the set of the fracture is fixed and that the early work determines the result. One must keep in mind the causes acting to displace the fragments, retraction of the muscles, hemorrhage into the tissues, and inflammatory edema. In all recent fractures plaster of Paris should be used with the utmost caution. It is always best to put up a fracture as soon after injury as you can and to use the simplest splint that will retain it in place; it takes only a little mechanical skill and special splints are not required. I consider the daily adjustment of splints for the first two weeks of the utmost importance. Only in this way can one be certain to balance the disturbing elements of muscle retraction, hemorrhage and inflammatory edema. Massage and movement is a great aid; it adds to the comfort of the patient and hastens recovery. This is combined with passive movements of the nearby joints and it is not necessary to put the joint through its full limit of motion. Slight movement of the fragments during massage is unimportant and will not delay union, but rather quicken it. The physician should always perform this massage himself. When the union becomes fixed, the patient may move the joint himself, thus supplementing the passive movements, but always with the same care and gentleness, supporting the fracture with the hand as a splint. In the fractures of children, massage and movement are not so important.

Surgical Deliberation

Dr. Floyd W. McRae, Atlanta: As I grow older in surgery I am more impressed with the importance of surgical deliberation. I have seen many incomplete or misdirected operations followed by unsatisfactory results which were later cured by complete, properly directed, well-executed operations. I have known many cases of overlooked conditions, as a pus tube or ovarian cyst left and the appendix removed; pelvic surgery done completely and well, but a gall-bladder full of death-dealing stones; or a gastric or duodenal ulcer overlooked; the appendix removed to be followed by identical postoperative attacks of mucous colitis. The colitis could have been diagnosed by careful observation. On the other hand, many cases of gall-stones, cholecystitis, gastric ulcer, duodenal ulcer and chronic fibroid appendicitis are being mistreated and misnamed indigestion, hypo-acidity or hyperacidity, etc. Surgery and surgeons are thus brought into disrepute. How often has careful investigation with laboratory aids stayed the too ready surgical hand? We need specialists but not the "made in six weeks type" who assume the whole human organism to be a thing revolving around their little specialty. We need men fair enough to realize the worth of their fellow workers and to give those who appeal to them for aid a square deal. I find myself every year more and more indebted to the laboratory, but we must not allow ourselves to become too dependent on this help. Every surgeon should so perfect himself in diagnosis that he will have fewer and fewer occasions to correct himself on the operating table. There should be more cooperation between specialists and general practitioners, and the surgeon should recognize that after operation the patient has need of the care of his family physician.

DISCUSSION

Dr. E. G. Jones, Atlanta: It is wonderful how much important information can be elicited in taking a careful history, but much patience is required on the part of the examiner. Two or three days' observation is too short a time in these cases and is only called for in emergencies. These patients should be brought back to the physician again and again if he is to make an accurate diagnosis.

Dr. Fenton B. Turck, Chicago: Dr. McRae's paper calls for the better education of medical men throughout the country, and presents the importance of more study, especially as it refers to the laboratories. To establish laboratories in smaller towns would not cost a great deal. The close contact among men in these laboratories would be of value.

(To be continued)

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-Sixth Annual Meeting, held at Atlantic City, N. J., May 9-10, 1911

The President, Dr. F. Forchheimer, Cincinnati, in the Chair

A list of officers elected was published in The Journal, May 20, p. 1490.

The General Practitioner

Dr. F. Forchheimer, Cincinnati: The general practitioner is still the backbone of the medical profession. His development implies so much attrition, so much knowledge, so much resourcefulness, so much character and so much humanity that when the general practitioner has attained his ful growth he is easily among the first citizens of his community Nowhere does weeding out go on more rapidly than in the medical profession. Those who are eliminated first are the ones who have failed on account of adverse external condi tions such as poverty and professional competition. Hartma accepts three kinds of nobility, namely, of birth, of mind an of finance, and places physicians in the second class. Pre medical education is in a chaotic condition. According to th higher demands of certain states and certain schools so muc time is required for premedical education that the studen gets through his medical course at too advanced an age. Th remedy for this lies in making a change in the curriculum o the primary and the secondary school.

A Clinical Study of Ascites

Dr. R. C. Cabot, Boston: I have tabulated the autopsy an operation records of the Massachusetts General Hospital fo the past forty years to show the relation these figures bea to the clinical diagnosis of ascites. The bulk of the cas were found to be due to one of five causes: cardiac weaknes nephritis, abdominal neoplasms, cirrhotic liver or tuberculou peritonitis. Among the possible causes of extensive ascit we must not lose sight of the small solid tumors of th ovary. Pleural effusion may be produced by an extensiv ascitic accumulation. This association may lead to a fal diagnosis of pleural and peritoneal tuberculosis. The cure both pleural and peritoneal effusions may result from exci ing a benign ovarian tumor. Among all causes of ascit tuberculous peritonitis may sometimes be recognized by t greater slowness of its accumulation of fluid.

DISCUSSION

Dr. Lewis A. Conner, New York: Did Dr. Cabot make study of the fluid itself to aid him in his diagnosis in ascite It seems to me sometimes that is of considerable value, ju as it is in pleural fluid.

Dr. R. C. Cabot, Boston: We worked with the fluids in every case, and I was impressed with the fallibility of this test when one came to really doubtful cases. Of course, in cardiac or renal cases one got low gravity fluids, but when one came to tuberculous peritonitis, cirrhosis of the liver and ovarian ascites, the three in which there is real difficulty in diagnosing, at times the characteristic fluid was present, but as a rule, nothing of importance; the albumin and specificity were no guide in these cases.

The Present Status of the Tuberculin Test

Dr. Lawrason Brown, Saranac, N. Y.: Among laboratory animals only those which are tuberculous react to tuberculin. Normal animals have tuberculin tolerance but no tuberculin anaphylaxis. Many autopsy reports throw grave doubts on and, I believe, disprove all published statistics which show that other diseases react specifically to tuberculin. Such cases are in reality double infections. A slight tuberculous infection may be sufficient to cause a reaction for a time and yet leave no permanent pathologic change visible to the naked eye. The conjunctival test has produced a number of unfortunate accidents, but by excluding all patients who have ever had trouble with their eyes, and using only 1 to 5 per cent. solutions of the old tuberculin, the test seems comparatively safe. There is some danger in the cutaneous test, but it is so slight that it may be disregarded, except in scrofulous children. The tuberculin test sometimes results positively in healthy men, a circumstance which warns us not to depend too much on it. Also failure to react to 10 mg. of old tuberculin, given subcutaneously, does not exclude clinical tuberculosis. However, in the presence of indefinite symptoms such patients do not require treatment. A negative subcutaneous test in a tuberculous person may indicate either the absence of receptors at the site of the lesion or the presence of free antibodies in the blood. If we except, for the time being, leprosy, tuberculin is a specific test for the detection of tuberculous infection. In practice, exposure to infection, characteristic symptoms, such as hemoptysis, pleurisy with effusion or dry pleurisy on both sides, and localized persistent physical signs at one apex are diagnostic data of far more importance in clinical tuberculosis than that derived from the tuberculin tests. The subcutaneous test is still the most reliable of the tuberculin tests.

DISCUSSION

Dr. Frederick C. Shattuck, Boston: I wish to corroborate Dr. Brown's statement that the subcutaneous test is the most reliable. I have used it for many years with the utmost freedom. I have never seen any untoward result beyond a disturbance of two or three days, except in one case of Addison's disease. Two days after the injection the patient was dead.

Dr. Theodore C. Janeway, New York: I want to corroborate Dr. Shattuck's experience of rapid fatal issue in Addison's disease following injection of tuberculin for diagnostic purpose.

Dr. Henry Koplik, New York: I make use of the von Pirquet test in children almost as a routine. In some cases in older children, wishing to confirm the diagnosis of tuberculosis, where there were other conditions present, such as pleurisy with effusion, after the patient has improved and the temperature dropped and the patient has been well for a little while, I have had some very unpleasant experience in trying to confirm the test of von Pirquet in making injections of old tuberculin. The temperature rose, the effusion increased and the little patients were quite ill. This is a very unpleasant thing to happen to a clinician after his patient has been apparently on the road to recovery.

Dr. I. Adler, New York: I have had under observation now for two years a mild case of undoubted Addison's disease; the patient has been exclusively and continuously treated with tuberculin injections, beginning with very small doses, and now she is taking very large doses and has been perfectly well and has been bettered by it.

Dr. Joseph L. Miller, Chicago: I believe the very conservative stand by Brown is to be very highly commended. Since the introduction of the simpler tuberculin tests, like the von Pirquet, I believe there has been a great deal of harm and injustice done the patients by assuming that inasmuch as they gave a positive von Pirquet, it was necessary that they be sent away from home and be treated as patients suffering with the severe form of tuberculosis, whereas, as a matter of fact, there was no clinical evidence that these cases were tuberculous.

Quinin and Urea Hydrochlorid Hypodermically in Acute Pneumonia

Dr. S. Solis-Cohen, Philadelphia: There is a tradition that quinin given early will abort an attack of lobar pneumonia. In an early experience of mine, 60 grains of quinin sulphate, given in error in a period of six hours, beginning two hours after the initial chill, apparently acted in this manner. The revival of the quinin treatment of pneumonia by Galbraith in 1904 led me to employ the double hydrochlorid of quinin and urea. From 6 to 10 grams, according to effect, are given in from 48 to 72 hours. Cinchonism does not develop. Temperature and pulse fall gradually and proportionately, and respiration more rapidly—with a tendency to restoration of the normal pulse-respiration ratio. Blood-pressure remains stationary or increases; cough diminishes; breathing becomes relatively easy; delirium abates or disappears. Crisis does not occur. Termination is by lysis at about the ordinary time, five to eleven days. Percussion and auscultation signs are uninfluenced. Involvement of new areas may take place during treatment, with return of symptoms, necessitating new injections. Pneumococcic empyema has occurred. The pathologic processes in the lung would thus appear to evolve in the customary manner, unmodified by the treatment, which is apparently not germicidal and is without effect on tissue changes, but is chemical and antitoxic. Fresh air, water, saline infusions, and symptomatic medication when needed, were associated with the quinin treatment.

DISCUSSION

Dr. F. P. Henry, Philadelphia: Two years prior to the time at which Dr. Cohen claims to have instituted the use of quinin in the treatment of pneumonia I was led to its use through an article by Petzold. I used the hydro-chloro-sulphate of quinin. I can corroborate all that Dr. Cohen says in favor of the method.

Dr. A. Jacobi, New York: I have used the double hydrochlorid of quinin and urea a great deal, but have found that it frequently produced gangrene of the skin.

A Pneumatographic Study of the Respiratory Irregularities in Meningitis

Dr. Lewis A. Conner and Dr. Ralph G. Stillman, New York City: Forty-one cases of meningitis were studied graphically by means of the Marey spinal spring type of pneumatograph; one tube being placed about the upper part of the chest to record the thoracic movements, and a second about the abdomen at a point midway between the ensiform cartilage and the umbilicus to register the movements of the diaphragm. In thirty cases of tuberculous meningitis respiratory disturbances occurred during some part of the illness and usually throughout the greater part of it. Among eleven nontuberculous cases alterations in the respiratory rhythm were observed in all but two cases. The disturbances of respiratory rhythm in meningitis can be divided into three fairly distinct groups: 1. Type of Cheyne-Stokes. 2. Biot's "meningitis rhythm." 3. An undulatory type. The Cheyne-Stokes type seen in infants and children with meningitis shows certain differences from that ordinarily seen in adults. Biot's type of breathing is characterized by constant irregularities in rate and force, by frequent occurrence of deep sighs and by apneic pauses varying in length and occurring at irregular intervals. In the undulatory type there is a rhythmical variation in the force of the respirations, or in the tone of the respiratory muscles or in both of these together without any periods of apnea. This undulatory type was observed at some time in almost every case. In twelve out of forty-one cases it was the only type of disturbance noticed. In twenty-three cases (56 per cent.) Cheyne-Stokes breathing was observed. In ten cases (25 per cent.) Biot's type was noticed at some time. In six cases both the Cheyne-Stokes and the Biot types were seen at different times. Because of its occurrence in almost every case of meningitis and because it is often observed early in the disease, this symptom of disturbed respiratory rhythm is of very considerable diagnostic importance, especially in meningitis of the tuberculous type in which the onset is often slow and insidious.

DISCUSSION

Dr. Henry Sewall, Denver, Colo.: Are you sure enough of your apparatus to make it quantitatively reliable?

Dr. S. J. Meltzer, New York: Was there any difference between the diaphragmatic and abdominal breathing?

Dr. J. H. Musser, Philadelphia: Were there any controls in the experiments of breathing children? We all know the remarkable tricks they play with their breathing apparatus when asleep and when awake.

Dr. L. A. Conner, New York City: While all these instruments are not mathematically accurate, they are very accurate in a general way. They show the same thing in case after case. By heightening or loosening the tension of the pneumatograph we can make some difference. By relaxing sufficiently one can understand that we could get no abdominal tracing at all, but when one gets familiar with the tension to be used, one can get in the same case at different times and under different conditions usually just about the same size tracing. We used a great many controls in our work with children.

Abdominal Tenderness with Pain Due to Thoracic Lesions

Dr. Arthur R. Edwards, Chicago: I had two cases of severe, diffuse abdominal symptoms in pneumonia and in pericarditis, which completely simulated abdominal perforation or peritonitis, and in which operation disclosed no peritoneal lesion. In neither case was there the slightest symptom or sign of thoracic disease at the time of invasion. The pain was severe, early and diffuse; the tenderness was as marked on deep as on superficial palpation; and the abdominal rigidity was extreme. The usually available differential points were not helpful; the general symptoms, which generally indicate a systemic infection rather than a local condition, were absent. In this thoracic pseudo-peritonitic or pseudo-perforative symptom-complex, the abdominal muscles may be spastic, the legs drawn up, the body rigid, and collapse may intervene. The invasion symptoms indicate operation and no certain criterion exists at the onset. The majority of patients operated on recover. [This paper will appear in The Journal.]

DISCUSSION

Dr. J. P. C. Griffith, Philadelphia: It has been my fortune to see a good many of these cases. I have reported five cases and have one unreported case. I agree with Dr. Edwards that the diagnostic signs are not to be depended on. I have seen cases which I had no doubt were pelvic, but they turned out to be thoracic. The only thing to do is to make pretty sure before doing operation.

Dr. F. P. Kinnicutt, New York: Dr. Edwards has drawn attention to an important fact that we should all consider. We are familiar with the mistakes of our surgical colleagues in cases of this kind. If we can wait, if the surgeon is not too insistent for immediate operation, we may obtain some information from examination of the blood. But often the symptoms are so impressive that the surgeon says we must operate at once.

Dr. H. U. Williams, Buffalo, N. Y.: I would like to suggest the importance of fluoroscopic examination of the chest, because you get signs of pneumonia which are perfectly evident with the fluoroscope before you get any physical signs.

Dr. M. H. Fussell, Philadelphia: No one believes more thoroughly than I in the grave importance, the absolute necessity of an early operation in abdominal cases of the character simulated by all these cases of Dr. Edwards, and yet I never approach a case which appears to be abdominal without the greatest trepidation because of the mistakes I have made myself and because of the mistakes I know others have made. There is no one symptom or set of symptoms which will enable us to make a diagnosis; it is the ensemble by which we come to our conclusion.

Dr. James Tyson, Philadelphia: I wish to come to the defense of the surgeon under the circumstances. In my early experiences it was the surgeon who suggested delay, and because of the well-known occurrence of such symptoms when there was no necessity for operation. Most of these cases occur in children. Operation was deferred and the child apparently recovered, but some months later the child was operated on for appendicitis and appendicitis was found, so that you can have the rule working both ways.

Dr. A. Jacobi, New York: The surface abdominal pain is easily explained in such cases by the extensive connection o the pneumogastric nerve. Is there an anatomic connectio which explains the intense visceral pain dependent on thoraci diseases?

Dr. J. A. Capps, Chicago: I would like to ask Dr. Edward whether he found any sign of involvement of the diaphragm I think there is evidence that the diaphragmatic pleura i these cases is involved.

Dr. S. J. Meltzer, New York: I have seen a man dyin of angina pectoris who had been treated by one of the bes men in New York for gastric catarrh and gall-stones. I hav seen one patient who had been operated on and who had ha pneumonia which it did not take a very careful examinatio to discover and he was in the hands of an excellent surgeo

Dr. Henry Sewall, Denver: Is abdominal pain ever notice when the lesion is in the left lung?

Dr. S. Solis-Cohen, Philadelphia: I wish to call attentio to a case of pneumonia of the left lower lobe which had bee mistaken for gastric ulcer because of vomiting of bloo streaked mucus, together with epigastric pain and tendernes I first saw the patient after three days illness, and at th time there was no doubt of the diagnosis of pneumoni Recently I have had three cases of pneumonia referred fro the surgical to the medical ward, the patients having be sent to the surgical ward with the diagnosis of abdomin disease. The correct diagnosis of pneumonia was made the surgeons and the patients transferred.

Dr. E. Libman, New York: I would be in favor of havi a fluoroscopic examination made before proceeding to oper tion in these doubtful cases.

Dr. J. C. Wilson, Philadelphia: It must be borne in mi that the early signs of croupous pneumonia consist in impair vesicular murmur and slightly tympanitic percussion res ance.

Dr. A. R. Edwards, Chicago There was no diaphragma sign. Abdominal pain may be caused by lower lobe pneumo on either side.

(To be continued)

AMERICAN GASTRO-ENTEROLOGICAL ASSOCIATIO

Fourteenth Annual Meeting, held at Philadelphia, April 19-20, 19

The President, Dr. W. B. Cannon, in the Chair

Officers Elected

Dr. Walter B. Cannon, Boston, was reelected presid and Dr. F. W. White, Boston, was elected secretary-treasu

The Importance of Tonus in the Mechanical Activities the Alimentary Canal

Dr. Walter B. Cannon, Boston: The view that toni of the neuromusculature of the alimentary canal is a fun mental necessity in the appearance of rhythmic moveme gives an explanation of many features regarding digestion harmonizes many diverse observations. It gives a reason explanation of the existence and importance of extri motor nerves; it indicates the function of inhibitory nerves in the reduction or abolition of the tone; it accounts for the failure of efficient motility in atonic states of the stomach and intestines; it is in agreement with the observation that tonic contraction and rhythmic peristalsis reappear later in cases of general body-weakness; it fits admirably with the fact that the stomach of hungry animals is strongly contracted, for then the tonic state makes the organ ready for instant action on swallowing food. Indeed, I believe that the sensation of hunger results from tonic contraction of the empty stomach.

Stretching of the Pylorus in Benign Stenosis

Dr. Max Einhorn, New York City: I should like to speak of stretching of the pylorus in children by means of an instrument called the infantile pyloric dilating catheter. This is a flexible tube with an inflatable rubber balloon at its end. In order to introduce it beyond the pylorus, the infant must first swallow either a small duodenal bucket or a metal olive attached to a silk string. After having ascertained that this has wandered beyond the pylorus, the dilating catheter is pushed along the silk thread into the duodenum, the balloon inflated and the instrument withdrawn. I have used this method in two cases. One infant got entirely well and remained so. The other was not benefited.

For stretching the pylorus in adults, I use a new instrument called the pyloric dilator and diaphane, which consists of a pyloric dilator with a tantalum (cold) lamp at its end. The advantage of this instrument consists in the fact that it is possible by means of internal illumination to ascertain whether the end is in the stomach or in the duodenum. I have treated in this way three cases of real benign stenosis of the pylorus, with very beneficial results. In order to insure success, there must be no active ulceration in or near the pylorus, nor must the stricture be too far advanced.

DISCUSSION

Dr. Morris Gross, New York City: I do not think it possible to pass a tube like this through a stenotic pylorus. If Dr. Einhorn does succeed in doing so, we must infer that stenosis did not exist at the pylorus at all, or only to such an extent that stretching was not called for.

Dr. A. L. Benedict, Buffalo, N. Y.: I cannot, as a rule, get a tube down through the pylorus. Bile on the end of a thread does not necessarily mean that the tube has entered the duodenum. A little medication will usually overcome the condition in a case of spasm.

Dr. S. J. Meltzer, New York City: It does not sound very plausible that a single passage of the instrument could have been sufficient to reestablish function. In cardiospasm nobody has succeeded in stretching the cardia in so short a time, and pylorospasm is much harder to reach.

Dr. C. D. Aaron, Detroit, Mich.: I have dilated the pylorus in a patient sent to me by Dr. Einhorn. She has gained 8 pounds, and is increasing in weight.

Dr. Jesse S. Myer, St. Louis, Mo.: Dr. Einhorn's experience proves that pylorospasm does exist. Cardiospasm can be cured by stretching. It is evident that it will stand as a curative measure in a certain number of cases.

Dr. W. G. Morgan, Washington, D. C.: In a case with symptoms of pylorospasm I passed the dilator, and the next morning was able to withdraw it at 49. That night the patient had no symptoms, but the next night they recurred. The surgeon said that on account of the nature of the scar he found, no stretching would probably have been effective. The reason the patient had no symptoms the first night after the passing of the dilator was probably the psychic effect produced on her mind by that procedure.

Dr. Max Einhorn, New York City: It is only beginning strictures that can be benefited by this method. The pylorus can close on account of the presence of a foreign body near it in the duodenum; but if, at first, there is resistance on attempting to withdraw the bulb, and later there is none, unless the diameter is greatly increased, we may conclude that there has been a real stricture.

Operative Treatment of Impermeable Cardiospasm

Dr. Willy Meyer, New York City: The cure of impermeable cardiospasm by means of dilatation is difficult or impossible. Therefore, operative measures will often be required. Von Mikulicz and Wendel attacked the cardia from the abdomen. It is said that the trouble can also be cured successfully and permanently by way of the thorax. In support of this view, I will mention a case in which a cure was obtained by means of thoracotomy, tearing the nerve filaments that enter the esophagus on each side from the pneumogastrics, and reducing the large esophageal pouch above the diaphragm with the help of a double plication.

Cardiospasm in Infants

Dr. W. G. Morgan, Washington, D. C.: I had a case of cardiospasm with dilatation of the esophagus occurring in an infant under one year of age, which was treated by Dr. Einhorn's method; and I have also had a case of cardiospasm in an adult, which had been treated by gradual dilatation with bougies, the patient failing all the time. I stretched the cardia with Einhorn's forcible cardia dilator. This patient is now eating everything, and has gained 19 pounds in weight.

Cardiospasm

Dr. S. J. Meltzer, New York City: The evidence of gain in weight in the patient does not prove the correctness of the diagnosis. Twenty years ago, I described a case of cardiospasm under the term "dysphagia," giving the entire clinical course, and predicting what would be found after death. The patient died, five years later, and a partial autopsy was made, confirming my diagnosis. If you hear the esophageal sound down to the tenth or eleventh vertebra, yet find the deglutition sound in the stomach always absent, you can be sure that there is an elastic stenosis. Every time an eructation takes place, you can also hear a definite sound in the region of the cardia. In patients with cardiospasm, you do not hear this sound.

DISCUSSION

Dr. J. C. Hemmeter, Baltimore, Md.: I have had very severe cases of cardiospasm in which the esophagoscope went in; but when the patient swallowed, there came a spasm, and nothing would go through. I have had only very temporary success in dilating the cardia with mechanical methods.

Dr. J. Kaufmann, New York City: Among my patients there were a surprisingly large number that dated their first attack of cardiospasm to a hot day when they had taken ice-cold soda water. Probably the first spastic contractions led to the development of erosions, which afterward kept up the irritation. Another cause for the development of erosions is hyperacidity. One should be careful not to be too ready to attribute it to a psychic basis.

Dr. L. Kast, New York City: Cardiospasm is not a correct term, and should be dropped in favor of one that would indicate the function of the cardia with relation to the parts above and below. In examining a patient suffering with regurgitation of food by the fluoroscopic method, it was found that it was the contraction of the stomach that pushed the food through the whole esophagus and into the mouth.

Dr. Jesse S. Myer, St. Louis: I do not quite see why, in the case mentioned by Dr. Willy Meyer, gastrostomy with forcible stretching of the cardiospasm was not tried. I do not think that the size of the pouch would constitute any contraindication to this.

Dr. J. C. Johnson, Atlanta, Ga.: There come times, in cases of esophageal obstruction from any cause, when even an operation cannot be considered. I had such a case. Not even the smallest bougie would pass. We finally succeeded in getting a very small wire probe into the stomach. We then used an instrument to the end of which an electrode could be connected, and placed the other electrode at the back of the man's neck, turning on the galvanic current. We had an olive on the wire, and insulated to that point. In a quarter of a minute, the olive, following the probe, began to descend.

It descended a short distance at each treatment. We continued these treatments every day for two or three weeks. We had to turn on the current when we wished to draw the olive back again. The man has gained 20 pounds, and is attending to his business and there is hope of his becoming practically well.

Dr. Robert T. Morris, New York City: In a case of cardiospasm, we should have a report showing that a competent ophthalmologist has eliminated the question of irritation of the vagus at the base of the brain from eye-strain; also reports that he has no loose kidney or adhesions in the bile-tract region, that he has no evidence of a neurotic temperament, and that there are no stigmata of decadence.

Dr. Max Einhorn, New York City: In order to make a diagnosis in cases of partial cardiospasm with dilatation of the esophagus, it is important to ascertain that there is absence of the swallowing sound, that no fluid enters the stomach, and that we cannot pass a probe into that organ. Patients treated by stretching the cardia eat well, do not vomit, and increase in weight; and the swallowing sound is present. Anybody who has seen a case of cardiospasm will have no difficulty in making the differential diagnosis from cancer.

Dr. Willy Meyer, New York City: My patient was too weak for an abdominal operation. It would be better for her to make sure that there was no malignant tumor at the cardia than to separate the nerves and make the double plication. I am not sure, however, whether this double plication was a necessary addition to the technic or not.

(To be continued)

MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

One Hundred and Thirteenth Annual Meeting, held at Baltimore, April 25-27, 1911

(Concluded from page 1502)

Salvarsan in Relation to Diseases of the Eye

Dr. Harry Friedenwald, Baltimore: The results of the salvarsan treatment are distinctly less favorable in ocular diseases than in general. Plaut's general statistics show failure in only 23 per cent. of cases. In interstitial keratitis failure occurs in 70 per cent., in neuritis 30 per cent., in optic neuritis 20 per cent., in paralysis of the ocular muscles 66 per cent. There is only a doubtful effect, if any, in atrophy of the optic nerves. On the other hand, the improvement when the remedy is effective is usually much more rapid than in general conditions, and the treatment is of shorter duration.

DISCUSSION

Dr. A. G. Rytina, Baltimore: We have treated over 100 patients with salvarsan at the Mercy Hospital, and as yet have had no deaths nor eye and ear complications. I believe that this is because we employ the intravenous method of administration.

Dr. W. T. Watson, Baltimore: Salvarsan has been effective in all the cases which I have observed, with one exception, that of a child with interstitial keratitis. The salvarsan was given in this case by the intramuscular method, on account of the patient's age. The child's condition became much worse. Later treatment by mercury and iodid brought about considerable improvement.

Certain Gynecologic Aspects of Neurasthenia and Hysteria

Dr. Emil Novak, Baltimore: The ordinary gynecologic patient is more urgently in need of a broad-minded specialism than almost any other type of patient. Physiologically and symptomatically, the reproductive organs are in the most intimate relationship with other parts of the body, partly through the agency of the various internal secretions and partly through the medium of the nervous system. Of the two conditions, neurasthenia and hysteria, it is probable that the latter is the less important from a gynecologic standpoint. Any unnecessary surgical interference in the ordinary case of hysteria—and such interference is usually unnecessary—is little short of criminal. Surgical treatment is called for only in the presence of well-defined and unmistakable pelvic disease, and even then in the majority of cases only when associated with distinctly localizing symptoms. Both primary and secondary neurasthenia are of interest to the gynecologist. How is one to tell, if both neurasthenia and pelvic disease coexist, in which cases the neurasthenia is primary and in which it is secondary to the pelvic condition? Principally by a conscientious study of the patient's history. The form of pelvic disease most apt to be complicated with neurasthenia is that which is associated with persistent attacks of pain. If operation be resorted to before very marked deterioration of the nervous system has occurred, the removal of the cause will usually be followed by a much more rapid and striking recovery, with a correspondingly rapid restoration of the nervous equilibrium. If the pelvic organs of the neurasthenic woman are found to be normal, even in the presence of pelvic symptoms, the treatment is not gynecologic, but is that of the underlying neurasthenia.

Dr. W. T. Watson, Baltimore: It is encouraging to see that gynecologists are now taking a broad-minded view of these matters, for this was not always so. Even now conditions are not ideal, for I have seen a good many cases in which women have been made nervous wrecks by ill-advised operations.

Dr. E. B. Claybrook, Cumberland: The recent advances in surgery have more or less spoiled the public, for people have come to look on operation as a cure-all. They do not realize that it must be combined with proper and often intelligent after-treatment.

The Typhoid Situation in Baltimore

Dr. W. W. Ford, Baltimore: One of the most serious problems in public health in the city of Baltimore is typhoid. Fron Jan. 1, 1910, to Jan. 1, 1911, 235 deaths from this disease wer reported to the Board of Health, while for the same time th total number of cases was 1,890. The majority of cases developed during the summer and autumn months. Typhoid ha always existed in the city of Baltimore. The records indicat that there has been a gradual diminution of this disease in th city, as compared with the increasing population. In 189 there were 247 deaths in an estimated population of 413,00 in 1909 only 136 in an estimated population of 580,000. Th ten possible sources of the disease, as compiled by Assistan Health Commissioner Jones, are bathing in polluted water, ra foods, privy wells, flies, importation, contact, hydrants in yard water wells, milk and drinking-water. Five of these have bee eliminated, viz., bathing in polluted waters, water well hydrants in yards, importation and privy vaults. Raw food and contact also are probably not important. A great de of knowledge concerning the life history of flies is necessar before we can incriminate these pests. Two other sourc remain to be considered—milk and water. From the uniformity of the distribution of the disease and other consideration we do not believe that the milk-supply is at present its so source, or even so important an element as the water-supply As regards the possibility of a polluted water-supply bein responsible for our typhoid, one fact which our investigation have brought out with great clearness is that the pollution the concentration of the sewage takes place at the same tim (it certainly did this year) that we have the largest numb of cases of typhoid. Unless we adopt various preventive mea ures which have proved successful in other cities, we may co fidently look forward to a repetition of the conditions whi made the summer of 1910 a dreadful typhoid season.

The Whitehead Operation for Hemorrhoids

Dr. Alexius McGlannan, Baltimore: The Whitehe method of excision for hemorrhoids seems to meet all t requirements better than any other method. Our results a based on an analysis of twenty-five cases operated on in t past four and one-half years by Dr. Bloodgood, myself or t resident surgeons. We have had no recurrences and no strictur In only two cases was there a failure of primary union, both old people, with markedly sclerosed arteries. Two patie had fecal incontinence lasting six and fourteen days, respe ively. At the present time both have perfect control. There been no postoperative pruritus. Urinary retention requiring catheterization occurred in ten cases. Four patients were catheterized but once, the longest time that this assistance was required being seven times in four days. The average was three times in twenty-four hours, patients voiding voluntarily thereafter. For comparison, the postoperative record of five patients, operated on by clamp and cautery (3) and by ligature (2), shows that four of these five required catheterization, the longest time being three days, with an average practically the same as that given above. As an index of the postoperative discomfort, it is found that the amount of morphin or other anodyne given was less after the Whitehead than after the other operations.

DISCUSSION

Dr. J. H. Branham, Baltimore: The modern tendency seems to be away from the Whitehead operation, but there appears to be no good reason for this. Occasionally loss of control occurs from too long dilatation of the sphincter. The great advantage of the operation is that the whole field of work is under view.

Dr. Arthur Hebb, Baltimore: The method I use is to excise the hemorrhoids in the long axis of the bowel, suture the mucous membrane, dissect out the external veins, and put no sutures in the skin, allowing it to retract. No anodyne is necessary; the patient is up on the second day and the bowels are moved on the third. General anesthesia is frequently not necessary. No plugs should be used in the rectum, and there should be no forcible dilatation of the sphincter.

Dr. A. McGlannan, Baltimore: The Whitehead operation is simple, requiring usually only about fifteen minutes. Little blood is lost. The patient should not be allowed to get up too soon on account of the danger of embolus.

The Action of Certain Intestinal Antiseptics on Gastric Digestion

Drs. Julius Friedenwald and **T. F. Leitz**, Baltimore: Marked intestinal fermentation is not an uncommon accompaniment of certain gastric affections. Intestinal antiseptics are ordinarily employed to inhibit the growth of the intestinal flora to which this abnormal fermentation is due. It is, therefore, most important to determine whether by disturbing the gastric digestion certain antiseptics are not more apt to increase the fermentation than to lessen it. In these studies the gastric secretion of an individual with normal acidity, one with a hyperacidity, one with a subacidity, and one with a marked motor disturbance were investigated. The patient was given an Ewald test breakfast, the stomach was emptied as completely as possible and then washed with a definite quantity of water. In this way the total amount of contents remaining in the stomach can easily be ascertained, from which a fairly clear conception of the motor activity can be obtained. The gastric contents were then examined for the total acidity and the percentage of free hydrochloric acid. In order to make the result as accurate as possible, a number of examinations were made under uniform conditions and the results averaged. In each set of experiments the patient was first examined under normal conditions and then again after having taken the special intestinal antiseptic for a definite period of time (eight or ten days). The antiseptic was again given with the test breakfast. The following intestinal antiseptics were administered: salol, betanaphthol, bismuth salicylate, acetylsalicylic acid, ichthalbin, thymol, salicylic acid and creosote.

The following conclusions were arrived at: 1. Most intestinal antiseptics markedly interfere with gastric digestion. 2. This disturbance varies greatly with the nature of the gastric secretion and the motility of the stomach. 3. Salol and salicylate of bismuth are the least harmful to gastric digestion; betanaphthol, acetylsalicylic acid, ichthalbin, thymol, salicylic acid and creosote are more apt to interfere with gastric digestion.

Why Do We Get Our Cancer Cases Late?

Dr. E. B. Claybrook, Cumberland: It is still true that in many cases the practitioner, whether through a false ambition or through a foolish pride in wishing to make the diagnosis himself, dillydallies with the patient until the time passes for a radical operation with any hope for cure. A great step will have been taken when we learn to operate for purposes of diagnosis rather than for mere treatment alone.

DISCUSSION

Dr. L. J. Rosenthal, Baltimore: I do not believe that the physician is so negligent as he is sometimes accused of being. If a patient, for instance, has gastric symptoms, with coffee-ground vomit, etc., he is pretty apt to be turned over to the surgeon without much delay.

Dr. Emil Novak, Baltimore: Three stages may be described in the life history of cancer. The first, from the actual inception of the tumor to its recognition by the patient, we can hope to influence only by teaching patients to be on the lookout for certain suggestive symptoms; the second dates from this time to the period at which the patient seeks the advice of the physician, and it is in this stage that we can hope to accomplish most by popular education. The third stage lies between the recognition of the condition by the general practitioner and the surgical treatment which may be indicated. While education within the profession is of much importance, it can scarcely be said to be as vitally essential as education of the people.

Other Papers Read

The last session, on Thursday morning, April 27, was a joint meeting with the Baltimore Branch, American Pharmaceutical Association. An introductory address was delivered by Dr. William H. Welch, who reviewed the work of the Council on Chemistry and Pharmacy of the American Medical Association and other matters of joint interest to physicians and pharmacists. Dr. Samuel T. Earle, ex-president of the faculty, discussed the question of the professional relations existing between physicians and druggists. The workings of the Maryland Pure Food and Drug Law were discussed by Dr. Charles Caspari, Jr., the State Pure Food Commissioner. The defectiveness of the antinarcotic laws of the state was discussed by Mr. J. B. Thomas of the Pharmaceutical Association.

The following papers were also read: "Personal Experience with the Salvarsan Treatment of Syphilis," by Drs. A. Keidel and J. T. Geraghty; "Modern Otology and the Steadily Improving Prognosis in All Diseases of the Ear," by Dr. H. O. Reik; "Reversal of the Circulation as a Treatment for Raynaud's Disease and Senile Gangrene," by Dr. B. M. Bernheim; "Report of Case of Resection for the Cure of Ptosis of the Stomach and Colon," by Drs. J. C. Bloodgood and J. A. Chatard; "Clinical Use of Scarlet Red and Its Components in Stimulating the Epitheliation of Granulating Surfaces," by Dr. J. S. Davis.

MISSISSIPPI STATE MEDICAL ASSOCIATION

Annual Meeting, held at Jackson, April 10, 1911

(Concluded from page 1504)

Acute Hydramnios Complicated with Ascites

Dr. F. J. Underwood, Nettleton: This patient suffered from depression, dyspnea, etc. At five and a half months she was as large as if at term. Symptoms becoming grave, she was aborted and half a gallon of fluid removed. Recovery was complete. The cause is supposed to be an inflammation of the amnion, due to trauma, the patient's husband having kicked her in the abdomen two weeks prior to the trouble.

Uncinariasis a Factor in Puerperal Eclampsia

Dr. W. H. Rowan, Wiggins: In a series of cases of eclampsia a number of patients were diagnosed as hookworm subjects. All were young women subject to ground-itch. A number who were treated for hookworm had no further trouble in subsequent pregnancies. South Mississippi is a highly infected district and the native women of that locality are peculiarly subject to toxemias and eclampsia. These cases usually occur in the country. Malaria as a factor is eliminated on account of its rare occurrence in this particular section.

DISCUSSION

Dr. J. R. Kitrell, Laurel: I know of several cases of uncinariasis in which the patient died of puerperal convulsions. Just how the anemia produces these convulsions would be interesting information.

Dr. I. E. Edwards, Canton. Does Dr. Rowan mean to condemn morphin altogether? My experience has been that that is the treatment *par excellence*. I should feel at a loss without morphin. I think if there is any one drug which should stand at the head of the list it is morphin sulphate. Of course, the thing to do is to empty the uterus thoroughly. In regard to hookworm, it may be that the parasite comes in as a secondary matter only.

Dr. L. D. Dickerson, McComb City: I think that we should all give morphin. The convulsions must be controlled, and I do not see how we can omit the use of morphin.

Dr. P. R. Brown, West Point: Those of us who have been in the practice of medicine a few years appreciate the fact that a large percentage of cases of eclampsia are due to anemia. It is quite possible that hookworm disease is a cause. I chloroform the patient and empty the uterus. The thing to do is to control the convulsions.

Dr. S. E. Eason, New Albany: Hookworm disease is a reality. Many of the malarial diseases will be shown to be caused by hookworm. In so far as I have been able to discover the cause of puerperal eclampsia, it is overburdened kidney and liver.

Dr. B. H. Booth, Drew: If these patients are under the influence of morphin it is harder to empty the uterus. The only deaths I have seen from puerperal eclampsia were in cases in which morphin was used.

Dr. J. T. Meek, Courtland: I give a good dose of calomel and sometimes use morphin. I should like to hear something about the use of tincture of veratrum.

Dr. B. F. McNeal, Ezra: In my practice morphin has not always failed. I have used it with success, and I would not condemn it absolutely.

Dr. W. H. Rowan, Wiggins: I wished to call the attention of this society to hookworm as a factor in eclampsia. As to the treatment of eclampsia, tincture of veratrum hypodermatically, in 30-drop doses, will control the convulsions. The objection to morphin is plain when we think of what is taking place in the system. By the use of morphin we merely delay the trouble; delivery has to be considered. It has been proved that chloroform is dangerous. I do not see why we should try to hasten the delivery.

Malaria as a Difficulty in Diseases of Children—A Plea for Its Eradication

Dr. S. S. Carothers, Duck Hill, discussed malaria as a difficulty in children's diseases and contended that we all are prone to consider malaria as an underlying element in febrile disorders in children and to give quinin, thereby causing additional disturbances. He condemned the indiscriminate use of quinin.

DISCUSSION

Dr. J. W. Barksdale, Winona: In my opinion, the practice of giving quinin indiscriminately is a most pernicious one. We should realize the importance of making more careful diagnoses. Use the microscope if it will be of use. We are not justified in giving quinin simply because the patient has malarial complications.

Dr. L. Kohlheim, Guntown: I come from a section of the state where there is much malaria. It requires several months to effect a cure; it is necessary to continue the use of quinin for from two to four months. It is hard to conceive how small doses can have a very harmful effect and it is also hard to see how the quinin can do much more harm than the disease.

Dr. H. L. Sutherland, Rosedale: I do not think that malaria is so prevalent as is believed. I am not a strong believer in malaria in spring in the Mississippi Delta. Because we want immigrants I think it wrong to say that we have malaria all through the winter. I make blood examination and if I do not find the parasite I do not give quinin and the patient will recover as well without as with it. It was once believed that malaria was a complication of typhoid but that idea has been practically discarded. Malaria is very rarely a complication of typhoid, and I think even less frequently is it seen in the pneumonia of children.

Dr. J. A. McCoy, Picayune: Dr. Carothers' idea is utopian We must accept conditions as they are, not as they should be. I am afraid that quinin is a sort of red rag in Mississippi, and suggest that he modify his view a little in that way.

Dr. S. S. Carothers, Duck Hill: It was not my intention to advocate the elimination of quinin. I do not believe it possible to get rid of malaria without quinin but I do not think that quinin is the whole treatment. I believe that quinin in small doses is valueless in malaria. The constant administration of small doses merely serves to render the patient immune to its effects. We ought to have in this association a free discussion of means to eradicate malaria so that we may gather strength for the fight. We need it. In my paper I wanted to emphasize the idea that to get rid of malaria it will require concerted action. Two years of fighting by the physicians of the state would be required to get rid of it.

Surgical Aspects of Pyosalpinx

Dr. W. B. Johnson, Greenville: Pelvic diseases call for more surgical aid than the diseases of any other space in the body. The peculiar relationship of the tubes to the outer world accounts for much infection. There are two routes by which pus in the tube may be liberated. The vaginal is preferable in most cases.

DISCUSSION

Dr. J. G. Gaither, Oxford: One point that was not emphasized was the time at which to do this operation. It should not be done till the pus in the tube has become sterile. The iodin douche has proved of value. In my brief surgical career I have seen both the abdominal and vaginal routes used. I think I shall never use the vaginal route again. One cannot get complete drainage through the vagina with a large drainage tube, and I believe that the abdominal route is preferable

Dr. I. E. Edwards, Canton: My experience would lead me to believe that dressing forceps would be better used in these cases.

Dr. W. B. Johnson, Greenville: The iodin douche is ver valuable in this treatment, but it cannot be used if we use the tampon.

Six Cases of Mechanical Ileus

Dr. H. R. Shands, Jackson, reported six cases of mechanical ileus due to volvulus of ileum around a peritoneal band following a suppurative appendicitis in one case; to intussu ception in two cases; to internal hernia and volvulus throu omental rent in one case; to sponge left in abdomen at former operation in one case; to adhesion of omentum t ulcerating tuberculous lymph nodes in lower lumbar region i one case. He suggested the prevention of a recurrence of intussusception by anchoring the cecum by its appendix, using the appendicostomy operation, having done this with good success in one of his cases.

Surgery of the Mastoid

Dr. L. C. Feemster, Nettleton: Nothing offers relief o hope of permanent cure in chronic suppurations of the middle ear but free incision and removal of the offending source. In operating there are two "touch-me-nots," the facial nerve and the lateral sinus. Patients frequently object to operation not realizing the necessity, hence the surgeon should be very plain with them and explain the situation carefully and fully.

Cancer of the Uterus

Dr. J. H. Johnson, Brookhaven: We are too prone to wait until the diagnosis makes itself. More than 50 per cent. of uterine cancers reach the surgeon too late for operation. The solution of the whole problem rests in early diagnosis.

DISCUSSION

Dr. J. S. Ullman, Natchez: I believe in an early diagnosis and operation.

Dr. A. G. Hendon, Louisville, Ky.: This is a matter of great importance and is becoming more and more important. The methods of dealing with it are rapidly improving. Any discharge, whether it is bloody or not, from a woman past the menopause deserves a thorough investigation, and by that I mean a microscopic examination.

Dr. M. Holder, Memphis, Tenn.: There are five symptoms, pain, hemorrhage, offensive discharge, emaciation, anemia. If we wait for the five we will probably diagnose at a stage where it will be of no use. I think it is time that an educational crusade should be begun. Women do not know that between the ages of forty and fifty there is great danger of cancer. We cannot do anything beyond a radical operation. The most radical operation that has ever been done will not effect a cure in these advanced cases of cancer. The only thing left to us is an early diagnosis. We must educate the public, but how are we going to do it? We cannot tell each individual woman. The symptoms that we know are worthless. Any irregularity in the menstrual flow, even before menopause, should be looked into. Do not be deceived by the youth of the patient, though this is a middle-age disease.

Dr. J. B. Bullitt, Oxford: I wish to speak of the "patent-medicine" advertisements which are the cause of many women's deaths. We have allowed the public to go along in ignorance of these matters. There ought to be a regular campaign in the public press—a campaign of education. I think we ought to take up these matters and without prudery, and as soon as we can do so.

Dr. A. G. Payne, Greenville: Over a year ago I wrote to an editor of a paper in this state, a paper of large circulation—the *Issue*. In looking over this paper I cut out twelve advertisements for cancer cure, etc. I wrote the editor of the wrong he was doing in publishing these advertisements. I had a letter from him saying that he did not believe that all "patent-medicines" were good, but that a paper had to depend largely on the advertisements for its support. He said he had as much confidence in some of these as in some of the "M.D.'s," whose cards he published. We are being hampered by the press, and even by the religious press.

Dr. B. L. Cully, Jackson: I have recently had two cases which have forcibly impressed on me the fact that there is another great source of trouble along this line—I refer to the Christian Science cult.

Inguinal Hernia

Dr. John Darrington, Yazoo City, described various operations for inguinal hernia and advocated early interference. He illustrated the steps in the various operations by charts.

DISCUSSION

Dr. R. E. Howard, Durant: I have used ether in some of these cases.

Dr. H. M. Folkes, Biloxi: I should like to emphasize the importance of not pushing the intestine but rather pulling it. I have used hot applications successfully in cases in which cold applications failed.

Dr. M. Holder, Memphis, Tenn.: In strangulated hernia, even after six hours, the intestine has been known to become gangrenous. Taxis is a dangerous thing and particularly in strangulated hernia. It has been found that hernia is not a thing of to-day; it may have been developing for years, and on sudden exertion a sharp pain is felt and the protrusion is noticed. The introduction of catgut sutures has helped a great deal. It has been a wonder to me that not every man of 50 or 60 has had hernia. Straining at stool is a very important factor in developing hernia.

Dr. John Darrington, Yazoo City: The point made by Dr. Howard is an excellent one. Someone has properly said that you must get rid of the sac. There must be no depression left. Dr. Holder is right in his reference to taxis. I believe that whenever a man dies of strangulation some physician is responsible for his death. We should explain to and impress on the patient the danger of strangulation.

Acute Dilatation of the Stomach

Dr. J. A. Crisler, Memphis, Tenn., reported a case of acute dilatation of the stomach following operation and made some pertinent comments on this condition.

DISCUSSION

Dr. R. D. Sessions, Natchez: I believe that we shall accomplish a great deal of good if we wash the stomach immediately before the patient is taken off the operating table.

Conservative Treatment in Advanced Cases of Carcinoma of the Uterus

Dr. J. W. Barksdale, Winona, advocated the use of the cautery in advanced cases of carcinoma of the cervix. He has operated on five patients in this way, giving them great relief.

DISCUSSION

Dr. N. A. McLeod, Brookhaven: I have used the method suggested and probably prolonged life for a year or more. I have been so gratified by the good results that I expect to use the method again.

Dr. M. Holder, Memphis, Tenn.: The doctor does not propose to cure but only to prolong life and to make life more endurable. Cancers of the cervix are much more frequent than cancers of the fundus. Cancers of the fundus are followed by cures much more frequently than are cancers of the cervix. There are several reasons why cancers are not diagnosed. Some of this blame falls on the profession and some on the laity. The time will come when women will know all about cancer of the uterus and that is what we want as guardians of the health of the people. Ignorance on the part of the laity and modesty are some of the causes of the late diagnosis. Not only this, but the saying has gone about that cancer is incurable and that causes trouble. Some people want to be kept in ignorance of cancer. But we know that some patients are curable. Any deviation from the normal menstrual flow during the cancer age should be looked into; any change in the character of the flow should be looked into; any discharge coming on after the menopause; any pain in the pelvis; these are the symptoms. Pain in the pelvis is a rare symptom, I admit.

Dr. S. W. Johnston, Vicksburg, said that he knew of cases of cancer not confined to the cancer age.

Dr. J. W. Barksdale, Winona: I did not propose to convey the idea that any of these patients could be cured by a palliative operation but only that some comfort can be given. Frequently the patients have very great pain and foul discharges. Operation certainly does relieve this condition. I have seen cases in which if I had operated I could have prolonged life for some time.

Diagnosis of Some Common Diseases of the Hip

Dr. W. C. Campbell, Memphis, Tenn: We are too prone to diagnose a case as rheumatism. Pain in the knee is always very suspicious of tuberculosis of the hip. In these cases the treatment should be kept up for a long time, at least three years. He reported some illustrative cases.

The Duty of the State in the Conservation of Human Life and Energy

Dr. H. L. Sutherland, Rosedale: It is a difficult matter for our statesmen to understand that public health means public wealth. The medical association failed to get the last legislature to make an adequate appropriation for the prevention of disease in Mississippi, but the live-stock people got $40,000 to eradicate the cattle tick. This should be a consolation since it shows that the legislature is at last interested in some sort of conservation of health. A discussion of one great preventable and eradicable disease, tuberculosis, then followed. As a business proposition, tuberculosis ought to be wiped out.

DISCUSSION

Dr. C. Kendrick, Kendrick: It has been the rule of Dr. Sutherland's life to uplift humanity. We should get to work. The way we shall have to work to get results is to work on the candidates for the legislature this summer. When we had yellow fever, a long time ago, physicians got together and worked on the candidates and were successful in getting what they wanted. The legislature appropriated money then because the people were stirred up. The state of Mississippi formerly appropriated $40,000. Now it should appropriate $100,000. Let us get to work for results.

Other discussion to the desirability of giving this paper to the press followed. The editor of the Jackson *News* requested it and offered the association 10,000 copies for educational campaign purposes. The offer was accepted and the paper ordered published.

Symposium on Malaria and Allied Conditions

Dr. B. F. McNeal, Ezra, reported cases of urticaria, muscular cramping and rigidity and "morning sickness" in a male, due to malaria and yielding to quinin.

Dr. B. H. Booth, Drew, gave the differential points between comatose malaria and heat-stroke, and reported several cases.

DISCUSSION ON MALARIA

Dr. J. D. Gilleylen, Jackson: We accuse malaria too much. Clean the people out and let them alone and they will be all right. We ought to use quinin as a stimulant.

Dr. B. H. Booth, Drew: I merely tried to show that we sometimes run across malaria which resembles heat-stroke.

Dr. J. D. Gilleylen, Jackson, in reply to a question as to how many people in the malarial districts do not have malaria, said: We have much malaria, I know. We shall continue to have it. But we shall find by the use of the microscope that many cases are not really malaria. I do not question the use of quinin in case of malaria.

Treatment of Uncinariasis

Dr. J. C. Culley, Columbia, described the method of using thymol in this condition.

DISCUSSION

Dr. C. C. Bass, New Orleans: I want to emphasize the importance of the treatment of ground-itch. Those engaged in the health campaign are in a position to distribute information and this is more important than the actual treatment of patients. People must be educated. Tell them that hookworm disease means ground-itch and ground-itch means hookworm disease. They know what ground-itch is and where they get it. Another thing worthy of emphasis is the importance of instructing the patients how to avoid hookworm disease after they have got ground-itch. If the patients are instructed not to swallow the material they are inclined to cough up they will not be so heavily infected. In 1904 I read a paper before this body wherein I made the statement that 50 per cent. of the rural inhabitants of the state were infected with uncinariasis, and now I see that the statement was a conservative estimate.

Dr. J. C. Culley, Columbia: The thing to do is to educate the children in the schools. We are treating a large number of patients now, but we must prevent more people from contracting the disease.

Other Papers Read

The following papers were also read: "Changes Undergone by the Brain as a Result of an Average Day's Work and in Consequence of Poisoning by Tetanus, Rabies and Such Gases as Carbon Disulphid," by Dr. Gustav Mann, New Orleans; "Normal and Abnormal Dentition," by Dr. S. A. Majure, Dixon; "Puerperal Infection," by Dr. O. N. Arrington, Brookhaven; "Twelve Months' Work in Obstetrics," by Dr. B. L. Culley, Jackson; "Gunshot Wound of the Abdomen, Amputation of Penis and Scrotum," by Dr. Julius Crisler, Jackson; "Complications of Lobar Pneumonia," by Dr. T. B. Holloman, Ittabena.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Bulletin of the Johns Hopkins Hospital, Baltimore

May

1 Sir Richard Owen: His Life and Works. C. W. G. Rohrer, Baltimore.
2 A Florentine Anatomist (Leonardo da Vinci). P. Bailey, New York.
3 Embryology and Obstetrics in Ancient Hebrew Literature. D. I. Macht, Baltimore.
4 *Disseminated Caseating Tuberculosis of the Liver. W. S. Thayer, Baltimore.
5 A Peptid-Splitting Ferment in the Saliva. L. M. Warfield, Milwaukee, Wis.
6 Relationship Between the Normal and Pathologic Thyroid of Fish. J. F. Gudernatsch, New York.
7 *Tuberculous Bursitis. S. M. Cone, Baltimore.
8 *A Device to Aid in Keeping the Patient Dry After a Suprapubic Cystostomy. G. Walker, Baltimore.

4. **Tuberculosis of the Liver.**—In Thayer's case, the patient was a colored woman of 49, with a record of rather indefinite abdominal pain of a year's duration and almost continuous remittent or intermittent fever of a moderate degree, with sweating at night and progressive emaciation. Examination of the thorax showed little beyond the appearance toward the end, of rather diffuse râles throughout the lungs. During the last eight months of the patient's life there was a steady enlargement of the liver, which finally extended to a point 10 cm. below the costal margin in the right mammillary line. It was somewhat tender and very firm, and, on one occasion, slight irregularities of the surface were noted. The border which was distinct, seemed a little blunter in the right mammillary line. There was considerable anemia of a secondary type, but without leukocytosis, a persistent albuminuria and cylindruria without polyuria but with a rather low specific gravity, and, in the end, diarrhea with mucus and occult blood in the stools.

The progressively enlarging liver, the age of the patient, the anemia, the fever, which, after all, is common in hepatic neoplasms, all led toward this as a possible diagnosis, despite the fact that beyond the diarrhea with occult blood in the stools no suggestion as to the seat of a primary lesion was to be made out. The indefinite abdominal pain, tenderness and fever, together with the diarrhea occurring in a colored woman were strongly suggestive of peritoneal tuberculosis to Thayer, despite the absence of definite pulmonary signs, but the progressively and apparently great enlargement of the liver did not appear to him to depend on tuberculosis alone. He thought that a rolled up omentum might be adherent to the liver, thus increasing its apparent size, but the sharp border of the liver was against this. Syphilis was ruled out by the absence of a Wassermann reaction and by the fact that antiluetic treatment had been without result. The main possibilities as to diagnosis were hepatic neoplasm; amebic abscess of the liver; peritoneal and intestinal tuberculosis with a rolled up omentum adherent to the liver in such manner as to exaggerate its apparent size. At necropsy there was found a disseminated, caseating tuberculosis of the liver. The feature of the case, which is of special importance, is that such disseminated caseous tuberculosis of the liver should have given rise to a tumor sufficient to constitute the central figure in the clinical picture. It is also important to note that for a week at least during the course of this case there was jaundice, a rare manifestation in hepatic tuberculosis.

7. **Tuberculous Bursitis.**—The main interest in Cone's cases centers about their pathology—one representing the type of rice-body formation in a tuberculous bursa, the other a chronic sclerosing tuberculous process.

8. **A Device to Aid in Keeping the Patient Dry After Suprapubic Cystostomy.**—This device consists of a pure gum rubber sheet, one yard square, with a round hole in the center of from six to eight inches in diameter. The sheet is laid on the patient, next to the skin, so that the opening falls over the suprapubic wound. The usual amount of absorbent gauze is then laid on the wound, and the borders of the sheet are folded in, covering the gauze completely. The sheet with the

enclosed gauze is held in place by an ordinary abdominal binder or Scultetus bandage. By this arrangement whenever the gauze becomes saturated the fluid drains into the dependent portion of the sheet, where it collects and allows almost no leakage for several hours, during which time the patient's bed and clothing are kept dry.

Journal of the Oklahoma State Medical Association, Muskogee

May

9 Fractures of the Elbow. C. Bllekensderfer, Shawnee.
10 Germophobia. A. K. West, Oklahoma City.
11 Diagnosis of Diseases of the Tongue. W. C. Cummings, Oklahoma City.
12 Treatment of Certain Infections of the Skin with Vaccine. W. H. Mook, St. Louis, Mo.
13 The Metric System Simplified. C. T. Scott, Oklahoma City.
14 Symptomatology and Diagnosis of Infantile Paralysis. L. J. Moorman, Oklahoma City.

Journal of the Medical Society of New Jersey, Orange

May

15 The Finished Operation with Respect to Those Done Below the Waist Line and within the Abdominal Cavity or Its Outlets. S. Chandler, Philadelphia.
16 Vaso-Repair. S. A. Cosgrove, Jersey City.
17 *Tuberculosis as It Concerns the Physician. L. F. Flick, Philadelphia.
18 Lesions of the Alimentary Tract. J. T. Pilcher, Brooklyn, N. Y.
19 *Recent Medical Advances, with Suggestions for Improvement of County and State Society Meetings. J. B. Wintersteen, Moorestown.
20 The Backward Child. C. H. Francis, Camden.

17. **Tuberculosis and the Physician.**—It is emphasized by Flick that to make a consumptive non-contagious is simple enough to the man who fully understands the subject and who is willing to direct his patient intelligently. Inasmuch as the contagion of tuberculosis is restricted to the broken down tissue which is given off and, perhaps, in some degree to the excreta, and, inasmuch as these are gross objects which can easily be seen, handled and controlled, all that is necessary is to devitalize them when they are given off without contaminating the individual who gives them off or the environment in which he lives, or at least to dispose of them in such a way that they cannot contaminate anything and cannot be brought back by any force in Nature to a person who might become infected. The only excreta which are at all likely to contain tubercle bacilli are urine and feces, and these are ordinarily deposited where the fermentation that is going on will sterilize them before they can be brought back to either human beings or animals. Practically, there is probably no danger whatever of new implantations in either human beings or animals from these sources. The chief seed supply for new implantations of tuberculosis, undoubtedly, is the sputum given off by people who have tuberculosis of the lungs, and it is this which needs to be looked after above all others.

19. **Recent Medical Advances.**—It is suggested by Wintersteen that one of the meetings of the county society be devoted to medical economics, and that another meeting be open to the public. Only when the public, which is dependent on physicians for protection from disease, is shown their disinterested motives, can physicians hope to gain the influence which is properly theirs. Also, as a means of securing favorable legislation and appropriations for sanitary purposes, such meetings would be invaluable. Finally, the importance of the education of the public school teachers on sanitation and hygiene should be urged on the proper authorities, the appointment of a member of the county society to deliver such lectures to the teachers at their county institutes should be suggested to them. This suggestion is both practical and valuable, as such an arrangement would undoubtedly be gladly welcomed and its good effects on both teachers and pupils cannot be overestimated.

Journal of the South Carolina Medical Association, Charleston

April

21 Importance of Maternal Nursing. W. F. Ashmore, Charleston.
22 Infant Feeding. J. C. Hill, Abbeville.
23 Surgical Interference and Irrigation of Colon in Pellagra. A. D. Cudd, Spartanburg.

West Virginia Medical Journal, Wheeling

May

24 Modern Surgery of the Kidney. J. Ransohoff, Cincinnati.
25 Is Anything the Matter with the Doctors? W. J. Robinson, New York.
26 Extra-Uterine Pregnancy. A. J. Kemper, West Milford.
27 *A New Sign of Tubal Pregnancy. W. W. Golden, Elkins.
28 *An Unusual Case of Superfetation (?). F. T. Ridley, Bluefield.

27. **A New Sign of Tubal Pregnancy.**—The sign found by Golden is this: A more or less striking paleness of the cervix. The absence of this paleness does not, he says, exclude tubal pregnancy, but its presence, when not due to obvious other causes, is almost pathognomonic. It is only present, however, in those cases of tubal gestation in which there is bleeding from the uterus, and only while this bleeding is actively going on. This sign, therefore, Golden considers as of value principally in the differential diagnosis from threatened or incomplete uterine abortion, but it is right here that the practitioner is in the greatest need of help.

28. **An Unusual Case of Superfetation.**—A woman, aged 28, has been married nine years and has two other children. She had a miscarriage in the latter part of 1909, and was curetted. Personal and family history was negative. When Ridley saw her, he noticed that she was badly jaundiced, and inquired as to her condition during the few weeks preceding. She said she had been feeling very well, with the exception of a decided feeling of lassitude, which she had never experienced before. Shortly before 5 a. m. he delivered her of a fine seven-pound girl baby, the placenta and membranes coming away in their entirety about half an hour later. He left the patient fairly comfortable, and when he saw her again about 11 o'clock, he directed treatment to relieve the jaundice. On Friday and Saturday, she complained of a bad odor about the bed, and also said she had not "felt her womb slip back into place." On Sunday evening, about 8 o'clock she was taken with severe labor pains, and passed a fetus and a placenta of about three months' development, in a fearful state of decomposition. After that, with appropriate treatment, she made an uneventful recovery.

Journal of the Michigan State Medical Society, Battle Creek

May

29 Surgical After-Treatment. A. W. Blain, Detroit.
30 Diagnosis of Gastric Ulcer. J. T. Watkins, Detroit.
31 Salvarsan. A. P. Biddie and R. A. C. Wollenberg, Detroit.
32 Diseases of the Thyroid. H. E. Randall, Flint.
33 *Stomach Disorders Requiring Intervention from the View-Point of an Internist. C. D. Aaron, Detroit.
34 Galvanism in Gynecology. E. Milier, Battle Creek.
35 Newer Methods for the Detection of Tubercle Bacilli, with Special Reference to the So-Called Antiformin Method. S. Ide and F. Smithies, Ann Arbor.

33. Abstracted in The Journal, Nov. 5, 1910, p. 1673.

Medical Record, New York

May 6

36 *Vaccine Therapy of Typhoid. W. H. Watters and C. A. Eaton, Boston.
37 Fibrillation of the Auricle. L. F. Bishop, New York.
38 Intravesical Irrigation in Acute Gonorrhea. M. Hünner, New York.
39 Perforating Wounds of Uterus. E. Lanphear, St. Louis.
40 The A-B-C of Ether Administration. P. J. Flagg, Yonkers, N. Y.
41 Value of Salvarsan. W. B. Trimble, New York.
42 *An Unusual Case of Placenta Prævia. Jacob Ohlbaum, New York.

36. **Vaccine Therapy of Typhoid.**—The authors refer to a report made to the hospital board on 140 typhoid patients. Some of these received vaccines sporadically, late in the course of the disease, in a relapse, or for some reason or other the treatment has not been given regularly. Excluding such there have been thirty-six persons who received the regular vaccine treatment in addition to the routine methods. At the same time seventy-one did not receive it. A study of these resulted in the following figures: Average duration of fever: untreated, 25.3 days; treated, 15.5 days. Average residence in hospital: untreated, 57 days; treated, 39 days. Percentage of reinfections: untreated, 25; treated, 9.1. Average gain by those treated: in duration of fever, 9 days; in residence in hospital, 18 days; in relapses, 15.9 per cent.

In the present paper they report their results during a more recent period with the intention of endeavoring to demonstrate the validity of their earlier claim that not only are vaccines innocuous, when properly used, but that their use confers distinct benefit on the patients, reducing the mortality, shortening the duration of the disease, and rendering relapse less liable. In all, thirty-five cases are reported. No aggravation or injury of any kind was demonstrable as a result of any inoculation. There has been a tendency to decrease the size of the dosage rather than to increase it, particularly in making the second and subsequent inoculations somewhat smaller than the first. The more serious the clinical conditions of the patient, the smaller the dose employed. This was apparently well borne out in one case that was considered to be all but hopeless. Here daily doses of one or two million bacilli were followed by gradual change for the better in the clinical symptoms.

42. **An Unusual Case of Placenta Prævia.**—In this case hemorrhages occurred at the seventh and eighth months of pregnancy. The patient was delivered by version after tamponade. Twenty-four hours later she had a chill and an abscess formed in the lower right portion of the abdomen; this abscess proved to be a gonorrheal salpingitis. After incision and drainage at McBurney's point the patient recovered.

California State Medical Journal, San Francisco

May

43 Management of Labor in Contracted Pelvis. H. J. Kreutzmann, San Francisco.
44 Cause and Treatment of Retrodisplacement of the Uterus. D. Hadden, Oakland.
45 Tuberculous Ulceration of the Rectum. W. H. Kiger, Los Angeles.
46 Rupture of the Liver. H. M. Sherman, San Francisco.
47 Skeletal Alignment and Muscular Balance in Their Relation to Pain, Function and Deformities. S. J. Hunkin, San Francisco.
48 Abdominal Myomectomy During Pregnancy. C. A. von Hoffman, San Francisco.
49 A Simple Tonsil Dissector. P. Sumner, San Francisco.
50 A Case of Thrombosis of the Central Retinal Vein. E. W. Alexander, San Francisco.
51 Xanthelasma. D. Friedlander and G. H. Mize, San Francisco.
52 Medical Notes Taken in South Africa. D. W. Montgomery, San Francisco.

Cleveland Medical Journal

April

53 *The Cardiovascular States and Treatment of the Failing Heart. L. F. Barker, Baltimore.
54 *Clinical Value of the Wassermann Reaction. R. Dexter and C. L. Cummer, Cleveland
56 *Id. W. C. Stoner, Cleveland.
57 *Value of the Wassermann Reaction from the Viewpoint of the General Practitioner. W. O. Osborn, Cleveland.
58 A Case of Ruptured Extra-Uterine Pregnancy; Streptococcus Infection of the Pelvic Cavity and the Ectopic Sac: Recovery. H. Robb, Cleveland.
59 *Four Cases of Sarcoma of the Nose and Throat Treated with Coley's Toxins. S. H. Large, Cleveland.

53. **Cardiovascular States.**—It is pointed out by Barker that any routine or schematic method of treating cardiac cases will, in many instances, be doomed to failure. In the therapy of cardiovascular disease, as in all other therapy, individualization must be the watchword, and the condition of the patient as the whole, not simply that of his heart and blood-vessels, must be studied carefully and the interrelation of the different organs kept in mind.

54. **The Wassermann Reaction.**—This report is a study of the results of 773 reactions made on 646 patients. A number of reactions have been repeated, a fact which should add value to the study. The authors examined seventeen individuals in perfect health in whom there was no suspicion of syphilis. All gave negative results. Furthermore, they had 163 persons suffering with diseases other than syphilis, in which syphilis could be excluded with reasonable certainty. All were negative, except one case of scarlet fever. This was examined during the acute stage, and was positive. The reaction became negative at a later period in the disease. Of nineteen cases of primary syphilis, sixteen were positive; three were negative, but later became positive. In the secondary stage, the proportion of positive reactions reached from 95 to 100 per cent. With tertiary syphilis, positive reactions were secured in 90 per cent. of cases examined. So far as latent syphilis is concerned, the authors believe that in approximately 50 per cent. of the cases of syphilis considered cured, the infection is in temporary abeyance only, and may become active at any time. In a case of congenital syphilis, where the family history was absolutely negative, the reaction checked the clinical findings in spite of the history.

The authors would not regard the reaction as specific in the ordinary accepted sense of the term, as it depends on biochemical phenomena as yet not understood. In this climate, a positive reaction is a specific sign of syphilis in at least 99 out of 100 cases. In the residue, syphilis usually is not to be completely excluded. In other words, a positive reaction is a definite symptom, more definite than any previously at hand. A negative reaction carries much less weight. A single negative reaction cannot be taken as positive evidence against existing syphilis. With certain limitations, the more active the disease, the more likely is the reaction to be positive. The results of the reaction are of great assistance in treating syphilis but should be interpreted by one of experience with both the clinical and the serologic side of the question. The test can never supplant competent and exhaustive clinical observation but can aid it greatly,

56. **Clinical Value of the Wassermann Reaction.**—During a period of ten months, Stoner has tested 450 cases, making at least 800 tests. He has not found a positive reaction in every patient who gave a history of lues, but in every one in whom active manifestations were present a positive reaction has been found in the absence of recent therapy. On the other hand, he has not had a positive reaction in a single non-syphilitic condition. A constancy of the reaction has been found in cases in which observations have been made at different times. Positive findings have remained positive unless therapy was instituted, and negative findings have remained negative unless made negative by therapy, in which case they would become positive after the discontinuance of the therapy. Positive reactions have been found in a few obscure conditions in which a definite history of lues was not obtainable. In individuals treated over an extended period of time with protoiodid of mercury by mouth the reaction became negative after a course of treatment, but when therapy was discontinued for a month or two the reaction again became positive before clinical manifestations developed. Observations made in twenty-five cases classed as suspected lues, clinically diagnosed lues and non-luetic conditions showed 30 per cent. of positive reactions. Ten of these were clinically diagnosed lues with secondary and tertiary manifestations. Seven, with and without treatment, were found positive. In three, found negative, specific treatment was being carried out. One case clinically diagnosed chancroid was found positive. One individual being treated for supposed varicose ulcers had a few old scars on the face and arm but denied infection. A positive reaction was obtained and the headaches and body pains improved under iodid of potash and mercury. In a series of fifteen cases clinically diagnosed tabes and pseudotabes, 50 per cent. were found positive. Of 125 cases clinically diagnosed as primary, secondary and tertiary lues, tabes, paresis, progressive muscular atrophy, cerebrospinal lues, brain tumor, neurasthenia with indefinite history of soft chancre, paraplegia, hemiplegia, Hodgkin's disease, nephritis, arteriosclerosis, aneurysm, typhoid, pneumonia, pleurisy, cases of questionable diagnosis and normal cases, 24 per cent. were found positive. Positive reactions were not found in a single condition in which syphilis could be excluded. Ten selected cases of scarlatina in the second to the fifth week of the disease were found negative. Ten cases of diabetes mellitus were found negative. Observations made on thirty selected cases of incipient pulmonary tuberculosis were negative. Four cases of incipient pulmonary tuberculosis were found positive, two of which had clinical manifestations in the way of congenital earmarks and mucous patches in the throat that earlier were thought to be tuberculous. In twelve ward cases with various clinical diagnoses, two positive reactions were obtained, one of which proved to be cerebrospinal lues, and the other an obscure condition in

which lues could not be excluded. Thirty-five cases of idiopathic epilepsy, fifteen cases of dementia præcox, five cases of alcoholic insanity, manic depressive insanity and organic brain disease were found negative. In seventy-five cases of idio-imbecility; cretinism; Mongolian idiocy; microcephalic and macrocephalic idiocy; and feeblemindedness, in none of which was a history of lues obtainable, ten gave positive reactions: of these one patient was an idio-imbecile with congenital earmarks; eight others were imbeciles without luetic manifestations and one was a microcephalic idiot. In a series of eighty-one cases of general paralysis of the insane, 81 per cent. were found positive either with the blood-serum, cerebrospinal fluid or both. A positive Noguchi and Ross Jones globulin test was found in forty of the forty-five cases analyzed. Of the forty cases all gave a positive Wassermann and an average lymphocyte count of 35 per c.mm. Of the five cases found negative with the Ross, Jones and Noguchi tests a negative Wassermann was also found and the lymphocyte count gave an average of 10 cells per c.mm.

57. **The Wassermann Reaction.**—It is pointed out by Osborn that use should be made of the cerebrospinal fluid also in cases with nervous symptoms before resting reassured after a negative Wassermann with the blood-serum alone, for while an increased cellular content of the spinal fluid is, in certain cases, almost pathognomonic of a previous syphilis, if a positive Wassermann reaction with this fluid accompanies the lymphocyte increase it adds the finishing diagnostic touch.

59. **Coley's Toxins in Sarcoma of the Nose and Throat.**—In one of the four cases reported by Large, good results were obtained from the use of the toxins, the patient being alive three years after treatment. The original tumor was situated in the postnasal region, practically filling its left space. It had its origin from the periosteum covering the basilar process of the occipital bone. On microscopic examination, the tumor proved to be a round-cell sarcoma. In three months there was a recurrence; this time the growth was larger than ever, as it had now invaded the soft tissues of the nose. Practically the same operation, only more extensive than at first, was performed. Two weeks later (Jan. 12, 1908) injections of Coley's toxins were begun. Two months after the operation, a small growth, the size of a marble, was noticed in the old pharyngeal scar. The toxins were then injected directly into this growth every third day, with the result that the tumor entirely disappeared. On June 9, 1910, a small growth was found on the lateral wall of the pharynx. This was removed and proved to be a sarcoma. Injections were continued as before, and kept up until Dec. 3, 1910, when they were discontinued as there was no evidence of any return of the growth.

Illinois Medical Journal, Springfield

May

60 *End-to-End Anastomosis of the Abdominal Aorta, Using Absorbable Magnesium Rings. V. D. Lespinasse, G. C. Fisher and J. Violet, Chicago.
61 Treatment of Suppurative Infections of the Pleura and Lungs. C. J. Whalen, Chicago.
62 Diverticula of the Intestine. W. Cuthbertson, Chicago.
63 Salvarsan. C. Wagner, Chicago.
64 Mixed Phase of Manic-Depressive Insanity. W. L. Treadway, Jacksonville.
65 Inherited Syphilis. L. C. Pardee, Chicago.
66 Diphtheria. A. J. Butner, Harrisburg.
67 Removal of Appendix During Laparotomy for Other Conditions. A. Goldspohn, Chicago.
68 Are Reforms Necessary in the A. M. A. and Its Constituent Bodies? G. F. Lydston, Chicago.

60. A similar article appeared in The Journal, Nov. 19, 1910, p. 1785.

Kentucky Medical Journal, Bowling Green

May 1

69 Medical Ethics and Organization. W. R. Burr, Auburn.
70 Ptomain Poisoning. H. D. Rodman, Bardstown.
71 The Salicylates. T. J. Marshall, Bardwell.
72 *Diphtheria in an Institution. W. J. Thomasson, Newport.
73 Madstone. W. Blair, Glen's Park.
74 Erysipelas. W. A. Lackey, Hopkinsville.
75 Prostatitis. J. A. O. Brennan, Louisville.
76 Scarlet Fever. O. E. Senour, Union.
77 Management of Normal Labor. J. J. Adams, Munfordsville.
78 What Shall We Do with the Housefly? D. W. Gaddie, Hodgensville.
79 Significance of Albuminuria. W. F. Blackford, Louisville.
80 Treatment of Bronchopneumonia of Children. W. P. Drake, Rockfield
81 Extra-Uterine Pregnancy. E. A. Harthill, Pewee Valley.
82 Abortion. W. W. Lasley, Lewisburg.
83 Indication and Contra-Indication for Chloroform and Ether. T. O. Helm, Bowling Green.

72. **Diphtheria in an Institution.**—The first case of diphtheria in this epidemic developed in less than forty-eight hours after a public gathering. Among the guests were people from a locality where diphtheria had been and was prevalent at the time. The health of the institution had been good and Thomasson was unable to trace the infection in any other way than by the contact of the visitors with the inmates. In sixty hours after the second case was discovered, every child (seventy-five) in the institution had an immunizing dose of 1,000 units. He used 85,000 units as single doses. Five adults had 2,000 units, this included the physicians. One child had 2,000 units, and five adults had 1,000 units. After the immunizing dose of 1,000 units no further cases occurred till the twelfth day, when a girl 21 years of age went down with the disease. This girl had not been exposed after receiving her immunizing dose of 1,000 units till on the eighth or ninth day after receiving the antitoxin. On this day she dressed a child after death (the only one in the series) and on the twelfth day after the protective dose developed the disease.

Ohio State Medical Journal, Columbus

May

84 Medical Ethics from the Viewpoint of a Layman. W. O. Thompson, Columbus.
85 Ten Cases of Rupture and Gangrene of the Gall-Bladder as an Emergency Condition. H. J. Whitacre, Cincinnati.
86 Cystitis in the Female. H. A. Baldwin, Columbus.
87 Test of Insanity in the Criminal Courts. W. A. Carey, Cleveland.
88 Indications for Operating in Cancer. G. M. Todd, Toledo.
89 Infant Mortality; Its Principal Causes; Prophylaxis. A. F. Furrer, Cleveland.
90 Medical Evolution; an Interpretation. D. S. Gardner, Massillon.
91 A Case of Bilateral Ophthalmoplegia Externa with Bulbar Symptoms. F. W. Alter, Toledo.

American Journal of Obstetrics and Diseases of Women and Children, York, Pa.

May

92 *Test of Labor in General and Hospital Practice. R. Peterson, Ann Arbor, Mich.
93 *Menstrual Disorders of Obscure Origin. H. C. Coe, New York.
94 Twenty-Five Cesarean Sections with no Fetal or Maternal Mortality. O. P. Humpstone, Brooklyn, N. Y.
95 A Case of Primary Ovarian Pregnancy. I. C. Rubin, New York.
96 The Chamberlens and the Obstetric Forceps. C. B. Ingraham, Denver.
97 Case of Torsion of the Normal Uterine Appendages. C. C. Norris, Philadelphia.
98 Pulmonary Embolism and Thrombosis from the Obstetric Standpoint. C. Foulkrod, Philadelphia.
99 Fibroids of the Uterus Complicating Pregnancy, Labor and the Puerperium. J. F. Moran, Washington, D. C.
100 The Present Status of the Midwife. T. Darlington, New York.
101 Influence of the Midwife on Infant and Maternal Morbidity and Mortality. R. W. Lobenstine, New York.
102 *The Remedy for the Midwife Problem. J. C. Edgar, New York.
103 Gynecology and the Country Doctor. B. R. McClellan, Xenia, Ohio.
104 Delinquent Children from a Medical Standpoint. S. Block, Brooklyn, N. Y.
105 Atypical Aberrated Children. E. H. Bartley, Brooklyn, N. Y.
106 Abdominal Rheumatism. LeG. Kerr, New York.
107 A Study of Infant Mortality. I. J. Hill, New York.

92. **Labor in General and Hospital Practice.**—Peterson points out that it will make considerable difference in the practical application of the test of labor whether the patient be at home or in a well-appointed maternity. If in the latter, one need not wait so long, for operative treatment by skilled hands, when vaginal examinations have been reduced to a minimum and made under the strictest aseptic precautions, is a far different procedure as regards mortality and morbidity, than when similar surgery is performed in private residences. In the border-line cases of pelvic contraction the patient should be given every chance for spontaneous delivery before operative interference is instituted. Forceps should then be gently applied. In case of failure and in the presence of possible sepsis, it is far better to perforate the child rather than to attempt abdominal Cesarean section. In this way the chances are in favor of saving one patient. The abdominal operation, he asserts, means the loss of both in a large percentage of cases.

93. **Menstrual Disorders of Obscure Origin.**—Inasmuch as in many cases of painful menstruation, the dysmenorrhea is not due to minor palpable changes in the uterus or ovaries, as is proved by the fact that they are not permanently relieved by operation, Coe feels that the conclusion is forced on us that such cases belong to the neurologist rather than to the gynecologist. Hence the propriety of careful observation of the patient, a guarded prognosis, and less frequent resort to operation before fair trial has been made of local and general treatment.

102. **Remedy of the Midwife Problem.**—A general outline of the plan suggested by Edgar would include the following propositions:

1. The establishment of schools for midwives in such existing out-door maternity services as shall elect to do so.
2. The establishment of out-door maternity services, in connection with existing maternity hospitals which do not already possess them, for use as schools for midwives.
3. In each maternity service teaching midwives, the establishment of a school for midwives, with teachers appointed especially for the teaching of this class of pupil.
4. Rooms should be set aside for lectures, recitations, demonstrations, and drilling in asepsis and the examination of pregnancy. For this last patients applying for care during confinement should be utilized.
5. Time not occupied in attending cases of confinement in their own homes, or in lectures, demonstrating, and so on, could be used in witnessing operations and confinements in the delivery-room of the hospital proper.
6. The bulk of the instruction should be given by paid instructors in the patient's own home. Eventually the more intelligent of the graduate midwives of various nationalities could, with advantage, be appointed as instructors in the schools for midwives.
7. Text-books for the instruction and use of the midwives would naturally appear as the result of such teaching as has occurred on the continent of Europe.

Lancet-Clinic, Cincinnati

May 6

108 *Standardization of Bacterins. R. T. Pettit, Chicago.
109 Surgical Contra-Indications. B. M. Ricketts, Cincinnati.
110 The Research of the Practitioner. H. R. Alburger, Bloomington, Ind.

108. Abstracted in THE JOURNAL, Oct. 1, 1910, p. 1221.

Yale Medical Journal, New Haven, Conn.

March

111 *Use of Silver Wire for Fractures of the Patella. J. E. Root, Hartford, Conn.

111. **Silver Wire for Fractures of the Patella.**—Root is a firm believer in the operative form of treatment for fracture of the patella. Of the forty-three cases reported, he wired thirty-nine by the open method and four were treated by the ordinary means of external strapping and bandage. The result in all operative cases was early union and function. In the patients not operated on, the result was good functional recovery. There were no deaths in this series; no case of infection; and no case of removal of wire. Root emphasizes that fractures of the patella, in which the capsule and lateral ligaments are intact and fragments are not separated, can be successfully treated without operation. Fractures of the patella with wide separation of fragments, he would treat by the open method. Root uses silver wire of No. 16 caliber passed through the anterior two-thirds of fragments.

St. Paul Medical Journal

May

112 *Feeding in Typhoid. E. J. Abbott, St. Paul.
113 Present Status of Functional Kidney Tests. P. B. Cook, St. Paul.
114 Gall-Stones. T. Mann, Minneapolis.

112. **Feeding in Typhoid.**—Abbott advocates a more liberal diet and longer intervals between feedings.

Interstate Medical Journal, St. Louis

May

115 Treatment of Club-Foot in Infancy. D. Silver, Pittsburg, Pa.
116 *Management of Children Predisposed to Nervousness. L. F. Barker, Baltimore.
117 *Chronic Hypersecretion. J. A. Storck, New Orleans.
118 Perineal Prostatectomy: Its Preliminary Treatment and After-Care. J. R. Caulk, St. Louis.
119 Subconscious Phenomena. S. P. Goodhart, New York.
120 *Later Views on Pellagra. F. Eskridge, Atlanta, Ga.

116. This article was also published in the *Bulletin of the Medical and Chirurgical Faculty of Maryland*, March, 1911, and was abstracted in THE JOURNAL, March 18, 1911, p. 850.

117. **Chronic Hypersecretion.**—The necessity of viewing every patient with chronic hypersecretion as an initial case of gastrectasis, is emphasized by Storck, as also, the fact that the primary cause of the hypersecretion should be carefully looked for with the object of instituting early and proper treatment. In a patient under treatment, Storck interdicted smoking. Rest and quiet are advised. Methodical lavage with a quart of warm water containing a teaspoonful of bicarbonate of soda was suggested before retiring, if nocturnal pain and vomiting should recur; otherwise the lavage was to be practiced in the morning before breakfast. The following prescription was ordered to be taken after meals:

℞	gm. or c.c.		
Pulveris radicis rhei...........	1|33		ʒi
Sodii bicarbonatis	8|	or	ʒii
Magnesia usta	14|		℥iiiss

M. et fiat. pulvis.
Sig.—Half teaspoonful in water after meals.

For the pain, menthol and spirits of chloroform were prescribed. The diet advised for the present is to consist chiefly of whites of eggs, cream, olive oil and salt-free butter. If the condition continues to improve, the diet is to be made more liberal; but should food stagnation prove troublesome, a competent surgeon is to be consulted.

120. **Pellagra.**—Eskridge believes that pellagra is not essentially a corn disease and that it may be found under conditions that absolutely eliminate corn from the possible causes.

Memphis Medical Monthly

March

121 *Diagnosis and Treatment of Kidney Stones. W. S. Anderson, Memphis.
122 Aids in the Diagnosis of Nervous Diseases, with Special Reference to the Reflexes. W. G. Somerville, Memphis.
123 Aneurysms of the Abdominal Aorta. W. T. Pride, Memphis.
124 *Benign Tumors of the Uterus. E. M. Holder, Memphis.
125 Use of Quinin and Urea Hydrochlorate as a Local Analgesic. A. E. Cox, Helena, Ark.

Dominion Medical Monthly, Toronto

May

126 *An Unusual Complication of Small Ovarian Cysts. J. F. W. Ross and A. C. Hendrick, Toronto.
127 *A Skin Eruption in Six Consecutive Cases of Poliomyelitis. A. G. Brown, Toronto.
128 Salvarsan. G. Chambers, Toronto.
129 Membranous Pericolitis. J. P. Kennedy, Wingham, Ont.

121 and 124. Abstracted in THE JOURNAL, Dec. 10, 1910, pp. 2090 and 2091.

126. **Complication of Small Ovarian Cysts.**—In this case a subligamentous ovarian cyst was tightly bound down to the rectum and lateral pelvic wall by rather dense adhesions, compressing the iliac veins, both internal and external. The left leg was enormously congested and almost one-third larger than the right. The swelling extended from the toes to the groin. The interesting feature in the case is that an ovarian cyst about the size of an orange could cause so much obstruction, especially when one remembers how fluctuating a cyst of that size usually is. The explanation is purely mechanical, and the symptoms were due to the cyst being bound down in a most unusual manner by adhesions to the wall of the true pelvis.

127. **Skin Eruption in Poliomyelitis.**—The skin eruption described by Brown appeared in six consecutive cases and followed the same course in each case. In each of the six cases a vesicular eruption was present when the patient was first seen. The rash was typical, being present more or less all over the body, papular and vesicular, more especially on the lower extremities, anterior and posterior surfaces, and on the dorsum of the feet. The lumbar punctures, smears and cultures from the serum of the vesicles have shown no uniform results, while sections through the vesicles show the latter not to be deep-seated, as one would imagine on palpating them, but on the contrary, to be only superficial, i. e., between the malpighian and corneous layers of the skin; and apart from a little perivascular infiltration no other pathologic change could be found.

Mississippi Medical Monthly, Vicksburg

May

130 Apomorphin Hydrochlorate as an Antispasmodic. L. D. Harrison, Clarksdale.

American Journal of Surgery, New York

May

131 Stricture of Urethra; Why Stricture Is Less Prevalent than Formerly; Errors in Diagnosis. G. K. Swinburne, New York.
132 Dilatation of the Male Urethra, with Especial Reference to Mechanical Dilators. C. W. Bethune, Buffalo, N. Y.
133 Sterilization of Woven Catheters and Their Aseptic Conservation. M. W. Ware, New York.
134 Hydrocele. J. R. Alvarez, New York.
135 A Criticism of Bevan's Ligation of the Cord for Undescended Testicle. E. H. Eising, New York.
136 Case of Inguinal Ectopia Testicle Operated on After the Method of Bevan. L. W. Allen, San Francisco.
137 Clinical Peculiarities of Gonorrhea in Child-Bearing Women. B. C. Hirst, Philadelphia.
138 Supravaginal Hysterectomy in Double Gonorrheal Salpingitis. C. R. Hyde, Brooklyn, N. Y.
139 Criticism of the Technic of Ureteral Catheterization of Dr. Howard Kelly. A. H. O'Neal, Wayne, Pa.
140 *Two Cases of Extraperitoneal Transplantation of Ureters Into the Rectum for Extroversion of the Bladder. J. V. Arumugum, Bangalore, India.

140. **Transplantation of Ureters.**—Aug. 20, 1906, a boy, aged 18, was operated on for extroversion of the bladder and the ureters were transplanted into the rectum, according to the method advised by Peters; of Jaranto. The patient was discharged from the hospital fifty-eight days after the operation. At the time he left the hospital he was able to retain urine in the rectum for about four hours during the day and for nearly nine hours at night. April 15, 1907, a boy, aged 13, had the ureters transplanted into the rectum for extroversion of the bladder and was discharged from the hospital three months after the operation. This patient was able to retain urine in the rectum for about four hours during the day and for nearly five hours at night at the time of his discharge. Feb. 16, 1911, the second patient was able to retain urine in the rectum for nearly six hours during the day, and was at times disturbed at night only once between 9 p. m. and 6 a. m. The first case of extroversion of bladder was last seen by Arumugum about three months ago, when the patient was able to retain urine in the rectum for from five to six hours during the day and for nearly eight hours at night.

Maryland Medical Journal, Baltimore

May

141 The Profession of Medicine and Its Relation to the State. F. B. Smith, Baltimore.
142 Financing of State Board Work. H. Harlan, Baltimore.
143 The Medical Fathers of Baltimore County, Maryland. W. J. Todd, Mt. Washington.
144 Bacterial Vaccines in Staphylococcus Infections. H. W. Stoner, Baltimore.

St. Louis Medical Review

April

145 *Cervical Ribs. R. E. Schlueter and A. F. Henke, St. Louis.
146 Progress of Genito-Urinary Surgery in the Last Twenty-Five Years. F. Kreissl, Chicago.
147 Treat Only After Making Your Diagnosis. F. R. Burdeno, Garrett, Ind.
148 Conjunctivitis (Ophthalmia) Neonatorum. S. H. Brown, Philadelphia.
149 Simplest and Best Treatment for Fracture of the Femur. R. Peter, Chicago.
150 Puerperal Sepsis or Mastitis. J. E. Dale, Fort Collins, Colo.
151 Case of Colon Necrosis. E. A. Babler and L. S. Luton, St. Louis.
152 Tabes Dorsalis and Excessive Venery. L. H. Mettler, Chicago.

145. **Cervical Ribs.**—In this case, the pressure of the supernumerary rib on the subclavian artery encumbered the heart in a somewhat similar manner as does an aortic stenosis, though to a much milder degree. And, although the difference in the radial arteries amounted to but 15 c.mm. of mercury, it produced an appreciable effect on a heart that had already to contend with another lesion.

Atlanta Journal-Record of Medicine, Georgia

April

153 Mayfield-Tyzzer Hospital for Men at Laichou Fu, China. J. M. Gaston, Laichou Fu, China.
154 The Social Evil: Its Prevalence and Results. R. R. Kime, Atlanta.
155 Obligations of the Medical Profession. F. Bradley, Atlanta.
156 Treatment of Anterior Poliomyelitis. T. Toepel, Atlanta.

New York Medical Journal

May 6

157 Analysis of Results Obtained in the Treatment of Syphilis with Salvarsan. J. A. Fordyce, New York.
158 Therapeutics of Syphilis. V. C. Pedersen, New York.
159 *Typhoid Cholecystitis. J. E. Summers, Omaha, Neb.
160 *Fatal Case of Hemorrhagic and Gangrenous Varicella. F. C. Knowles, Philadelphia.
161 *An Important Factor in Circulation. A. Rose, New York.
162 Cinematographic Demonstration of Normal Gastric Peristalsis and Its Importance in Diagnosis of Carcinoma of the Stomach. G. E. Pfahler, Philadalphia.
163 *Test Breakfast versus Fasting Stomach Contents. A. Goldman, New York.
164 A Possible Source of Error in Gastric Analysis. C. S. Fischer, New York.
165 Quinin and Urea Hydrochlorid as a Local Anesthetic. W. Green, Louisville.

May 13

166 *Universal Congenital Asthenia. C. L. Greene, St. Paul, Minn.
167 Study of Fats and Lipoids in Animal Tissue. J. Wright, New York.
168 *Nervous Affections in Relation to the Adjustments of the Eyes. G. T. Stevens, New York.
169 A Case of Typhoid Osteomyelitis Successfully Treated with a Vaccine. R. C. Rosenberger, Philadelphia.
170 Pupillary Disturbances in the Alcoholic Psychoses. F. M. Barnes, Washington, D. C.
171 Salvarsan in Syphilis. V. C. Pedersen, New York.
172 *A Bacteriologic Study of the Human Bile. P. F. Williams, Philadelphia.
173 *Visceroptosis, an Improved Abdominal Binder. H. Weinstein, New York.
174 Open Treatment of Fractures. W. H. Taylor, Port Arthur, Ont.

159. Abstracted in THE JOURNAL, Jan. 28, 1911, p. 299.

160. **Hemorrhagic and Gangrenous Varicella.**—The case reported by Knowles shows that there is probably a true form of hemorrhagic varicella, starting with the usual type of vesicles with clear contents, which some hours after their formation become filled with blood. However, it is a rare complication of varicella. The latter hemorrhagic vesicles may lead to the formation of gangrenous areas. The case of the author comes under this heading. The virulence of the infection and the resistance of the individual govern the hemorrhagic and gangrenous tendency. There is also a true form of varicella, in which the contents of the vesicles become purulent and may lead to gangrenous areas, but usually to the ecthymatous or impetigenous types. The term varicella gangrenosa should be applied only to cases of gangrene directly caused by varicella. The term dermatitis gangrenosa infantum should be applied to cases of gangrene in children, whether associated with varicella or not, if not directly dependent on that condition.

161. **An Important Factor in Circulation.**—Rose cites the case of an elderly gentleman suffering for several years from attacks of vertigo and unconsciousness. Almost daily, sometimes hourly, and even at shorter intervals, the alarming symptoms appeared. The frequency of the pulse was from 27 to 31 beats in the minute; only every second contraction of the heart caused pulsation. All the physicians who saw the case diagnosticated, quite correctly, myocarditic affection and treated him accordingly, but without success. The enormously distended abdomen of the patient had at first not been taken into consideration. The reduction of its size, although it did not cure the diseased myocardium, was followed by cessation of the attacks of vertigo and unconsciousness. The size and the weight of the abdomen having been reduced, the work of the heart was materially relieved to such an extent that even the imperfect contractions were sufficient to fill the brain with the necessary amount of blood. Rose urges that in cases of dyspnea and pulmonary hemorrhage caused by heart affection, one should apply the abdominal belt.

163. **Test Breakfast vs. Fasting Stomach Contents.**—While Goldman does not object to the test breakfast, he found that for diagnostic purposes in routine work, not only is pumping of the fasting stomach more convenient, but it is of much more value, even for absolute diagnosis, in some cases. The test breakfast in all the cases examined by Goldman was of no value at all, except where no free hydrochloric acid was found in the fasting stomach contents, and when the breakfast was given, it served only to substantiate the diagnosis previously made from the fasting stomach contents. In cases in which the breakfast was given and a diagnosis made on

that alone, after the fasting stomach was pumped, it had to be changed in many cases; while, if fasting stomach contents were obtained, the diagnosis was, as a rule, not changed after the test breakfast was given.

166. **Universal Congenital Asthenia.**—The clinical history of this condition is reviewed by Greene. Greene says that assuming with Stiller, who was the first to call attention to it, that a large number of persons are born asthenic and that this defect involves every structure and function of the body, one can readily follow his argument, which brings into one pathologic circuit a multitude of ailments hitherto regarded and treated as separate and distinct conditions. Among these are the so-called phthisical habitus, neurasthenia of the commoner type, certain apparent renal inadequacies, functional albuminurias, nephroptosis, enteroptosis, and that enormously predominant group of dyspepsia, known as the gastric neuroses. Stiller insists that an abnormally fluctuating or actually floating tenth rib (*costa decima fluctuans*) is almost pathognomonic of this condition, and this Greene believes to be true, though to him the general structural stigmata are even more interesting. There is absolutely no limit to the pain manifestations of asthenia. These may be such as to point to relaxation of the sacro-iliac ligaments, to chronic neuralgias, trifacial, sciatica, or what not, to uterine disease, gastric or duodenal ulcer, gall-stones, or derangements of almost any organ of the body, yet whatever the location and how great the intensity, they disappear like magic under rest and proper nutrition.

168. **Nervous Affections and Adjustments of the Eyes.**—In this paper Stevens considers facial expression as influenced by the adjustments of the eyes and as elements in the etiology of certain important nervous disturbances.

172. **The Human Bile.**—One hundred and one specimens of bile were studied by Williams, and, in addition, twelve calculi were examined. Of this number, organisms were recovered in eight cases, and from the calculi organisms were recovered in six instances. The organisms that were observed most frequently were those of the colon type. In thirty-seven, pure cultures of the colon bacillus were present, and, in association with other organisms, *Bacillus coli* was observed thirty-five times. The typhoid bacillus was recovered in two instances: one, in which typhoid fever had existed thirteen years previously, and in the second instance, from a person dying as a result of typhoid perforation. A very interesting observation was made regarding the presence of a large Gram-positive bacillus which was found in twenty-six cases. This organism was morphologically and tinctorially identical with the *Bacillus aerogenes capsulatus*. This organism developed abundantly in the bouillon cultures where colon and other organisms developed, and in a number of instances anaerobic cultures.

173. **An Improved Abdominal Binder.**—This binder is built on the same principle as all the others having, however, as an extra enforcement six elastic straps, three of which arise from each side of the body of the binder. These straps cross posteriorly and when brought around to the front are buckled, thus affording additional support to the bandage. The tighter the straps are drawn the more snugly does the bandage hug the abdomen and there is no possibility of its loosening. The four lower straps push the abdominal wall upward and backward and retain it in that position. The upper two straps are made use of in stout individuals only.

Texas State Journal of Medicine, Fort Worth

May

175 Case of Increased Intraventricular Tension; Operation and Recovery. C. Venable, San Antonio.
176 Growing Disuse of Alcohol in Therapeutics. M. J. Bliem, San Antonio.
177 How the Roentgen Ray Aids Nature in the Cure of Intractable Skin Diseases. G. D. Bond, Fort Worth.
178 Case of Hereditary Ataxia or Family Ataxia. J. S. Turner, Dallas.
179 Posttyphoid Necrosis of the Thyroid and Arytenoid Cartilages. Microtia. S. M. Morris, Galveston.
180 Case of Syringomyelia. L. B. Jackson, San Antonio.
181. What the General Practician Should Know About the Eye. D. T. Atkinson, Dallas.
182 Indications and Contra-Indications for Curettage. C. M. Yater, Roswell, N. M.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

April 29

1 Persistence of Disease Germs in the Human Body. Sir H. C. Cameron.
2 *Salvarsan and Arsenic Cancer. Sir J. Hutchinson.
3 *The Place of the Hospital in a Civilized Community. L. E Shaw.
4 *The Syphilitic Factor in the Hemiplegias and Diplegias o Infancy and Childhood. C. R. Box.
5 Roentgen-Ray Therapy. J. R. Riddle.
6 Extensive Venous Infection Complicating Middle-Ear Disease Thoracic Empyema: Recovery. N. Patterson.
7 Three Cases of Malignant Disease of the Spine. T. D. Luke
8 Cases Under the Workmen's Compensation Act, and Other of Medicolegal Interest. L. A. Parry.
9 Radium Water Therapy. W. Armstrong.

2. **Salvarsan and Arsenic Cancer.**—On the basis of a lon experience with arsenic, Hutchinson believes himself justifie in stating that it is proved that the use of arsenic may creat a proclivity toward malignant forms of growth. These ar not by any means always the same; most conspicuous an frequent are epitheliomata, but they are not the only ones for various forms of sarcomata and probably endotheliomat occur in the same connection, and possibly in the same individual. Since he became aware that arsenic gives proclivit to cancer, he has almost abstained from its employment, an would now advocate its use only in cases which very speciall demand it. Hutchinson calls special attention to salvarsan i this connection.

3. **Place of the Hospital in a Civilized Community.**—Shaw' paper is based on four propositions: 1. That no communit can regard itself as civilized which does not recognize a common duty to render medical assistance to those of its members whose conditions of health make such assistance necessary, and whose economic position does not enable them t secure it. 2. That it is undesirable for any civilized community, as at present organized, to provide without cost medical assistance for all its members regardless of their economi position. 3. That every civilized community should encourag its members to make provision by some method of mutua insurance against those insurable risks which without suc assistance they are unable to meet. 4. That in every civilize community specialization of effort is essential to effecti performance.

4. **Syphilitic Factor in Infantile Hemiplegia.**—The gener consensus of opinion is that syphilis is not a general fact in the upper neurone paralysis of childhood, and this opini appears to be based on very good grounds. Nevertheless, Bo points out that a reconsideration of the part syphilis pla may be instructive and appears to be desirable for two re sons: First, because, in some cases at least, a permanent a crippling disability of both body and mind may be prevent by an intelligent anticipation of events; and, secondl because, thanks to the methods of diagnosis perfected of la years, it may yet turn out that syphilis is a more importa factor in the production of these paralyses than many ha suspected. He refers to a considerable number of cases whi he thinks are proof in favor of his views.

Lancet, London

April 29

10 Plague. Wu Lien-Teh (G. L. Tuck).
11 *Sensibility of the Gastro-Intestinal Tract in Health and D ease. A. F. Hertz.
12 The Microbic Factor in Gastro-Intestinal Disease and Treatment. B. Dawson.
13 *Cases of Advanced Tuberculous Joints Treated by Ileocol tomy. H. Chapple.
14 A Case of Lymphadenoma in a Woman Aged Sixty-Thr E. P. Stratford.
15 Two Cases of Acute Intussusception and Appendicitis. L. Martin.
16 The Septicemic and Pneumonic Plague Outbreak in M churia and North China. G. D. Gray.

11. **The Gastro-Intestinal Tract in Health and Disease** The experimental and clinical investigations of Hertz lead h to the conclusion that the view held by Ross is correct, a that disease of the alimentary canal may cause true visce pain, which is often present alone, but may be associated w pain which is referred to the skin, muscles and connect tissue connected with the same spinal segments. In draw

the conclusion that the viscera are insensitive, he says that Lennander and Mackenzie did not take into consideration the fact that a nerve-ending may be sensitive to one form of stimulation—the adequate stimulus—but insensitive to all others. Thus the adequate stimulus for the eye is light, for the ear sound, and so on, although in some cases there may be several varieties of adequate stimulus. All that was proved by Lennander and Mackenzie was that the viscera are insensitive to the particular stimuli which they employed. These stimuli were cutting, pinching and pricking, none of which occur under natural conditions. It still remained possible that the viscera would be found sensitive were the adequate stimulus employed. From a consideration of the common causes of visceral pain, it might be expected that tension on the fibers of the muscular coat would prove to be the adequate stimulus, and the observations which Hertz records confirm this view. A certain degree of distension leads to the sensation of fulness if the internal pressure is slowly raised; the same distension rapidly produced leads to the sensation of pain. Hertz believes that tension is the only cause of true visceral pain. Disease in the alimentary canal is often accompanied by pain due to its extension to the parietal peritoneum and sensitive subperitoneal tissue, to drag on its peritoneal attachments, as suggested by Lennander, and to reference to peripheral structures, in accordance with the views of Hilton, Lange, Ross, Head and Mackenzie. On the other hand, referred pain, which is the result of the arrival in the spinal cord of impulses from an internal organ, is comparatively rarely present alone, as the impulses from the internal organ generally themselves give rise to visceral pain. Lastly, pain originating in the peritoneum in connection with diseases of the alimentary canal is not uncommon in the absence of visceral pain.

13. **Tuberculous Joints Treated by Ileocolostomy.**—Following out Lane's suggestion and procedure, Chapple has done an ileocolostomy on patients suffering from advanced tuberculous joints, who showed the signs of intestinal auto-intoxication. In each case, the patient has gained in weight, and the tuberculous lesion has most definitely improved. He believes that these cases apparently prove the hypothesis that the route of infection of the tuberculous virus is via the intestine; that a tuberculous infection is only curable when reinoculation is prevented, and that advanced tuberculous lesions can be cured if the disposing cause is removed.

Australasian Medical Gazette, Sydney

March

17 Epilepsy. J. Bentley.
18 Rôle of the Bacillus Typhosus in the Etiology of Typhoid. J. B. Cleland.
19 Ulcerative Granuloma. E. S. Jackson.
20 Infective Granuloma. J. B. McLean.
21 Melena Neonatorum. G. H. Evans.
22 A Case of Intussusception Successfully Treated by Resection. B. Smeaton.
23 Glycosuria in Head Injuries. C. Douglas.
24 Salvarsan in Syphilis. A. E. Finckh and R. J. Millard.
25 A Handy Apparatus for Injection of Salvarsan. J. F. Flashman.
26 Two Cases of Infection by the Micrococcus Catarrhalis. J. W. B. Bean.

Indian Medical Gazette, Calcutta

April

27 Malarial Cachexia and Value of Arylarsonates in Treatment. H. W. Pierpont and H. W. Acton.
28 *Three Cases of Pseudomuscular Hypertrophy in One Family. R. H. Castor.
29 Jail Dysentery. W. Gillitt.
30 Bismuth Paste in Diagnosis and Treatment of Chronic Suppurations. F. P. Maynard.
31 Examination of the Feces for Ova of Intestinal Parasites. J. Taylor.

28. **Three Cases of Pseudomuscular Hypertrophy in One Family.**—The father and mother of the family and their ancestors were apparently healthy. The three children affected out of a family of ten, were the eldest boy, now 13 years old; a boy 5 years old, and another boy 17 months old. The poorly developed external genital organ was noticed in all the cases, especially in the eldest boy. The knee-jerks, especially in the second case, were slightly exaggerated. The superficial reflexes in all were normal and so were the sensory functions and sphincters. The pain on deep pressure was complained of in all the cases. The keloid character of the vaccination marks is a point to be noticed. The fifth, ninth and tenth children were affected. The father positively states that the other children, except the sixth and eighth, also showed signs of enlargement of their muscles when they were young, but this disappeared in two years. None of the children were mentally deficient, neither was there any indication of stammering in speech.

Australian Medical Journal, Melbourne

March

32 Vaccine Therapy. J. Smith.
33 Results of Vaccine Therapy. W. H. Summons.
34 Nature and Diagnosis of Sore Throat. S. V. Scholes.
35 Treatment of Sore Throat, with Special Reference to Diphtheria. C. V. Mackay.
36 Anteflexion and Uterine Hypoplasia. F. Meyer.
37 Action of Eserin on the Eye. J. W. Barrett and W. F. Orr.
38 Cases of Hydatid of the Lung Treated at the Children's Hospital from 1904-1910. R. M. Downes.

Journal of Tropical Medicine and Hygiene, London

April 15

39 Rôle of the Infective Granule in Certain Protozoal Infections as Illustrated by the Spirochetosis of Sudanese Fowls. A. Balfour.
40 *Three Unusual Necropsy Reports from British Guiana. E. P. Minett.
41 Occurrence of Esophagostomum Apiostomum as an Intestinal Parasite of Man in Nigeria. R. T. Leiper.

40. **Three Unusual Necropsy Reports.**—These cases were (1) hydatid disease of the kidney; (2) gumma of the spleen and (3) abscess of the spleen.

Annales de Médecine et Chirurgie Infantiles, Paris

April 15, XV, No. 8, pp. 241-272

42 *Epidemic Cerebrospinal Meningitis. R. Debré.
43 Rebellious Multiple Bone Lesions from Inherited Syphilis Cured by Single Injection of Salvarsan. M. Savariaud.

42. **Epidemic Cerebrospinal Meningitis.**—Debré has already published fourteen articles bearing on this disease, and he here reviews what is known in regard to prophylaxis. His research and what others have published show, he says, that fully 25 per cent. of the persons in the environment of a case of epidemic meningitis carry the germs without presenting signs of illness. In a schoolroom, for instance, where one of the children has had meningitis, a fourth of the children will be found to shelter the meningococcus in the nasopharynx. The diffusion of the germs is more marked the lower the hygienic level of the environment; in hospitals the carriers are very rare. The virulence and the distribution of the germs parallel each other. The meningitis may commence with a slight coryza and a coryza may develop after the disease. To date no measures are known which will effectually clear the air passages of the germs. Epidemic cerebrospinal meningitis is comparatively frequent, he says, in infants and is peculiarly difficult to diagnose in them as the onset is usually very insidious, commencing merely with torpor and symptoms of indigestion. This first phase is followed by a stage with a suggestion of meningitic symptoms, disturbances in pulse and respiration, tension of the fontanelles and a hint of rigidity of the back of the neck. This phase of half-suggested symptoms may last for a week or more, with intermissions and exacerbations, but then the complete clinical picture follows. If the infant recovers he is liable to develop normally thereafter, but incurable deafness or blindness may appear even during the course of the disease. Lumbar puncture is an important aid in differential diagnosis, but the prognosis is generally grave even under serotherapy. There may be evidences of ordinary serum sickness with intraspinal injection of the serum, and the meningitic symptoms may flare up again—special caution is necessary if there is anything to suggest anaphylaxis.

Bulletin de l'Académie de Médecine, Paris

April 11, LXXV, No. 15, pp. 477-493

44 *Albumin Reaction in Sputum. H. Roger.
45 *The Wassermann Reaction in Latent Syphilis. M. Letulle.

April 18, No. 16, pp. 494-521

46 Medical Affairs in French Indo-China. (Assistance, Hygiène, Epidémiologie en Indo-Chine, en 1909). Kermorgant.

44. **Albumin Reaction in Sputum.**—Roger has compiled from the literature and his own experience 1,638 cases in which the sputum has been tested for albumin, including 890 cases

of tuberculosis in the second or third stage, with negative findings in only one case, and certain features of the bacteriologic findings in this single case suggest the possibility of pseudotuberculosis. In 280 tuberculous patients in the first stage there were only two giving a negative reaction among those properly tested, and the diagnosis was made with some reserve in these. In 284 patients with non-tuberculous pulmonary or bronchial lesions a positive reaction was obtained in 144. The reaction is thus seen to be an important accompaniment to tuberculosis, its absence excluding tuberculosis with practical certainty, while its presence is not pathognomonic of this infection. All that is necessary for the test is to dissolve the sputum in water, coagulate out the mucus by adding a few drops of acetic acid, and then examine the resulting clear fluid for albumin by the usual procedures; the simplest, perhaps, is to heat the fluid after adding sodium chlorid. Examining the sputum for albumin is as simple and easy as testing for albuminuria, and the findings, Roger says, have equal diagnostic importance. Negative findings confirm the healing of old lesions and return of positive findings warns in time of a flaring up of an old tuberculous process. His experience has shown that when it is practicable to examine the elements of the albumin and determine the proportionate amounts of globulin and serin, this throws light on the prognosis, excess of the former being a favorable sign and preponderance of the serin unfavorable.

45. **The Wassermann Reaction in Latent Syphilis.**—Letulle made a practice last year of applying the Wassermann test in every obscure case whether there was suspicion of syphilis or not. The results brought many surprises, showing, for instance, that 25 per cent. of his patients with chronic nephritis were unsuspected syphilitics; also that unsuspected syphilis had evidently laid the foundation for cancer in three cases and for hemiplegia and paralysis, ophthalmoplegia, etc. In one case of a large cavity in one lung in an elderly woman, no tubercle bacilli could be discovered in the fetid sputum and the Wassermann reaction was positive. The findings were positive in 43 per cent. of the total ninety patients with chronic affections tested. Even without the test, syphilis was presumable in the patients with aneurysm, aortitis, tabes and paraplegia, but it threw unexpected light on many cases of hemiplegia, nephritis and cancer. A negative reaction has little significance but we can place almost absolute confidence, Letulle declares in conclusion, on positive findings. Reynier reports the case of a woman of 42, mother of two healthy children, who had been having stomach disturbances for a year, vomiting everything except milk; the liver was much enlarged and there was dulness below it. A cyst in the liver or cancer at the pylorus had been assumed, but before operating the Wassermann test was applied with positive findings and under mercurial treatment complete recovery soon followed. The Wassermann reaction also pointed the way to successful treatment of hemiplegia in the case of a woman of 45 with a healthy child and suspicion of inherited syphilis in the husband.

Bulletins de la Société de Pédiatrie, Paris

March, XIII, No. 3, pp. 105-151

47 Emotional Jaundice. (Cas d'ictère émotif prolongé chez un garçon de onze ans.) P. Nobécourt.
48 *Lymphocytosis in Cerebrospinal Fluid in Chorea in Children. Richardière, J. Lemaire and M. Sourdel.
49 *Constant Motor Symptom of Chorea: Dysdiadokokinesia. A. B. Marfan.
50 *Bronchial Glands and the Thymus. (Adénopathie trachéobronchique et hypertrophie du thymus.) E. C. Aviragnet.
51 *Thymectomy: Ten Cases. V. Veau.
52 *Bronchoscopy and Stenosis of the Trachea. G. Guisez.

48 and 49. **Organic Basis for Chorea.**—Richardière and Lemaire remark that the conflicting findings in the cerebrospinal fluid reported by various investigators may be explained by differences in technic. They found lymphocytosis constantly in the cerebrospinal fluid in five boys and ten girls between the ages of 5 and 14, all with typical chorea. In the one negative case in their experience, the choreiform disturbances finally proved to be a special neurosis in the young child of a mother who had had severe eclampsia at its birth. The lumbar puncture seemed to have a distinctly beneficial effect in some of the cases. The findings reported sustain the assumption of an organic basis for chorea in general. This applies also to the disturbance in the function permitting rapid alternation of movements as, for instance, alternating pronation and supination of the hand. Babinski calls this function diadokokinesia. Marfan states that it is constantly affected in chorea, and that even after apparent recovery persisting impairment of this function warns of impending recurrence.

50. **Enlargement of Bronchial Glands and Large Thymus.**—Aviragnet thinks that the symptoms attributed to hypertrophy of the thymus are in many cases merely the result of disease of the tracheobronchial glands compressing the nerves and entailing spasmodic phenomena without direct compression of the air passages. He gives an illustrated description of one such case in an infant of 16 months with stridor during inspiration, dulness over the upper part of the sternum, a retrosternal tumor perceptible during expiration, a radiographic shadow at the upper sternal region, and dyspnea only partially relieved by intubation even with a long tube—all pointing as supposed to hypertrophy of the thymus. Thymectomy was done, but the thymus was found small and intubation was necessary afterward as before. The child died in less than two weeks from suffocation after he had coughed up the tube. When the disturbance in breathing comes on after a bronchopneumonia or whooping-cough, disease of the glands is more likely to be responsible for the stridor than enlargement of the thymus, but with congenital stridor there is greater probability of the thymus being at fault. Marfan groups the cases of chronic dyspnea with stridor or wheezing in three classes: (1) stridor exclusively during inspiration, due either to congenital vestibulolaryngeal trouble or to paralysis of the dilators of the glottis; (2) stridor during both inspiration and expiration, predominating during inspiration—this is generally due to compression of the trachea by an enlarged thymus; (3) stridor exclusively or predominantly during expiration, the result of compression of the trachea or bronchi by enlarged glands. The sensatio of a tumor when the finger is worked into the presterna notch may be due merely to glandular enlargement with a small thymus.

51. **Ten Thymectomies.**—Veau was able to cure four children with dyspnea from an enlarged thymus and more or les stridor, but in a case of congenital stridor a double operatio on the thymus had no effect on the stridor while it cure it completely in another case. He operates only when dyspnea or suffocation seem to necessitate it, and even then h does not promise to cure the stridor by the thymectomy. I a case of recurring spasm of the glottis there were no furthe attacks for a month after the operation, but then the returned, very much less severe and they have gradually su sided entirely. He lost another little patient from spas of the glottis, no operation having been attempted. He suggests the possibility that the parathyroids may perform th function of destroying a poison generated by the thymus—he knows of an instance in which a very large thymus wa found in a child succumbing to spasm of the glottis. Th principal source of error in regard to the thymus is the mi taking of enlarged tracheobronchial glands for the enlarg thymus. He had this experience in three cases, removing th thymus for compression of the air passages when this prov to have been the work of enlarged glands. Even when th glandular affection is suspected, if there is no involvement the lung he would operate on the thymus to relieve dyspne but tuberculous pulmonary lesions, he reiterates, forbid a operation of the kind as it is liable to generalize the infectio This happened in one of his cases. Thymectomy has mo than realized all expectations, he adds, when the patients a strong and otherwise well, with persisting dyspnea, with without attacks of suffocation, and radioscopy confirms t assumption of an abnormally large thymus.

52. **Tracheobronchoscopy and Stenosis of the Trachea.**—Guisez' little patient was a child of 4 suffocating from co pression of the lower third of the trachea by an enlarg gland; tracheobronchoscopy permitted effectual treatment

Presse Médicale, Paris

April 15, XIX, No. 30, pp. 301-308

3 *Colpotomy. J. L. Faure.
4 *Hemolytic Streptococci in Puerperal Infection. D. Metzger.

April 19, No. 31, pp. 309-316

5 *Albumin Reaction in Sputum in Early Diagnosis of Tuberculosis. C. Ferreira.
6 Electro-Ionization in Chronic Gonorrheal Urethritis. R. Dupuy.
7 *Rôle of Hypophysis Cerebri in Nutrition. F. Dunan.

53. **Colpotomy.**—Faure reviews the various indications for ision of the vagina, with illustrations of the technic.

54. **Hemolytic Streptococci in Puerperal Infection.**—Metzger cepts the theory that streptococci rapidly inducing hemolysis blood-agar are generally virulent, but that the non-hemotic streptococci may also become virulent. When normal rturients have hemolytic streptococci in the lochia they ould be kept under supervision and possibly isolated. The esence of hemolytic streptococci in the blood is almost variably a bad omen.

55. **Albumin Reaction in the Sputum.**—Ferreira's experience th the albumino-reaction in the sputum confirms the general rdict in regard to it, namely, that negative findings exclude berculosis but that positive findings may be encountered asionally in other conditions besides tuberculosis. (See stract 44, above.)

57. **The Hypophysis Cerebri in Relation to Nutrition.**—Dunan s been making an experimental study of the influence of pophysis extract on the metabolism, weight, temperature, spiration, blood-pressure, toxicity of the urine and glycosuria. e extract was from horse hypophysis and rabbits were used r the experiments. The principal effect observed was a nstant glycosuria, lasting for three or four days. The xicity of the urine was also enhanced, the elimination of rogen diminished, and the animals all had diarrhea.

Berliner klinische Wochenschrift

April 17, XLVIII, No. 16, pp. 697-740

*The Curative Action and By-Effects of Salvarsan on the Ear. Heilwirkungen und Nebenwirkungen des Salvarsans auf das Ohr.) Haike and Wechselmann.
The Wassermann Reaction and Stern's Modification. M. Weichert.
The Wassermann Reaction and von Dungern's Modification. J. Kahn.
1 *Unreliability of Tryptophan Reaction in Stomach Content in Cancer. (Das peptidspaltende Vermögen des Mageninhalts.) L. Ehrenberg.
2 *Pathogenesis and Treatment of Cholelithiasis. P. Mayer.
3 Acute Perforative Appendicitis in Incarcerated Inguinal Hernia. L. Meyer.
4 Negative Experiences with Nucleic Acid in Treatment of General Paralysis. J. Loewenstein.
5 Improved Cystoscope. (Ein Cystoskop für Ureterenkatheter mit grossem Durchmesser.) E. Garceau.
6 Acoustic Test for Stomach Acidity. (Die akustische Salzsäureprobe mittels Natron und ihr Verhältnis zu der Brauseprobe von A. L. Benedict, Buffalo.) F. Fuld.
Resection of the Stomach. (Kritische Bemerkungen zu dem Artikel des Herrn Pochhammer: Beiträge zur Magenresection.) I. Boas, C. Poehhammer.

58. **Action of Salvarsan on the Ear.**—Haike and Wechselnn report the combined study of this subject by an internist l ear specialist, reviewing what has been written to date respect to the action of salvarsan on the ear. The conclus from their experience and those reported in the literae are that syphilitic disease of the ear is amenable to salsan in all its stages and in the inherited form. The salsan may benefit when the ear trouble has resisted mercury it may likewise fail. The details of six cases are given, luding a case of severe syphilis of the auditory nerve ailing deafness for two weeks, completely cured by the hteenth day after salvarsan. Their experience has further ws that auditory disturbances may develop without salsan similar in every respect to those that have been noted er salvarsan treatment. It seems evident however, they that salvarsan modifies conditions so that manifestations the syphilis usually restricted to the third phase may elop very early in the disease. Everything points to the umption that the auditory disturbances observed under varsan are caused indirectly by the drug, at the point re the spirochetes are ensconced. Without the stimulation the salvarsan, the spirochetes at these points probably uld not have made their presence felt until a much later iod. It is certainly an advantage, they declare, to be able to root out the spirochetes early in the disease instead of letting them lie latent for a long time and possibly do irreparable damage. Reports of seven cases of these by-effects on the ear after injection of salvarsan are appended. In five of the cases the auditory disturbances were cured by repeating the injection of salvarsan; in the others they subsided under mercury.

61. **Glycyl Tryptophan Test for Gastric Cancer.**—Ehrenberg reports research which seems to speak against the reliability of the peptid-splitting test, the findings varying from positive to negative in the same patient at different times in some cases and being negative in others with unmistakable gastric cancer and positive in simple anemia with cancer of other organs. He explains the reaction as due to the presence or lack of the normal acid secretion; acid checks the reaction.

62. **Gall-Stone Disease.**—Mayer advocates copious drinking of hot water to dilute the bile, with administration of sodium salicylate internally to act on the local inflammation, deep breathing to promote circulation of bile and bed rest as long as there is a trace of inflammation. Another important measure is to act on the sphincter between the common bile duct and the duodenum, coaxing it to open often and thus facilitate passage of bile into the intestine. This is accomplished by keeping the stomach often at work. When the chyme passes out of the stomach the sphincter opens to correspond; when the stomach is empty, bile ceases to pass into the intestine. This is the reason why frequent meals are better in gall-stone disease; at the same time it is important to refrain from overloading the stomach. There should be at least five meals a day, he declares, indigestible foods and those which putrefy and ferment easily being carefully avoided, as these, by irritating the stomach and compelling it to work too hard, induce reflex contraction of the gall-bladder and thus may start colic. Another reason for light meals is that the stomach is very often sympathetically affected in cholelithiasis. Very cold and very hot articles of food should be avoided for the same reason, but otherwise there is no special diet for gall-stone disease. Drugs to increase secretion of bile are not liable to be useful but rather to increase the trouble from pressure; dilution of the bile is much more rational. For this he recommends a glass or two of hot water an hour before breakfast and before retiring, with small amounts frequently during the day.

Correspondenz-Blatt für Schweizer Aerzte, Basel

April 20, XLI, No. 12, pp. 417-448

68 *Functional Tests of the Heart. (Funktionsprüfung des Herzens.) R. Staehelin.

68. **Tests of the Functioning of the Cardiovascular System.**—Staehelin concludes this long review of the various methods of estimating the sufficiency of the heart and vessels with the statement that the pulse-rate after graduated muscular exertion is the only practicable method yet at our disposal for estimating the functional capacity of the heart. Even this does not show whether the disturbance is in the heart or in the vessels. To date, he says, there is no means for estimating the functioning of the arteries. If the efforts in this line so far have given no tangible results, yet they have thrown much light on the mechanism of the circulation.

Deutsche medizinische Wochenschrift, Berlin

April 20, XXXVII, No. 16, pp. 721-768

69 *Treatment of Frontal, Maxillary and Sphenoidal Sinusitis. (Behandlung der entzündlichen Erkrankungen der Nasennebenhöhlen.) G. Killian.
70 *Electric Investigation in Vertigo from Disease of the Internal Ear. (Untersuchungen über den Labyrinthschwindel und die elektrische Reizung des N. vestibularis.) F. Dyrenfurth.
71 Experimental Tuberculosis of the Iris and Chorioid in Rabbits. F. Schieck.
72 Gunshot Injuries from Medicolegal Standpoint. (Beiträge zur gerichtsärztlichen Beurteilung von Schussverletzungen.) G. Puppe.
73 *Characteristic Painful Point in Abdomen with Sciatica. (Ein Abdominaldrucksymptom der Ischias.) S. Gara.
74 Incision for Appendectomy. (Bauchdeckenschnitt bei Blinddarmoperationen.) Hackenbruch.
75 Complications Liable to Occur with Torsion of Pedicle of Ovarian Tumors. F. Gronarz.
76 *Successful Roentgen-Ray Treatment of Genital Tuberculosis. F. Spaeth.
77 *Alternating Treatment of Leg Ulcer. Althoff.
78 Case of Purgen Poisoning. E. Zabel.

69. **Sinusitis.**—Killian gives an illustrated description of the electric light bath for the head which he has found extremely useful in treating acute inflammations of the frontal, sphenoidal and maxillary sinuses. The four incandescent lights in the box shine directly on the face, the eyes being protected by a leather bandage. The patient breathes comfortably through a tube in his mouth; by a special contrivance the air is impregnated with moisture before it is breathed. The action of the active hyperemia thus induced is enhanced by small doses of sodium or potassium iodid, bed rest, and 0.5 or 1 gm. acetyl salicylic acid (aspirin) half an hour before the electric bath to promote sweating. He states that his experience with this method of treatment has been so extensive and so favorable that he regards it as far superior to any other. Recovery is complete under it in a week or two unless there is some obstacle in the nose to evacuation of the sinus. He warns against operative measures during the height of the inflammation. Only when the acute phase is past and the affection is becoming chronic is it safe to venture to resect the lower end of the middle turbinate. If the frontal sinus has to be opened it should be done from without. Radical operations should be reserved for old chronic cases and success depends on careful individualization and skill; great harm may easily result from the lack of either.

70. **Labyrinthine Vertigo and Electric Stimulation of the Vestibular Nerve.**—Dyrenfurth has the patient close his eyes and stand on one foot with the other knee bent at a right angle, supporting himself merely by the tip of a finger resting on the back of a chair, this position having been found a great improvement in the technic for electric tests of the auditory nerve. One electrode is held in the hand while the other pole is connected with a double electrode fitting over both mastoid processes. By this means an even current is passed from both sides through the region of the vestibular nerves, and the slightest tendency to loss of balance becomes at once apparent. Neurasthenic patients and those who have suffered from a traumatic shock to the brain (commotio cerebri) are most sensitive. Patients with unilateral labyrinthine disease fall toward the diseased side when the trouble is irritative, while they fall toward the opposite side in case of a tendency to atrophy of the nerve when stimulated with the anode, while the tendency to fall in these directions is reversed when the cathode is substituted. He gives the details of ten cases and reports further experiments on healthy subjects.

73. **Abdominal Tender Point as Symptom of Sciatica.**—Gara has found constantly in 118 cases of sciatica a certain symptom, which, he says, throws light on the etiology of the affection and explains the failure of treatment hitherto in many cases. The symptom was lacking in only 6 of his 124 patients with sciatica. It is an extremely painful point found by pressing the finger into the abdomen over the spinous process of the last lumbar vertebra, thus pressing on the nerve roots and the sacral plexus. Moderate pressure elicits severe pain on the side affected, while pressure at this point is not painful on the sound side and in the healthy. He locates the point a fingerbreadth below the umbilicus and two fingerbreadths to the side of the median line, pressing perpendicularly to the spine. The remarkable feature of this symptom is that, notwithstanding the sensitiveness of this point, the patients are not aware that anything is wrong there, never experience local pain at this point and never complain of abdominal pain except with much constipation, when feces accumulate and stagnate. A purgative will therefore aid in relieving pain from pressure of the distended large intestine on the sacral plexus, when the sciatica is on the left side; there is no opportunity for such pressure on the right side. Pregnancy may also lead to compression of the plexus. The pain from its compression is rarely felt at the point; it radiates down the sciatic nerve. This tender point in the abdomen indicates the methods of treatment from which we may anticipate good results.

76. **Tuberculosis of Uterus Cured by Roentgen-Ray Treatment.**—In the case reported by Spaeth a young woman had a
severe tuberculous process in the internal genitalia whic
proved rebellious to repeated operative measures even afte
the lesion had been opened up and the region sutured to th
skin. The hectic fever was continuous, the patient bein
reduced to a skeleton and unable to sit up in bed. As a las
resort Roentgen-ray treatment was applied; it induced a
intense local reaction, copious secretion, with reopening o
the intestinal fistulas and the temperature rose still highe
He did not have courage to repeat the exposure until tw
weeks later and then continued the treatment with progressive benefit, until there had been eighteen exposures and
total of sixty-three minutes' exposure in five months; th
patient returned in apparently perfect health after a summe
in the country.

77. **Alternating Treatment of Leg Ulcer.**—Althoff has ha
far better results since he has introduced a system of alte
nately dressing the ulcer during the day with a salve co
taining 2.5 parts Peruvian balsam and 0.75 parts silver nitra
with 50 parts petrolatum, and then at night dressing the ulc
with a compress dipped in a 1 per 1,000 solution of bichlor
of mercury, not extending more than half an inch beyond t
lesion, the whole being covered with a waterproof bandag
The ulcer is thus dressed twice a day by the patient; t
whole leg is soaked in warm water for four or five minut
each time the dressing is changed. He cites a few cases
illustrate the efficacy of this alternating method, each of t
applications supplementing the other and warding off possib
injury.

Münchener medizinische Wochenschrift

April 18, LVIII, No. 16, pp. 833-880

79 *Exophthalmic Goiter. (Ueber den Morbus Basedowii.) Saenger.
80 Advantages of Early Operative Treatment in Exophthalm
Goiter: Thirty-Four Cases. P. Sudeck.
81 Hypersusceptibility in Relation to Infection and Immuni
(Rolle der Ueberempfindlichkeit bei der Infektion u
Immunität.) A. Schittenhelm and W. Weichardt.
82 The Aphasia Question. (50 Jahre Aphasieforschung.—18
18. April—1911.) K. Heilbronner.
83 *Salvarsan in Syphilis. T. Schmidt.
84 *Clinical and Experimental Evidence that Salvarsan Does
Act on the Cornea. (Klinische und experimentelle Beoba
tungen über das Verhalten des Salvarsan zur Hornhau
W. Löhlein.
85 Butenko's Urine Reaction not Specific for Progressive P
alysis. H. M. Stucken.
86 *Superheated Air in Skin Diseases. (Heissluftbehandlung
Dermatosen.) P. Esau.
87 Clinical Picture of the Plague by Lucretius and Livy. Schr
der and F. Kanngiesser.

79. **Exophthalmic Goiter.**—Saenger formerly explained t
disease as a neurosis but has been converted to regard it
the result of perverted functioning of the thyroid. He is s
tained in this view by the benefits from surgical treatme
by the development of exophthalmic goiter in consequence
acute inflammation of the thyroid, an occurrence which he
witnessed himself several times, by the manifestations of
so-called secondary Basedow syndrome, and lastly, by the f
that recurrence of the goiter is accompanied by return of
Basedow symptoms. The importance of acute infections
the etiology of exophthalmic goiter is often overlooked.
pitations of the heart are usually the first symptom,
thyroid not becoming enlarged until later. The exophthal
is generally bilateral. In his ninety-seven cases six of
patients have died, two after thyroidectomy, the four oth
from the heart disturbances and weakness. The first meas
in treatment is change of scene and if possible of occupat
A course of rest and forced feeding alone may restore
earning capacity. The symptoms became aggravated un
thyroidin treatment in his experience. In two cases impr
ment followed Roentgen-ray treatment, but there was
benefit in another case. He advises a course of internal tr
ment at first; if after a reasonable time the earning capa
is not restored, he calls in the surgeon. If the condition gr
bad again in the years after an operation, instead of ascri
the aggravation to the operative measures, he orders
more of the thyroid to be removed. Operative treatmen
especially indicated for working people as the earning capa
is more promptly restored.

83. **Salvarsan in Syphilis.**—Schmidt reports a few unfa
able experiences in the course of salvarsan treatment of

syphilitics. In one tabetic, progressive paralysis developed four days after the injection, the entire domain of the sciatic nerve being paralyzed for a time, but at present a peroneus paralysis is all that is left of the trouble. Peroneus paralysis also developed after injection of salvarsan in the early stage of syphilis in another case, the paralysis having been preceded by two weeks of severe pain in the whole leg. Two of his patients have since died, one from cancer metastasis in the brain; the other, a tabetic, died three weeks after the injection which had been borne without disturbance. In neither case, he states, could the salvarsan be incriminated in the fatality.

84. **Inefficacy of Salvarsan in Syphilitic Keratitis.**—Löhlein reports that no benefit was apparent in the nine cases of syphilitic parenchymatous keratitis in which he applied salvarsan; the involvement of the other eye was not prevented. Even supplementary threefold subconjunctival injection of 0.01 gm. salvarsan failed to arrest the corneal lesion. The failure of the drug in these cases cannot be ascribed to nonpenetration of the drug into the cornea as he demonstrated by experiments on rabbits with both subcutaneous and intravenous injection of the drug.

86. **Superheated Air in Treatment of Skin Diseases.**—Esau urges the more general application of superheated air in treatment of dermatoses, declaring that it should at least be given a fair trial before starting a tedious, complicated course of treatment. The way it stops the itching is its most grateful effect while in treatment of weeping and scaling skin affections, he says that it is at least as effectual as other measures at our command. He uses the hot-air box, with the hot-air douche only when it is impossible to apply the hot-air box to the region. One specially interesting feature of the treatment is the way in which, when one patch is exposed, other patches seem to feel the benefit, too, and display an evident, though milder, reaction.

Wiener klinische Wochenschrift, Vienna

April 13, XXIV, No. 15, pp. 519-554

88 Protecting Powers of the Cells. (Die Schutzkräfte der Zellen.) E. Pribram.
89 Further Experimental Research on Anaphylaxis. (Ueber die Zuverlässigkeit des Peptonnachweises als Abbaureaktion bei der Anaphylaxie.) F. Schenk.
90 *Case of Extensive Tuberculosis of Mediastinal Glands. (Beziehungen der Lymphdrüsentuberkulose zur Hodgkinschen Krankheit.) O. M. Chiari.
91 *Diagnostic Importance of Tubercle Bacilli in Stools. (Diagnostische Verwertbarkeit des Tuberkelbacillennachweises in den Fäzes.) F. Rittel-Wilenko.
92 *Treatment of Writer's and Player's Cramp, etc. (Zur Therapie der koordinatorischen Beschäftigungsneurosen und über Autogymnastik in chronischen Fällen derselben.) M. Benedikt.
93 Isolated Fracture of the Carpal Bones. (Isolierte Karpalknochenfrakturen.) A. v. Posch.
94 Syphilis of the Ear. (Zur Frage der Erkrankungen des Akustikus und des Labyrinthes bei erworbener Lues.) O. Mayer.

April 20, No. 16, pp. 555-582

95 Action of Ultraviolet Rays on Albumin Antigen and Its Antibody. (Wirkung des ultravioletten Lichtes auf das Eiweissantigen und seinen Antikörper.) R. Doerr and J. Moldovan.
96 *Presence of Cholesterin in the Blood of Pregnant Women. (Cholesterinesteremia.) L. Aschoff.
97 Comparative Serologic Tests in Tuberculosis, Syphilis and Leprosy (Peptone Reaction.) (Peptonreaktion bei Tuberkulose, Lues und Lepra.) R. Müller and E. Suess.
98 Atoxyl in Tuberculosis. (Einige Fälle von Atoxylbehandlung der Tuberkulose.) B. Knothe.
99 Toxic Action of Typhoid Effusion on the Circulation. (Untersuchungen über die Giftwirkung von Typhusexsudaten auf den Kreislauf.) E. Hoke.
100 *Insurance Statistics an Unreliable Basis for Study of General Public Health Conditions. (Die Schwierigkeiten bei der Verwertung der Krankenkassenstatistik.) L. Teleky.

90. **Connection Between Glandular Tuberculosis and Pseudoleukemia.**—In the case reported the presumptive diagnosis had been primary carcinoma of the right bronchus with a metastatic tumor in the glands. Necropsy disclosed that the trouble was a tuberculous tumor involving the glands, compressing the bronchi and involving their walls and the pleura, plus caries of ribs and extensive tuberculosis of the lymph glands—the whole picture suggested Hodgkin's disease. The resemblance was the more striking on account of the way in which the tuberculous processes had invaded adjacent organs, as in malignant disease.

91. **Tubercle Bacilli in the Stools.**—Wilenko has examined recently the stools in every case of tuberculosis and tabulates the clinical and necropsy findings in fifty-four cases. They show that tuberculous processes may exist in the intestines without any manifest symptoms; whenever tubercle bacilli were found in the stool, tuberculous lesions were evident in the intestines at necropsy. Intestinal lesions proved to be far more common than was surmised from the course of the cases. Two patients had no tubercle bacilli in the stools on repeated examination, notwithstanding extensive pulmonary lesions, and the intestines were found intact in these cases.

92. **Treatment of Occupational and Other Coordination Neuroses.**—Benedikt comments on the great curative value of local injection of a 2 per cent. solution of phenol in treatment of writer's cramp and other occupational neuroses. No one else, he says, seems to have realized the importance of this simple measure, although he has advocated and practiced it for years, and he has never known it to fail, even in old chronic cases. Tender points can always be found in the tendons of the wrist or hand, or in the heads of the tendons in the elbow or shoulder in these cases of occupational coordination neuroses, and injection of the weak phenol solution at the tender points speedily restores conditions to normal. He explains the trouble as a central coordination neurosis, a reflex affection which can be checked and cured by curing the original source in the tendons and muscles which sets up the mischief. These neuroses are particularly common among piano students and professional players and they put an end to all instrumental playing for the time; a few injections at the tender points, however, cure the underlying disturbance and with it the neurosis vanishes. In one recent case of the kind, the tender point was found in the bend of the elbow. Injection here caused a slight anesthesia in the domain of the ulnar nerve, but it restored the use of the hand so the patient was able to give a concert the week after. In the chronic cases, massage of the nerve may be useful, and he has obtained good results with massage applied crosswise to the nerve, as a guitar string is played.

96. **Cholesterinemia in Pregnant Women.**—Aschoff reviews recent research which has thrown light on the formation of cholesterin stones. It seems that cholesterin is liable to be deposited whenever there is obstruction to the free flow of bile. Any stagnation of bile is thus liable to entail formation of a cholesterin stone, and conditions during a pregnancy almost inevitably interfere more or less with the free outflow of bile. This explains the "cholesterinesteremia" in the pregnant woman to which Neumann and Herrmann among others have recently called attention. It also suggests that the seed for cholelithiasis is planted in many cases during a pregnancy, the primary cholesterin stone growing by concretion and the irritation from it later leading to infection and the whole train of gall-stone disease. Aschoff is inclined to believe that there is increased production of cholesterin esters under the influence of the pregnancy and that they accumulate at various points, an actual cholesterin-steatosis.

100. **Difficulties in Drawing General Conclusions from Statistics.**—Teleky calls attention to the report recently published by the Leipsic sickness insurance company, the data in which cover 1,284,676 persons under observation during one year, with tabulation of the details in respect to sex, age, occupation, sickness, etc. Over $80,000 was appropriated by the Reichstag in 1903 for the work, the Leipsic *Krankenkasse* being the only one that had kept its books with sufficient detail for the purpose. Teleky warns that while this work will supply a basis for further research in many directions, general conclusions based on the statistics are almost certain to be fallacious as so many factors have to be taken into account. He shows the danger of this by a number of concrete examples.

Zentralblatt für Chirurgie, Leipsic

April 22, XXXVIII, No. 16, pp. 565-596

101 Operative Treatment of Aneurysm of the Carotid Artery. F. Weber.
102 *Convulsions After Orthopedic Operations. (Krampfanfälle nach orthopädischen Operationen.) K. Gaugele.

102. **Convulsions After Orthopedic Operations.**—Gaugele has had two cases of this kind similar to the ten reported by

Schanz, summarized in The Journal, Feb. 12, 1910, page 576. Schanz explains the convulsions as due to fat embolism, but Gaugele says that the symptoms are by no means those of fat embolism and Codivilla, whose article was summarized in The Journal, Dec. 4, 1910, page 2277, also rejects the assumption of fat embolism as the cause of the convulsions after orthopedic operations. In Gaugele's two cases the convulsions developed four or five days after reduction of congenital dislocation of the hip joint in children of 7 and 9. The convulsions kept up for a day or two; the pupils were rigid but there was no fever and both patients recovered. The children seemed to be doing well until the rest of the family came to see them, the visit being full of excitement and weeping and the family staying three hours, long past the allowed time. The epileptiform convulsions developed almost at once after the excitement of the visit, and since then Gaugele refuses to allow any visits from friends until two weeks after the operation and he has had no further disturbances of the kind, not even in the severest cases, with children up to 10 or 15 years old. Schanz ascribes a great curative effect to saline infusion, and Gaugele found it beneficial, although he does not accept Schanz' explanation for this. In another case the symptoms indicated actual fat embolism; soon after the operation (correction of paralytic club-foot), there were intense pains in the abdomen and heart region with vomiting, irregular and rapid pulse, pallor and a distressed expression, although the patient was tranquil. After subcutaneous injection of 200 c.c. of salt solution, the symptoms subsided and by the end of two hours the condition was normal.

Zentralblatt für Gynäkologie, Leipsic

April 22, XXXV, No. 16, pp. 609-640

103 Improved Technic for Cesarean Section. (Zur weiteren Verbesserung der Kaiserschnittstechnik.) J. Veit.
104 Progress Forward or Backward? (Neuerung oder Fortschritt?) M. Hofmeier.
105 *Hypnosis. (Nochmals die Hypnose.) J. Kocks.

105. **Hypnosis.**—Kocks presents further arguments to sustain his assumption that hypnotic seances have never been genuinely scientific.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 6, XXXII, No. 42, pp. 443-450

106 Origin of Ossifying Myositis. U. Fabris.

April 9, No. 43, pp. 451-466

107 Exogenous and Endogenous Metabolism. F. Bottazzi. Commenced in No. 40.
108 *Alcoholism and Tuberculous Peritonitis. P. F. Arullani.
109 Pathologic Anatomy of the Beard. (Alcune anomalie dei peli del mento.) S. Giovannini.

April 13, No. 45, pp. 475-482

110 Autoserotherapy. C. Garmagnano.

108. **Alcoholism and Tuberculous Peritonitis.**—Arullani practices in a vine-growing region in Italy where the inhabitants drink wine almost exclusively, the alcohol content ranging from 13 to 15 per cent. Notwithstanding the pure air, robust constitutions and absence of poverty in the region, cirrhosis of the liver and all forms of tuberculosis are remarkably prevalent. He thinks that few regions can show so emphatically the close connection between alcoholism and tuberculosis. In a case described in detail, fatal ileus developed in the course of chronic afebrile tuberculous peritonitis in a man of 35.

Policlinico, Rome

April 9, XVIII, No. 15, pp. 453-484

111 Vitality of Cholera Vibriones in Water. F. Piccininni.
112 Dry Sterilization of Catgut. E. Lay and G. de Pascalis.

April, Medical Section No. 4, pp. 145-192

113 Congenital Malaria. P. Sabella.
114 Spontaneous Typhoid in Goats. (L'infezione spontanea nelle capre da bacillo di Eberth.) F. Scordo.
115 Experimental Paratyphoid Infection in Goats. (L'infezione sperimentale da paratifo B nelle capre.) F. Scordo.
116 Metabolism of Nitrogen and Urea in Gout. (Contributo sperimentale alla conoscenza del ricambio azotato ed urico nella gotta.) T. Pontano. Commenced in No. 2.

Ugeskrift for Læger, Copenhagen

April 13, LXXIII, No. 15, pp. 511-544

119 Campaign Against Tuberculosis in Denmark During the Last Ten Years. H. Rørdam.
120 Nature of Cancer and Vaccine Therapy. (Kræftens Natur og Behandling.) C. Otto.

Hygiea, Stockholm

March, LXXIII, No. 3, pp. 257-384

117 Cesarean Section. (Några ord i kejsarsnittsfrågan.) O. Lundblad.
118 *Gastric Endothelioma. (Till ventrikelendoteliomernas kasuistik.) V. B. Jörgensen.

118. **Gastric Endothelioma.**—Jörgensen reviews four cases—all he has been able to find in the literature, and then reports a fifth. His patient was a woman of 56 and she is in good health to date, ten months after resection of nearly half of the stomach. The tumor projected fully 4 cm. into the stomach and around the base measured 19 cm. Diarrhea had been the first symptom a year before the operation. Oppression and pain in the stomach had been noted for two or three months.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

1. Studies on Plague in Ground-Squirrels (in Four Parts). Part I. Pathology and bacteriology of plague in ground-squirrels. Part II. Notes on induced plague in ground-squirrels. Part III Immunity of certain squirrels to plague infection. Part IV. Insect transmission in relation to plague among ground-squirrels. 2. A Plague-Like Disease of Rodents. By George W. McCoy, Passe Assistant Surgeon. Hyg. Lab. Bull. 43, U. S. P. H. and M.-H. S. Treasury Department, April, 1911. Paper. Pp. 75, with illustrations. Washington: Government Printing Office, 1911.

Tuberculosis as a Disease of the Masses and How to Combat It. Seventh American Edition. Prize Essay by S. Adolphu Knopf, M.D., New York, Professor of Phthisio-Therapy at th New York Post-Graduate Medical School and Hospital. (International Prize Awarded by Committee of the International Congres to Combat Tuberculosis as a Disease of the Masses, at Berlin, Jul 31, 1900.) Paper. Price, 25 cents. Cloth. Price, 50 cents. P 122, with 64 illustrations. New York: The Survey, 105 Twenty-Second Street (1911).

Lehrbuch der Kinderheilkunde. Bearbeitet von Prof. D Feer, Heidelberg; Prof. Dr. Finkelstein, Berlin; Priv.-Doz. D Ibrahim, München; Dr. L. F. Meyer, Berlin; Prof. Dr. Moro, München; Prof. Dr. Von Pirquet, Breslau; Prof. Dr. Pfaundler, München; Prof. Dr. Thiemich, Magdeburg; Priv.-Doz. Dr. Tobler, Heidelberg; Herausgegeben von Prof. Dr. E. Feer, Direktor der Univ.-Kinde klinik in Heidelberg. Paper. Price, 11.50 marks. Pp. 734, wit 162 illustrations. Vienna: Gustav Fischer, 1911.

Medical Jurisprudence, Forensic Medicine and Toxicolog By R. A. Witthaus, A.M., M.D., Professor of Chemistry, Toxicolog and Medical Jurisprudence in Cornell University, and Tracey Becker, A.B., LL.B., Professor of Criminal Law and Medical Juri prudence in the University of Buffalo. With the Collaboration Various Authors. Second Edition. Volume 4. Cloth. Price, $ Pp. 1261. New York: William Wood & Co., 1911.

Digest of Comments on the Pharmacopeia of the Unit States of America (Eighth Decennial Revision) and t National Formulary (Third Edition) for the Calendar Ye Ending Dec. 31, 1908. By Murray Galt Motter and Martin Wilbert. Hyg. Lab. Bull. 75, U. S. P. H. and M.-H. S., Treasu Department, April, 1911. Paper. Pp. 564. Washington: Gover ment Printing Office, 1911.

A Tuberculosis Sermon. By S. Adolphus Knopf, M.D., P fessor of Phthisio-Therapy at the New York Post-Graduate Medic School and Hospital. With a Foreword by the Rev. John Hayn Holmes, Minister of the Church of the Messiah. September, 191 Paper. Pp. 16. New York: The Church of the Messiah, Park A nue and Thirty-Fourth Street.

Schutzpockenimpfung und Impfgesetz. Unter Benutzu amtlicher Quellen bearbeitet von Prof. Dr. Martin Kirchn Geheimem Obermedizinalrat und vortragendem Rat im Ministeri des Innern. Paper. Price, 1 mark. Pp. 158, with 18 illust tions. Berlin: Richard Schoetz, 1911.

Transactions of the American Pediatric Society. Twen Second Session Held at the New Willard Hotel, Washington, D. May 3, 4 and 5, 1910. Edited by Linnaeus Edford La Fétra, M Volume XXII. Cloth. Pp. 377, with illustrations. New Yo E. B. Treat & Co., 1911.

Report from the Pathological Department Central India Hospital for Insane. 1906-07, 1907-08. Cloth. Pp. 104. Vols and II. Same for 1908-1909. Vol. III. Pp. 224. George F. Ed harter, M.D., Superintendent, Indianapolis.

Official Proceedings of the First Annual Session of Pan-Pacific Congress. Held at Honolulu, Hawaii, Feb. 20- 1911. H. P. Wood, Secretary, Honolulu, Hawaii. Paper. Pp.

Health Hints and Health Talks. By E. R. Pritchard, Se tary of the Chicago Department of Health. Cloth. Price, 50 ce net. Pp. 153. Chicago: The Reilly & Britton Co.

Die Hodgkinsche Krankheit. Von Dr. Kurt Ziegler, Pri dozent in Breslau. Paper. Price, 9 marks. Pp. 204, with illus tions. Vienna: Gustav Fischer, 1911.

Thirty-First Annual Report of Creighton Memorial Joseph's Hospital, Omaha, Neb. For the Year Ending Dec. 1910. Paper. Pp. 34.

Twenty-Second Annual Report of the State Board of Hea of Florida, 1910. Joseph Y. Porter, Secretary, Jacksonv Paper. Pp. 171

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SOME PROBLEMS IN GASTRO-INTESTINAL SURGERY *

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The title chosen for this paper may seem, perhaps, a trifle ambitious when one considers the short time at my disposal; therefore let me hasten to state that I shall attempt to consider but a few of the problems presented in the surgery of the gastro-intestinal tract, and even these I shall discuss only in a very desultory manner. It will be my aim to give expression to some observations of my own, and to personal impressions and ideas deduced therefrom, rather than to present an exhaustive study of the voluminous literature on the subject.

That the gastro-intestinal tract does present many most interesting and intricate problems will be readily admitted, I am sure, by every one who has had any considerable experience in this branch of surgery. Happily, owing to much careful observation and thoughtful consideration, combined with technical skill, scientific accuracy and painstaking effort on the part of many laborers in this field, problems which have for a long time baffled the best minds in the profession are one after another nearing solution. Indeed, it is not too much to say that already some of them have been solved, while undoubtedly the near future will witness the solution of others which now appear well-nigh hopeless.

It is certainly most encouraging if we for a moment look back on what has been accomplished during the surgical lifetime of many of those present. Let us take, for example, the operation of gastro-enterostomy. It has been a matter of only a very few years since after every gastro-enterostomy, the possibility of the vicious circle (now little more than an unpleasant memory), stared the surgeon in the face. The anxious questionings of former days as to the use of the long loop or the short loop, anterior fixation or posterior fixation, spur formation, closure of the pylorus, the particular method of suture or kind of suture material, are little understood by the younger generation of surgeons. To-day the operation of gastro-enterostomy is undertaken with as much assurance of success on the part of the surgeon, and almost as little fear on the part of the patient, as an interval operation for appendicitis.

Let us for a moment look the facts as regards this particular operation squarely in the face. Theoretically and physiologically it is all wrong, but practically, when performed under proper conditions and for definite indications, and in competent hands, it is followed, as a rule, by most satisfactory results. And why? Is the improvement in the symptoms the result of better drainage, as some would have us believe, or is it due to the neutralization of the over-acid contents of the stomach, a chemical process, pure and simple, as claimed by others? And why does an operation which is capable of producing such satisfactory results in one case fail utterly or even make matters worse in another presenting similar clinical phenomena? These are hard questions to answer.

The technic of this operation has been worked out so satisfactorily that its principles are no longer subjects for discussion. Unimportant details alone remain unsettled, such, for instance, as to whether in making the anastomosis the jejunum should point toward the right or toward the left, following respectively the method of Mayo or of Moynihan. I may add, by way of parenthesis, that in this particular controversy it appears to me that it matters little whether the jejunum points to the left or to the right, so long as the loop of jejunum is not rotated on its long axis at the point of union with the stomach wall, for if it is so rotated a valve formation with obstruction is very likely to be produced thereby.

In the hands of masters, such as the two whose names have just been mentioned, little concerning this operation is left to be desired; but, unfortunately, in the hands of ordinary surgeons, not especially skilled in abdominal surgery, the results at times are, to say the least, disappointing. Pain, troublesome indigestion, regurgitation of food, bilious vomiting, anorexia and loss of weight are some of the unpleasant symptoms occasionally observed. If these unsatisfactory results are carefully analyzed it will generally be found that in the beginning the indications for the operation had not been sufficiently definite; in other words, an unnecessary and ill-advised operation had been done, or that it had been hurriedly or unskilfully performed.

It can be said of this operation, I think, as truthfully as of almost any other, that its indications are known and its limitations at least fairly well determined. What is true of the operation of gastro-enterostomy is in varying degrees true of other operative procedures that have to do with the stomach and intestinal tract throughout.

In reviewing our experiences in this particular line of surgery, what has given rise to the gravest doubts? What to the greatest difficulties? Have they been problems of diagnosis or have they been technical problems of execution? While each undoubtedly possesses its own peculiar vexations, still I fancy that the most of you have had a like experience to my own, namely, that the difficulties of diagnosis have, on the whole, far outweighed those of execution. I am not as yet prepared to go quite so far as a well-known English surgeon who, in the course of conversation with me on this subject while I was on a visit to his clinic during the past summer, remarked: "It has come to this in abdominal surgery, that none but problems of diagnosis any longer excite interest. Since operative surgery has developed into so exact a science it has become little more than one of the mechanical arts, and hence too easy." I envy anyone this happy frame of mind, but the memories of certain situations fraught with danger and full of difficulty and anxious doubt, which, unexpectedly or not, developed after having opened an abdomen, are as yet too vivid to allow me to indulge myself in any such alluring fancies.

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* Read before the Buffalo Academy of Medicine, Buffalo, N. Y., Feb. 7, 1911.

There is, however, an element of truth in what the eminent surgeon just quoted has said, and right here lurks a danger and a real one, too. Because, on the one hand, diagnosis is admittedly so difficult in many cases, and the more recent special tests demand of the examining physician special training in their making, and superior knowledge in their proper interpretation, while, on the other, operation has become so much more safe and exact, the temptation on the part of some to curtail a history or to slur over an examination and to rely on an exploratory incision because it is so easy, becomes increasingly more difficult to resist.

In order to avoid the performance of an unnecessary operation, which is always a reproach to surgery, or to prevent unpleasant results, at least four things should be borne in mind: (1) A correct diagnosis should be made; (2) every care and detail should be observed in order to make the operation technically perfect; (3) existing conditions should be accurately observed and properly interpreted; (4) the results of operative procedures should be carefully watched and recorded in sufficient numbers and covering long enough periods of time to enable one to judge of the end-results of given lines of treatment.

While hitherto it must be admitted, I think, by a candid observer, that in this particular field of surgery the physician, by his acts of omission in not promptly calling in the aid of the surgeon, has been the greater sinner, still this does not absolve the surgeon from the sins of commission just referred to. In arriving at a diagnosis too much care and thought cannot be exercised in the study of all the phenomena presented by the individual case, nor can too great scrutiny be imposed on a patient before submitting him to a surgical operation. If the surgeon oftener accompanied the physician through his wards or to his laboratory, or if the physician oftener followed his patient into the operating-room and saw what the surgeon sees, there would be far less point to these remarks. Fortunately this happy cooperation already exists in a number of clinics in this country, and the productive activity of these centers bears eloquent tribute to its effectiveness.

As stated above, while many of the problems in execution and some in diagnosis as well are nearing solution, a goodly number are still far removed from it. Let me report a case which well illustrates several points to which I wish to direct attention.

Case 1.—*Patient.*—Miss S. S., aged 27, native of Pennsylvania, no occupation, was referred to me by Professor Barker, from the medical side of the Johns Hopkins Hospital, June 9, 1910.

Complaint.—General nervousness and stomach trouble.

History.—Patient comes from a long-lived, healthy family. As a child, she enjoyed good health. She had had the usual children's diseases, except scarlet fever and diphtheria. She had had a mild case of what was diagnosed as typhoid fever. Menstruation began at 17 and has always been painful; she has usually had to remain in bed for several days. During these periods she was very nervous with occasional hysterical manifestations, crying, laughing, etc. She has had more or less local treatment for this condition by specialists, from which she derived little benefit. She was operated on in a neighboring city five years ago for retroversion of the uterus, with little or no relief. A year later, another operation was performed, the exact nature of which she did not know, and as a result of which she thinks she grew worse instead of better. Three years ago, at a third operation, the appendix was removed, and at the same time a fixation of the uterus was performed. After this, she was improved for a while. One benefit she noted was that she did not have to remain in bed during the menstrual periods. All this time she has been very nervous and has had much trouble with digestion. Examination of the eyes, ears, nose and throat was negative. There were neither cough, dyspnea nor night sweats. There were no cardiac symptoms except nervous palpitation at times. There was no swelling of ankles. Stomach never pained, but food seemed to remain in it for a long time. She was never comfortable except when the stomach was empty. There were nausea and vomiting when food was forced, and she vomited after almost every meal. The vomitus was not sour, no blood. She was of constipated habit, but lately bowels had been more normal. She had no diarrhea, no blood, no urinary symptoms. She worried much about herself. For the past three years, her ill health had prevented her marriage, and she had become much discouraged. She complained especially of a heavy feeling in the stomach after eating, with nausea and vomiting, and often went a whole day without food in order that she might feel well enough to go to the theater at night. She had frequent and severe headaches.

Examination.—Blood showed: Reds, 5,000,000; white, 7,400; hemoglobin, 75 per cent.

Stomach Examination: This showed moderate increase of mucus, no free hydrochloric acid. Total acidity 7.5 per cent. Rennin and pepsin present in good amounts. No occult blood.

The patient had been kept on the medical side for some weeks under the care of Dr. Barker on rest and forced diet. She complained generally of gastric fulness, insomnia and depression. She appeared very excitable, buoyant at times, then much depressed, weeping, etc. She was very restless.

Further History.—During the time she was under observation on the medical side, the symptoms described continued with slight variation. Repeated examinations of stomach contents showed practically the same condition except that the free hydrochloric reappeared in small quantity. The vomitus had changed a little in character, becoming sour and irritating her throat. Pain also became something of a feature associated with attacks of vomiting. The pain was describe as epigastric in character, radiating to the left shoulder an between the scapulæ and back. Not having received any material benefit from the forced feeding and rest, she was transferred by Dr. Barker to the surgical side, and on June 10 1910, I operated on her through a right rectus incision.

Operation.—On opening the abdomen, a marked genera enteroptosis was revealed. The stomach was enlarged, it walls being pale, thin and flabby. The pylorus was wide ope and twice its usual diameter, the first portion of the duodenu was dilated to a diameter of about 5 cm., its walls were thi and pale. The cecum was distended and displaced well dow into the pelvis, the transverse colon apparently filling up th whole lower portion of the abdomen with several extra fold The walls were thin and pale and the diameter about twic the usual size. The descending colon and sigmoid showed similar condition. The whole lower portion of the abdome seemed full of large intestine, behind which the coils of sma intestine were collapsed and ribbon-like. The gall-bladder an ducts were normal. The uterus was adherent to the anteri abdominal wall. Tubes and ovaries were apparently norma Solid viscera, liver, spleen, kidneys were normal but sharin in the general prolapse. It was thought best to excise t transverse colon and the two flexures, hepatic and splenic, this portion of the colon seemed to be the seat of the pri cipal abnormality. This was done between two clamps, t free ends were ligated and the stumps inverted as in an appe dectomy. The bowel was divided with the actual cautery.

lateral anastomosis was made between the two segments of the colon. It was then decided, owing to the marked dilatation of the upper portion of the duodenum, to anastomose this portion of the intestine with the jejunum. A lateral duodenojejunostomy was, therefore, performed. This was rendered easy by the previous division of the mesentery of the transverse colon which had been made. In this way, it was hoped to obviate the possibility of an obstruction to the passage of food through the duodenum by the mesenteric vessels, the so-called gastromesenteric ileus. So far as I know, this is the first time that this operation has been combined with that of resection of the colon.

Post-Operative History.—The time of operation was a little over an hour. The patient stood it well, and returned to the ward in excellent condition. There was considerable pain for the first forty-eight hours, which was easily controlled by small doses of morphin. Nausea and vomiting were also present for the first few hours, the nausea continuing for three days. In other respects, she made an uneventful convalescence. A marked improvement in the mental condition was early noted. The patient left the hospital on July 2, 1910, very much improved in every way. I have heard from her recently, and this improvement was continued unabated up to the time of the last communication.

Case 2.—*Patient.*—Mrs. E. O. P., aged 46.

Complaint.—(1) Pain in right side, running down leg into calf regarded as sciatic rheumatism; began twenty-five years ago. (2) Pain in right lower abdomen, localized; onset five years ago, was regarded as gall-bladder trouble. (3) Persistent constipation for past ten years; mucous colitis for several years.

History.—Exploratory laparotomy was done three years ago. Adhesions were found around gall-bladder, appendix, etc. The appendix was removed. She had right floating kidney. Exploratory laminectomy was done three months ago. No spinal cord tumor or other lesion was found to account for pain under the shoulder and spasms in right leg, etc. (sensory disturbances). Wassermann reaction was negative; stool examination was negative, abdomen was also negative on examination. *X*-ray plates showed, however, redundant colon.

Operation.—Dec. 22, 1910. Cecum and colon were excised as far as the splenic flexure. Lateral anastomosis was done, as in previous case. Recovery was uninterrupted. Patient was discharged Jan. 29, 1910, markedly improved.

Case 3.—*Patient.*—Miss H., aged 33.

Complaint.—Constant dull headache, occipital in character. Pain in neck and down spine. Nausea and vomiting. Numbness of the left leg and hand.

Family History.—This was unimportant.

Personal History.—Patient was always a delicate child, and had suffered from stomach trouble for many years. Appetite had been rather poor. Digestion had never been good. Bowels have always been constipated. She had suffered a great deal from abdominal discomfort and six years ago the appendix was removed and the right kidney suspended.

Present Illness.—In September, 1908, she was admitted to the Johns Hopkins Hospital with general nervous breakdown, severe headache and chronic constipation. She remained there three months at the end of which time she was discharged somewhat improved. Three weeks after she left, however, the old symptoms reappeared. In March, 1909, she had another nervous breakdown with great weakness, headache and nausea and vomiting; she was in bed six weeks. She was then operated on for the relief of postoperative adhesions supposed to be due to the previous appendix operation. Four weeks after this operation, she had an attack which was supposed to be meningitis. In January, 1910, she had another spell of illness lasting six or seven weeks; she was in bed with weakness, headache, loss of appetite, insomnia and some nausea and vomiting. Since that time she has not been at all well. Her chief complaint has been obstinate constipation, abdominal distress and a general feeling of lassitude and disinclination to exertion of any sort. An exploratory incision was advised with the idea of resecting a portion of the colon, if conditions justified it.

Operation.—On Jan. 27, 1911, the abdomen was opened through a right rectus incision. The cecum was found to be very much distended, its walls thin and flabby. The ascending portion of the colon, the hepatic flexure and the transverse colon were all involved in this process. It was thought best to excise the distended and redundant portion of the colon which was done. The ileum was divided about two inches above the ileocecal valve and the transverse colon just in front of the sigmoid flexure. This portion of the colon was excised and a lateral anastomosis made between the ileum and sigmoid flexure.

The patient made an uninterrupted recovery and when last seen about three and one-half months after the operation, she expressed herself as perfectly well, not having had to use a cathartic since the operation, and having gained about 25 pounds.

These are the histories of typical gastro-intestinal neurasthenics, a type of case with which, I am sure, all physicians, to their sorrow, are familiar. Fortunately for the profession, and greatly to its credit, the diagnosis of neurasthenia is to-day becoming more and more infrequent and, when made, at once lays its author open to at least a suspicion of using this term as a cloak to hide ignorance or lack of skill.

It was perfectly evident that there was something radically wrong with the first patient, both physically and mentally; but without an incision we were unable to make an accurate diagnosis of her condition. The operation revealed a state of affairs which, from experience with other cases of this particular class, we had been led to expect with some degree of probability. Beyond this we were unable to go. Of course, it was possible, with a reasonable amount of certainty, to exclude many conditions, but to tell beforehand just what pathologic process would be found, or to explain satisfactorily the manner of its production, was beyond our diagnostic ability. But here is food for reflection: Two pathologic conditions revealed by the operation, to which I wish to call especial attention, were: (1) the great dilatation of the upper portion of the duodenum, with the wide open pylorus, and (2) the great redundancy of the colon, particularly of the transverse portion, together with its malposition. This condition of the duodenum first attracted my attention about fifteen years ago, and so far as I know was first described by me, although it had been observed over fifty years ago by Peebles and later by Robinson. I was at that time unable to explain it. After a good deal of thought and many subsequent observations I am still unable to explain it. I do not believe that the explanation of those who would ascribe it to a chronic gastromesenteric ileus will account for all the cases. Possibly some may be due to this cause. Still more unsatisfactory is Ochsner's idea of the circular muscle fibers in the duodenum, with their sphincteric action.

Associated with this condition are almost invariably to be found changes in the external appearance and feel of the pancreas, sometimes changes similar to those which have been characterized by Mayo Robson as "chronic pancreatitis"; at others an apparent atrophy of the gland is observed. I cannot but feel that in some way or other changes in the structure or function of the pancreas are more or less intimately concerned in the production of this condition of the duodenum, and are, perhaps, the chief factors. In just what way I am unable to say.

In this connection the interesting investigations of Weinland are worthy of note. Always one finds that the walls of the duodenum are thinned, and that the mucous membrane is atrophied, and that the normal folds have become obliterated. Codman, Stavely and others would have us believe that many of these cases are due to the taut mesenteric vessels compressing the duodenum against the bodies of the vertebræ—a chronic gastromesenteric ileus. It is conceivable that this cause may be active in a certain percentage of cases, but after careful and systematic examination of a large number of patients on the operating table I have been unable to demonstrate it to my own satisfaction, or that of spectators or assistants, more than once or twice. Then, too, if this compression were the real cause of the trouble, it would furnish an almost ideal indication for a gastroenterostomy, and complete relief ought to follow this operation. On the contrary, however, this is not the case. The usual operative methods have, in my experience, failed utterly to relieve the trouble, and until quite recently, when this condition has been found at operation, I have at once admitted my inability to cope with it, and have closed the abdomen without further effort. It is to be hoped that the operation of duodenojejunostomy, either alone or combined with resection of the colon, as by the method just described, may be developed sufficiently to furnish the desired relief.

It was early noted that associated with this condition one very frequently, although not invariably, would find marked changes in the size, position and length of the large intestine. The anatomic and physiologic studies of Glenard, Treves, Huntington, Mall, Metchnikoff, Dwight, Clark, Lane, Cannon and a host of others have from time to time directed attention to the important part played in the physical economy by the large intestine, until now members of the profession are becoming aroused to the possibilities for evil contained in this organ, and are beginning to study seriously the best measures for relief therefrom. Medical literature is becoming steadily enriched by reports of greater or less merit bearing on this subject. It is quite likely that in the near future definite lines of action will be laid down in this branch of surgery, just as they have been in the case of the stomach. The work of such enthusiasts as Metchnikoff and Lane is bound to bear fruit through the more sober judgment and conservative action of less radical members of the profesion. Personally I cannot explain to my own satisfaction, on anatomic grounds alone, the phenomena which result from this redundant condition of the colon. Unquestionably, embryologic and developmental defects do play a part, probably an important one, in the production of this condition. Nor does it seem possible, as Lane and others would have us believe, that acquired defects, such as adhesions to neighboring structures, peritoneal hypertrophies and bands resulting from abnormal strain, and giving rise to kinks and stenoses of the ileum, colon or appendix, as the case may be, can account for all the conditions found. These in all probability play their part, but only a part. The "cesspool" idea of Metchnikoff cannot be disregarded. Indeed, I am inclined to think that, after all, the chief cause of the phenomena exhibited by these cases is going to find its ultimate explanation in the absorption from the colon of the chemical products of bacterial activity. The problem, to my mind, is one of chemistry rather than mechanics. Faulty mechanical conditions, whether congenital or acquired, are undoubtedly a contributing cause through their increasing bacterial activity and virulence by bringing about more or less complete stasis of the intestinal contents.

But if this were the sole factor, how can we explain the absence of symptoms in that large class of cases in which redundance and ptosis of the colon are present, to a marked degree, while the patient may be in the enjoyment of the best of health? I am the more convinced of the correctness of this position from an experience with the operations of appendicostomy and cecostomy in a series of fifteen cases in which one or other of these operations had been performed. These operations were done for a variety of conditions, chronic infections of the colon of one kind or another (not including amebic dysentery), and cases of simple ptosis of a redundant colon, associated with mucous colitis. All the patients presented in a more or less marked degree evidences of intoxication, together with pronounced neurotic tendencies. In every case but one of the series marked improvement followed irrigation with first normal salt solution, and then solutions of permanganate of potash, beginning with a strength of 1 to 10,000 and gradually increasing up to 1 to 1,000. The more marked the evidence of the absorption of the products of bacterial infection, the more pronounced was the beneficial effect of the irrigation. Where evidences of bacterial activity were but slight, relief was correspondingly slight. In two cases of this series in which the infection was of an intense character, as evidenced by frequent discharges of foul-smelling feces, mixed with large quantities of mucopus, frequently blood-streaked, the improvement was phenomenal.

The difficulty in making a positive diagnosis in any given case of stomach trouble is that one has to consider the possibility of the existence of one or possibly more of a long list of abdominal affections, as well as not a few extra-abdominal diseases. In an earlier paper I called attention to this fact at some length.

Every case of stomach trouble becomes at once a problem calling for most careful investigation. The difficulty of solution of this problem will depend on whether the cause lies primarily in the stomach itself or remote from it. Every one knows with what great frequency the stomach is the first to give warning of the existence of disturbances arising, not only within itself, but even in remote portions of the body. Think, for example, of the exanthemata, gall-stones, cirrhosis of the liver, brain tumor, tuberculosis, angina pectoris, eyestrain, appendicitis, diseases of the uterus and adnexa, etc. I am sure every one can recall instances in which attention has been diverted and he has been led away, for a time at least, from the true site of the disease, by more or less marked gastric disturbances. It seems trite to state that one cannot be too careful in forming good habits of making a thorough routine examination in every case, however simple it may appear at first. Then, too one is so often misled by misinterpretation of phenomena common to certain well-recognized pathologic lesions. Take, for instance, the question of the appearance of blood, whether occult or visible, in the vomitus and in the stools. Its presence is generally interpreted to mean an injury to or loss of substance of the mucous membrane somewhere along the gastro-intestinal canal. Usually, of course, if cirrhosis of the liver and the grave primary anemias can be excluded, it means gastric or duodenal ulcer, or carcinoma. Recently I have operated on three such patients, one physician and two business men, in whom repeated and severe hemorrhages from the stomach had been the chief feature in a rather long history of gastro-intestinal disturbances. All three cases had been diagnosed by competent physicians as probably gastric ulcer. In no case, after careful search of the stomach and intestinal tract, could the slightest evidence of a break in the mucous membrane be demonstrated. In three other cases exhibiting pronounced gastro-intestinal symptoms, persistence of occult blood n the stools, cancer having been practically excluded, ed to the probable diagnosis of duodenal ulcer. Operation showed no gastric or duodenal ulcer and no other explanation of the blood in the stools, save gall-stones in the gallbladder and cystic ducts, without any clinical manifestations of their presence. Instances of this sort could be multiplied in other directions, but their enumeration would lead us too far afield.

The point I wish to make is simply this: gastro-intestinal symptoms may be extremely difficult to interpret promptly, at times may be most misleading, and in no department of medicine or surgery with which I am familiar is the truth of the Hippocratic aphorism as to the difficulty of judgment or the fallaciousness of experience more strikingly demonstrated.

In the matter of interpretation of the findings at operation great latitude will be observed. In the present imperfect state of our knowledge speculation must, of necessity, play a great part in accounting for the various phenomena that are presented on the operating table. What may be considered by one person to be cause will just as surely be believed by another, just as competent, to be effect. Each will have his arguments and explanations, satisfactory to himself and possibly to some others, but not universally acceptable. Take the matter of the sagging of the colon—some explain it on anatomic grounds, a congenital defect; others think it is acquired, and when so acquired no two observers will explain in the same manner the process by which it has been acquired. Take also the matter of adhesions. Their frequency is admitted by every one, but the method of their formation is debatable ground. Again, take the matter of the relationship which a chronic adherent appendix bears to the various gastro-intestinal disturbances which are grouped under the general heading of neuroses. Everyone, I am sure, will admit that there is a definite relationship between these conditions, but as to just how far the one is really dependent on the other a great diversity of opinion will be found to exist.

The following cases will illustrate my point:

CASE 4.—*Patient.*—E. T., aged 32, entered Johns Hopkins Hospital April, 1910.

Complaint.—Flatulency and indigestion.

History.—Family and past history unimportant, except that he has had indigestion for years, evidenced by flatulence and abdominal discomfort. There had been jaundice, no blood in stools, no vomiting until onset of present illness, which began six years ago, with a sudden faint feeling following slight "dyspepsia." He fainted twice, and soon afterward vomited a large amount of bright red blood. He was treated in the hospital for several weeks. He had no more bleeding, but hemoglobin was low and he felt weak. He has vomited blood once, about half an ounce; he has had symptoms of hemorrhage, however, on several occasions, *i. e.*, faintness, greatly increased flatulence, and tarry stools. Blood count has been as low as 2,500,000 and hemoglobin 40 per cent. He complained of no abdominal pain except that referable to flatulence, usually under right or left costal margin, and disappearing when gas was expelled. He improved up to December, 1909. Since then has had increasing anemia, some tarry stools and some "faint spells."

Examination.—Patient was anemic looking, but fairly well-nourished. Lungs were clear; heart was clear, except for soft systolic blow at apex. Abdomen showed marked general distention; no tenderness anywhere, no visible peristalsis. Liver flatness was entirely obliterated. There was constant eructation of gas and occasional audible gurgling in intestines.

Blood: Reds, 3,400,000; hemoglobin, 45 per cent.

Operation.—April 8, 1910. This revealed (1) Marked distention of small bowel throughout its entire extent; the large intestine shared in the general distention, but not to the same extent as the small bowel; it appeared relatively normal. (2) No sign of ulcer or pyloric obstruction. (3) No cause for distention. (4) Appendix definitely thickened and inflamed. It was removed. (5) No evidence of cirrhosis of liver. Spleen normal. Pancreas normal. (6) No obstruction by the mesenteric vessels (gastromesenteric ileus). (7) Walls of stomach and small intestine pale, thin and flabby. Appendectomy was the only surgical procedure that appeared to me to be justified or indicated.

Result.—The intestinal coils were so distended that the abdominal wound was closed with great difficulty. Healing was delayed by the subsequent breaking open of the lower third of the incision with the escape of several coils of small bowel. These were replaced and the wound healed slowly by granulation. No weak spot has so far developed.

I have received a letter from him recently in which he states that he has gained in weight, and in every way has greatly improved since operation, although not yet quite free from flatulence.

CASE 5.—*Patient.*—P. M., aged 47, admitted to Union Protestant Infirmary November, 1910, complained of stomach trouble.

History.—Family history and past history were negative, except that when a boy of 15 he had hip disease. He was under treatment for a long time, and the disease has left him an ankylosed joint with the thigh flexed at an angle of 45 degrees, producing an associated lordosis of the spine of well-pronounced type. He has had no trouble whatever from his hip since it has been healed, and no other manifestations of tuberculosis, past or present. Appetite and digestion were good; color was sallow. He had lost about twenty pounds during his illness, which dated from about two years previous. At this time, he had a well-pronounced attack of what was diagnosed as indigestion and which yielded to treatment and disappeared, after about three months. About one year ago, he had a return of his former digestive disturbances. He first noted that about three hours after eating he became uncomfortable, felt bloated and there was unusual and intense thirst. After drinking water, he would either vomit it almost immediately, or become more uncomfortable. In September, 1910, he vomited blood and thinks he had tarry stools at this time. He has had no pain of consequence, but has felt very uncomfortable, especially when hungry. This discomfort was relieved almost invariably by eating. The chief feature for the last few weeks was vomiting, which took place almost immediately after every meal, or even after taking a drink of water. The vomitus usually contained the food previously eaten. There seemed to be no special retention. The vomiting was painless. Bowels have been constipated. Relief from constipation seemed to lessen his symptoms, to a certain extent. Examination revealed nothing except a moderately distended stomach, in which splashing sounds were readily obtained. There seemed to be a moderate degree of general enteroptosis. The examination of the stomach contents showed rather low acidity, otherwise negative. Urine was normal. A definite diagnosis did not seem to be warranted from the history and findings but the discomfort had been so great, that an exploratory incision appeared to be indicated. The most probable condition seemed to be gall-stones or duodenal ulcer.

Operation.—Operation showed a marked degree of general enteroptosis. The stomach was considerably dilated, the walls being thin and flabby. The pylorus readily admitted the end of my thumb. The duodenum, except for a few slight adhesions, appeared normal, being only slightly distended. There was no evidence of thickening, induration or ulcer formation, in any part of the stomach or duodenum. The gall-bladder and ducts were normal, with no evidence of gall-stones. Pancreas was normal. Owing to the prominence of the bodies of the vertebræ due to the lordosis referred to above, the mesenteric vessels seemed to be rather tightly stretched across the duodenum. On hooking my finger under them and attempting to lift them up, it took considerable force to lift the coils of small intestines out of the pelvis, which they occupied. The upper portion of the duodenum, however, did not appear collapsed, but contained a moderate amount of gas, as did the duodenum above the obstruction. On relieving the pressure from the vessels by lifting, an appreciable amount of gas was observed to pass from the duodenum into the jejunum. The appendix was found adherent, kinked on itself and its walls chronically thickened; it was removed. The large intestine appeared abnormal, elongated and thrown into folds. The sigmoid was somewhat distended but contained no fecal matter. The transverse colon had sagged well down into the pelvis. The descending colon and sigmoid appeared fairly normal, but redundant. The walls of the colon througnout were thin and pale. The solid viscera appeared normal. but were involved in the general ptosis.

Remarks.—What gave rise to the symptoms the man complained of. I was unable to determine. There was no obstruction to the pylorus: there was a suggestion of obstruction of the duodenum by the iliac vessels, no evidence of induration of the gastric or duodenal walls; certainly no new growth. The colon was abnormally long and thrown into folds, but I did not feel justified in employing any radical measures therefor. After removing the appendix. the abdomen was closed. The operation has been done so recently that it is too early to tell anything as to the ultimate result. but the man has not vomited since, after having vomited regularly after each meal for the past eighteen months, and is gaining steadily in weight. He has resumed business and considers himself well.

Two competent observers. Professors von Eiselsberg, of Vienna, and Halsted, who happened to be present at the operation on the first of these two patients, expressed the opinion that the appendix was sufficient to account for the conditions found. Personally, in spite of the relief which has followed the removal of the appendix, it is hard to believe that that alone was responsible for all the pathologic processes present.

The third case, as well as the one first reported, would be considered by some, I am sure, as instances of chronic gastro-mesenteric ileus. That there is such a thing as an acute process associated with an immensely dilated stomach must certainly be admitted; many cases have been reported by different observers. I have observed and reported a number of such cases, but it is difficult even here to distinguish cause from effect. Which is the antecedent condition, the dilated stomach or the taut vessels? In other words, which is the cause and which the effect? In the production of similar conditions is the same cause always active? It is impossible at present to answer these questions satisfactorily.

What is the cause of the dilated duodenum with the wide-open pylorus to which I have referred? Why are its walls always so thin, pale and flabby? A number of possible explanations suggest themselves at once, but when one comes to demonstrate the constant presence and activity of any one of these causes at once he is confronted with a difficult, indeed at the present time, an almost impossible problem.

To me this whole group of gastric neuroses, so called, presents a most interesting and fascinating field for study, but one of such complexity that it is difficult to unravel its mysteries. One great difficulty which has retarded somewhat, I think, the progress toward solution of some of the problems has been too great a tendency on the part of certain writers to dogmatize on too little evidence. Dogma has little field in medicine, especially in this particular department. What is needed rather is a long series of carefully reported cases in which the clinical histories have been accurately recorded, the findings on the operating table confined to facts observed, rather than to fanciful theories and explanations to bolster up preconceived ideas as to pathology. Wherever this has been done real progress has been made, and real addition to our knowledge of the subject achieved.

The trouble with our operations for neurasthenia is a fundamental one. We generalize too much. Instead of careful painstaking study of the etiology of each individual case, we are prone to group them, often erroneously, into certain general classes and subject the individuals of each class to the same treatment. Not infrequently, we do grave injustice to certain patients by, on the one hand, subjecting to the dangers and distress of a surgical operation individuals who are not proper subjects for it and who are frequently made worse thereby, while, on the other hand, we withhold from others the benefits which would accrue from a properly carried out surgical procedure. In this connection, as pointed out by Reynolds, so far as surgery is concerned: "The attainment of satisfactory end effects on the neurasthenic state itself depends first and primarily on the selection for operation of cases in which the neurasthenia is the result of local suffering, due to local lesions, and the exclusion from operation of all other cases; secondly, on the termination of local suffering by successful end results in the operation itself." Otherwise, the neurasthenia is invariably made worse.

Problems of embryology, anatomy, physiology, chemistry, pathology, medicine and surgery are apparently so inextricably interwoven in the etiology of these gastric and intestinal neurasthenic states, that the only hope for a satisfactory solution of the questions involved lies along broad lines of investigation. My own impression is that the particular dilatation of the duodenum and colon to which attention has been called, together with the thinning of their walls will be found to be largely a problem of physiologic chemistry.

I am only too well aware that in this rather fragmentary and disconnected paper, I have contributed little that is new to the subject, but if by what I have stated I may have succeeded in stimulating a discussion of the problems involved, in a more scientific frame of mind than has at times prevailed, I will feel that my object has been accomplished.

SUMMARY

1. Problems of diagnosis present greater difficulti and are further from solution than those of treatmen

2. Certain operative procedures, gastro-enterostomy, g., have reached such a state of perfection that the eas of performance renders them a possible menace and cal for greater care in the proper selection of cases.

3. The tendency to dogmatize on too little evidence i matters pertaining to the causation and treatment of th so-called functional intestinal neuroses should be di couraged and a more scientific observation, interpreta tion, collection and record of established facts substitute therefor.

4. As a result of the knowledge gained by such com prehensive and exhaustive study of the intricate pro lems involved, it is not unreasonable to hope that ult mately in carefully selected cases surgery may offer reli to this unfortunate group of gastro-intestinal neura thenics.

1300 Eutaw Place.

Treatment of Severe Anemia with Injections of Blood. G. Mann reports from Triest three additional cases in whi apparently moribund patients were saved by the stimul from injection of 20 or 25 c.c. of whole blood supplementa to the ordinary measures.—*Wiener med. Wochenschrift,* 19 lxi, 579.

THE DIAGNOSIS OF EARLY PULMONARY TUBERCULOSIS*

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CRISTOBAL, CANAL ZONE

It has been variously estimated from autopsy findings that from 30 to 100 per cent. of all adult persons have, or have had, tuberculosis. The cutaneous and subcutaneous tuberculin tests on the living confirm the deductions from autopsy statistics. From 10 to 14 per cent. of the mortality from all causes is due to tuberculosis, a higher percentage than is attributable to any other disease. If we accept the estimate of infection given by Harbitz,[1] 50 to 70 per cent. for all ages, we may say that in about one out of every five persons infected the disease, under present conditions, will progress to a fatal termination. It is practically certain, then, that at least one out of every ten of our patients will die from tuberculosis, if we do not discover the disease early and advise proper measures to combat it.

That the failure to diagnose pulmonary tuberculosis in the early stages is a widely spread evil is abundantly proved by the army, navy, and life insurance statistics, which show that a large percentage of deaths from tuberculosis occurs during the first two years after enlistment or after policies have been issued. Greene[2] says: "It is evident that life-insurance companies are constantly accepting men in the active stage of tuberculosis." In the annual reports of the Surgeons-General, U. S. Army and Navy for 1910, it is shown that 10 and 14 per cent., respectively, of deaths in the army and navy for the year 1909 were due to tuberculosis, and that the disease is particularly associated with the first half of the first enlistment. Yet the services and the insurance companies represent picked men selected by a picked group of physicians. Furthermore, everyone who has paid special attention to the diagnosis of tuberculosis is constantly seeing advanced, but previously undiagnosed, cases that have been under the care of one or more physicians. Girdwood[3] states that in Maryland, where registration of tuberculous cases has been enacted into law, only 595 out of 2,200 physicians in the state reported cases to the State Board of Health. He says, "Assuming that there are 1,600 physicians in active practice in this state (Maryland), who see cases of tuberculosis, but 595, or about 37.5 per cent., are fulfilling the requirements of the law." Of all the cases reported "the Phipps Dispensary alone reported 33 per cent." Girdwood thinks that he is conservative in estimating that 90 per cent. of all the cases reported were in the second or third stage of the disease.

The conclusion is unavoidable that the mass of the medical profession is failing to utilize opportunities for early diagnosis, and avoiding the disagreeable and, at present, thankless task of telling men that they have tuberculosis. It is certain that the highest degree of "education of the public" against "the great white plague" will avail but little unless the medical profession educates itself in the diagnosis of early tuberculosis, and unless the medical schools send out their graduates more thoroughly drilled in the recognition of the early manifestations of the disease, and imbued with the idea of the importance of such recognition, and of the responsibility that rests on each member of the profession.

The responsibility does rest on us, and we must accept it. The real issue cannot be obscured by philanthropic displays, by contributions of large sums of money, by popular articles, exhibits, Red Cross seals, etc. These measures are useful in a limited way, but the philanthropy most needed is the self-education of physicians, and the public must be taught to accept without resentment an early diagnosis of tuberculosis, and to hearken to the warning while yet there is time.

It is probable that almost all patients with advanced tuberculosis have consulted physicians early in the disease, and that the majority of the infections could have been arrested if the diagnosis had been made at the proper time; that the majority of the lesions would have remained closed lesions with proper treatment; and that but a limited number of the patients would have become foci of infection through the expectoration of tubercle bacilli.

Such early recognition is nearly always possible, so frequently possible, indeed, that a physician should feel keen remorse when he has seen a patient and has failed to take advantage of the opportunity to diagnose the disease before tubercle bacilli appeared in the sputum. Lawrason Brown[4] states that a patient's chances of recovery are at least twice as good, and on the whole seem many times better, when the diagnosis is made before the appearance of tubercle bacilli. That the diagnosis can be, and is, so made by men who have trained themselves in the subject, is well known. For instance Nagel[5] was able to find bacilli in the sputum of only 1.4 per cent. of incipient cases.

EARLY SYMPTOMS

It is not within the scope of this paper to discuss symptoms that obviously point to the possibility of tuberculosis, such as persistent cough, repeated colds, hemoptysis, pleurisy, chronic laryngitis, etc. But there is a large group of early sufferers, the members of which appear to be mild neurasthenics, and this group is deserving of especial mention. There is no disease in which "neurasthenia" is as common as in tuberculosis. The tuberculous poison has a powerful action on the nervous system, and every variety of functional nervous symptom may result from it.

In the beginning the patients of this group may complain only of feeling "run down;" fatiguability, a cardinal symptom of neurasthenia, is one of the earliest symptoms of tuberculosis; insomnia, likewise, is common to both; also "nervousness," irritability, depression and gastric disturbances. If there is no cough (and even a cough is sometimes attributed to nervousness), these patients usually are not given a careful physical examination, nor is a careful record of temperature taken. Slight abnormal physical signs can be found frequently in them, however, and a daily record of temperature will often show a regular rise to 98.8 to 99.5 F. I cannot consent to the interpretation that this may be a normal afternoon temperature. With the patient relatively at rest, such a daily rise of temperature constitutes fever and furnishes strong evidence, taken with other phenomena, of tuberculosis. "Neurasthenics," therefore, should never be classed as such without careful physical examination and a daily temperature record, and, if these results are at all suspicious, a tuberculin test.

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*Read at the meeting of the Medical Society of the Isthmian Canal Zone, Jan. 18, 1911.

[1] Cited by Baldwin: Osler's Modern Medicine, iii, 198.

[2] Greene, C. L.: Osler's Modern Medicine, vi, 761.

[3] Girdwood, John: The Responsibility of the Physician in the Campaign Against Tuberculosis, THE JOURNAL A. M. A., Dec. 4, 1909, p. 1881.

[4] Brown, L.: Osler's Modern Medicine, iii, 338.

[5] Cited by Brown: Osler's Modern Medicine iii, 334.

THE NORMAL CHEST

The great prerequisite in the examination for early signs of pulmonary tuberculosis is a thorough knowledge of the normal chest, with its variations in different persons of different sexes, ages, size, weight, etc., and with its topographic differences between the two sides and between different areas of the same side in the same individual. Though this statement may seem to be a truism, it is not an idle repetition, for the possession of such a knowledge is not easily acquired, and the close observation and training necessary to gain it are sadly neglected. There are a few less well-known topographic differences normally in the same chest that it may be worth while to mention.

Cabot[6] has recently called attention to the frequent occurrence of louder, harsher breath sounds at the left base posteriorly than at the right base. He found this difference in 67 per cent. of patients examined. This difference must, therefore, be taken into account in comparing the two sides.

Another phenomenon worth noting is that here and there over the lung one not infrequently strikes a small area where the breath sounds are harsh or even bronchovesicular, with intensified voice and whispered sounds, but without râles or dulness. The most frequent sites of these areas are near the angle of the scapula, in the upper axillary space, and near the mid-clavicular line below the nipple. I have been in the habit of looking on the phenomena as due to relatively large bronchi approaching the surface of the lung, together with the fact that in the areas noted the muscle-covering is thinnest.

Under percussion it may be mentioned that the note becomes shortened and less resonant over those portions of the chest where the ribs make their greatest curves. The thoracic wall at these places is not so easily set into vibration. In percussing the outlines of the apices, I have found that the breadth of resonance on the right is often slightly less than on the left.

LOCATION OF LESIONS

The location of progressive tuberculous lesions is generally in or near an apex. According to Tendeloo,[7] the most frequent site is in the "paravertebral cranial" portion of the lung, that is, in the upper portion of the upper lobe posteriorly, corresponding to the upper part of the interscapular region; the apex itself is next in frequency of involvement, then the anterior upper portion of the lobe.

In 287 bodies that I studied with reference to tuberculosis, I found the active progressive lesions usually in or near the apex, but I found many old pleuropulmonary tubercles in the lower lobe. These foci were characterized by a decided tendency to become encapsulated or calcified. I feel, however, that they may account for many instances of so-called atelectatic râles near the bases associated with "soreness in the side," "intercostal neuralgia," etc. But owing to the majority of progressive lesions being near the top of the lungs, it naturally follows that the earliest signs are most frequently found in the upper thorax. The lower lesions should not be ignored, however, for secondary infection of the peribronchial glands is likely to occur, and afterward the apices may become involved.

EARLY PHYSICAL SIGNS

One may see at an early stage a slight drooping of one shoulder, with slight wasting of the muscles of the shoulder-girdle, and there may be a little lagging behind during inspiration of the chest wall on the affected side, or a slight sinking in of one of the clavicular fossæ. Inspection in the early stages rarely reveals more, and the signs are not clearly distinguishable from frequent asymmetries due to other causes. The wasting of the shoulder-girdle muscles is more significant if it is on the right side in right-handed persons, and on the left in the left-handed.

PALPATION

Changes in tactile fremitus are not produced early, but palpation aids in determining slight differences in expansion and in wasting of muscles. Pressure on the muscles, especially the trapezius, and on the ligaments about the shoulder-joints, will often demonstrate tenderness, which may be associated with an aching sensation in the joint. There is not infrequently a hyperesthesia of the skin over affected areas and gentle pinching will elicit it. Pottenger's sign,[8] which consists in muscle spasm (?), detected by light palpation over areas of involvement, is worthy of study. In apical involvement the sternocleidomastoid and scaleni muscles on the affected side stand out distinctly and feel tense on light palpation.

PERCUSSION

One of the earliest changes in tuberculosis is a tendency to shrinkage of the lung, evidenced by a narrowing of the apical outlines, sometimes called Kroenig's sign. Minor,[9] who has well presented the sign, says of it:

> Taught and practiced for years by careful clinicians in Germany, dwelt on by von Ziemssen in his small but classical article "On the Diagnosis of Tuberculosis," and by Kroenig with even more emphasis, in his well-known article, it is yet undeniable that few American practitioners have given it any attention, or used it systematically in their routine work.

It consists in determining the inner and outer borders of apical resonance both in front and behind, and measuring the width of the isthmus found by the junction of the lines above at the border of the trapezius muscles. Very gentle percussion must be used, and the patient's head must be kept in the mid-line in the anteroposterior position. Definite narrowing of the isthmus, either by a moving outward of the inner border or inward of the outer border, or both, means retraction of the lung, which is very suggestive of tuberculosis. It occurs before dulness can be elicited and is a very valuable sign.

Another procedure that I have found useful is one shown me by Dr. Lawrason Brown of Saranac Lake. Standing behind the patient, one grasps firmly the apex of the lung, as it were, with his whole hand, his finger-tips being in the supraclavicular fossa just above the clavicle. He then percusses, with gentle taps and with a downward and backward stroke, the fingers in the fossa. First one apex and then the other is percussed. Dulness can sometimes be brought out in this way when none can be demonstrated otherwise. Incidentally, the degree of wasting of the trapezius muscle is very noticeable when the muscle is grasped in this way.

In the examination for tuberculosis one should never neglect to percuss out the lower borders of the lungs during forced expiration and then during forced inspiration, thus determining the excursion of the diaphragm on each side. The excursion may be limited on the affected side early in tuberculosis. Small pleural effusions will frequently be found if this is practiced as a routine procedure.

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[6] Cabot, R. C.: Am. Jour. Med. Sc., 1909, cxxxviii, 813.

[7] Tendeloo: Sixth Internat. Cong. Tuberc., 1908, vol. 1 part 1, p. 86

[8] Pottenger: Med. Rec., Oct. 23, 1909, p. 685.

[9] Minor, C. L.: Am. Jour. Med. Sc., October, 1906, cxxxii, 522.

Goldscheider[10] has recently written a monograph on the subject of "Early Physical Diagnosis of Pulmonary Tuberculosis," in which he strongly advocates extremely delicate percussion. He compared the findings by his method with the findings by ordinary percussion and skiascopy. The results by his method and by skiascopy were practically identical, while ordinary percussion proved to be far inferior. The delicate percussion will reveal minimal dulness, the signs of which may vanish if the force of the stroke is increased.

Waller,[11] of Sweden, has proposed a plan for the classification of different degrees of dulness in order that accurate comparisons may be made by different observers, and in order to judge with greater accuracy the changes in dulness during healing or progress of lesions. He insists that the "symmetrical-comparative" procedure in percussing has been overemphasized and should be relegated to a subordinate place. He thinks that the percussion note should be judged by comparing it with a point of known normal vesicular resonance, such as is usually obtained in the lateral part of the infraclavicular fossa, rather than by comparison with a symmetrical point on the opposite side, which may be itself the seat of disease. Waller considers that there are five degrees of dulness, D^1, D^2, D^3, D^4 and D^5, followed by absolute dulness or flatness. D^1 and D^2 represent slight dulness, D^3 moderate dulness, D^4 and D^5 high degrees of dulness. Waller calls the normal percussion note the non-tympanitic sound; and dulness is the shortening and commingling of this sound with the tympanitic sound characteristic of relaxed lung tissue. His method is distinguished from the old method mainly by the fact that the degree of dulness is not judged by the percussion sound as a whole, but only by a certain part of it, the non-tympanitic sound. He summarizes briefly his method as follows:

1. *Weak Percussion.*—A. The non-tympanitic sound is heard throughout the respiration, though somewhat, or distinctly, short: first degree of dulness; sign, D^1. B. The non-tympanitic sound is heard only during a part of the respiration, when the breathing is ordinary or forced: second degree of dulness; sign, D^2. C. The non-tympanitic sound is quite inaudible. The strength of percussion is increased:

2. *Medium Percussion.*—A. The non-tympanitic sound is heard: third degree of dulness; sign, D^3. B. The non-tympanitic sound is not heard. The strength of percussion is increased:

3. *Strong Percussion.*—A. The non-tympanitic sound is heard: fourth degree of dulness: sign, D^4. B. The non-tympanitic sound is not heard: fifth degree of dulness: sign, D^5.

Waller's method of percussion is attractive and should be extremely useful in classification and early diagnosis if it can be proved practicable. But one must require careful practice and a nice ear for analysis of sounds to become proficient in it. I have not yet succeeded in training myself in its use. If practicable, it should mark a distinct advance in the art of percussion.

AUSCULTATION

A most important prerequisite in auscultation is to get the patient to breathe properly. Many persons seem to have no voluntary control of the muscles of respiration, and it often requires patience and repeated examinations in order to develop in the patient satisfactory powers of breathing. Especially is this true in auscultating the lower portions of the lungs when abdominal breathing is desirable. A "deep breath" usually means to a patient expansion of the chest and a retraction of the abdomen, in which case there is but slight contraction of the diaphragm. A distention of the abdomen with inspiration of course means contraction of the diaphragm, and when it is difficult for patients to breathe deeply in this way, I have sometimes found it useful to place a hand on the abdomen to give the respiratory rhythm which can sometimes be kept up. With a little practice, most patients can soon control the muscles.

Regarding the well-known changes in the respiratory murmurs in early tuberculosis, little need be said. The important desideratum is that care and patience shall be exercised in bringing out the changes and that the examiner shall know where and how to look for them. They consist of slight loudness or harshness of the respiratory murmurs, slight prolongation and accentuation of the expiratory murmur, a wavy inspiratory murmur, and fine râles heard usually at the end of forced inspiration, but sometimes at the beginning of expiration. One or more of these changes may be present. Râles not elicited otherwise may sometimes be brought out by forced expiration, a quick cough, with as little noise as possible, and then a forced inspiration. The râles may be heard with the cough, at the beginning of inspiration, or at the end. This is an important procedure and no examination should be pronounced negative without it.

It is generally stated that fine râles may be heard frequently over the bases at the end of deep inspiration in normal lungs, the so-called atelectatic râles which clear up after a few deep breaths. No special importance should be attached to these râles, but if the area over which they can be heard is large and extends upward some distance, if the râles persist after a few deep inspirations, or if there is slight soreness, tenderness on pressure, or a little hyperesthesia of the skin over the areas, I believe that considerable significance should be attached to them. I have said that in autopsies I frequently found pleuropulmonary tubercles in the lower lobes, usually in the lateral and anterior portions, and I believe that these lesions are responsible for many instances of so-called atelectatic râles.

SPUTUM EXAMINATIONS

Though the presence of tubercle bacilli in the sputum usually marks a late stage, still at times a small lesion that produces no physical signs may soften and rupture into a small bronchus, and bacilli appear in the sputum before signs or perhaps even symptoms occur. In every suspicious case, therefore, and in every patient with sputum a careful examination for tubercle bacilli should be made. They have been found in many instances after numerous negative examinations. One of the methods of digesting the sputum or of concentration, of which there are many in use, should be tried.

We use at Colon Hospital a modification of antiformin recommended by Uhlenhuth.[12] Antiformin was recently described in The Journal (Jan. 7, 1911, p. 43). It is a mixture of equal parts of sodium hypochlorite (Labarraque's solution) and 15 per cent. sodium hydroxid. Potassium hypochlorite (Javelle water) may be substituted for sodium hypochlorite, and this is the formula that we have used at Colon Hospital. Antiformin, 1 part, is added to about 4 parts of sputum, or of diluted sputum, and the mixture is incubated for from four to twenty-four hours, the sediment is washed and centrifugalized one or more times, and smears made and stained in the usual way. Most of the solid material of the sputum is dissolved and all bacteria except those of the acid-fast group. Antiformin does not affect the staining properties or even the viability, within a limited time, of tubercle bacilli. Pure cultures of the tubercle bacillus may be obtained from the sputum by treating it with antiformin, washing the residue with sterile salt solution, and transplanting on suitable media. Brown[13] has recently reported the result of examinations of fifty specimens of sputum by this method; thirty-five specimens showed tubercle bacilli, and cultures were obtained from thirty-three, or 97 per cent.; in fifteen specimens no tubercle bacilli could be found microscopically, but cultures were obtained from four, or 27 per cent. I have found it useful as a method of concentration, and have been able to find bacilli in specimens negative by the ordinary technic.

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[10] Ztschr. f. Klin. Med., Berlin, lxix, No. 3; abstr. in The Journal A. M. A., 1910, liv, 662.

[11] Waller: Am. Jour. Med. Sc., 1909, cxxxvii, 526.

[12] Uhlenhuth: Med. Klin., Berl, 1909, v. 129.

TUBERCULIN TESTS

Regarding the cutaneous and conjunctival tuberculin tests, my experience agrees with that of Hamman and Wolman,[14] who have recently published the results of 1,500 simultaneous cutaneous (with 20 and 100 per cent. O. T.) and conjunctival (with 1 and 5 per cent. O. T.) tests made in the Phipps Dispensary, Baltimore, by a uniform method. They found that of clinically non-tuberculous patients only 1.6 per cent. reacted to the conjunctival test with 1 per cent. Old Tuberculin, and of the certainly tuberculous in all stages, about 70 per cent. reacted. The number of reactions to the cutaneous test with 20 and 100 per cent. Old Tuberculin in the group of clinically non-tuberculous was so great as to render valueless the test as a positive diagnostic measure, although when the test is negative it almost excludes tuberculosis. They conclude that the conjunctival test with 1 per cent. Old Tuberculin is without danger when proper care is exercised; that when the test is positive and there are suspicious symptoms or signs the patient should be treated for tuberculosis; that when it is positive without symptoms or signs, the patient should be kept under close medical supervision; that when the test is negative the result is not of great significance. If the conjunctival test is negative then the cutaneous test may be tried. If the latter is positive, the two tests yield no significant information; if negative, however, the chances are tremendously against tuberculosis. They did not find that the cutaneous test with 1 and 5 per cent. Old Tuberculin yielded significant diagnostic information.

My experience with the cutaneous (strong tuberculin) and conjunctival tests coincides with the above conclusions. I have not had a sufficiently extensive experience with weak dilutions in the cutaneous test to draw conclusions from, but Baldwin,[15] of Saranac Lake, thinks that with weak dilutions as much information can be obtained from it as from the conjunctival test, the use of which he had abandoned in the summer of 1909.

The percentage of positive reactions from the conjunctival test in the clinically non-tuberculous obtained by Hamman and Wolman is very low compared with the percentage obtained by other investigators, 18 to 25 per cent. This may be due to the fact that they used 1 per cent. Old Tuberculin instead of the precipitated tuberculin, which is stronger, and possibly they were more stringent in ruling out suspicious cases, for other large series reported have usually been compilations.

RADIOGRAPHY

In the hands of an expert, radiography is conceded to be a valuable procedure for early diagnosis, especially in determining the extent of disease. It cannot supplant the other measures, however, and its results are of significance only when they confirm the findings of other careful examinations. It is useful in determining the extent of the lesions, and it may be especially helpful in revealing diseased peribronchial glands.[16] It is most helpful, however, since confirmation of diagnosis by it establishes confidence in the interpretation of early signs.

DIAGNOSIS

In a short treatise on a disease with such numbers of variable symptoms and signs it is impossible to discuss in detail the combinations that justify a diagnosis, or that should excite a strong suspicion of active early tuberculosis. I shall mention, then, only the combinations that in my experience have been most common.

First, a persistent slight cough, with or without a little morning mucopurulent expectoration, and with an afternoon temperature of 99 to 99.5 F. Rest in the hospital usually causes the slight fever to subside within a week, but occasionally it persists for several weeks. On examination there is usually found a slightly shortened, high-pitched percussion note in the supraclavicular, infraclavicular or upper interscapular regions, and the apical outline is a little narrowed on the affected side. The breath sounds may be normal or harsh with prolonged expiration, but a few fine râles are heard at the end of deep inspiration. A positive ophthalmic test with 1 per cent. Old Tuberculin strengthens the diagnosis, but a negative test has little value. The case remains suspicious even if the cutaneous tuberculin test is negative with 100 per cent. Old Tuberculin. The diagnosis is positive if the conjunctival test is negative and the cutaneous test is positive. Tubercle bacilli are not often found, but in a few cases repeated search may demonstrate them, or they may be found by the antiformin concentration method.

A second group of patients complain of feeling "run down," their appetite has fallen off, they have indigestion, are "nervous," and sleep badly. They may have no cough or expectoration, and no fever, but usually they have lost a little weight. The physical signs are generally like those of the first group. Sometimes the apices are normal, but persistent râles on abdomina breathing are present in the fifth or sixth interspace below the nipple or in the infra-axillary space, and a wavy inspiratory murmur may be present. There i usually tenderness on pressure in the interspaces. Th tuberculin tests have the same value as in the first group

In a third group the onset is with a pleurisy, whic may be dry or associated with an effusion. Fever i usually present, but may be absent, and cough may o may not be present. The majority of these patient react to the conjunctival tuberculin test. It is now generally conceded that the spontaneous pleurisies are tuberculous origin in the vast majority of cases.

These three groups include the majority of early cas in my experience. There may be, of course, an infini variety of combinations in which symptoms and sig are so numerous and variable, but other combinatio are usually made by striking symptoms, such as hemo tysis, laryngitis, etc., added to the above combinations as bases. In fact, the groups outlined might well be called basic groups.

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[13] Brown, L.: Jour. Med. Research, 1910, xxii, 517.

[14] Hamman and Wolman: Arch. Int. Med., 1910, vi, 690.

[15] Personal communication.

[16] Stoll: Am. Jour. Med. Sc., 1911, cxli, 83.

The two conditions that most frequently cause confusion, and that really offer the only serious difficulty, are influenza and neurasthenia, the former by reason of symptoms, and sometimes signs, the latter by symptoms. Influenza may produce râles limited to the apices and harsh breathing, and it is possible that these may sometimes be unilateral. But I have never seen other changes produced by it except in severe acute infections with bronchopneumonia, and in bronchiectasis. In these cases the absence of tubercle bacilli, the character of the sputum, the presence of influenza bacilli, and the negative conjunctival tuberculin test should clear up the diagnosis. Neurasthenia should never be diagnosed without the careful exclusion of physical signs of tuberculosis and a negative conjunctival tuberculin test with 1 per cent. Old Tuberculin.

CONCLUSION

Tuberculosis is the most common of all diseases and causes a greater number of deaths than any other. Failure to diagnose it early is disastrous and reprehensible. Physicians should have a more thorough knowledge of it than of any other disease, and they should be trained in the highest degree in the methods used for its diagnosis in the early stage.

The greatest hope for the ultimate control of tuberculosis lies in the education of physicians in its early diagnosis, and, what will follow, the education of the public in accepting and not resenting or feeling disgraced by such a diagnosis. The public must be taught that the outlook is more hopeful the earlier the disease is recognized; the old terror that grew up from familiarity with the disease when it was diagnosed only in the hopeless, pitiable and repulsive stage must be dispelled.

I wish to thank Colonel William C. Gorgas, Chief Sanitary Officer, for permission to publish this paper.

NOTE.—Since this paper was written there has been published "A Report of the Tuberculosis Situation in Pennsylvania in 1909," by J. Byron Deacon (THE JOURNAL A. M. A., Feb. 4, 1911, p. 339). Deacon points out that in 1907, the latest year for which morbidity statistics have been issued, there were only 6,109 living tuberculous patients reported, while the deaths numbered 4,700 more, or 10,809. "On the commonly accepted supposition that for each death from tuberculosis there are at least three other persons sick from the disease, there were probably no less than 40,000 cases in Pennsylvania last year." Deducting the 10,809 deaths, there are left approximately 30,000 living patients, only about 6,000 of whose cases, or 1 in 5, were reported. But these figures may be misleading, for the 40,000 cases probably include many old cases that may have already been reported in previous years. I do not suppose that the law requires a new report of the old cases to be made each year. A more accurate way of estimating the number of unreported cases would be, then, to estimate the number of new cases and to deduct the 6,109 reported cases. It seems fair to assume that the average number of cases in Pennsylvania remains approximately the same from year to year, that is, that a sufficient number of new cases develop to replace those lost by deaths and recoveries. There were 10,809 cases eliminated by death in 1907. It is probable that at least half as many patients with demonstrable signs recovered. To replace these there must have developed approximately 16,000 new cases, of which only 6,109 were reported. Is one to suppose that the 24,000 or 10,000 cases were undiagnosed, or that they were diagnosed and not reported, in utter disregard of the law? The most charitable assumption is the former, but in either case the figures are a sad commentary on the condition of affairs in the relatively enlightened medical center, the State of Pennsylvania.

THE NEED OF THE EARLY DIAGNOSIS OF TUBERCULOSIS FROM THE PUBLIC HEALTH AND PROGNOSTIC POINTS OF VIEW *

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The title under which I have elected to participate in this consideration of tuberculosis in a sense removes the subject from the realm of broad popular discussion and restricts it to professional discussion, as bearing on the responsibility of the physician in the campaign which has awakened such world-wide interest among the laity. The speculations which claim our attention belong to the profession and do not directly concern the laity, yet it is impossible absolutely to separate from the field of legitimate public interest any of our conclusions or acts with regard to the prevention or cure of this disease. As a matter of fact, we have progressed too far in the study of disease and in the accumulation of exact information to be able to carry out the dictates of our knowledge single-handed. We have long recognized the necessity of taking the public into our confidence and asking its cooperation in accomplishing the great task of advancing human welfare along the many lines which so clearly lie before us. "With the progress of thought there has come a growing curiosity on the part of the layman to know more of the physiology and pathology of life," and we find a public which is only too glad to "learn more of what medical science can teach of everyday life in so far as it can tell how best to avoid and so prevent" disease processes which, when once established, prove themselves to be intractable or irremediable at the hands of medicine. Nobody will presume to gainsay the availability of such assistance in what should really be, in the first instance, our endeavor and not theirs. The question is, Are we doing our full share in the work which has been initiated, and are we deserving of the support in money and willing hands which is being offered on all sides? I am most emphatically of the opinion that we are not, and there is abundant evidence, which "he who runs may read," that we are not only not taking our proper group place in the vanguard— not even doing our share (irrespective of relative qualifications as between the profession and the lay public)—but are actually, by the repeated individual neglect of a plain duty, constituting ourselves a drag on the movement to emancipate the world from this insidious foe, very aptly characterized "the great white plague." It is time for us to obey the behests of those who, like Girdwood,[1] realize what the public has a right to expect of the profession, and the physician's responsibility to patient and to society.

We have been, perhaps, a little overdone, a little dazed of late years by the spectacle of what might not immoderately be termed a wild crusade against consumption and other insidious enemies of health. We have been blinded by a blaze of brilliant display, and we have been deafened to reason by a blare of revivalistic appeal. We have lost our sense of proportion—our perspective—our power of introspection. It is time to pause in the flight for striking effect and do a little of that drudgery in first principles that will place us on solid ground in respect to the real part we, as members of the medical profession, are to play in the tuberculosis problem.

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* Read at the meeting of the Medical Society of the Isthmian Canal Zone, January, 1911.

[1] Girdwood, John: Responsibility of the Physician in the Campaign Against Tuberculosis, THE JOURNAL A. M. A., Dec. 4, 1909, p. 1881.

The first thing required of us is that we shall present a united front, based on the pathology of the disease, as to the most economical and best method for its prevention and the surest means for its control; and, then, that we shall work together conscientiously in an earnest, intelligent effort to stamp it out of existence as a universal plague. Let the philanthropic layman, the educator, the social worker, the hygienist, and the sanitarian, exert their energies under scientific advice toward ordering the lives and habits and surroundings of the people; for the physician there is the primary duty of making a diagnosis, and that an early diagnosis. This is the most efficient weapon at his command in leading the great undertaking and in discharging his obligation, both in the interest of public health and a good prognosis for his patient. It is a weapon which must be used fearlessly, for in it alone do we find the backbone of a practical campaign.

It is the one means of robbing the disease of its terror, and of quieting the panic which the mere mention of the word tuberculosis has always excited. To have, or to have had, tuberculosis has been in the past, and is now, regarded as a stigma, which has been a potent influence in the development of a disposition to conceal the disease. And the large majority of physicians have humored the people in this erroneous idea and all too willingly lent themselves to the deception. It is a false kindness to doubt and ignore or conceal the facts to which the findings in a physical examination clearly point. If the symptom-complex of tuberculosis is sufficiently complete to warrant a reasonable suspicion of the disease, far better to tell the whole truth and make a confidant of your patient in the hope—nay, certainty, of enlisting his help—than cheerfully to disarm the finding of anything suggestive simply because the picture seems incomplete by the absence of microscopic proof. There are comparatively few advanced spirits who have the courage of their convictions in this direction and are willing to be dubbed as "hipped" on the subject—the victims of "tuberculophobia," as they often are, because bacilli are not found in the sputum, or the subject of their diagnosis is not in a hopeless condition of advanced disease, or because their patients return to active life, rosy and fat and nervously stable, after only a few months under that therapeutic triad—rest, fresh air, and good nourishing food. These men may be ridiculed, but, mark my word, they are the ones who are training the public to regard tuberculosis from a sane point of view; they are the pioneers and founders of the real campaign against tuberculosis; they are the ones who, though perhaps occasionally erring on the right side, are bringing about a decreasing percentage in the mortality statistics.

I am conscious of the fact that I am setting down some very old and familiar truths, albeit in a new form, perhaps, but I think the circumstances and conditions we are facing warrant their reiteration with emphasis as often as may be required to awaken us to a realization of our shortcomings in respect to our duty, and to the end that we may not do less well than we may, or less well than may be reasonably expected of us by our patients and by society.

I shall not discuss the symptoms and signs which constitute a sufficient picture for the early diagnosis of tuberculosis. Suffice it to say that "the presence of tubercle bacilli in the sputum can only confirm that which should have been discovered in all probability months before by careful and systematic physical examination. . . . If we wait for microscopic demonstration of tubercle bacilli in the sputum, in order to make a diagnosis in suspected cases of this disease, our patients in the vast majority of instances will be so far advanced as to almost preclude the possibility of a permanent cure."[2]

It is, however, within my province to ask wherein we have failed to prepare our minds, to train our abilities, and to take advantage of facilities favorable to an early diagnosis. I have already touched on the first factor of this inquiry, but I think it will bear the further remark that far too often has our fear of losing a case influenced us to close our eyes to the meaning of facts we have discovered. We hesitate to stigmatize a patient by the pronouncement that he is the subject of tuberculosis. We even delay submitting ourselves to an examination, if there is a suspicion of tuberculosis, in the unreasonable and cowardly fear that the suspicion will be verified, when, as a matter of fact, the stigma involved is that which rests on the physician who fails to make an early diagnosis, and the only need of fear is that a patient may be permitted, in the absence of a timely warning, to progress so far in the disease that he is denied that fair chance to regain health to which he is entitled. If it is fear of alarming our patients which makes us hesitate to tell the truth, I think we can put our minds at rest. "It will not be so great a shock if we are able to say that the disease is in its early stages, and that proper treatment, adopted at once, will restore him to health."[1] With the present tendency to be overcautious in making a diagnosis of incipient tuberculosis, there is no danger of magnifying the import of symptoms and signs. There is little or no harm done by the occasional mistake in this direction, but there is infinite harm done by the delay incident to a dependence on that evidence which may develop late and which, while constituting conclusive proof of the disease, is also often the symbol of an approaching end, or, at least, prolonged invalidism. The very first step toward paving the way for an effective general campaign must be taken by us, for it is the patient with the advanced case with the bacilli in his sputum who is a menace to the community. The prerequisite in fulfilling our duty to the patient and the public is a willingness to make an early diagnosis, and not only that, but fearlessly to state our convictions in accordance with the highest ideals of professional altruism as against the commercial spirit that is animating so many. It is high time to rid ourselves of false notions and selfish impulses—to clear our vision—and unite in a right-minded attitude in this matter.

And now as to our ability to measure up to any standard of harmonious action along the above-mentioned lines, which we may see fit to agree on. "Of all the means to the early detection of pulmonary tuberculosis, the art of physical diagnosis (together with an eye for early symptoms) is preeminently the foundation on which a diagnosis depends."[2] This cannot be too strongly insisted on, and any neglect of it in dealing with this disease is a most unpardonable form of malpractice.

Greater experience with the *x*-ray, with Calmette's ophthalmic reaction, with von Pirquet's skin reaction, and with the subcutaneous use of tuberculin has given them only an associated importance and corroborative value as diagnostic agents in the early stages of tuberculosis. Yet these and the microscope are too often employed as excuses to evade the older and more arduous task of eliciting the evidence appreciable by our senses in palpation, percussion and auscultation.

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[2] Wright, B. L.: A Plea for the Early Diagnosis of Pulmonary Tuberculosis, Mil. Surgeon, xxiv, 75.

Taking it as an accepted fact that the above laboratory procedures are mere aids, the early diagnosis of pulmonary tuberculosis must rest on the careful and thorough physical examination of the suspect (it may have to be repeated several times before definite lesions can be detected); and, in turn, our ability to make an early diagnosis of pulmonary tuberculosis is conditional on our familiarity, first, with the signs of the normal chest —the music of the chest, as it has been poetically styled —and then, with the many types and degrees of variation from the normal signs attendant on disease. This being the case, it is remarkable that the art of physical diagnosis is given such scant attention in our medical schools and that the meager training with which we are equipped when launched in the midst of an unsuspecting public is so neglected by members of the profession, in both civil and military life. There is, indeed, a woful ignorance of those essentials to be practiced at the bedside; "an inability properly to make a physical examination, or to correctly interpret the physical signs obtained by such examination; and, I regret to say, the normal physical signs (particularly in the region of the chest) as elicited by the various methods employed in physical diagnosis,"[2] are a closed book, as far as any practical advantage is concerned, to a shockingly large number of practicing physicians. This statement might strike any group of offenders as an insulting exaggeration, but resentment is only an admission of the lack of an active appreciation of the value of high development along these lines. Such physicians probably do know the appearance, the touch sensations, and the sounds to the extent of being able to detect gross variations from the normal, but in most diseases, as in tuberculosis, it is the fine variations which are of importance and the ones which offer us timely information. It is just here, I repeat, that most physicians fall short in training and capability to deserve the confidence of their patients. This conclusion becomes inevitable when we investigate "the statistics of the civil hospitals and sanitariums throughout this country, if not throughout the world, which receive this class of patients," and of the different insurance companies,[3] all indicating that large numbers of individuals have been accepted for admission or protection in advanced stages of the disease. Post-mortem records point in the same general direction. "That it is true of the military services, as well, is a most lamentable fact that cannot, I believe, be disputed"[2]—certainly not by our Navy. It was, for example, reported by Wright in January, 1909, that " in only four or five instances out of the ninety-nine patients admitted" to the U. S. Naval Sanitarium at Las Animas, Colorado, from the time of its establishment to that date, did the medical officers transferring them give any evidence of having attempted to localize the diseased areas. Of the remaining ninety-five or ninety-six cases the information furnished was of the most meager character, the diagnosis apparently having "awaited the microscopic findings," and having been determined much too late to offer any hope of recovery, or, "in many cases, the prolongation of life beyond a period of months." I may say that following the publication of these facts, together with an appeal for the early diagnosis of pulmonary tuberculosis, new interest in the disease was awakened throughout the Medical Corps of the Navy, and I believe that records will show that an improvement is being realized.

While such apathy, indifference and even hostility, as above indicated, are displayed by so many physicians in civil and military circles, the number of victims to tuberculosis will show little decrease, and, what is more to the point, "until such time as the diagnosis is made by the early [symptoms and] physical signs and the admission ticket bears the phrase 'Sputum negative for T. B.,' instead of that (usually) deadly sentence, 'Tubercle bacilli have been found in the sputum,' " society will continue needlessly burdened with the care and support of those, who, had an early diagnosis been made, might have been cured by the arrest of the disease, and saved to the world as "useful citizens in their various walks of life." The expense and loss of time to the individual, the family and the state incident to a tardy diagnosis represents a criminal waste which complicates the already serious economic problems of the age. There is a business principle involved as well as a humane dictate. The relief which is demanded is within our power to give. The public has a right to expect it of us individually and collectively, and by recognizing our plain duty we shall be removing one of the greatest obstacles to the successful prosecution of the fight against the most devastating enemy of the human race.

The third inquiry which I wish to bring home to you concerns the secondary or collateral measures for diagnosis. Are we, in the presence of inconclusive physical data, availing ourselves of every facility placed within reach by the health departments of cities or by institutions to verify or allay suspicion?

In previous references to the examination of sputum I may have seemed to underrate it as a proper measure in early diagnosis. This I had no intention of doing except by way of more effectively emphasizing the importance of a greater dependence on observed early symptoms and early physical signs. Although tubercle bacilli are not to be expected in the sputum until there has been some destruction of lung tissue, they are sometimes found very early in the disease and should, therefore, be invariably sought as a positive proof of the existence of the disease. It is to be kept in mind, however, that failure to find tubercle bacilli in the sputum does not exclude the possibility of the disease, as they may be absent from the sputum, or they may not be found microscopically. Reward in the search for positive proof, which so many of us unfortunately wait on, may be forthcoming only after repeated examination, yet the large number of physicians who entirely neglect this measure of diagnostic precision provided by the city laboratory, or who practically do so by resting content and pluming themselves that they have done their duty in requesting the examination of a single specimen is very clearly shown in the figures gathered by Girdwood.[1] In the course of his paper, after allowing for errors in calculation, he says, "I think it may be safely estimated that 50 per cent. of practitioners do not avail themselves of this privilege." If the neglect of this long-known measure is so prevalent, how certain we can be that the tuberculin, ophthalmic, and skin tests, one being corroborative of the other, and all being valuable as mile-stones along the route to an early diagnosis, are also neglected.

I repeat, therefore, that the profession is, broadly speaking, guilty of at least three offenses in relation to a timely diagnosis of tuberculosis, and to the rôle which we must play in the campaign against the disease, if success is to follow the movement. To summarize:

1. The profession is not educated to the point of a right-minded, morally fearless and pecuniarily unselfish attitude toward the early diagnosis of pulmonary tuberculosis.

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[3] Greene, C. L.: Medical Aspects of Life Insurance, Osler's Modern Medicine, Vol. vi, Part vi, p. 760.

2. The profession does not, or will not, fully realize the importance of the information to be gained by giving careful attention to early symptoms, and is, with inexcusable carelessness, not taking advantage, or has not trained itself to take advantage of the valuable signs to be elicited by the art of physical diagnosis as constituting the real basis on which a timely diagnosis is to be made.

3. The profession is not availing itself of those valuable corroborative tests which science has placed at our disposal as aids to the early diagnosis of tuberculosis and which should be generally adopted.

The insurgent movement in professional circles which has been inaugurated in support of reforms along these lines must win recruits and gain in force if we are to live with our heads up straight and our hands clean.

THE FOLLY OF SENDING TUBERCULOUS PATIENTS AWAY FROM MEDICAL SUPERVISION *

JOSEPH WALSH, M.D.

PHILADELPHIA

Case 1.—Mrs. N., aged 44, in well-to-do circumstances, came to my office Oct. 14, 1907. She had been perfectly well until four months previously, when she developed symptoms of cough, expectoration, etc., and her physician told her that she had tuberculosis of the lungs and that she should go to the country. This was the complete advice he gave her, telling her neither where to go nor what to do. Being a woman of intelligence, she made inquiries among lay people and heard, among other places, of a town in a neighboring state in which there is a large sanatorium for tuberculous patients. She went to this town, which contains a number of physicians experienced in the treatment of tuberculosis, but having been given no advice about what to do and no directions about seeing a physician, she thought it was necessary only to remain in the town until she got well. She remained four months, and, finding that she had not improved, she consulted a physician connected with the sanatorium who told her her exact condition and described what she ought to have been doing, but had not been doing during the past four months.

The patient had moderately advanced tuberculosis and I have no doubt, especially in the light of subsequent events, that if she had been under the care of this physician during these four months she would have recovered, but after finding that she had wasted four months she became so disheartened and so homesick that she felt obliged to come home for a while, even though, as she said, it might be attended by serious consequences.

She asked now if she might not be treated at home, assuring me that if she did not do well she would be willing to go to a sanatorium. She was not only a woman of intelligence, but of perseverance, and in six months the disease was "arrested," the cough and expectoration practically stopped, and she had advanced in weight from 118 pounds to 137. She has remained in this apparently cured condition for the past three years.

Case 2.—T. M., a single man, aged 23, medical student, first consulted me Sept. 13, 1906. He said that the previous December he had been advised by an eminent physician to go west and keep in the open air, and to exercise. He was a strong, characterful young man and followed directions implicitly, riding horse-back and walking continuously, only to find at the end of five months that he was distinctly worse. On consultation with a physician in Texas, who knew something about tuberculosis, he was told that he should have been on rest the whole period. Discouraged and disheartened he came east, but his five months' definitely improper régime and the trips west and east had done their work. He was in a critical condition when I saw him and rapidly deteriorated till he died.

Case 3.—F. G., a man aged 40, married, machinist, went to the White Haven Sanatorium, March, 1910, with advanced tuberculosis of both lungs. None of his friends expected him to recover. He was so well four months later, namely, in July, that he insisted on going home for a few days. His friends were surprised at his splendid condition and realizing now his capability of recovery thought they would clinch the matter by sending him west. Though he was a poor man, these friends made up a purse of $800 and sent him west. Three months later he returned east in the hope of being able to enter the White Haven Sanatorium again, but he was so ill on arrival at his home that he could not be moved and he died several weeks later. The patient himself stated in regard to his retrogression, that the trip west on the train started it. He did not know what to do when he arrived there, fell into the hands of a physician who knew no more about tuberculosis than himself, and finally after spending his $800 in three months he came east and the trip eastward finished him.

The result in the first case shows that there was no necessity for the patient leaving home; in the last case the patient was in the proper place and was advised away from it, and all three cases are typical of the folly of sending patients away from continuous medical supervision. Every physician who sees many tuberculous patients has numerous similar histories of patients who die, not on account of susceptibility, but on account of improper or insufficient direction.

To recover from a tuberculous condition which is manifesting symptoms sufficient to bring the patient to a physician requires at the least months of a careful régime, which changes with the improvement or retrogression in the disease and with the occurrence of complications like a cold. Not one patient in a hundred can be directed at the beginning along a course that will not require modification, and modification sufficient to make the difference between life and death if it is not followed out.

Two of these three patients went to country hotels. I know of no course worse than to send a patient to a country hotel or farmhouse away from direct medical supervision. In the farmhouse or in the hotel it is usually necessary for the patient to conceal his condition. He is, therefore, prevented from using sputum cups, uses instead his handkerchief and sometimes even is obliged to swallow his sputum, thereby putting himself in the danger of continual reinfection. In addition he is even afraid to carry out in their entirety the precepts that he himself understands, fearing, on account of the general knowledge of tuberculosis, that those around him will recognize his condition. At home or in a sanatorium the people about the patient are not only desirous of seeing him get well, but, understanding his condition help him to carry out the régime. At the farmhouse or country hotel he is so anxious to conceal his condition that he is encouraged in just the opposite direction.

Moreover, to send a patient to a farmhouse in which the family is willing to take a case of tuberculosis ha no further advantages. In this case the people have usually had tuberculous patients previously, and have some ideas relative to the disease. These ideas are frequently wrong, yet wishing the patient well they endeavor to instruct him. Any sick individual is mor or less at the mercy of the well people about him; if the insist on certain things he has not the will-power t resist. Unless the physician, therefore, is paying ver close attention, the patient will be following these othe directions. Some patients have so much recuperative power that despite the disadvantages of the farmhou-

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* Read before the Philadelphia County Medical Society, April 12, 1911

they improve, but the number of these is small compared with the number of patients who fail to improve in the farmhouse, and yet on being sent to a sanatorium get promptly well.

My experience is that patients capable of recovery and possessing the proper character to make them persevere in treatment are capable under supervision of getting well anywhere. Patients whose personal will-power is not strong or who on account of circumstances, like business worries or family troubles, are not capable of taking care of themselves at home, should be sent to a sanatorium.

The advantages of a sanatorium do not lie in its situation, but in the ease with which the proper régime is followed in it. In the home or farmhouse or country hotel, the people are going to bed at the time suitable for well people: they are, if the weather is cool, living in confined rooms: they are amusing themselves by indoor occupations and they are eating meals suitable for active laborers. In order to follow out a régime in which rest, fresh air and special food are the important factors, the patient is obliged practically to separate himself entirely from the family, and on his own initiative retire while the others are amusing themselves, sit out alone while others are experiencing the comfort of indoors, and refuse dainties which he sees others enjoying; all this requires an amount of character that few people, especially sick people, possess. In a sanatorium everyone about the patient is doing just what is proper for the disease; all are retiring at a proper hour, the daily amusements are outside, the meals are specially regulated to requirements so that there is no inducement to remain up late or to stay indoors, or to eat unsuitable articles of food. To do what is wrong at home is very easy; to do what is right requires special initiative on the part of the patient; while the opposite is true in the sanatorium; in fact to do what is wrong in a sanatorium almost requires special malice against oneself.

I believe, therefore, that there are only three things for a physician to do with a tuberculous patient, namely, treat the patient himself, send the patient to another physician or send the patient to a sanatorium; and that the sending of a patient to a farmhouse or country hotel away from supervision is an unjustifiable evasion of the physician's responsibility.

732 Pine Street.

REPORT OF A CASE OF TERTIAN MALARIA, SIMULATING APPENDICITIS

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My purpose in reporting the following case is to urge on all practitioners in malarious districts the necessity for the examination of the blood for the malarial parasite, and the value of the procedure as a routine measure. The process of taking a smear, staining, and mounting is a simple matter occupying a very short time. Very often, as in the following case, but a few minutes' examination under the microscope is sufficient to reveal the parasite, where very possibly its existence was considered unlikely. Following such a finding, consideration can then be given the significance of the presence of the parasites, and whether or not they are responsible for the clinical symptoms, not forgetting that in all malarious sections the parasites may be but coincident with other pathologic conditions.

P. L., white, aged 34, a carpenter, unmarried, was suddenly seized with a severe pain in the abdomen at 6 p. m. March 15. I reached his bedside three hours later. He gave no history of having had previous attacks. He was in intense agony; the right abdominal wall was rigid, the right thigh flexed at right angles to his body. He had vomited twice previous to my arrival; there was no chill. Light pressure over the appendix elicited intense pain, and any attempt at deep palpation produced great agony. The temperature was 99.2 F., pulse 90. A tentative diagnosis of appendicular colic was made, half a grain of morphin sulphate administered hypodermatically, 5 grains of calomel administered, all nourishment withheld and a saline ordered for the following morning. The next day, fifteen hours after the initial symptoms, the patient was resting comfortably, but the right rectus remained rigid, and considerable pain was elicited by deep pressure over the appendix. His bowels had been thoroughly moved and his temperature was normal. The patient was warned to remain in bed, to limit his diet to liquids, and, owing to the distance at which he was situated and the time involved in a visit, to advise me if further symptoms developed. The evening of March 17 I was hurriedly sent for, but being absent did not reach his bedside for some hours. An attendant advised me that he had in the morning, become perfectly comfortable, had dressed that afternoon, and left his home. At six that evening, a few hours after leaving home, and just forty-eight hours after the initial attack, he was again seized with intense abdominal pain, accompanied by a severe chill. An hour later his temperature had reached 106 F., and he was semicomatose. I found him some hours later with the abdominal symptoms intensified over those prevailing two days previous. The temperature had by this time fallen to 101, the mental condition was again clear. While all the subjective symptoms pointed to an appendicitis, the temperature curve was not in accord with such a diagnosis. A blood-smear was taken which at daylight I treated with Wright's stain. The first field examined under a 1/12-inch oil immersion lens showed a well-developed hyaline ring form of the tertian type; other fields showed numerous tertian parasites in various stages of development. Ten grains of the quinin sulphate with dilute hydrochloric acid were ordered given three times daily. With the second dose an amelioration of the abdominal symptoms occurred, and in twenty-four hours they had entirely disappeared. The patient recovered rapidly under a continuation of the treatment outlined.

THE DIAGNOSIS OF TUMOR OR ABSCESS FORMATION IN THE TEMPORO-SPHENOIDAL LOBES

WITH A REPORT OF A CASE, WITH OPERATION *

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This subject is of interest to neurologists and psychiatrists alike; to the former on account of the difficulties with which the diagnosis of lesions of the temporosphenoidal lobes have been associated, and to the latter because of the curious mental states which are very usually engendered.

An examination of pertinent literature shows that a large number of cases of tumor growth in these regions has been recorded, but the diagnosis has been made in only too many instances after the death of the patient, and a man of such wide experience as Byrom Bramwell has put on record his opinion that tumors in these areas are the most difficult of all cerebral growths to localize with accuracy.

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* Read before the New York Neurological Society, March, 1911.

This difficulty had its origin in two factors—the rarity of the disease and the comparative latency of the region affected. The last mentioned condition is one which should stimulate us to examine minutely the signs and symptoms of such cases as come under our observation, in order accurately to define a clinical picture whereby to facilitate future diagnosis, and for this reason: The fewer important centers there are in any given brain area, the more likely are surgical procedures to meet with success in that area. The *succès d'estime* associated with the removal of subcortical Rolandic tumors is occasionally chastened by the reduction of the status of the patient to a quite incompetent intellectual and physical condition; but the fact that large neoplasms have been removed from the substance of the right temporosphenoidal lobe with the abolition of all previous symptoms, and the addition of no new ones, makes one insistent that we all—neurologists, psychiatrists—and aurists—conduct our examinations of cases of cerebral disease in such a manner as to preclude the possibility of allowing a single instance of this disease to slip through our diagnostic fingers.

CASE REPORT

Patient.—M. P., a woman, aged 51, was admitted in November to the second medical division of Bellevue Hospital. I am much indebted to Dr. Coleman for permission to report the notes of the case. The patient had been married twenty-three years, and had had eight children, of whom six died young. They were all full-term children; she had had no miscarriages; her previous health had been good. Her intelligence was excellent.

History.—In early June, 1910, when in good health, she went to bed as usual and during sleep had a slight generalized convulsion. She had another similar attack a few hours later. Of neither seizure was there any warning. There was complete loss of consciousness. She was sent to the Lincoln Hospital while still unconscious.

On coming to herself, she had severe left occipital headache. She vomited for some time, but there was no weakness of any of her limbs. She remained in the hospital for three weeks. There were no special phenomena; beyond occasional severe headache, she remained well for three weeks after leaving the hospital. In the middle of July, six weeks after her first attack, she had another generalized fit of greater severity than before. She was taken to the Jersey City Hospital and unconsciousness is alleged to have obtained for three or four days. There were no sequelæ beyond vomiting and headache as before. Two weeks later, she left the hospital apparently well and remained so for six weeks more. In the end of August, when standing in her house, she suddenly felt terribly frightened—"frightened in the stomach"; became dizzy; "everything seemed to turn"; she sat down on the bed, and in a few minutes felt pins and needles in the left fingers, then in the left forearm, then in the arm and shoulders; the tingling was next felt in the left leg also, after which the fingers of the left hand curled up and began to twitch; then the twitching spread to the arm, and subsequently the wrist, and the left elbow was bent and the hand was drawn up. The left leg followed suit, and last of all, she felt the left side of her face twisting and jerking. There was no loss of consciousness. "I could speak if I held my mouth. I kept spitting all the time." The attack lasted perhaps ten minutes. There was weakness in the left arm after the fit was over. In the latter part of the attack she noticed an "awful bad smell like rotten weeds." This lasted a minute or two and was followed, when the fit was over, by vomiting. After the vomiting attack had passed (half an hour after the fit) the smell came again, and at the same time "I felt queer; everything seemed funny and different." Again there was no loss of consciousness. "Then I distinctly saw a woman standing near me to my left. I was afraid of her. I did not know her. She was dressed in blue. She moved and made motions as if she was talking, but I could not hear anything." The queer feeling lasted perhaps twenty-five minutes, but only for a few of these was the woman seen by the patient.

The patient was taken to Long Island College Hospital and remained there for a week, during which time she vomited much and had a great deal of severe headache, which was usually on the left side. She had one fit while there, when in her bath. "Suddenly felt frightened at the heart." Pins and needles were felt in the fingers, forearm, arm and leg; then twitching in the same order. The mouth did not twitch. There was no spitting. The evil smell followed the attack as before. Later, there was profuse vomiting. Duration, ten minutes, with consciousness retained for the whole period. She limped in the left leg on leaving the bath-room and both the left arm and leg felt very weak.

During the weeks following her stay in the Long Island Hospital, the patient had frequent subjective sensations of an offensive odor as before. The woman always appeared to her left, always in blue, and always frightened her. "I always felt queer before I saw her. The queer feeling usually lasted perhaps a quarter of an hour." There were no motor fits then, but headaches became severe. "The smell came often and was disgusting." (She used to wipe her mouth with a handkerchief to get rid of it.) "I do not know whether it was in the mouth or in the nose."

The left arm and left leg gradually became weaker and in October the patient began to have burning pain in the left arm and hand and, to a less extent, in the left trunk and the left leg. "If I put my left hand in hot or cold water the pain was terrible!"

At this time, she began to keep a shawl wrapped round the left arm to obviate the pain produced by cold draughts of air on the arm. In the middle of October she had another left-sided focal fit, followed by the evil smell and apparition. After this attack, the arm and leg were definitely weaker. "I could hardly walk at all." About the same time, she noticed a "crawling sort of movement" in the left fingers which was present apart from the attacks. Headaches became more severe and the burning pain in the left side of the body became worse. The patient had no fits or subjective sensations of smell or sight when under observation in Bellevue Hospital.

The synopsis of the neurologic examination is as follows:

Examination.—The patient's intelligence was acute; there was no speech defect of any kind whatsoever.

Special Senses: Taste and hearing and acuity of visio were normal. The patient was able to distinguish odors bu could not name them, this possibly being due to a genera depression of the olfactory centers. There were no change at any time in the optic disks. There was left hemianopia which was complete up to fixation point. Beyond inequalit of the pupils, there were no other eye abnormalities.

The left side of the face showed considerable weakness chiefly confined to the lower part of the face, and with n alteration in the electrical reactions in the muscles.

There were no abnormalities in the limbs of the right sid

The left upper extremity was very spastic and profoundl weak and the fingers and hand of that arm showed typica athetotic movement.

In the same arm there was profound sensory ataxia.

The left leg also was very weak and spastic but showed n athetosis.

The patient could not walk alone and disliked putting th left foot on the ground because of the increase of pain in th foot induced thereby.

Sensory examination showed complete lack of appreciatio of light pin-prick and cotton-wool touch on the left side o the trunk, the left side of the face and the left arm and le The patient was unable to appreciate temperature on the le side of the body, but cold was instantly productive of mot reflexes and intense diffuse pain all over the left side, th being most marked in the left upper extremity. A clo wrung out of cold water laid anywhere on her left side hu her intensely. There was complete loss of sense of positio in all the joints of the left upper extremity and in the to of the left foot. Gentle kneading of the muscles of the le side was resented because of the "burning" pain induced.

Reflexes, upper extremity: Those on the left greater th on right; abdominal reflexes absent on both sides. Patient fat and abdominal wall is flabby. Knee-jerks: right equal to the left. Ankle-jerks: only occasionally present. Plantars: right of flexor type, left of extensor type. She had no sphincter trouble.

Circulatory, pulmonary and alimentary systems were normal.

The progress of the case in the hospital was uneventful. No attacks took place; left-sided weakness, athetosis, and pain became more and more marked; headache and nausea increased; no pathologic change occurred in the optic disks.

Operation and Results.—The patient's objections to operation were at last overcome, and Dr. Hartwell made a large osteoplastic flap over the posterior part of the right temporosphenoidal lobe. At the first stage of the operation, the dura was not opened, but the finger was able to detect on the under surface of the dura a large lobulated mass of distinctly pathologic consistency. A week later the wound was reopened and the dura incised. The posterior parts of the upper and middle temporal gyri were found to be the seat of a knobby growth of great hardness which was so intimately connected with the dura that this membrane had to be removed entirely in the neighborhood of the neoplasm, which was itself completely taken away.

Immediate results were excellent; athetosis disappeared and subjective pain in the left arm and leg became much diminished. Headache had been relieved from the date of the first stage of the operation.

Two days after the second stage, the patient had a severe Jacksonian fit on the left side, and this was repeated perhaps eight or ten times in the succeeding three weeks; in none of these was postepileptic weakness at all marked in the affected limbs. These attacks were looked on as resulting from a transient edema of the exposed convolutions and the annectent gyri and were not therefore regarded as being of serious prognostic import. She was discharged from the hospital some six weeks after the removal of the growth, without headache and with power and sensation almost completely restored to the left arm and leg.

The diagnosis in this case was, of course, exceedingly easy; it is seldom that in one individual one finds collected together nearly all the signs on which one must rely, but just for this reason the case has seemed to me to be a proper one with which to open a discussion on the symptomatology of gross lesions of the temporal lobes.

The convulsive seizures were in this case particularly characteristic, and the sequence of the various centers attacked was so anatomically and physiologically exact as to make very clear the localization of the primary epileptogenetic center. These attacks began, as you will have noticed, with an aura of fear—referred more especially to the epigastrium—then "spread" took place upward and forward, producing first a sensory and later a motor focal epileptic attack by means of irritation of the postcentral and of the precentral gyri. In the meantime spread of the stimulus was occurring in a directly forward direction, and by the time the motor fit had almost exhausted itself, there was produced a true uncinate fit—a subjective sensation of a foul odor—"like rotten weeds"—which was so intense as to produce intense nausea and vomiting. In many of the attacks, there was associated with this phenomenon that most curious of psychic conditions, a true dreamy state in which consciousness, though retained, is strangely transformed, and in which the relationship between the individual and the external world becomes apparently altered in a manner too subtle for concrete description. In this respect, my patient contented herself by saying that she "felt queer," that "everything seemed funny and different," but this failure to portray her defective objective consciousness was almost made up for by her clear-cut description of the result of her increased subjective consciousness, namely, the projection of her submerged memory of a woman dressed in blue, who caused her fear.

Doubtless these "voluminous mental states," as they were named by Dr. Hughlings Jackson, frequently accompany so-called idiopathic epilepsy, but it is noteworthy that when incoordinated sensory resuscitations of this nature have occurred, and organic intracranial disease has later been found to have been present, the lesion has invariably been found to have been situated in the temporal lobe; in a series of nine proved cases of tumor of the temporosphenoidal lobe of one or other side, I obtained a clear history of the incidence of dreamy states in seven and of subjective sensations of special sense in eight, and the entire nine patients had had at some period of their histories one or other type of phenomenon.

Owing to the fact that the temporal lobes are vast and uncharted regions containing only one known bilateral center, that of smell and taste, and one unilateral center for the storage of auditory memories in the transverse gyri of Heschl, we are forced in many instances to look for exact localizing signs to the pressure effects of temporal tumors on neighboring structures. In this respect the present case was particularly rich: there were, as you will have observed, well-marked signs of pressure on the pyramidal tract, taking origin in the right cortex, and moreover, the signs of pressure inwards on the right optic thalamus were more marked than I have ever before known to occur.

Many years ago Nothnagel and Bechterew showed the optic thalamus to be an important reflex center for emotional expression and in cases of tumor or abscess of one temporosphenoidal lobe, it is common to find the effect of depression of function of the homolateral thalamus in an abolition or marked diminution of emotional expression in the opposite side of the face, and I have learned to look for such a depression of function in these cases as being of the utmost aid in diagnosis.

There was, however, in the patient under discussion, an almost perfect thalamic syndrome in addition to unequivocal temporosphenoidal signs; there was pyramidal involvement with well-marked athetosis, together with a signal inability to appreciate touch on the affected side, combined with explosive sensibility as regards superficial and deep pain and temperature, and much subjective burning pain of a characteristic nature in the same parts of the body. The lesion in this case was situated much more posteriorly than in any of my nine cases to which I have already referred, and this fact may, to some extent, account for this greater incidence of pressure on the thalamus, as it undoubtedly does for the fact that this was the only case in which hemianopic defect was observed in the contralateral visual field. I would put the significance of hemianopia in this connection according to my own experience as follows: its absence, in the presence of other signs indicative of the temporal lobe, is no reason to waver in this diagnosis, while its presence is amply confirmatory of one's position.

The question of the speech defects in these conditions now requires consideration: for this purpose, our present case is of no value, in that the disease was localized to the right side of the brain. The patient was a right-handed woman, and consequently at no time had she any difficulty in expression. The effects of gradually expanding cerebral lesions on the various centers concerned in our communication with the external world are widely different from those resulting from sudden vascular lesions produced either experimentally or in the course of nature—in these latter, the damaged area is sharply delimited, and within its boundaries, destruction is usually rapid and decisive; in the former, a gradual deterioration of function takes place, producing pathologic speech conditions less obvious, but equally informing.

I lay stress on these facts because in the books it is usual to find the statement that word-deafness is to be expected in cases of tumor or abscess formation in the left temporosphenoidal lobe. This assertion is entirely misleading, in that such a condition can only be brought about by destruction of the transverse gyri of Heschl and the posterior three-fifths of the inferior temporosphenoidal convolution, and such destruction practically never occurs except in the terminal stage when exact diagnosis is useless and unnecessary.

Differences in size, situation and speed of spread of temporal lobe tumors will, of course, produce differences in speech affection, but one feature is constant: a depression of the power to recollect names, especially those of persons, places and things, this discrimination being accounted for by the fact that our conceptions of persons and things are less closely connected with their names than are the abstractions of their circumstances and properties; thus, one patient when shown a familiar gold coin, recognized it as "money—good to have," while an envelope was called by another patient "something to put a letter in."

In these, as in most other cases, there was no real loss of word memory; the memories were intact, but in a degree submerged and capable of being brought up to consciousness only by a great effort of volition or by the aid of an additional cognate auditory or visual stimulus.

Often such a patient has no speech defect in the course of ordinary conversation, but makes frequent mistakes when asked to name familiar objects shown to him; a condition perhaps the most characteristic of all the temporosphenoidal speech defects and dependent on a degradation of function in the association tracts uniting the visual and auditory centers. These naming errors are instantly perceived by the patient and annoy him. The right word is recognized as soon as it is heard, and so far are these people from being word-deaf that an inaccurate prompting is invariably rejected.

I would summarize the outstanding features of this case and of the other nine of which I have spoken, as follows:

SUMMARY

Symptom-Complex of Tumor in the Right Temporosphenoidal Lobe in a Right-Handed Person.—Epileptiform convulsions of varying severity and frequency; dreamy states or analogous pathologic psychic conditions; crude subjective sensations of smell or taste with or without involuntary reflex movements of mastication. Subsequent to major attacks; in most cases, transient weakness of the left lower facial muscles, usually most evident on emotional expression; less often the left arm and leg temporarily paretic; left abdominal reflexes diminished or absent, deep, increased; the left plantar reflex may be of extensor, and the right of flexor type.

Bilateral papilledema usually of greater intensity on the right side. Reflex change and motor symptoms on the left side, at first merely postepileptic, but later become persistent phenomena.

No word-forgetfulness after major attacks or at other times. No speech defect whatsoever.

Symptom-Complex of Tumor in the Left Temporosphenoidal Lobe, in a Right-Handed Person.—Difficulty in naming objects seen and recognized; later, word forgetfulness in conversation; later, inapposite words and phrases, with instant recognition of mistake when made, but inability to prevent perseveration of verbal errors.

Reading aloud and writing to dictation are well performed; spontaneous writing poor.

Epileptiform convulsions of varying severity and frequency; dreamy states or analogous pathologic psychic conditions; crude subjective sensations of smell or taste, with or without involuntary reflex movements of mastication. Subsequent to major attacks; in most cases, transient weakness of the right lower facial muscles, usually most evident on emotional expression; less often, the right arm and leg temporarily paretic; right abdominal reflexes diminished or absent; deep, increased; the right plantar reflex may be of extensor, and the left of flexor type.

Bilateral papilledema, usually of greater intensity on the left side. Reflex change and motor symptoms on the right side at first are merely postepileptic, but later become persistent phenomena.

The existence of hemianopia would, of course, indicate precisely the side of the lesion.

The case I have described shows in a peculiarly striking manner the methods by which exact diagnosis may be arrived at—not that we may hope to see many cases with finger-posts so generously exhibited, but rather that the signs here so dramatically obvious may in other cases stimulate our inquiry and research along paths, which, at first, apparently vague and rambling, open out eventually to the destined goal.

52 West Fifty-third Street.

SIMPLICITY OF LIVING AND THE STUDY OF THE NORMAL IN MEDICINE *

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If you ask a man to-day why he consults a physician, he will probably reply, "In order to get well." In the next twenty-five years, he will answer, "To avoid getting sick." This growing need for preventive measures in medicine is due in part to the increased knowledge of the laity regarding medical problems. They realize the importance of saving the decay of a vital organ by preventive measures, as they have done for many years in regard to their teeth, their clothes, their houses and property in general. It is also due, however, to the growing complexity of living, which compels us in self defense to study the measures and methods by which we can save ourselves physical and mental strain, relief from fatigue and weariness, both of mind and body.

The present age, fundamentally, does not differ so greatly in many ways from past centuries, except in the scale on which things are thought out and done. We know countries intimately to-day, while our forefathers knew only the towns in which they lived. We know international conditions as well as they knew family conditions. Where they studied one problem, we study a hundred. Where they knew of one disease, we know of fifty, and this applies to the things of every-day observation—the flowers, the birds, the houses, the streets, the food we eat, the different persons we meet, etc.

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* Read before the Baltimore City Medical Society, joint meeting of Section on Clinical Medicine and Surgery and Medical Examiners' Section, March 17, 1911.

The chief difficulty with modern life is its complexity, and it is this complexity which stamps our present civilization as unique and different from that which has gone before. Complexity of surroundings, fortunately, does not engender, always, complexity of thinking. The simple life is inward as well as outward, and can be lived under the most complex circumstances, just as the most complex and confused lives can be led by persons very obscure, who are existing under the poorest conditions.

There is, however, a happy medium of living, in which both body and mind can work in harmony and to the best advantage of both. In finding this lies the great problem for the coming generations of medical men. An older physician, asked by a patient what he meant by "modern medicine," replied: "My son, it is only old ideas better presented and dressed in a more attractive garb." Who can deny the facts of history, that psychotherapy and the various forms of suggestive therapeutics, dream-interpretation, etc., were practiced in the most remote ages, and often very successfully? Dr. Paul Haupt read to me from original Egyptian sources the treatment of a neurasthenic, or hysterical patient, by methods which would parallel our best treatment of to-day. Everyone knows how the ancient Greeks and other races excelled in athletics and physical development.

I believe, however, that it is left to the human intelligence of the present time to work out the correlation between physical and mental states, and to show what development of each contributes best to the withstanding of the strain of our complex civilization and the furthering of the human race. In another article[1] I have discussed a class which I called the "mind-weary"—people who had lost the faculty of thinking for themselves, or the desire to do so, and who were looking about for some easy solution of, or escape from, modern life's complex problems, and that exhaustion of the mind which leads to mental confusion. Such people are, alas, the dupes of mind-healers and quack methods which promise everything and lull into just a temporary freedom from worry—merely a resting stage of the mind—but like the spore of a plant, liable to burst forth into greater discord and confusion when brought under fresh strain, poor environment or the cruel circumstance, which is the chance in every human existence.

I tried to emphasize in this former paper, as I wish to do here, the importance of giving such patients something which is lasting, like a healthy normal physical body, which will yet survive when they are outside the domain of our influence, or perhaps when we ourselves are forgotten. The duty of a physician to-day does not end with the simple cure of a malady. It is necessary for us in most cases to lead our patients back to the very environment in which they broke down and yet enable them to work again healthfully and hopefully. Few can afford to give up their work, their ambitions and their responsibilities for long periods. It is useless to expect them to do so, or to ask it.

A patient some years ago came to me from an eminent specialist of another city. She had a beginning tuberculous peritonitis, was poor, very young and of a shrinking and most pathetic personality. In addition she was a nervous wreck from worry and pain. The specialist without considering her youth, her temperament, or the fact that she had no friends in the West, ordered her most peremptorily to "the acrid plains of Arizona." He waived aside her feeble protests and held out a most gloomy outlook, if his orders were not instantly obeyed. What the acrid plains of Arizona had to do with her case, is too much for the imagination of anyone to comprehend. Our eminent friend was certainly a victim of mental confusion.

When we consider the volume of misinformation offered to the world, the deluge of unorganized material handed to us daily, the esoteric philosophy, the social problems, the complicated studies given even to our children, or men and women with minds little above them, who can wonder at the existence of mental confusion or mind-weariness? Who can blame persons for taking up Christian Science or any other easy-going solution of the vexatious problems of life—a solution which eliminates all responsibility and even allows a mother to sleep all night without fear, while her child is moaning with pain by her side.

Many of us are bewildered by the numerous vistas open before us. We wish to understand all the sciences, all religions, to sacrifice to all idols, to try all sensations; with what success can well be imagined. The remedy for this mental confusion, or rather the way to prevent it, is for one to select only the work suitable for one's understanding and leave much outside of this undone. It is more what we should forget than what we should learn; and, after all, one idea worked out alone to its fulfilment brings more mental satisfaction than a hundred never completed. The realization of what we are meant to do, and the doing of it, protects us from the clamor of the multitude and the tempting invitations to dive into waters too deep for us to rise out of.

And now to turn from the class called the "mind-weary" and the remedies for mind-weariness to another class, often associated with them, but occasionally found alone, and whom I shall call the "body-weary." I believe, and my experience confirms me in this belief, that most cases of faulty muscular development (outside of accidents, at birth, etc.) arise from methods adopted by a generally weary body to avoid physical fatigue, in the accomplishment of certain work. The round-shouldered schoolboy with the thin chest, weak back muscles and strong pectorals and forearm has acquired this condition from an effort to hold a heavy book for hours in the most comfortable position possible. Similar statements may be made of endless occupations; they are true of the tailor, the cobbler, the factory girl, etc., and of the luxurious class, often obese, with flabby muscles and tired organs, tired of eliminating excess of food; alcoholics; tired of heated rooms and late hours; and last, the trained college athlete; trained to fall almost dead over the tape at the end of a sprint; trained to break records and health together. He is, in fact, the worst-trained individual we can really mention, who develops in one direction to accomplish only what he is called on to do.

While complex conditions generally have a tendency to overwork the mind, they have also a tendency to prevent muscular development, or, at best, to develop special muscles at the expense of others. Means of conveyance keep us from walking, while machinery has taken the place of skilful hands and arms. Long hours of work and dissipation curtail our games and pastimes, which, indeed, especially the outdoor games, are to-day the salvation of the race. Indolent habits thus acquired destroy the desire for all healthful recreations; so if we must work or play, we only care to use the muscles already developed and do that which comes easiest for us to do, without thought of any symmetry.

With all our vaunted modernism, is not our manner of living absurd? The slaves of convention and prejudice, we eat irrationally and without desire, yet know that avidity for food is as important as the food itself. We drink freely any poison handed to us, especially if we do not pay for it (I mean in money; we generally do in other ways). We turn night into day and live in superheated atmospheres, often substituting artificial light for the all-important rays of the sun. We cover our bodies with clothing which is of such nature that it excludes the air, although the therapeutic value of the air bath to the skin is well known. We confine the vital organs and distort the most beautiful form in the world, that of a naturally developed human being, now only found in the ancient records or in certain remote portions of the world, like the Samoan Islands. Where is it possible in civilized countries to find a perfect adult foot, now practically obsolete? That all-round symmetrical development is incompatible with mental development is an absolutely false belief. Such a belief is only another admission of weakness, and significant of the yielding, which is so universal, to the swift current of convention and acquired bad habits. Why we so drift, no really sensible man knows, although he has not as yet been able even to remove his coat in the summer heat. Why? Is it lack of moral courage, or what? I would ask the women, did they not have so many of their own pet conventions.

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[1] New York Med. Jour., Jan. 18, 1908.

The last and perhaps the biggest folly of all, is perpetrated by man, modern man, when he starts in to pollute the very air he breathes with smoke and noxious fumes, with a number of patents lying idly by which he knows could prevent this hideous mistake—an effort, it almost seems, to exterminate himself.

For many years the problems of physical culture in its bearing on the general welfare of my patients has been of the greatest interest to me, and especially in nervous and dyspeptic conditions. I feel that my results entitle me to speak with some authority of a problem in the study of which some original methods are justly claimed.

This problem is to find practically the normal average of physical development, under which the individual studied can do the best mental work, or at least that work which he or she is called on to do; in a general way, also, to investigate what articles of food help us most under varying conditions of physical and mental strain; what manner of eating, etc. I have also endeavored to determine what systems of exercise are best in this respect for the average man or woman, and have personally tried a great many, hoping that others might profit by such hard experiences.

In the future, I predict that the physician who does not know some points about physical methods will never make a success. I realize, however, that "a prophet hath no honor in his own country." This point is evidenced by one illustrious colleague who said that it was undignified for a physician to teach patients exercises. Another predicted my injuring, if not killing, the unwary. My mortality column, fortunately, thus far, seems to keep down fairly well. I earnestly wish these critics every success, alone with their pills and dignity, but as for myself I intend to do whatever I can to help those who trust me with their welfare.

The fruits of these investigations are so terribly meager, the problem such a great one and the literature so incomplete, that at present I can do little more than outline what I am trying to accomplish.

The first important thing is for the physician to get a normal physical standard for a man and woman and keep that impression in his mind for instant reference, a standard which, as in everything else, has rather elastic boundaries. This is a possible thing to acquire and is somewhat on a par with the ability (pardon the analogy) to judge a horse, or any other animal, even when considering different races or strains.

How singular it is that physicians claim to make people normal, yet have such poor conceptions of what *is* normal! A first-class judge of other animals would put us to shame with his knowledge of measurements and strength tests; and yet a dog or a horse is quite as complicated a being, as far as the body is concerned, as a man. No matter what other vast differences exist, as I believe in all reverence they do, we should know the human body perfectly, not so much in its anatomy, which is easily forgotten, but in its capacity. We should know every deviation from normal, under all circumstances and not only when diseased. The patient himself can often tell us this by his own feelings, and, indeed, frequently makes the diagnosis of the disease for us.

We must give the insurance companies and examiners credit for their hard work in compiling insurance statistics, at least as far as men are concerned; less so where women are considered. Only a small proportion of the fair sex take out insurance; more should do so, if only for this reason. No better experience is possible to help us find our normal man than a number of years in insurance work. I owe much to my own practice in this line. The home offices should give the examiners a better chance to check their results by the subsequent histories of all applicants they have examined. Statistics are at best dry reading and especially when compared to the fascinating realms of psychology, etc., and yet can we afford to neglect them?

After getting the normal standard for the persons under observation firmly fixed in mind, the physician should give them a thorough examination; note how they differ from his ideal for them. He should test their endurance, courage and patience, and enthusiasm for physical work. He should do this by setting certain tasks, generally a walk which he knows well, and study the effect. He should watch them unobserved. By degrees, and very slowly, he should add the requisite exercises which he intends that the patient should keep up for some time, possibly for years. He should warn them of the preliminary discombort, weariness and even pain, which most may experience for a week or so, and insist on absolute obedience.

Many persons will follow out a method which has been advised for a little time, and then decide to go on unaided. This is often a serious mistake, especially if the physician has not yet discovered the amount of exercise just sufficient to keep them in condition. It is one of the disheartening things in such work, but cannot be avoided.

For thin, anemic persons, and often in fat patients, I use various forms of hydrotherapy, having preference for cold rather than hot baths. If patients are too weak to begin treatments with active exercise or have any myocardial trouble, etc., rest of shortest possible duration is indicated, with massage, and later resisted movements. I hold that a physician should never prescribe anything he does not know about and he should be certain by personal tests that those he employs are in every respect absolutely efficient.

Later, I add my physical culture movements, which are culled from several systems, including the army setting-up drill; and I also may suggest certain outdoor games suitable to the patient. All this depends on his general condition, capacity for work, and the especial muscles which require development. Here I should like to emphasize one thing, which is that unless one is half-dead there is some form of exercise that is beneficial and essential. The great point is to know when the maximum or the sufficient amount is reached, and what kind is needed. Experience in training alone teaches this. One must frankly set a limit, and waive all responsibility, if one's warning is not obeyed. Unfortunately patients will never say, if they disobey the physician, that the latter advised them to stop or cut down work. All patients require some dieting, forced or restricted. I insist on eating being made a business, and do not like my patients to read letters or talk very much at the table, especially avoiding heated argument. I advise rest before and after meals, sitting up, not reclining or standing, and anticipation of food to be encouraged by the use of the daintiest service, etc.

We are all aware of the effect of nervous conditions on the muscles, often most striking phenomena—the ataxic walk, the flaccid and spastic paralyses, the athetoid movements of certain idiots, cataleptic states, etc.; but we ignore the reverse effects. Dr. H. J. Berkley reminded me the other day that Hodge described over fifteen years ago the wonderful changes in the brain and spinal cord of bees (cell shrinkage and color changes—chromatolysis) after fatigue from flights, the changes being proportioned to the distances covered by the especial bee studied.

Within the past year or so a German, Weichardt, claimed to have found an antitoxin to fatigue by the injection into fresh animals the extracts from fatigued muscles. The antitoxin obtained from this source, he says, will greatly lessen fatigue when given to other animals.

My own experience has proved to me that the development of the muscle sense is the real problem of physical culture, rather than increasing the size of the muscle, which is only necessary to the extent that such a development requires. Muscular coordination brings with it a corresponding coordination of the nervous system; in fact, one cannot be cultivated easily without the other. Any one who has this sense developed is superior in most ways to the one who has not developed it and is less nervous and depressed when under strain.

The wonderful mental and physical powers of the small and insignificant-looking Japanese is due to this muscle sense, developed from his childhood up. The physical and the mental development of the juggler, the sharp-shooter, the lacrosse player, the swimmer, the fencer, golfer and tennis-player are far above those of the weight-lifter or the laborer. The personal courage and general fearlessness of one who has this muscular and nervous coordination is recognized in the army and on the plains. The best rider, the best lasso-thrower, the finest shot, etc., is generally selected for the posts of danger, even when his especial accomplishment is not necessarily required. People with the muscles well under the control of the mind are very often most heroic, as is shown by many examples in history and the present time. Only recently a wonderful little child juggler, out west, went on in her most difficult acts night after night, with an arm so swollen from blood-poisoning that it was nearly necessary to amputate it. This was not because of neglect or bad treatment, but because she would not complain and wanted to go on. I could mention many other examples.

People with a well-cultivated muscle sense have a magnetism, a subtle something which distinguishes them from the awkward, slow-moving person without snap. This is a part of them, no matter what they are called on to do, and becomes also a part of their mental processes.

The reason that an athlete, to speak in professional parlance, never "comes back" (which means never regains, after a period of protracted inactivity, the same physical excellence) is more mental than physical. It is due, usually, to faulty methods of training, overfatigue in training and a lessening of nerve-resistance by dissipation or strain. Although his muscles may respond to every test that they did before, the excitement of his profession will wear on him and he will lack, at crucial moments, his former courage and ambition.

Exercise is a two-edged weapon, and while one appreciates the zeal of certain persons who start gymnasia in the slums, yet it must be realized that nothing is gained by enabling a lung to take in more foul air and that such places as cellars, work-shops, etc., are dangerous places to exercise in and not nearly so beneficial as the playgrounds and out-door games; and again, every one possesses individual peculiarities and should take only the exercise which is best suited to his case.

A lady told me that a physician whom she once consulted for obesity said, abruptly, "Cut out all starch and sugar and walk five miles a day." He made no examination of any kind, knew nothing of her heart or kidneys, her measurements, or her resistance; but treated the matter as trivial and unimportant, although she had been in bad health for a long time. I would not like to take such a chance as that, which might have been a most disastrous one.

However, before we teach the masses physical methods, etc., let us clean up our city, abolish the smoke nuisance, lessen working hours for the sick or feeble and give them places suitable to exercise in, and have medical supervision of aspirants for such treatments.

The boy scout idea is an excellent one. Drilling, marching, etc., are the best of exercises and teach coordination of mind and body, which, though possible at any age is, of course, easier to acquire the younger and more enthusiastic we are.

21 Mount Royal Avenue West.

THE RARITY OF TABETIC AND PARETIC CONDITIONS IN THE NEGRO

A CASE OF TABES IN A FULL-BLOOD NEGRESS

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It is a matter of belief among neurologists who have followed the question of nervous diseases among negroes that the so-called parasyphilitic conditions—tabes and paresis—do not occur in the full-blood African. My own experience in our hospital wards and clinics, where a good percentage of the material is drawn from the colored population, has convinced me of the great rarity of such conditions in the unmixed negro, but I have on two or three occasions seen unquestionably full-blood blacks suffering from tabes. Some accident has in each instance, however, until the present, militated against my getting the proper data for recording the observation. The prevalence of these diseases in the mulatto is undisputed, though they are much less frequent than in the white.

The rarity of parasyphilitic states in the Ethiopian is all the more notable when we contemplate the fact that negroes are practically without morals and that their promiscuous sexual practices occasion the great if not universal prevalence of syphilis among them. So thoroughly "syphilized" are negroes about large cities, that it is a matter of serious doubt whether any considerable percentage escape infection. The careless untutored way of the downright negro is the cause of his neglect of any protracted effort at treatment and it consequently may be questioned whether any black is ever efficiently treated except while confined in a hospital ward. If the assertion of syphilographers and neurologists that untreated syphilis is most prone to culminate in the primary degenerations of the nervous system, the immunity of negroes to such conditions is made still more remarkable. Again, alcohol is said to be one of the contributing factors in the development of tabes and paresis, but the negro is notoriously addicted to alcohol, his indulgence in this respect being for the most part limited only by his inability to get it regularly. Obviously then, the negro is protected from the distant nervous effects of syphilis by something native to his organism.

We may pass by with mere mention the fact that some hold that the elementary tracts in the brain and spinal cord of negroes are rather better organized and more resistive and stable, and that the neuromuscular mechanisms are crude and approach more nearly toward the deeply organized and instinctive aptitudes of the anthropoid.

Another and to me more significant observation, however, has often compelled my attention. Anyone who has seen a great many cases of tabes has perhaps noted that the subjects of this disease are for the most part drafted from a class of persons who work assiduously and get much friction out of their lives; who feel the brunt of care and responsibility greatly, and who depress themselves with the tedium of their work and with apprehensive misgivings as to the possibility of failure, etc.; together with many other of the worries which rather seem to be the lot of the highly civilized white man. I am convinced that such temperamental and nervous defects have their influence in lowering the powers of resistance and in determining the development of tabes and the primary degenerative changes in the nervous system.

Herein may rest a possible explanation of the rarity of the parasyphilitic diseases in the negro, for one of the salient traits of his character is his improvidence. We only need to be acquainted with the life habits of negroes in large settlements in this country to be convinced that they have not progressed very far from the primitive habits of their antecedents in the rude huts of a mid-African village. Thus, since his contact with the white race, the negro has become better "syphilized" than "civilized," having suffered the penalty of all inferior races when thrown into contact with the better-civilized white man—that of contracting the vices with their consequences more quickly than the virtues. But as pertains to our present argument, the negro is a degree better off, thanks to his primitive limitations, for he can still enjoy the childlike euphoria of a care-free life.

One other explanation of the great rarity of tabetic and paretic states in the negro race is that suggested by Dr. T. H. Weisenburg, who once remarked to me that he had noted that tabetics nearly always have blue or gray eyes and otherwise blond complexion. I have since made the same observation. Certainly this is remarkable in New Orleans and vicinity, where people of Latin descent (practically all brunettes) predominate in numbers. This observation is of some significance here as it suggests that constitutions associated with more or less intense pigmentation of the skin carry with them some degree of immunity against such diseases as tabes.

However, the purpose of the present writing is to cite a case of unquestioned tabes in an undoubtedly full-blood negro, with flat nose, thick lips and black skin. In my judgment there is absolutely no question about the patient being a Simon-pure negress.

In passing I beg to call attention to the early age at which this case of tabes has developed. It is rather obvious that the patient acquired syphilis between the ages of 14 and 17, and that this is consequently a case of acquired tabes, and not one of the so-called juvenile tabetics, in which the syphilis was hereditary and operated from the time of birth.

REPORT OF CASE

History.—Annie S., a colored woman, aged 27, was referred from Dr. Bruns' eye clinic at the Eye, Ear, Nose and Throat Hospital, with the ophthalmologic diagnosis of primary degeneration of both optic nerves, and request for neurologic examination and possible explanation of the optic nerve condition. Family history as far as could be obtained was negative. The patient had not had any illness whatever before the birth of her first child. The menses began at 12 and were seemingly normal. Patient bore a healthy child at the age of 13½ years. The child is living and well. A dead child was born 3½ years later. Two and a half years subsequent to this there was a spontaneous miscarriage. Patient insistently denied that she ever had any skin or throat symptoms. There had been no disease or injury in more recent years, aside from very severe intermittent headaches for the past five years, which had a tendency to be worse at night. Patient had drunk rather freely of alcohol and had been very derelict in her morals. For the past two years she had suffered severe lancinating pains, especially in the legs, and had experienced a sense of binding or constriction about the waist occasionally. A short while before the sight began to fail she on several occasions saw double. Since the month of May, 1910, the sight had failed steadily first on the left, subsequently on the right. At the time of examination the sight was greatly diminished. Numbness and tingling and other paresthetic disturbances had occurred frequently in the ulna distribution of the hands and forearms.

Physical Examination.—Deep reflexes were absent in the lower extremities; plantar reflexes were normal. There was very slight Romberg sign. Pupils were absolutely rigid to light. The left pupil was larger than the right and somewhat oval in outline. Both pupils reacted slightly to efforts at accommodation. There was decided dulling of sense of touch and delayed sense of pain on the anterior surfaces of the legs. The bowels were obstinately constipated. Sometimes the bladder was so irritated that the patient was compelled to rise often at night. Nothing further of note was observed in the physical examination. The patient had never experienced ataxic symptoms so far as she knew.

In regard to the absence of ataxic tendency and practically negative Romberg test, we must recall that in tabetic cases in which optic atrophy and blindness have occurred in the early stages of the disease, impairment of the muscle and joint sense and the ataxic consequences are very slight or not at all present.

1224 Maison Blanche.

Venereal Diseases and Stricture of the Rectum.—J. P. Tuttle says that gonorrhea and chancroid have been enlarged on by some authors as frequent causes of stricture of the rectum. Theoretically, if an ulceration from gonorrhea should involve the muscular coat, there is no more reason why a stricture should not follow than from any other ulceration. As to chancre, these cases apparently do not occur so frequently as in former years.—*Boston Medical and Surgical Journal.*

RESULTS IN THE TREATMENT OF THIRTY CASES OF OTITIS MEDIA BY VACCINE THERAPY

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In the past two or three years much has been written on the results obtained on various infections treated by vaccine therapy. The literature on the subject has proved conclusively that therapeutic immunization by bacterial vaccine is a successful plan of treatment in properly selected cases, but the reader not especially familiar with this form of treatment is at a loss to know just what a properly selected case is. It is, therefore, my purpose in this paper, not only to report the results I have obtained in my series of cases of otitis media, but to show in which cases results should be expected, and in which good results were occasionally produced, but were the exception rather than the rule. For this purpose I have divided my cases into two classes—subacute and chronic.

SUBACUTE CLASS

In this class I have included all cases of not more than three months' standing. It would be impracticable to detail each case of my series under this heading, so I shall give the history of a representative case.

Case 1.—Baby D., aged 3, had otitis media in both ears for two months, following an attack of scarlet fever. The discharge was about the consistency of cream, dirty white in color, profuse, and with scarcely any change in quality or character since the beginning of the attack. The previous treatment consisted of washing the ear three times a day with warm boracic acid solution. A culture was taken on gelatin agar and the causative organism found to be *Staphylococcus albus*. A vaccine was prepared and the patient inoculated with 50,000,000 of the dead organisms. Four days later the discharge had decreased about 50 per cent. On the seventh day an injection of 100,000,000 staphylococci was given, followed the next day by a slight soreness at the site of injection and a slight decrease in the discharge. Five days after the second inoculation, the discharge had ceased completely. Two days later a third inoculation was given to prevent a recurrence. The child was treated a year and a half ago and there has since been no return.

I have had thirteen similar cases, most of which followed measles, pneumonia and scarlet fever, in all of which the patients recovered. Of the thirteen cases the *Staphylococcus albus* alone was the causative organism twelve times and the pneumococcus once. The youngest patient was a year and a half old, and the oldest 32. The disease in the latter followed an attack of influenza and was of one month's standing.

Autogenous vaccines were used in all the cases, principally because the virulence of the organism making up the vaccine approaches as closely as possible the virulence of the organism producing the otitis media. The difference in virulence rather than strain I think is responsible for the better results obtained by autogenous vaccines over stock vaccines. This is probably more easily explained by the following example: An acne pustule and a virulent furuncle are often caused by the same organism — a *Staphylococcus albus*. A vaccine made from the staphylococcus producing the acne would not be expected to do the patient with the virulent furuncle much good, whereas a vaccine made from the staphylococcus of the furuncle would be positive in its beneficial effect on the patient suffering with a furuncle. No class of cases respond more readily to bacterial therapy than do cases of subacute otitis media.

CHRONIC OTITIS MEDIA

It is, of course, understood that no definite period can be set to determine when the patient passes from the subacute to the chronic stage, but to be as definite as possible in my statements, I have classified all cases of three months' standing, or longer, as chronic. Under this classification I have seventeen cases, varying in duration from three months to thirty years. The prognosis, as a rule, is least favorable in cases of long standing, and best in cases of relatively short duration. Cases in which the discharge was slight and without much odor were uniformly benefited. In nine cases I found a short, actively motile bacillus, which grew readily on any media and was negative to Gram's stain. The cultures of this bacillus had a very foul odor, similar to the odor of the discharge from the ears. The cases in which this organism was present showed little or no improvement after a course of seven or eight inoculations. In cases in which the staphylococcus, streptococcus or pneumococcus were the causative organisms, either alone or combined, the patients were markedly improved or entirely cured. Cases in which the staphylococcus and *Bacillus pyocyaneus* were present improved more slowly than those with the staphylococcus alone. The following case, however, which I cited in a previous paper, is a striking exception to the rule:

Case 2.—The patient, Mrs. W., aged 30, was referred to me for therapeutic immunization for otitis media. Her ear had discharged almost continuously since she was six months old. Three years ago she submitted to a radical mastoid operation. Her recovery was prompt and the discharge stopped for six weeks—the longest absence of discharge in her lifetime. At the end of the seventh week the discharge began anew, and after two years' subsequent treatment by an otologist she was referred to me for vaccine treatment.

A smear from the discharge showed a staphylococcus and a *Bacillus pyocyaneus*. A vaccine of the corresponding organisms was made and the patient inoculated with 200,000,000 staphylococci and 300,000,000 *Bacillus pyocyaneus*. After four inoculations the discharge stopped completely. After the fifth inoculation it started again, and after the seventh inoculation it disappeared. Three more inoculations were given without its return. Two years have passed since the last inoculation and the discharge has remained absent.

In the literature I have found five or six cases with a similar history and result. This, however, is a relatively small proportion considering the number of patients treated. The causes responsible for the rapid cure and the numerous failures in similar cases remain to be explained. Two years ago a lady suffering with a double otitis media of eight years' standing was referred to me for vaccine treatment. The discharge was of a watery consistency, moderate in amount, and occasionally had some odor. Her treatment up to this period consisted principally of keeping her ears clean by means of warm boracic acid solution. A smear made at the time she presented herself showed a pneumococcus as the causative organism. Fortunately the organism grew very readily and a vaccine was prepared. After three inoculations the discharge ceased completely and the patient was discharged. One month later she returned with both ears discharging slightly. A smear at this time showed *Staphylococcus albus*. After two inoculations of this organism the discharge again stopped, only to recur two months later. After four subsequent inoculations of a staphylococcus vaccine, the discharge again ceased.

This process of disappearance and recurrence has continued at about the same intervals up to the present time. As long as she was inoculated at regular intervals, the discharge remained absent, but from four to six weeks after inoculations were discontinued a recurrence was sure to come. This represents that class of chronic otitis media which is only benefited by vaccine treatment. It is not an uncommon experience to encounter cases under this class in which the discharge diminishes about 50 per cent. under a course of inoculations, but at no time disappears entirely. Of the seventeen patients with chronic otitis media treated by vaccine therapy, three recovered completely, five were improved, and nine showed no improvement at all.

In this class of cases vaccine therapy should be tried when the ordinary measures fail. Its use should be considered as a means capable of producing some measure of good in about 50 per cent. of cases, with an occasional remarkable result.

CONCLUSIONS

In conclusion, I feel safe in saying that in subacute otitis media no other means of treatment is capable of producing such uniformly good results as vaccines. Their early use would greatly diminish the large number of chronic cases, so common to every physician, and so annoying to the individual.

The results in chronic cases, on the other hand, are so variable, that its use as a routine should not be advised. It should be tried, however, when other measures have failed.

VANADIUMISM

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Vanadium is a metal named by Sefström, in 1830, in honor of the northern goddess Vanadis (the German Freya). The metal is of no importance technically, although various forms of it are valuable. The pentoxid is used in photography as a developer. Vanadium chlorid and trioxid are used as mordant in printing fabrics; the trioxid is used also in the manufacture of steel, in making easily malleable and ductile alloys. Vanadium pentoxid has been used in diseases due to defective metabolism; there is not, however, enough clinical evidence to justify its use as a medicine.

Vanadiumism is a chronic intoxication caused by ingestion or absorption of some forms of vanadium, either industrially, medicinally, or accidentally. The principal lesions are found in the lungs, kidneys, and gastro-intestinal tract. The lungs are highly congested and show a marked destruction of alveolar epithelium. The kidneys reveal congestion due to continuous irritation and, at times, acute hemorrhagic nephritis. The gastro-intestinal tract shows evidence of irritation and inflammation.

Persons employed in establishments where the various kinds of vanadium are produced, and more especially vanadium trioxid, suffer from chronic poisoning. For example, laborers in reduction plants, who are exposed to the dust and fumes, are most susceptible on account of their occupation. The medicinal use of small doses of the pentoxid will frequently cause poisoning. Accidental poisoning may come from using or wearing clothing dyed by vanadium chlorid, trioxid, or pentoxid.

Anemia is an early symptom (a peculiar cachexia), not altogether unlike chlorosis. There is, at first, marked increase in the number of corpuscles and hemoglobin, which is shortly followed by reduction of cells and hemoglobin. At times, there is disintegration of the red cells. The cough is a prominent and characteristic symptom. It is dry, irritating, and paroxysmal, becoming so intense that hemorrhages are frequent and severe, even causing death. The workers in the manufacture of the various products of vanadium are very susceptible to tuberculosis and, unless removed from the labor, rapidly succumb to the disease. Emaciation, irritation of the nose, eyes, and throat are always in evidence. Anorexia, nausea and diarrhea (often absent), followed by obstinate constipation, indicate gastro-intestinal involvement. Albumin, casts and blood, are often present in the urine.

Continuous exposure to the poison leads to fine tremors of the extremities, headache, neuroretinitis, amaurosis, vertigo, hysteria, and melancholia. The drug is eliminated by the kidneys; it may be found also in the feces, sputum, and saliva. Dr. Omar T. Cruikshank, in his experiments on animals, has been able to observe the toxic effects which coincide with those found in man.

The diagnosis is not difficult when the history of exposure to the various forms of vanadium is at hand. Accidental origin is often obscure and diagnosis is not at once, determined.

Watts gives the test for vanadium in the following:

> All vanadium compounds heated with borax or phosphorus salt in the outer blowpipe flame produce a clear bead, which is colorless if quantity of vanadium is small, yellow when it is large; in the inner flame the bead acquires a beautiful green color.
>
> Vanadic and chromic acids are the only acids whose solutions are red; they are distinguished from one another by the vanadic acid becoming blue and the chromic acid green by deoxidation.
>
> When a solution of vanadic acid, or acidulated solution of an alkaline vanadate, is shaken up with ether containing hydrogen dioxid, the aqueous solution acquires a red color like that of ferric acetate, while the ether remains colorless. This reaction will serve to detect the presence of one part of vanadic acid in 40,000 parts of liquid.

In the absence of grave renal, blood, nervous, and lung involvement, the prognosis is good. Where there is active inflammation of the kidneys and lungs the prognosis is unfavorable, but depends greatly on the extent of the lesions. Fatal terminations frequently ensue, as a result of continuous exposure to the poison.

The prevention of vanadiumism is difficult in vanadium works, owing to the carelessness of employees and employers. Means to allay and carry off the dust and fumes should be employed constantly. Perfect ventilation and the use of respirators are imperative. The nasal and oral cavities should be thoroughly cleansed with some efficient alkaline spray, such as the ordinary Dobell solution, followed by a mentholated oil spray. The stomach should be washed out, and later the intestines freely evacuated with a saline laxative. The cough may be allayed by giving terpin hydrate ¼ gr., heroin ⅛ gr., and creosote ½ minim, every two hours with counter-irritations of iodin or mustard applications over the chest. The inhalation of stimulating vapors is salutary. Iron, calisaya, and strychnin will meet the needs of anemic, nervous and debilitated conditions. Cod-liver oil may be given with advantage. Active outdoor exercises are essential. Turkish, Russian or cabinet baths may be given to aid elimination.

401 Fourth Avenue.

TWO CASES OF APPENDIX ABSCESS DRAINED BY RECTAL PUNCTURE

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BOSTON

The advantages of vaginal drainage for certain cases of pelvic abscess in women have long been recognized. The equal advantages of rectal drainage for the rarer condition of pelvic abscess in the male, have been less widely accepted. It has not been, however, an uncommon practice in the past to drain, in this way, residual pelvic abscesses occurring in men after abdominal operations for suppurative appendicitis. Nature was allowed formerly to effect an uncertain and occasional cure of appendiceal abscess by the same route, and occasionally the efforts on the part of Nature in this direction have been supplemented by the surgeon.

With improvement in the diagnosis and operative treatment of acute appendicitis, there is less and less occasion for resort to this method of drainage, either by the surgeon, or on the part of Nature. Yet there unfortunately exists a very restricted class of cases in which this simple, safe, and valuable procedure is indicated, and McLaren[1] has recently called attention to the subject in an article in which he reports fifteen cases of appendiceal pelvic abscess drained by rectum, with very satisfactory results. In one case rectal puncture alone sufficed to bring about a cure; in all the other cases it was combined with the abdominal operation, either before or afterward. He advocates rectal puncture and drainage of collections of pus in the rectovesical pouch as a preliminary measure, to be followed immediately by opening the abdomen above and dealing with the pathologic conditions found according to general surgical rules.

In suppurating appendicitis, removal of the primary focus is such a well-recognized desideratum as to call for an abdominal incision in the vast majority of cases, through which at the same time collections of infected fluid or of pus, either in the iliac fossa, or in the pelvis, can be so satisfactorily and adequately drained that routine preliminary drainage by the rectum will not appeal, I imagine, to the majority of surgeons, nor does it to me. But that there are certain definite, though narrow, indications for the procedure must be admitted by all familiar with large general surgical clinics.

Unfortunately all cases of acute appendicitis are neither diagnosed nor operated on in the early stages. A certain small number of patients first reach the surgeon profoundly septic and exhausted, with large abscesses well developed. In a case of this kind in which the abscess cake is palpable in the median line above the pubes, fills the pelvis, and bulges into the rectum, especially if it can be felt bimanually as a single fluctuating mass, the indications are clear for rectal puncture, which offers a rapid, simple, and safe method of drainge. Such patients must, however, be watched closely afterward; if the improvement in symptoms is not immediate and continuous it may be necessary to go in above, for it must be remembered that the cause of the lesion has not been removed, and that the original suppuration about the appendix may remain undrained, the pelvic abscess representing merely the overflow from the first. The difficulty of determining this point is the one great drawback to the employment of the method, and it should not be relied on exclusively when there is a mass in the iliac fossa, as well as a pelvic abscess. The method is ideal only for large pelvic abscesses when the appendix is itself pelvic in position, and this can be determined only with approximate accuracy by the position of the mass.

The technic is simple. It is a wise precaution, as pointed out by McLaren, to introduce a stiff catheter into the bladder for the purpose of emptying that viscus, and marking its position, so that injury to it may be avoided. I did not do this in either of my cases. Having dilated the sphincter, either with or without the use of a speculum, the anterior bulging wall of the rectum should be incised in the median line with curved blunt scissors, and the scissors advanced until pus is reached. A T-tube of soft rubber is then introduced and brought out through the anus. The whole procedure takes about three minutes. The convalescence, in my experience, has been uneventful and rapid. The following two cases are reported as illustrative of the value of the procedure:

Case 1.—*History.*—G. A. A., No. 171,379. E. S., male, aged 18, entered the Massachusetts General Hospital on the service of Dr. Brooks, Aug. 13, 1910. One year ago the patient was in Rutland Sanatorium for tuberculosis of the lungs; discharged with disease arrested after several months; no previous attacks of appendicitis.

Present Illness.—Two weeks prior to admission the patient ate apples, pineapples and cherries in large quantities. Next day he had severe abdominal pain with vomiting; took salts and castor oil. Bowels did not move for three days. Since then he had been in bed with diarrhea and occasional vomiting. The stools had lately been nearly clear mucus, which discharged involuntarily. Abdominal pain, cramp-like in character, was present. There were no urinary symptoms.

Physical Examination.—The patient was a thin, poorly nourished and developed boy; tongue dry and coated; sordes on teeth; lungs negative, except for dulness and bronchial breathing at right apex; upper part of abdomen soft and flat; below umbilicus full and rounded, and dull on percussion. Catheterization removed about 8 ounces of high-colored urine, leaving the abdominal mass unchanged. There was tenderness and muscular spasm of moderate degree in the left lower quadrant; practically none in the right. Rectal examination: The rectum was empty; into front wall bulged an irregular, soft, fluctuating mass which was moderately tender. Temperature was 102 F.; pulse 120; white count 32,000; respirations 30.

Operation.—Lithotomy position. Sphincter dilated. Bulging mass opened with scissors and a large amount of foul pus evacuated. A portion of a gangrenous appendix came away with the pus. On account of free bleeding from the abscess cavity it was packed with gauze, the end of which came out through the anus. The patient made a good recovery from the operation. There was a profuse discharge of pus from the rectum; the wick was removed in twenty-four hours. The temperature shot up to 102 F. at the end of a week; a finger was inserted into the wound, but no pocketing of pus found; temperature came down at once. August 29 the patient was discharged to convalescent home in fair condition, with still slight tenderness and induration by rectum. The temperature was normal.

Subsequent History.—Jan. 24, 1911, the patient personally reported for examination. He had had no symptoms of any kind since leaving the hospital; felt and looked well; abdominal examination negative; by rectum a painless scar could be felt, with a well-marked transverse ridge above it; no stricture, no induration.

Case 2.—*History.*—G. L., No. 171,969. E. S., male, aged 17, entered Massachusetts General Hospital on the service of Dr.

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[1] McLaren, Archibald: The Proper Treatment of Intraperitoneal Abscess in the Lower Abdomen, with Special Reference to Rectal Drainage in Pelvic Abscess, The Journal A. M. A., June 25, 1910, p. 2105.

Brooks, Sept. 15, 1910. He was born in Italy and came to this country Aug. 1, 1910. One week after arrival he began to have slight pains in the right lower quadrant; three weeks prior to admission the pains became worse; the patient lost appetite, and began to run down in health; one week later he had severe pain, with vomiting. Following that the patient felt poorly but without acute pain until September 14, when it became severe again, with vomiting; bowels moved daily; no urinary symptoms; had several chills.

Physical Examination.—The patient was a well-developed boy; temperature 99 F., pulse 116, respirations 34, white count 10,000; lay with knees flexed; tongue heavily coated; abdomen distended and tender in lower portion; large mass palpable, extending from level of umbilicus on the right, across median line to the crest of ilium on the left. Rectal examination was very painful. It revealed a tense, fluctuating mass, continuous with the abdominal mass, bulging into the anterior wall of the rectum.

Operation.—Sphincter dilated, anterior wall of rectum incised with knife, pus reached, opening dilated with half lengths and about one pint of pus evacuated; some bleeding; T-tube inserted. Patient sent to ward in good condition.

Convalescence.—The patient pulled out the tube within an hour. Shortly afterward he got out of bed and emptied about 10 ounces of pus and blood out of his rectum onto the floor. The tube was omitted after this. A small amount of pus discharged daily from the rectum. The abdominal mass gradually subsided; the temperature reached normal on the fifth day. The rectal wound was explored with the finger every two or three days. Enemas were used as needed. The patient made steady progress and was discharged in excellent condition September 29, the fourteenth day.

Subsequent History.—Letter of Jan. 14, 1911, stated that the patient was well and had been so since the operation. He did not report for examination.

213 Beacon Street.

X-RAY LOCALIZATION BY CONSTRUCTION

A MODIFICATION OF THE MC KENZIE-DAVIDSON METHOD

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TAKOMA PARK, D. C.

In this method of localization two exposures are made on the same plate. McKenzie-Davidson's description[1] of this portion of the technic is as follows:

> Two wires at right angles to each other are placed on the photographic plate, film, or paper. The Crookes tube is then placed with its anode at a measured distance from the plate and exactly perpendicular to where the wires cross. The tube is fixed in a holder which slides in one plane. Further, one of the cross-wires must be in exactly the same plane as that in which the tube is to be displaced. The wires being painted over with some pigment, the part to be photographed is placed on the plate and carries with it the mark of the cross wires. The tube is then displaced to a measured distance to one side of the perpendicular, and an exposure given, then to a corresponding point on the other side of the perpendicular, and another similar exposure given. The resulting negative shows double images from the two different points of view. A further precaution is necessary, viz., to mark one quadrant of the plate and the corresponding quadrant on the patient's skin.

The plate is developed, fixed, and dried. It is then placed on an illuminating box, the film side next to the operator.

Figure 1 is a drawing made from a plate exposed according to McKenzie-Davidson's technic, showing the localization shadows of a needle suspended in a pasteboard box. The location of the needle is to be ascertained. In this drawing are seen the construction lines of the horizontal projection, which is drawn directly on the film side of the plate. The plate was exposed at 18 inches distance from the anodal point (point of luminosity on the target) of the tube which was displaced laterally 3 inches on each side of the perpendicular.

The lines *AB* and *ab* represent the shadows of the needle. On the horizontal are marked points *C* and *D*, 3 inches on each side of the perpendicular cross-line, indicating the position of the tube during the two exposures. From *C* and *D*, lines *CA* and *Da* are drawn, connecting *C* and *D* with identical points in the two shadows. These two lines intersect at a point *X*. The quadrant in which *X* falls is noted and the perpendicula distances of *X* from the two cross-lines bounding th quadrant are measured and found to be $1^9/_{16}$ inch an $1^{11}/_{16}$ inch, respectively. Similarly, the point *Y* is fou by drawing the lines *CB* and *Db*, and its distances fro the two cross-lines determined. These measuremen are, 2⅜ inches and 2 inches. By connecting *X* and the line *XY* gives a horizontal view of the needle. applying these localizing measurements for *X* and *Y* the corresponding quadrant on the pasteboard box, t horizontal locations of *X* and *Y* are found.

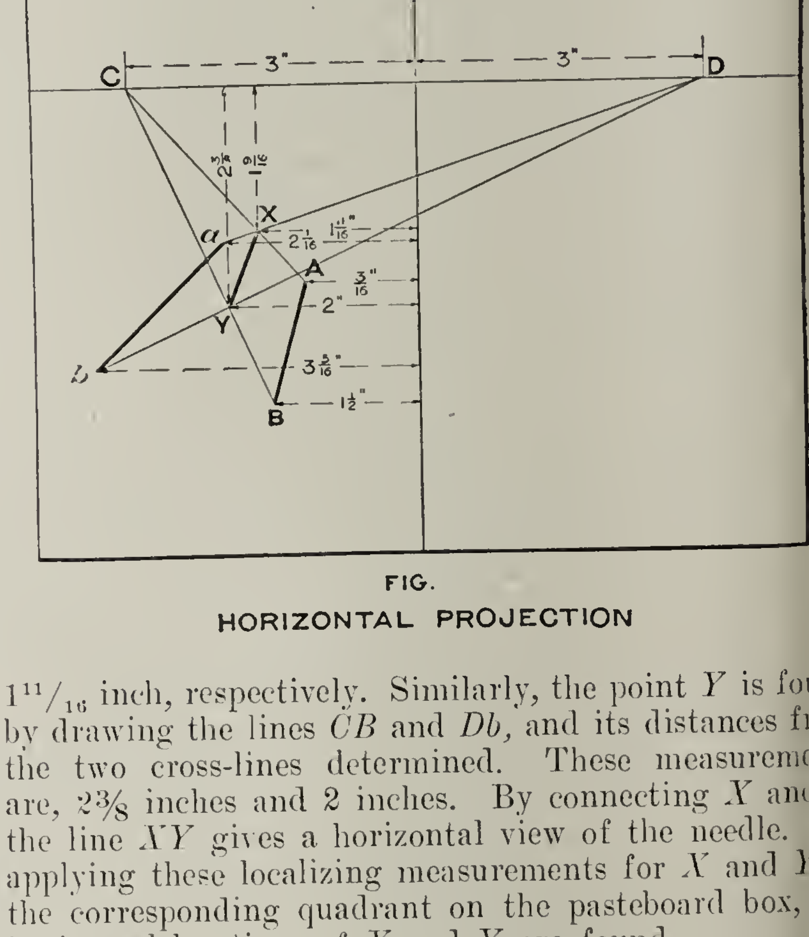

FIG.
HORIZONTAL PROJECTION

To determine the distance of the needle from t plate at the time of exposure (which practically coinci with depth) a vertical projection is made. Figure shows this projection. On a sheet of paper a lo straight line is drawn. Two points are marked on t line, *G* and *H*, 18 inches apart. This represents t distance of the plate from the anodal point of the tu at the time of exposure. Through *G* and *H* two p pendicular lines are erected, *EF* and *bH*, the forn representing the plane of the tube displacement. latter the plane of the plate. Points *E* and *F* on line are each 3 inches distant from *G*, and represent lateral displacement of the tube from the perpendicul n the line *bH*, two points, *A* and *a*, are marked $1^3/_{16}$ ch and $2^1/_{16}$ inches, respectively, the distances of *A* nd *a* from the perpendicular cross-line on the plate as etermined by actual measurement thereon (see Figure). The lines *AE* and *aF* are drawn intersecting at oint *X*, which is found to be 2⅛ inches from line *bH*. his is the exact distance of point *Aa* of the needle from e plate at the time of exposure. Similarly, point *Y* is ound by marking on line *bH* points *B* and *b*, 1½ inch nd $3^5/_{16}$ inches, respectively, from *H*, the distances of and *b*, respectively, from the perpendicular cross-line n the plate (see Figure 1), and drawing the lines *BE* nd *bF*. *Y* is $4^3/_{16}$ inches from the line *bH*. By connecting *X* and *Y* the line *XY* gives a vertical view of e needle.

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[1] Davidson, J. M., and Hedley, W. S.: A Method of Precise Localization and Measurement by Means of Roentgen Rays, Lancet, London, Oct. 16, 1907, p. 1001. Williams: Roentgen Rays in Medicine and Surgery.

By these measurements of depth in conunction with those of orizontal position eretofore obtained, he location of the eedle is determined.

Certain points are o be emphasized in his method. In the orizontal projection he quadrant in which he points of intersecion of construction ines fall is to be oted, and the perendicular distances of hese points from the ounding cross-lines btained. In the verical projection, when calization shadows of he same point fall in ifferent quadrants, are must be taken to ransfer the measureents to the proper ide of the perpenicular, either right or ft, as indicated on he plate. In drawing he projection lines in oth projections, in rder to connect the oints marking the ositions of the tube ith their corresponding shadow points, these lines ust intersect. It is to be noted that the horizontal ojection is drawn directly on the film side of the plate. his insures simplicity and accuracy in technic, but it an be made on paper similar to the vertical projection.

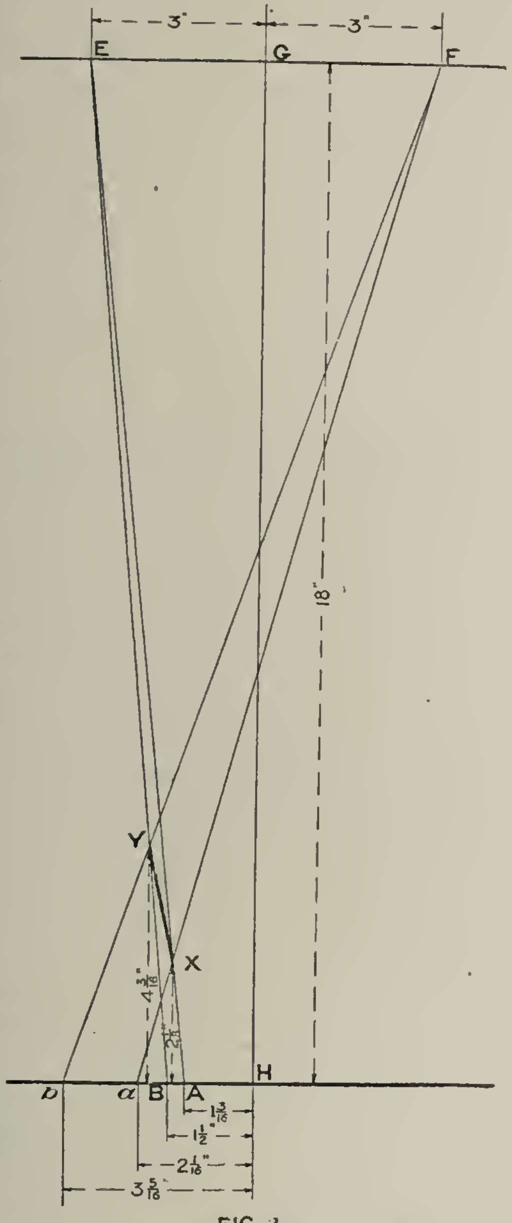

FIG. 2
VERTICAL PROJECTION

By geometrical construction such as has been escribed, no special apparatus is required, and for this ason the method is particularly available for those diographers who have not provided themselves with a calizing apparatus. It is to be noted that no special nowledge of mathematics is required in this solution of e localization problem as the various projection lines n be drawn by a rule of thumb. Again, by localizing veral points on a foreign body and connecting them lines, actual size, vertical and horizontal views of the dy are obtained and permanently recorded in a drawg, a feature of distinctive value to the operator.

Walter Reed General Hospital.

THE SUCCESSFUL TREATMENT OF A CASE OF ILLUMINATING GAS POISONING *

WILLIAM RAVINE, M.D.
CINCINNATI

In looking through the literature and statistics on illuminating gas poisoning one is struck by the meagerness of the reports and by the variety of nomenclature used in describing cases. One finds, for instance, descriptions under the titles "Asphyxia," "Coal Gas Poisoning," "Carbon Monoxid Poisoning," "Poisoning by Noxious or Irrespirable Gases." In the several instances the cases have been the result of blowing out of gas lights, either because of ignorance or with suicidal intent; carelessness in heaping clothes on gas fixtures in such a way as to turn the cocks; leaking of gas fixtures; badly constructed or worn-out stoves and fixtures; or, as in my case, the overturning of a gas heater by an individual alcoholically stimulated to the point of carelessness.

During years 1900-1910, there were ten cases of illuminating gas poisoning at the City Hospital with six deaths.

Illuminating gas contains:

	Per cent.
Carbon monoxid	12 to 28
Carbon dioxid	0.3
Hydrogen	30.35
Marsh gas	21.45
Nitrogen	6

The carbon monoxid in this mixture of gases is the cause of the symptom-complex. Carbon monoxid has 200 times greater affinity for hemoglobin than oxygen, and, therefore, the life of an individual can continue only so long as the hemoglobin is able to attach enough oxygen to itself to maintain the process of oxidation essential to life.

SYMPTOMS

Carbon monoxid gas has no influence whatever when applied directly to nerve and muscle;[1] when it acts through the blood, however, phenomena appear which are indicative of primary stimulation, but which cause, secondarily, paralysis of the nervous system. Thus there occur at first severe headache, great restlessness, excitement and increased cardiac and respiratory activity, salivation, tremor, twitching and spasm, followed by mental confusion, exhaustion, drowsiness and paralysis and loss of consciousness, labored stertorous breathing and finally complete loss of sensibility, and death.

Thompson,[2] in a series of ninety cases, reports a leukocytosis in eighty cases, which he thinks is due to some specific action of the gas, and which is similar in its cause to the leukocytosis that occurs in ptomaine poisoning.

In all the cases reported in the literature there was in the early stages a subnormal temperature. The maximum temperature is usually attained on the first day. The highest temperature reported is by Steele.[3] The patient was a girl of eight years, who, when first seen, was in a state of coma. The temperature began to rise rapidly and within eight hours had reached 110 F., accompanied by a pulse rated at 215 per minute. In this case there was a complete recovery in six days following the use of cold sponges and inhalations of oxygen. In all the cases reported the pulse has been accelerated and the rhythm of the pulse has been regular during the coma.

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* Read before the Medical Research Society, Cincinnati, March 2, 1911, at the suggestion of Professor Forchheimer, to whose courtesy I am indebted for the permission to report the case.

[1] Landois: Text-Book of Human Physiology, Ed. 10, 1905, p. 58.

[2] Thompson, W. G.: Tr. Assn. Am. Phys., 1902.

[3] Steele: Philadelphia Med. Jour., Feb. 16, 1901.

Physical examination of the lungs, as a rule, shows no abnormalities except in fatal cases, and in these the findings indicate a terminal edema. The urine shows no special characteristics. In a few cases there was a transient albuminuria. The pupils varied, being at times dilated, at times contracted. The symptoms on the part of the nervous system have been tremors, muscular twitchings, convulsions, rigidity, opisthotonos, anesthesia and headache. Evidence of vasomotor paralysis is found in burning sensations in the skin, especially over the face, and in the redness of the cutaneous surfaces. The lips and extremities appear bluish and cyanotic, owing to the peculiar cherry-red color that is a characteristic of carbon monoxid, but which does not obscure it. Coma, which is profound, is always accompanied by stertorous breathing.

Brunneaux[4] has reported a case of hemiplegia following gas poisoning; Finkelstein,[5] one of dementia; Scott,[6] acute mania with recovery after ten days; Bruns,[7] disseminated encephalomyelitis. Alexander Pauski[8] reported the case of a patient ill for months with paralysis of legs and arms, sensory and speech disturbances, amnesia and mental weakness. Becker[9] reported a case of multiple sclerosis. Bontecon[10] described the postmortem findings in three cases. His histories related that the faces were pale, that the expression was placid, the eyes closed, the pupils neither contracted nor dilated and the conjunctivæ clear. The muscles on section were, as a rule, red. The lungs were cherry red in color and on section showed a moderate edema. There was no unnatural amount of blood found in the pleura or pericardium. The heart was empty and the blood-vessels contained fluid blood. The left ventricle of the heart was contracted, the right ventricle and auricle as a rule were dilated. The viscera were all of a pinkish color. In the case of Broadbent,[11] there was a report of softening of the lenticular nucleus and the posterior part of the internal capsule.

DIAGNOSIS

The diagnosis of illuminating gas poisoning is based on the history of the case and on the presence of coma with stertorous breathing, cherry-red color of the face and hands and the spectroscopic analysis of the blood which demonstrates the presence of carbon monoxid hemoglobin. Carbon monoxid hemoglobin is cherry red in color and causes the appearance in the spectrum of two absorption bands between D and F not unlike the oxyhemoglobin bands. The further means of recognition is the sodium test. A 10 per cent. solution of sodium hydroxid, when added to carbon monoxid hemoglobin and heated, gives rise to a cinnabar red color. This same test applied to oxyhemoglobin produces a brownish-black mass.

TREATMENT

The earliest reported treatment for illuminating gas poisoning is that of Struthers,[12] who advised jugular venesection, on the basis of his experimental work on animals. Corssland recommends the hypodermic use of 15 mm. of a 10 per cent. solution of nitroglycerin injected into the epigastrium. Other writers have advised electric stimulation, oxygen inhalations, cardiac tonics and venesection, with transfusion of defibrinated blood or normal saline solution. One author in his treatment of a case did a venesection and gave an enema of 20 ounces of salt solution. Heinicke,[13] in a report of twenty-five cases of coal-gas poisoning, was the first to describe intravenous injection of salt solution.

CASE REPORT

Jan. 19, 1911, at 12:45 p. m., an unknown white man (Case No. 161,349) was admitted on the East Medical Service at the City Hospital with the following history:

History.—The inmates of a house at 223 George Street wer alarmed by an odor of gas, and on investigation they foun that it emanated from a room on the third floor, which ha been engaged the night before by two men. On breaking ope the door they found the two men lying on the floor, a smal gas heating-stove overturned, and the gas escaping from th attachment on the wall. The men were hastily brought t the hospital by the police ambulance. One man was dead; th other was in a state of coma. The latter was a white ma aged about 40.

Examination.—The patient's face was symmetrical, som what reddened and the skin about the lower lids blue. Th lips were blue and covered with a white, frothy mucus. Th pupils were dilated and did not respond to light. The breat was fetid. There was no odor of alcohol. There was ste torous breathing; no marks of violence either about head the body. The skin over the entire body was dry and col and the finger tips were blue. The pulse was strong and rapi —130 beats to the minute. The rectal temperature was 97 There were no convulsions. Examination of heart and lun revealed nothing of note. Extremities were relaxed. The was no Babinski sign or ankle-clonus. The patient did n respond to any form of external stimulation. Six hundred c of a dark amber-colored urine were removed by catheteriz tion. The specific gravity was 1.025 and the reaction w acid. No albumin, sugar or casts were present.

Treatment.—The patient was well covered with blank and surrounded by hot-water bottles, and was given 1/30 of strychnin hypodermically. The median basilic vein of t right arm was opened and 300 c.c. of blood allowed to flo after which an intravenous transfusion of 1,200 c.c. of a normal saline solution was given. Inhalations of oxygen w also given. Three hours later the face was somewhat redden and the patient was perspiring, but was still comatose. Te perature was 100, pulse 136, respiration 32; caffein sodi benzoate, gr. ii, given hypodermically every four hours. Af another three hours, the patient responded somewhat to ext nal stimulation, but was still comatose. Temperature w 101, pulse 120, respiration 36. At the end of another th hours the condition was about the same; temperature 1 pulse 128, respiration 32. On the second day after enter the house the face and hands of the patient had assume distinct cherry hue. The man was drowsy, responded v slowly to questions, after answering which he immediat sank into sleep. The examination of the blood showed r 4,500,000, whites 13,000, hemoglobin 80 per cent. The tre ment consisted of the administration of strychnin, 1/30 and caffein sodium benzoate, 2 gr., given hypodermic every four hours. The urine at this time was light ambe color. It was acid in reaction, with a specific gravity of 1.0 There was a slight amount of albumin present, but no su or casts. Nourishment consisted of 6 ounces of milk and ounces of water.

Outcome.—On the third day consciousness returned. man had no recollection of the past two days. He complai of a slight headache and dizziness. His face had a pecu pinkish color, but the color of the hands was normal. 6 a. m., his temperature was 99.3, pulse 88, respiration

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[4] Brunneaux: Thèse de Paris, 1893.

[5] Finkelstein: Lancet, London, 1891, ii, 3778.

[6] Scott, A.: Encycl. Jahrb. d. ges. Heilk., 1896, vi.

[7] Bruns: Neurol. Centralbl., 1902, No. 6, p. 242.

[8] Pauskl, Alex.: Neurol. Centralbl., 1902, No. 6, p. 242.

[9] Becker: Deutsch. med. Wchnschr., 1893, xix, 571.

[10] Bontecon: Med. News, Troy, N. Y., 1887.

[11] Broadbent: St. Mary's Hosp. Rep., London, 1893.

[12] Struthers: Edinburgh Med. Jour., 1855-6.

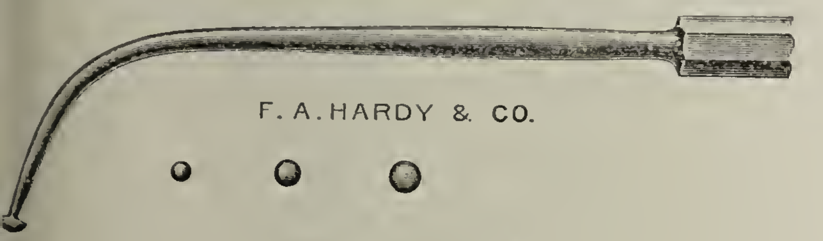
[13] Heinicke: Deutsch. Chir., 1885, Part 18.

6 p. m., his temperature was 99.1, pulse 72, respiration 28. n the fourth day his general appearance was good. He comained of no discomfort and was taking liquid nourishment. ll medication had been discontinued. The urine was dark nber in color, was acid in reaction, had a specific gravity of 025, and showed no albumin, sugar or casts. At 6 a. m., mperature was 98.1, pulse 84, respiration 20; at 6 p. m., mperature was 98.2, pulse 80, respiration 22. From this day convalescence continued uneventful. The man was disarged well on the seventh day. At the time of discharge e blood examination showed 5,600,000 red cells, 10,000 whites ld 90 per cent. hemoglobin.

FRONTAL SINUS CURETTE

BEELER HIGBEE, M.D.
LOUISVILLE, KY.

In cases of empyema of the frontal sinus in which the moval of the middle turbinate and ethmoid cells fail give sufficient drainage to relieve the condition, it is ten necessary to enlarge the opening into this sinus. or this operation I have had made a curette, which have used with success in a great many cases, the exact es and curve of which are shown in the accompanying ustration. This instrument is made to use only after e middle turbinate and ethmoid cells have been re-



Frontal sinus curette.

oved. After this has been done, the curette of the allest size is placed in the normal opening of the ontal sinus and carried well up. The curette is then lled downward, forward and laterally, thus avoiding y serious trouble.

1259 Bassett Avenue.

TRANSILLUMINATION OF THE MASTOID PROCESS AS AN AID TO DIAGNOSIS *

EMIL AMBERG, M.D.
DETROIT, MICH.

I. McA., aged 21, was admitted to Harper Hospital March 1911. At 12 p. m. his temperature was 101.8 F., pulse 100, piration 22. At 4 p. m. the temperature was 102.8 F., se 80. The patient complained of pain in the right ear. temperature kept up until March 14, mostly about 99 l 100 F., with a tendency to diminish somewhat until rch 20. It reached 100 F. at 4 p. m. on the 15th; 99.2 at . m. on the 16th; 100 at 4 p. m. on the 17th; 98.8 at 4 m. on the 18th; 99.2 at 4 p. m. on the 19th; 99 at 4 p. m. the 20th. The ear discharged very freely; nevertheless, I ught it wise to perform a paracentesis. There was little ierness over the mastoid antrum and over the anterior part the tip, but some on the posterior portion of the mastoid in the muscles of that region. The patient presented a newhat septic appearance and complained off and on of n.

he urine was normal. The blood-count March 9 showed a lerate leukocytosis; on March 12 a decrease of the kocytosis.

On March 20 I transilluminated the mastoid process according to the method of Gustav Dintenfass and found a distinct increase of the shadow on the right side. The patient's parents, who had been sent for on account of the probable operation, decided, against the urgent advice of the attending physician and myself, to remove him from the hospital. The father declared that he would shoulder all responsibility, even if the patient should die.

I learned that the patient was operated on at another hospital April 3; that the large mastoid was found to contain a mass of pus and granulations and that the dura was found exposed.

This case is reported in order to show that the transillumination, according to Dintenfass, was a great aid in our diagnosis. There exist two ways of transilluminating the mastoid process: first, illumination from without, the method of Victor Urbantschitsch; and second, illumination from within, the method of Dintenfass. Urbantschitsch places the source of light on the mastoid process, excludes light from the canal by a specially large ear speculum, and looks at the drum-membrane. The power of light necessary to make the drum-membrane visible allows conclusions as to the intensity of the pathologic process in the bone. Urbantschitsch, in his text-book, claims that his transillumination only makes us acquainted with a larger accumulation of secretion, or a more extended change of the pneumaticity of the mastoid cells, but that it does not make us acquainted with other suppurative processes which do not lead to an extended filling of the pneumatic cells. Dintenfass claims, among other things, for his method,[1] that in general a pneumatic bone allows much light to pass; that a sclerotic or ebonized bone does so to a considerably less extent; that fluid (pus), granulations and cholesteatoma do not let the light penetrate at all. Either the tip or the antrum portion is not penetrable for the light, or the whole mastoid process is much darker than that of the healthy side, or totally black. Dintenfass claims, as the essential part of his method, that the two mastoids should be illuminated simultaneously in order to draw a conclusion. In my examination I did not find this necessary. While I intended to transilluminate both sides simultaneously, I could not carry out my purpose, because one of the lamps did not light as strongly as the other; so I compared both sides, with satisfactory result. The character of the two mastoid processes is considered to be the same.

The lamps Dintenfass uses are 2 cm. long, 1.5 cm. wide, cylindrical, with a rounded tip, and are gently introduced equally far into the external auditory canals until, according to Dintenfass, only the cable winding is visible. Dintenfass asserts that the region of the mastoid process presents a reddish tint when transilluminated, in the shape of a slice of orange. It is the strongest at the place of attachment of the auricle and decreases gradually backward. Dintenfass also asserts that his method of transillumination aids in diagnosis, and that it always gives interesting disclosures about the mastoid process, but admits that by itself it can only rarely be of importance.

I may add that in my case the claim of Dintenfass is verified. In considering the x-ray examination of the mastoid in relation to transillumination, it is my personal opinion that the transillumination might be tried first. The x-ray examination may give a more detailed picture, and thereby may give us also an idea of the location of the lateral sinus.

270 Woodward Avenue.

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* Read before the Surgical Section of the Wayne County Medical iety, April 10, 1911.

[1] Arch. Otol. (German), lxxxiii, parts 1 and 2, p. 125.

TECHNIC FOR HYPODERMIC INJECTIONS

FRANK THOMAS WOODBURY, M.D.
Major, Medical Corps, U. S. Army
FORT D. A. RUSSELL, WYOMING.

I desire to submit to the profession a simple, rapid and efficient technic for giving hypodermic or intramuscular injections, which will be found peculiarly suitable where a large number of injections are to be given at once. I have used it in giving the antityphoid bacterin treatment to a battalion of infantry and the civilian population of an army post. It has stood the test. There has not been an infected arm as a result, and no patient has shown a temperature above 99 F.

The materials needed are:

The bacterin emulsion.

A glass-barrelled syringe. I use the Sub-Q tuberculin syringe because it is graduated in hundredths of a cubic centimeter and because it is not attacked by iodin as metal is.

Tincture of iodin, U. S. P.; some gauze or cotton.

The technic is as follows: As the men form in line with sleeves rolled up, an assistant, without further preparation, dabs the arms with the tincture. I dip my needle into the tincture of iodin, draw some up and expel it, then draw up one dose of the bacterin emulsion into the barrel and expel it; the syringe is now sterilized. I then fill the syringe with the bacterin and inject it into the iodin-painted area of the arm. I then dip the needle into the tincture without drawing any up, wipe it off with the gauze or cotton and am ready for the next case. After the last case the syringe is cleansed with the tincture followed by alcohol and then air until dry.

A PAINLESS MERCURIAL INJECTION FOR SYPHILIS

CHARLES M. WALSON, M.D.
In Charge of the Venereal Clinic of the St. Louis City Hospital Department
ST. LOUIS

One of the difficulties in the injection of mercury in the treatment of syphilis is the local pain caused by the injection, this varying in different individuals. Bearing in mind the value of quinin and urea hydrochlorid as a local anesthetic, it occurred to me that it might be combined to advantage with the mercury bichlorid solution in the hope of preventing some of the pain attendant on the use of that salt as an injection. Beginning some experiments with this in view, I found that equal parts of quinin and urea hydrochlorid 2 per cent. and mercuric chlorid 2 per cent., both in distilled water, when heated to the boiling point and mixed, resulted in a clear solution. This solution when mixed in a cold state, throws down a white precipitate. The solution should be injected before it becomes cold, as later crystallization takes place. Stronger solutions have a tendency to cause induration at the site of injection. I have used this injection more than 100 times and have kept the patients (nine in number) under close observation to the present time. With a few exceptions the pain has been very slight, the majority of patients saying that pain was entirely absent. The injections were made into the buttock. Patients often stated that on sitting down in a chair afterward there was a feeling of numbness. With the solution in the strength above indicated, there has been very little local reaction. The results so far, in my experience, have been very gratifying, and I believe the use of this anesthetic salt will do much to abolish the disadvantages of the injection of mercuric chlorid in syphilis.

Therapeutics

CHRONIC ENTERITIS IN ADULTS

For purposes of practical discussion, the term “ente
itis” cannot be strictly limited to a condition affectin
only the small intestine and characterized by the so-call
catarrhal inflammation of the mucous membrane. It
convenient to use the term to include disturbances
the digestion which do not affect markedly the stomac
or the large intestine, and which are not dependent o
new growths, ulceration, volvulus or intussusception
the intestines. The term “intestinal indigestion”
applied to various forms of these disorders, but it is co
venient to include them all under the term “enteritis

The predominating clinical characteristic of these co
ditions is fermentation with the production of more
less gas. This may be accompanied in some cases
diarrhea; in other cases by constipation. When the co
dition continues for a considerable time, there may
interference with the appetite and disturbance of t
general nutrition, accompanied by loss of flesh. The
may also be depression of spirits, and hypochondrias

This condition of disturbance of the digestion in t
small intestine may be due to the use of improper foo
to neglect of the general physical condition, especial
with regard to proper exercise, which is seen striking
exhibited in people of sedentary habits; it may be d
also to neglect of the regular evacuations of the lar
intestine. Associated with it may be disorders of t
stomach, of the liver and of the pancreas, as well as
the glands of the intestinal mucous membrane. Th
may be also defective action of the muscular coat of t
intestine. To several or to all of these disturbed con
tions is due the fermentation of the contents of the int
tine, accompanied, frequently, by more or less pain, a
often by dizziness, headache, and generel indispositi

The treatment of this condition varies according
the cause, the predominating pathologic condition, a
the more marked clinical symptoms. The first and m
important indication for treatment consists in regulati
of the diet. While the ordinary healthy person sho
eat a variety of all sorts of foods, which are commo
approved of as suitable diet for the human family, wh
the digestion in the intestine is imperfectly perform
such articles of diet should be selected as are, for
most part, digested in the stomach so that a sm
amount of residue will be left to be acted on in the int
tine. Not only this, but foods which are not diges
in the stomach should be reduced to a minimum
account of the danger that fermentation may comme
in the stomach and be continued in the intestine. Amo
the foods to be selected are, of course, milk (though n
may not be advisable), eggs and fresh meats, includ
beef, lamb and poultry, as these are chiefly digested
the stomach. These may be supplemented by moder
amounts of farinaceous foods, such as stale bread,
toast, baked potato, and boiled rice. Other much n
cereals, especially oatmeal, milk toast, and bread
milk, should be avoided. Also, there should be f
bidden, temporarily at least, the use of green vegetab
salads, pastry, and other sweetened flour products.
uncooked fruits, oranges and grapes may usually be p
mitted, as being less likely to interfere with intesti
digestion than other foods such as strawberries, ra
berries, currants, peaches and apples. Tea and co
should be used in very limited amounts, as they hav
tendency to increase flatulence and, especially as rega

ea, to increase constipation. Water should be taken in bundance. Little advantage will be derived from drinkng excessive quantities of very hot water, although a glass of warm water at bedtime will generally prove iseful.

All foods should be taken at regular intervals, and hould be eaten slowly and carefully masticated. Intense nental application, after eating, should be avoided. Moderate exercise in the fresh air should always be nsisted on. Alcoholic drinks should generally be forbidden.

MEDICINAL TREATMENT

In such cases as are characterized by the occurrence of one or several loose movements shortly after eating, a ombination of ipecac, rhubarb and soda, as recomnended by Dr. Francis Delafield, will frequently prove iseful:

R	Gm.		
pecacuanhæ	|30		gr. v
Rhei	|60	or	gr. x
odii bicarbonatis...............	4|		3i

M. et fac capsulas 20.

Sig.: Take one capsule three times a day, before meals.

The official *Pulvis rhei compositus*, which contains hubarb, magnesium and ginger, is also a good preparaion for this condition. The dose is 2 grams (30 grains). Or the official *Mistura rhei et sodæ* (which contains pecac, rhubarb, soda, peppermint, glycerin and water) nay be used. The dose of this preparation is 10 c.c. (or fluidrams), 2 teaspoonfuls.

If diarrhea is a prominent symptom, the use of bisnuth will frequently be of advantage:

R	Gm.		
ismuthi subcarbonatis..........	20|	or	3v

Fac chartulas 20.

Sig.: Take one powder three times a day, before meals.

If the loose movements are preceded or accompanied y pain, 0.015 gram (¼ of a grain) of codein sulphate nay be given, for a few days, at the same time as the ismuth.

It is often better, instead of resorting to an opium or odein preparation, to give bismuth and salol, as:

R	Gm.		
ismuthi subcarbonatis..........	20|		3v
henylis salicylatis.............	6|	or	3iss

M. et fac chartulas 20.

Sig.: One powder three times a day, before meals.

If, on the other hand, constipation and flatulence are rominent symptoms, such remedies should be prescribed will increase the muscular activity of the intestine nd will also increase the natural secretions of the diges-ve organs. For instance:

R	Gm.		
luidextracti rhamni pursianæ..	10|		fl. 3iii.
incturæ nucis vomicæ.........	5|		fl. 3iss
incturæ cardamomi compositæ.	25|	or	fl. ℥i
incturæ gentianæ compositæ.ad	100|		ad fl. ℥iv

M. et Sig.: One teaspoonful three times a day, before eals.

If the tongue is heavily coated and there are evidences f stomach indigestion, dilute hydrochloric acid, in a se of 5 drops, in water, three times a day, after meals, good treatment. Frequently, when there is a good al of intestinal flatulence, the phosphate of soda, a aspoonful of the effervescing salt, administered two or ree times a day, seems efficient in preventing this fermentation. On the other hand, if the urine shows indican and there is, therefore, intestinal putrefaction, alkaline laxatives should not be administered, as they tend to perpetuate such alkalinity of the intestines and more putrefaction. Other laxatives than the saline alkaline salts should then be administered, if a laxative is needed. The putrefaction can sometimes not be stopped until meat is removed, at least temporarily, from the diet.

The digestive ferments are used a great many times for both gastric and intestinal indigestion. It is doubtful of what advantage they are. Sometimes they are combined with alkalies, and it is the alkali that may be of benefit. Sometimes they are combined with an acid, and it is very likely that the acid is of benefit. At other times they are combined with radical changes in diet, and probably it is the change in diet that is of advantage. The starch ferments and digestants may be of advantage, if given immediately before meals, by aiding some starch digestion during the first half hour or possibly hour of stomach digestion, i. e., before such time as free acid or a considerable amount of acid peptones have been produced in the stomach, at which time all starch digestion must cease. It is doubtful if pancreatin is of any advantage administered by the mouth. Its activity is certainly soon destroyed by the acid of the stomach. If protected by an alkali, as sodium bicarbonate, it might be active during the first part of the stomach digestion, but its advantage is probably slight.

The advantage of pepsin preparations or other protein digestants such as papayan is always a question. The amount of pepsin given is generally altogether too small to be of much value in digesting the protein that is ingested with an ordinary meal. Also, there is likely to be an acid in many pepsin preparations, and it is the acid that does the work. Again, some of these preparations are combined with various wine or alcoholic solutions, and these may slightly stimulate digestion. A digestant which acts both in mildly acid and mildly alkaline media may be of some advantage, but a correction of the diet, the prevention of fermentation and putrefaction, the proper daily bowel action, the soothing of any mucous membrane inflammation, and the administration of hydrochloric acid, if indicated, is generally sufficient to correct most indigestions that are not due to organic disease.

The temperature of articles, especially fluids, taken into the stomach sometimes has a distinct effect on the action of the bowels. If there is much pain with the loose movements, it will be found that warm or hot drinks are less likely to aggravate the trouble, while, on the other hand, cold drinks will increase the pain and cause more frequent movements of the bowels. When there is constipation, cold drinks are more likely to stimulate the action of the bowels, although excessive cold drinks should not be given on account of the danger of interfering with the glandular secretions of the stomach and intestine.

The only scientific way, provided that simple treatments do not correct the indigestion and stop the enteric disturbance, to determine exactly what the mistake is, is to examine the stools under a known diet. This will generally disclose the exact mistake in the digestive process, and show what foods are perfectly digested, and what are imperfectly digested. (See The Journal, Nov. 19, 1910, page 1810.)

It should also be remembered that sometimes thyroid disturbance is the cause of intestinal indigestion. This is a rather frequent etiologic factor, especially in women.

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THE GLYCYL-TRYPTOPHAN REACTION IN GASTRIC CANCER

The so-called glycyl-tryptophan reaction of Neubauer and Fischer[1] is based on the fact that normal peptic digestion does not resolve albuminous substances into their ultimate constituents, the amido-acids, but into intermediate bodies, the further breaking up of which is completed lower in the alimentary canal. But although the pepsin of the stomach is incapable of producing amido-acids, this property is possessed to some extent by trypsin, by the autolytic ferments of various body tissues, and particularly by those of malignant tumors.

In gastric carcinoma, therefore, we have a tissue capable of secreting a ferment of this latter sort, and we may expect to find in the products of gastric digestion, in this condition, the amido-acids that would normally be absent. To demonstrate the presence of this ferment, Neubauer and Fischer subjected to the digestive action of the stomach contents to be tested, a dipeptid, that is, a compound of two simple amido-acids, whose cleavage would yield an easily identified product. For this purpose they selected glycyl-tryptophan, inasmuch as tryptophan is perhaps the most easily recognized of the amido-acids.

As was pointed out, indeed, by the originators of the test, the sources of error are both numerous and important. The presence of marked acidity, of blood or exudate, of pancreatic secretion—all can contribute to an erroneous positive result. Tryptophan itself seldom—practically never—occurs in normal stomach contents, and its presence after a proteid meal is so rare in nonmalignant diseases that Weinstein[2] holds that its occurrence is in itself significant of malignancy. The source of error most difficult of elimination is the possible presence of pancreatic secretion, as no means of recognizing this *per se* are known. The only way, but a necessarily unreliable one, is that suggested by the originators of the test—the demonstration of the presence of bile.

Some effort, hitherto without result, has been made to find a dipeptid capable of resisting pancreatic digestion, and yielding an easily recognized cleavage product. T "silk peptone" used by Kuttner and Pulvermacher[3] place of glycyl-tryptophan offers no advantages in tl respect, but the claim is made that the blood fermen are without action on it.

The reaction has now been in limited use for abo two years, and a recent summary has appeared of t results obtained so far.[4] Positive tests were obtained 84 per cent. of cases later confirmed by autopsy, in per cent. of cases with diagnoses clinically certain, in per cent. of suspect cases, and in 12 per cent. of no malignant cases. No normal stomachs were found give the reaction. In view of such findings, the pes mistic conclusions expressed by some of the work appear somewhat unfounded. Unfortunately, its va in early cases, in which the necessity for an accur diagnosis is greatest, is almost unknown. If, as has b suggested and as appears probable, the autolytic ferm is excreted into the stomach only with the onset of ulc ation of the tumor, it would appear as a rule only co paratively late in the disease, and so be of slight from the viewpoint of early diagnosis. Its reliability greatly increased by several repetitions of the test, a Lyle and Kober,[5] who have obtained strikingly accu results with it, call particular attention to the valu several negative findings. It is probable that the f position of the reaction will be that of our other labo tory measures for the diagnosis of gastric carcino And, inasmuch as it is founded on a principle enti independent of those underlying our more usual test will almost certainly have a distinct place as one the several factors to be considered in establishin diagnosis.

COLD-STORAGE EGGS

The modern development of cold-storage methods in several ways added to the perplexities of he administration. On the one side are the obvious ad tages, economic and other, of carrying over valuable perishable foods from a time when they are not ne to a time of relative scarcity. On the other hand the well-known abuses of "cornering" which raises price both in the time of abundance and the tim scarcity, and of overlong storage which may cause w ful or injurious deterioration. Attempts to re these abuses by legislative enactment are now b made, one of the most popular apparently being a th months' time limitation on the storage period.

So far as eggs are concerned this movement is me with great opposition from large dealers, who point that three months is quite too short a period to storage commercially profitable. The question seems to be whether fraud on the public purse or i to the public health can be traced to the storage of eggs at a low temperature for a period longer than three months. Published observations,[1] although rather meager, show that progressive physical changes take place in cold-storage eggs, such changes being especially evidenced by loss of weight and by an increased tendency of yolks and whites to mingle. Chemically, there is a lowering of the amount of coagulable protein and a lowered percentage of lecithin phosphorus. An increase in the lower nitrogen bodies, proteoses and peptones, is noted, while there is apparently a decrease in amido bodies. Bacterially, storage eggs appear to be sterile or inhabited by a few colonies of the more resistant fungi. Whether such changes as those indicated impair the food value of the egg or render it injurious to health is a point worthy of investigation. It does not follow that, because chemical alterations have occurred in a nitrogenous substance, the resulting product is necessarily unfit for food. Ripened cheese has been ordinarily subjected to the long-continued action of enzymes and bacteria, but its food value appears to be high.

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[1] Neubauer and Fischer: Deutsch. Arch. f. klin. Med., 1909, xcvii, 499.

[2] Weinstein, J.: The New Test for Cancer of the Stomach, with Suggested Improvements, The Journal A. M. A., Sept. 24, 1910, p. 1085.

[3] Kuttner and Pulvermacher: Berl. klin. Wchnschr., xlvii, 2057.

[4] München. med. Wchnschr., 1911, lviii, 674; abstr. in Journal, May 6, p. 1370.

[5] Lyle and Kober: New York Med. Jour., 1910, xci, 1151

Of course, quite apart from the effect of cold storage on the food value of eggs, the fact that most people find cold-storage eggs less palatable than fresh eggs renders the former less available for many uses. While the buyer is able to judge of the quality of most foodstuffs by their appearance in the market, a cold-storage egg, when offered for sale, is practically indistinguishable from a fresh one; it is on the table if at all that the difference is apparent. Whatever the final decision as to the effect on health of the use of cold-storage eggs, therefore, the public has a right to demand that it shall not be made to buy cold-storage eggs under the belief that they are fresh, or to pay the price of fresh eggs for stored ones. It seems possible that if dealers were compelled to call cold-storage eggs by their right name and to state the length of time they had been in storage, many of the disadvantages now ascribed to the practice of cold storage would be removed. At least, it is probable that the industry would tend to assume less speculative and more normal proportions.

DANGER OF PANCREATIC EXTRACTS

While much of the advance in therapeutics is due directly or indirectly to experimental work on animals, it should be borne in mind that the administration of remedies to patients can seldom realize experimental conditions. The physician who assumes that, because in an animal experiment the hypodermic injection of a certain remedy has produced certain effects, similar results will follow its administration to man by the mouth, is apt to fall into error. This is well exemplified by the results of the attempts to secure an action on the metabolism of sugar by the use of pancreatic extracts. Assuming that diabetes is due to a failure of the pancreas to produce its internal secretion, there is a strong temptation to try to remedy this defect by using an extract of the pancreas as a substitute for the missing secretion.

Clinically such attempts have been failures. One reason for this may be that the amount of secretion present in the pancreas at one time is probably only a fraction of the amount necessary for the total metabolism of sugar for twenty-four hours. There is good reason to suppose that the pancreas is continually pouring its secretion into the blood in proper quantities, while the injection can be made usually not oftener than once a day.

In some cases the destruction of sugar effected by these remedies has been due to a toxic action which did not improve the patient's condition, although it temporarily lessened the amount of sugar.

The experimental proof that the extirpation of the pancreas can cause the appearance of diabetes led Zuelzer to attempt the production of an extract of pancreas which he believed to act as a hormone to stimulate the utilization of sugar in the economy. This hormone has been tested by J. Forschbach[1] with unfavorable results. In animal experiments the preparation showed the power to reduce the excretion of sugar temporarily, while it also produced some symptoms of poisoning with elevation of temperature. The trial was then made on diabetic patients with the result that, although there was a slight reduction of sugar excreted, the temperature rose and the patients presented indications of marked poisoning. The acidosis was unaffected and the sugar returned after a short time to its original height. Zuelzer is much inclined to attribute the temporary reduction of sugar to the toxic action of the remedy or to the febrile temperature excited by it. At any rate he concludes that the injurious effects of the remedy are so manifest that it is unjustifiable to subject patients to such danger for the slight advantage gained by the reduction in the amount of sugar excreted.

The action of extract of pancreas on animals with pancreatic diabetes and on normal animals has been investigated by E. Leschke.[2] Pancreatic extract derived from frogs or guinea-pigs was injected subcutaneously and intravenously into normal frogs and guinea-pigs and also into frogs from which the pancreas had been removed. The fresh pancreatic extract was used, also the same extract inactivated by heating it to 70 C. for a quarter of an hour and also that which had been heated for ten minutes to 100 C. The urine of the animals was examined for the presence of sugar. The experiments show that injections of fresh pancreatic extract occasion diabetes in normal animals, and in those animals that have pancreatic diabetes it increases the glycosuria. At the same time a severe disturbance of the general condition, which led to death within a short time, appeared regularly under the influence of the injections. Pancreatic extract inactivated at 70 C. did not markedly affect the excretion of sugar, but it had a marked toxic action. Pancreatic extract heated to 100 C. could be injected without any injurious consequences. The investigations indicate that there is no scientific basis for treating diabetes with extracts of pancreas.

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[1] Bull. 115, U. S. Dept. Agric., Bureau of Chemistry.

[1] Forschbach, J.: Deutsch. med. Wchnschr., Nov. 25, 1909.

[2] Leschke, E.: Arch. f. Anat. u. Physiol., 1910, Physiol. Abt., p. 401; abstr. in Chem. Zentralbl., Feb. 15, 1911, p. 505.

OUR VANISHING SHORE-BIRDS

The cosmic scheme is one of most intricate interrelation, in which the fact that living things are organized to prey on one another plays a most important part. Man's activities in modifying this scheme produce far-reaching results, generally unforeseen, sometimes disastrous for him. When, for example, we cause the wholesale destruction of harmless snakes we shall find in consequence a vast overproduction of grain-destroying rats and mice, such as are the natural prey of snakes. The brutal and insensate destruction of birds, to take another example, is followed by an incalculable increase in disease-conveying and otherwise pernicious insects.

This observation is apropos of an important investigation made by W. L. McAtee of the Biological Survey,[1] which demonstrates that our shore-birds throughout the eastern United States are fast vanishing. Of these long-legged, slender-billed and usually plainly colored birds there are more than sixty species in North America. They frequent the shores of all bodies of waters, large and small; but many of them are equally at home on plains and prairies. Numerous species formerly swarmed along the Atlantic coast and in our prairie regions; their extermination now seems imminent, so scarce have they become. The black-bellied plover was in great numbers along the Atlantic seaboard years ago; it is now but a straggler. East of the Great Plains the golden plover was once abundant; it is now rare. Great flocks of long-billed dowitchers formerly wintered in Louisiana; one sees now but flocks of a half dozen or less. The Eskimo curlew has probably been exterminated in the last decade, and other curlew species are greatly reduced.

The wonder is that any of these birds survive, so adverse to their existence are present conditions. In both fall and winter they are shot along the route of their north and south migration. They decoy readily and persistently, despite murderous volleys. The breeding-grounds of some species have become greatly restricted by the extension of agriculture, and their winter ranges in South America have no doubt been restricted in like manner. In several other ways pointed out by McAtee is their existence made most precarious.

Not by any means on sentimental or esthetic grounds alone need we plead for the protection of shore-birds. Many species eat mosquitoes, such as play so important a part in disease dissemination. Fifty-three per cent. of the food of birds from one locality was found to consist of mosquito larvæ; and among the insects thus eaten was the salt-marsh mosquito, for the elimination of which the state of New Jersey has expended much in money and energy. Cattle and other valuable live stock also are greatly molested, not only by mosquitoes, but also by horse-flies. Adults and larvæ of the latter have been found in the stomachs of several species of birds. The killdeer and the upland plover, moreover, devour the North American fever tick, so injurious to cattle. Crane-fly larvæ are frequently most destructive in grass-lands and wheat fields; among their many enemies shore-birds rank high. These birds, again, are very fond of grasshoppers, which, as all know, are most destructive of corn, cotton and other crops. Again, twenty-three species of shore-birds were found to have fed on Rocky Mountain locusts (great grain-consumers) in Nebraska.

Some of our severest economic losses are occasioned by insect pests of forage and grain crops; these pests are a natural food of shore-birds. The army-worm, cut-worm, cotton-worm, tobacco-worm and potato-worm are meat for the avocet, woodcock, pectoral and Baird sand-pipers, upland plover and killdeer. The principal farm crops have many beetle enemies; birds thrive on these beetles. The boll weevil and clover-leaf weevil are food for the upland plover and the killdeer; the rice weevil for the killdeer; the cowpea weevil for the upland plover. Crayfish are a pest in southern rice- and corn-fields and they injure levees; they are a favorite food for the black-necked stilt, jacksnipe, robin snipe, spotted sandpiper, upland plover and killdeer. In Texas the upland plove follows the plough and eats grubs destructive to garde stuff, corn and cotton crops.

It would be well indeed for all the governments o states in which these birds have their habitat to legislat for their protection. Massachusetts, Vermont and Louisiana have established a continuous close season for som of these species until 1815; much more than this, however, is essential to be done.

Current Comment

ANOTHER PURE FOOD DECISION

Another legal decision on the interpretation of th federal Food and Drugs Act has been handed dow This time it is from Justice Vedder of the United Stat Circuit Court for the Eastern District of New York The government officers whose duty it is to enforce th Food and Drugs Act charged that the "peroxid cream manufactured by that cooperative "patent medicine concern known as the A. D. S. was misbranded und the act. The reason for their contention was that th amount of peroxid present in the cream was so insignif cant that it could have no practical therapeutic valu While there was no denying the fact, Judge Vedd decided against the government. If this judge's vie of the case is a correct one, it is necessary, apparentl merely to have an infinitesimal quantity of any ingr dient in a mixture to be able to give that mixture th name of such an ingredient. As the law, which th judge says was not violated, also covers the subject food as well as drugs an extension of the principle enunciated by the court may be looked for. A pailful of miscellaneous vegetable pulp correctly doctored with the necessary amount of saccharin, sodium benzoate and coal-tar dye may be sold to the unsuspecting purchaser for strawberry jam — providing the manufacturer is careful to put a few strawberries in the pail. The gentleman just outside the entrance to the circus who dispenses the highly colored liquid sweetened with saccharin, acidified with citric acid and dignified by the name of Lemonade, is evidently well within his legal rights because he usually has at least half a lemon floating on the top of the barrel. The point in law should be still further extended. It is hardly fair to allow the dispensers of drugs and foods a monopoly on humbugging the public. The flashy gent who attempts to dispose of his specialty to the unsuspecting rustic should be absolved from all legal consequences providing his brick is gold-plated on at least one side.

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[1] McAtee, W. L.: Our Vanishing Shore-Birds, Circ. 79, Bureau Biol. Survey, U. S. Dept. Agriculture.

SEXUAL HYGIENE IN THE AUSTRIAN SCHOOLS

In this country, we usually credit ourselves with progressive ideas. Americans who take any note of affairs in the Old World, however, sometimes find that while we have been dallying with progressive ideas, the forward step has been taken in Europe. In view of the discussion in regard to the possibility of introducing instruction on sexual hygiene into our public schools, it is interesting to observe that this step has already been taken in Austria, as will be seen by the letter from our Vienna correspondent in this issue. For three years instruction on this topic has been given, in connection with the teaching of anatomy, to pupils in the Austrian schools preparatory for the university and the other schools of the same grade; and recently it has been introduced experimentally into the course for those pupils who leave school in their fourteenth year. It has also been a part of the curriculum in German schools for two or three years. It will be of value for us to observe the results of this experiment, which we consider full of difficulties, but which in some respects would seem to be a more difficult one to make in continental Europe, where the traditions are so strongly in favor of keeping the youthful mind a blank on such subjects.

MILK LEGISLATION IN ONTARIO

One of the most prominent subjects of legislation by state and local authorities at the present time is the subject of clean milk, and many laws have been placed on the statute-books governing the production and sale of this important article of food. The province of Ontario has recently passed an act which provides very stringent regulations for the production and distribution of milk in all its stages, defines the conditions under which "certified" milk is to be produced, which includes the semi-annual tuberculin testing of the cows, and prescribes the rules for pasteurizing milk. Municipalities are given full authority to make all regulations coming within the purview of this act and to enforce them rigidly. It is one of the most stringent milk laws which has yet come under our observation, being more strict than many of the enactments in the United States which have aroused the strenuous opposition of milk producers and distributors. Like most Canadian laws, this will no doubt be rigidly enforced, and it will be profitable for us on this side of the border to observe the results. The consideration which has hitherto restrained many who would otherwise have been in favor of more stringent regulation of the dairy industry is the fear of increasing the cost of milk to the poor. At the same time, the importance of this article of food and its great susceptibility to contamination justify the most earnest effort to ensure cleanliness and care in its production and distribution. It is to be hoped, therefore, that we shall have full reports of the practical workings of the Ontario Milk Act.

SAFEGUARDS FOR MARRIAGE

That there should be more restrictions thrown about the marriage relation is the firm opinion of most students of the subject. A very pointed remark is contained in the report of the Vice Commission of Chicago, a book to which we shall probably refer more at length later. The report says:

> An application for a license of any kind, whether it be to construct a house, run a push-cart, peddle shoestrings, or keep a dog, must be accompanied with evidences that the applicants are responsible and reliable agents. But for a marriage license, one person, unattended and unknown and, as far as one can know, an epileptic, a degenerate, or who has in his blood a loathsome venereal disease may pass his name through a window with that of a similarly questionable female, likewise unknown, and be granted the divine right to perpetuate his kind in turn, thereby placing a burden and blight on society and the community for generations to come.

Not all agree on the methods, but as public opinion is educated to the need for some modification of our present rules, there will come about the possibility of improving conditions.

DIETETICS TAUGHT BY CARTOON

One of Briggs' recent cartoons in the Chicago *Tribune* contains a very suggestive lesson in dietetics. Three pictures are shown. In the first, an automobile is seen with a grocer pouring gasoline into the tank; the owner of the car excitedly exclaims, "Hey! What grade is that gasoline? Are you straining it properly?" The second picture represents the same characters, but this time the machine is being supplied with oil; the owner solicitously inquires, "What kind of lubricating oil are you giving that car? I want the best." In the third picture, the automobile owner is seen sitting at a restaurant table, ordering for himself a variety of foods that would make a dietitian shudder. Evidently, careful as he is in regard to the quality and character of the food he gives his automobile, the purity of the fuel he supplies for his human engine is immaterial; it may be good, bad, or indifferent, "strained" or not. The cartoonist might have carried the lesson yet a little farther by showing the amiable imbecility of the average human being in caring for the most delicate of all machinery—his own body. He might have shown the owner of a valuable car seeking the most expert machinist to repair his machine. Later the same man could have been pictured as seeking the services of the most ignorant quack, or as administering to himself some darkly mysterious combination of drugs in the form of a "patent medicine," when his own infinitely complex physical mechanism becomes disordered. The force of such satire does not rest on exaggeration; it is all, unfortunately, based on most sober and commonplace fact. What an interesting note on the intelligence of the average earth-dweller might be made from these data by a tourist from Mars!

PAY NO MONEY TO UNAUTHORIZED PERSONS

For the past five years we have published weekly in THE JOURNAL the following: "WARNING: Pay no money to any agent unless he presents a letter showing authority for making collections." It would seem that physicians would hesitate to pay money to transient and unknown individuals who are able to present no identification, and yet there seems to be continued carelessness on this point. Last week[1] we warned our readers against a subscription agent who gave the name of A. S. Brown and who claimed to represent the Seattle Subscription Company of Seattle, Wash. Several physicians had paid him money and failed to get any return for it. News is now received of a man—who may be the same person—who has swindled people in the same way in Colorado and Wyoming and who was reported to have gone to the northwest. This man collects money in advance, which his victims never see again, nor do they receive an equivalent. It is alleged that he uses various names, one of which is A. G. Stevens, care of the Denver News Company, a firm which apparently does not exist. This is another reminder that it is very foolish to pay money to unknown persons.

"REASONABLE" LYING PERMISSIBLE

The United States Supreme Court has decided that there is nothing in the Food and Drugs Act that prohibits Johnson, the cancer quack of Kansas City, from making lying assertions on the labels of his nostrums providing such mendacity does not relate to their composition. The pure food and drug law is held to protect the consumer only against false statement regarding the composition of medicines and not against falsehoods concerning their curative value. Briefly the facts are as follows: Johnson printed falsehoods on the labels of his "cancer cure" regarding its curative effects. The federal officials intrusted with the enforcement of the Food and Drugs Act took the ground that such falsehoods constituted misbranding under that provision of the act which reads in part as follows:

> " . . . the term 'misbranded' . . . shall apply to all drugs . . . the package or label of which shall bear *any statement . . . which shall be false or misleading in any particular.* . . . " [Italics ours.—ED.]

When the case came to court Johnson's lawyers held that the Food and Drugs Act was not intended to apply to claims for the curative effects of medicine, but only to claims about the composition. The judge of the lower court upheld this contention and decided in Johnson's favor. The federal officials carried the case to the United States Supreme Court and that court has just affirmed the decision of the lower court. It should be said, however, that three of the Supreme Court judges dissented from the decision—Justices Hughes, Harlan and Day. According to press dispatches, the Supreme Court acknowledged that the claims made by Johnson were untruths, but held that the federal Food and Drugs Act should not be construed to cover that particular kind of lying. All who are interested in the protection of the public health and particularly in the protection of the sick will regret that the federal Food and Drugs Act was so loosely worded as to be unable to stand this vital test of its efficiency. The various cancer fakers—of whom Johnson is a type—who have been driven out of business under the law as previously interpreted, will now be free to resume their damnable trade unmolested. As the people of the United States have evidently not made their will clear in the pure food law, they should now do so. It is imperative that this law be immediately amended so as to state positively and unequivocally that lying of all kinds shall be illegal when applied to foods and drugs. There is no more pressing piece of legislation needed than such an amendment. The result of this decision means, as the press dispatches to some of the Chicago papers state:

> "Medicine that is nothing but sweetened water, or pills composed of colored mud, may be labeled 'cures' and sold as such with impunity under the national pure Food and Drugs Act."

So far as the "patent medicine" fakes are concerned, there is now practically nothing to prevent the imposition of the grossest of frauds on the public. The "patent medicine" vendors do not care particularly about having to tell the truth about the composition of their nostrums; they do desire, however, to make such assertions as they see fit regarding the alleged curative properties of their preparations.

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[1] THE JOURNAL, May 27, 1911, p. 1584.

Medical News

FLORIDA

New State Laboratory.—Work on the new two-story brick and concrete laboratory for the State Board of Health, Jacksonville, has commenced. The new building is to be on the site of the old city jail on Julia Street. The building is estimated to cost $35,000, and will contain, in addition to the laboratories, the offices of the State Board of Health.

Meeting of Florida Physicians.—At the thirty-eighth annual session of the Florida Medical Association, held in Tallahasse May 10-12, Tampa was selected as the place of meeting for 1912 and the following officers were elected: president, Dr. Albert H. Freeman, Starke, and vice-presidents, Drs. Joseph D. Bennett, Crystal River, and Nicholas A. Baltzell, Marianna. Dr. Joseph N. McCormack, Bowling Green, Ky., delivered an address before the association on "The Physician's Position with the People," and Dr. B. Merrill Ricketts, Cincinnati, an address on "Our Operations on the Chest."

IDAHO

Hot Springs Leased.—Dr. Henry W. Clouchek, Twin Falls, has leased Lava Hot Springs in Bannock County for twenty-five years, and will develop the property as a health resort.

Personal.—Dr. Fred A. Pittenger, Boise, who has been ill for several days, is reported to be convalescent.——Dr. Georg E. Hyde, Rexburg, president of the State Board of Health, has been named as delegate to the National and Provincial Convention to the State Board of Health, San Francisco.——Dr. Darius D. Drennan, Rathdrum, has been appointed physician of Kootenai County.——Dr. Malcolm McKinnon, Sandpoint, has been appointed physician of Bonner County.——Dr. Frederick Epplen, St. Joe, has started for Europe. D Delos E. Cornwall succeeds him as district surgeon.

ILLINOIS

New State Hospital Site.—Dixon and Rockford are said to be making strenuous efforts for the location of the new state insane hospital for which $1,500,000 was appropriated by the last legislature.

Honor Retiring Officer.—Dr. Frank H. Jenks, for many years assistant superintendent of the Elgin State Hospital, left that institution, May 10, to take charge of the Ransom Sanitarium, Rockford. Before he left a farewell dinner was given in his honor by Dr. Sidney D. Wilgus, superintendent of the institution, and Dr. Jenks was presented by the medical staff with an office chair and a purse of money.

Personal.—Dr. Henry A. Bremmer, Ashton, with his wife and daughter, sail for Europe, June 17.——Dr. Nelson E. Oliver, Thornton, is reported to be seriously ill with septicemia.——Dr. Albert S. Green, Rockford, who has been seriously ill, is reported to be improved.——Dr. and Mrs. Joseph W. Smith, Bloomington, were seriously injured in an automobile accident near Covington, Ind., May 21.——Dr. Michael F. Dorsey, Streator, who has been seriously ill with pneumonia at Mercy Hospital in Chicago, is reported to be improving.

Chicago

Noted Chemist Dies.—Prof. Marcus A. de la Fontaine, for thirty years professor of chemistry in the Chicago high schools, frequently an expert witness in poisoning cases, died at his home, May 21, aged 73.

Physicians' Club Dinner.—At the annual meeting of the Physicians' Club of Chicago, held in the new Sherman House, May 26, Dr. Alfred N. Murray was elected secretary and Drs. George E. Baxter, Alexander H. Ferguson and Harry P. Woley were elected trustees.

Mary Thompson Hospital Affairs.—Dr. Frances Dickinson has been added to the board of trustees of the Mary Thompson Hospital. There is now in the bank a fund of $10,000 to the credit of the hospital and the Chicago Woman's Club will provide, it is said, against any deficit.

Pediatric Society Election.—At the annual meeting of the Chicago Pediatric Society, held May 22, Dr. John M. Dodson was elected president; Dr. Alexander C. Soper, vice-president; Dr. Joseph W. Brenneman, secretary; Dr. Mark Jampolis, treasurer; Dr. Henry F. Helmholz, editor, and Dr. Isaac A. Abt, member of the executive committee.

Sprague Memorial Institute.—The Otho S. A. Sprague Memorial Institute was organized in January, 1911. It is a memorial to the late Otho S. A. Sprague, who designated his brother, A. A. Sprague, as the chief instrument through whom funds left by will should be expended. The institute was organized by Mr. A. A. Sprague with the following as members of the corporation and the first board of directors: A. A. Sprague, A. A. Sprague II, son of Otho S. A. Sprague, Messrs. A. C. Bartlett, J. P. Wilson, C. L. Hutchinson, Byron L. Smith and Martin A. Ryerson, and Dr. Frank Billings. The directors have decided on medical research as the chief object for which the income of the memorial funds shall be expended and have elected Dr. H. Gideon Wells of the University of Chicago to direct research in medical problems. The work will be done in cooperation with the University of Chicago, Rush Medical College, Presbyterian Hospital and the Children's Memorial Hospital of Chicago. The institute will command a definite number of beds in the Presbyterian Hospital for the study of any disease under investigation. An advisory council has been appointed consisting of Drs. Frank Billings, James B. Herrick, Joseph L. Miller, Edwin R. Le Count, Ludvig Hektoen and Profs. E. O. Jordan and Julius Stieglitz.

IOWA

New State Journal.—The Iowa State Medical Society has decided to own and edit its own official organ. It has given authority for the purchase of the *Iowa Medical Journal* from Dr. Edward E. Dorr, Des Moines, its editor and proprietor, and will continue this publication as the official journal of the society under the editorial management of Dr. David S. Fairchild, Clinton.

State Society Meeting.—The sixteenth annual meeting of the Iowa State Medical Society was held in Des Moines, May 17-19, under the presidency of Dr. Mathew N. Voldeng, Cherokee. Dr. George W. Crile, Cleveland, O., delivered the address on surgery and Dr. James B. Herrick, Chicago, the address on medicine. The following officers were elected: president, Dr. Lawrence W. Littig, Iowa City; vice-presidents, Drs. Henry A. Leipziger, Burlington, and Van Buren Knott, Sioux City; secretary, Dr. Vernon L. Treynor, Council Bluffs (reelected); treasurer, Dr. Thomas E. Powers, Clarinda; and delegates to the American Medical Association, Drs. Max E. Witte, Clarinda; Edwin Hornibrook, Cherokee, and Francis E. V. Shore, Des Moines. Burlington was selected as the place of meeting for next year.

KENTUCKY

Ten-Cent Day in Louisville.—As a result of the 10-cent day in Louisville, April 26, $2,600 was received, nearly $1,000 less than the amount collected on a similar occasion two years ago.

Railway Surgeons Assemble.—At the seventh annual meeting of the Kentucky State Association of Railway Surgeons, held in Louisville, May 10-12, the following officers were elected: president, Dr. Charles H. Kearns, Covington; vice-presidents, Drs. Waller O. Bullock, Lexington; David Y. Roberts, Louisville, and William Cheatham, Louisville; secretary, Dr. James B. Kinnaird, Lancaster, and treasurer, Dr. Clarence H. Vaught, Richmond. Lexington was selected as the next place of meeting.

LOUISIANA

Parish Society Election.—Lafayette Parish Medical Society, at its meeting in Lafayette, May 6, elected Dr. Robt. D. Voorhies, president and delegate to the state medical society; Dr. Fred'k R. Tolson, vice-president and alternate delegate, and Dr. Lambert O. Clark, secretary and treasurer, all of Lafayette.

The Work of the Milk Commission.—At the second annual meeting of the Milk Commission, New Orleans Pure Milk Society, held in the Orleans Parish Medical Society Building, May 1, the officers were reelected. The secretary reported that several dairymen had signed agreements to serve only milk certified by the commission, and that others were likely to sign similar agreements. The milk thus dispensed has been freely tested and proved worthy of endorsement. The organization now numbers 119 members and a balance of $521.91 is reported.

Personal.—Col. William Gorgas, M.C., U. S. Army, had conferred on him the degree of LL.D. by Tulane University, May 17. At the same time Dr. Philip Frank, instructor in physiology in Tulane University, received the degree of B.Sc.——Drs. James P. Heard and Harry B. White have been appointed members of the Board of Health of Gueydan.——Dr. Jesse R. Johnson has been made president of the Board of Health of Amite City.——Dr. J. M. Bonnette, Pollock, fell in his office, May 4, sustaining a comminuted fracture of the left arm and a dislocation of the shoulder.

MARYLAND

Personal.—Dr. Frank H. Ruhl, Lansdowne, health officer of the thirteenth district, had a cerebral hemorrhage, May 7.——Dr. Henry W. McComas, Oakland, has succeeded Dr. John E. Legge, term expired, as secretary of the Board of Health of Garret County and physician to the county jail.

County Society Meeting.—At the annual meeting of Baltimore County Medical Society, held at Towson, Dr. Edward N. Brush, Towson, retiring president, delivered the annual address on "Experts and Expert Testimony" and the following officers were elected: president, Dr. Josiah S. Bowen, Mount Washington; vice-president, Dr. William L. Smith, Rider; corresponding secretary, Dr. Richard C. Massenburg, Towson; recording secretary, Dr. J. C. McCormick; treasurer, Dr. F. C. Eldred; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. Henry L. Naylor, Pikesville, and alternate, Dr. L. Gibbons Smart, Lutherville.

Baltimore

Personal.—Dr. Duncan McCalman sustained a fracture of the clavicle and severe bruises by the overturning of his automobile, May 13.——Dr. George B. Scholl, business manager of the Franklin Square Hospital, has resigned, to take effect June 1.

Correspondence of Revolutionary Times.—Dr. Eugene F. Cordell is publishing in *Old Maryland* the interesting correspondence of the Drs. Wiesenthal during the Revolution. The elder Wiesenthal was an eminent surgeon who conducted a private medical school in Baltimore.

MASSACHUSETTS

Bequest to Medical School.—Harvard Medical School has been bequeathed $22,000 by the will of the late Prof. Samuel Hubbard Scudder.

Hospital Dedicated.—The new St. Margaret's Hospital, connected with St. Mary's Infant Asylum, Dorchester, was dedicated recently with impressive ceremonies.

Carnation Day.—May 20 was observed in Lynn as Carnation Day when the residents of the city and visitors were solicited to purchase carnations from children who had them on sale in the streets, stores, office buildings and public places. The proceeds of the sale were devoted to the support of the Day Camp for Tuberculosis situated in the midst of the Swampscott woods. The camp opened for the season, May 3, and will be able to accommodate forty-five patients.

MISSOURI

Small-Pox at State University.—Nine students of the University of Missouri, Columbia, have small-pox. There are said to be altogether sixteen cases of small-pox in the city; 1,600 persons have been vaccinated and 80 are under quarantine. A commission consisting of Dr. Woodson Moss, health commissioner, and Drs. Joseph E. Thornton, James Gordon, William G. Brown and David H. Dolley has been appointed to take care of the situation.

Personal.—Dr. William J. Calvert, Columbia, has been elected professor of preventive medicine in the University of Missouri.——Dr. John N. Baskett has been elected president of the Levering Hospital, Hannibal.——Dr. Richard L. Johnson, Rolla, a practitioner for nearly forty years, has retired from practice and will make his home with his son in Altoona, Kan.——Dr. Gustave Ettmueller, Jefferson City, has been appointed physician of Cole County and Dr. Horden T. Leach, Elston, physician to the County Farm.——Dr. Albert Willis, Birdpoint, has been appointed division surgeon for the Iron Mountain System.

NEW HAMPSHIRE

State Medical Meeting.—At the annual meeting of the New Hampshire Medical Society, held in Concord, May 11-12, the following officers were elected: president, Dr. George W. McGregor, Littleton; vice-president, Dr. John W. Staples, Franklin; secretary, Dr. D. Edward Sullivan, Concord (reelected); treasurer, Dr. David M. Currier, Newport; councilors for five years, Drs. Walter Tuttle, Exeter, and Louis W. Flanders, Dover; trustee for three years, Dr. John M. Gile, Hanover; delegate to the American Medical Association, Dr. John Z. Shedd, North Conway; alternate, Dr. Irving A. Watson, Concord; delegates to the Maine Medical Association, Drs. Thomas W. Luce, Portsmouth, and George P. Morgan, Dover; delegates to the Massachusetts Medical Society, Drs. Edward F. Houghton, Tilton, and Ira J. Prouty, Keene; necrologist, Dr. Eli E. Graves, Boscowen; anniversary chairman, Dr. Louis W. Flanders, Dover; committee on public health and legislation, Drs. Charles Duncan, Concord, and George A. Weaver, Warren, and committee on scientific research, Drs. John M. Gile, Hanover, Dennis E. Sullivan, Concord, and Louis W. Flanders, Dover.

NEW YORK

State Board Officers.—The New York State Board of Medical Examiners announces the election of the following officers: president, Dr. Glentworth R. Butler, Brooklyn; vice-president, Dr. Henry B. Minton, Brooklyn, and chairman of the question committee, Dr. Lee H. Smith, Buffalo.

Amendment to State Charities Law.—The governor has signed the amendment to the state charities law providing that no patient shall be received in the New York State Hospital for the Care of Crippled and Deformed Children except on application of a county poor superintendent or a city or county commissioner of charities.

Alienists Approve Conduct of State Hospital.—The report of the expert alienists, who have been inquiring into the conditions of the Matteawan State Hospital for the Criminal Insane, is entirely favorable to the conduct of the institution. They recommend that the hospital be taken from the jurisdiction of the prison commission and be placed under the supervision of the state commission of lunacy.

Personal.—Dr. Alvah H. Traver has been nominated as a member of the board of governors of Albany Hospital vice Dr. Willis G. Macdonald, deceased.——Dr. George H. Davis has been elected health officer of Le Roy and Dr. Charles D. Graney, secretary of the village board of health and registrar of vital statistics.——Dr. Hugh H. Shaw, Utica, has been appointed medical examiner of the civil service commission of that city, vice Dr. David H. Roberts.

Another Antivivisection Bill.—Senator Bayne has introduced another bill into the legislature to provide for a commission of seven members to inquire into the nature and extent of the practice of vivisection and to inquire into the laws relative to the proper protection of scientific experiments without having unnecessary cruelty. One member of the commission must be a state senator and another an assemblyman. The bill would appropriate $10,000.

High Mortality Record.—The bulletin of the State Department of Health for the month of March shows that the number of deaths in the entire state was 14,227, which is the highest number on record; the only other months when the deaths reached 14,000 were March, 1904, and March, 1910. The excessive rate was attributed to influenza. In the first three months of the year the deaths numbered 40,000, which is greater by 1,300 than the number last year.

Must Report Births and Deaths Promptly.—Attorney General Carmody, in an opinion rendered to the State Commissioner of Health, defines the powers and duties of local boards of health and the State Department of Health in enforcing the provisions of the section of public health requiring prompt and complete reports of all births to be filed with the department each month. He states that physicians who fail to comply with this public health law may have their licenses to practice medicine revoked. Dr. Porter, in commenting on this decision, states that the attorney general has outlined clearly the responsibility resting on the local health boards and it is the intention of the State Department of Health to see that their duties are carried out. He further states that it is extremely important that the registration of vital statistics should be improved, particularly in those places which have been negligent in the past. The attention of all physicians is directed to the law as quoted and their cooperation and support are urged. The law requires that births shall be reported within thirty-six hours and deaths within twenty-four hours from the time of their occurrence.

New York City

Conviction for Sale of Wood Alcohol.—The Court of Special Sessions in the case of Domenico Locatelli, charged with violation of Section 68 (h) of the sanitary code in selling anisette containing a large proportion of wood alcohol, is said to have found the defendant guilty and sentenced him to a fine of $250 with the alternative of ninety days in jail.

Vital Statistics.—The mortality of New York City for the first three months of 1911 was 17 per 1,000, as compared with 17.45 per 1,000 for the previous year and with 18.33 per 1,000 for the corresponding periods of the previous five years. This saving of life is most in evidence in the group under five years of age, almost 70 per cent. of the salvage being in that group. The increased mortality among elderly people was due, in all probability, to the increased prevalence of influenza. The birth rate for the same period was 28.11 per 1,000, the highest ever reported for this period.

Extension of Physiology Teaching.—Plans for the extension of the work of the department of physiology of Columbia University are being carried out. Three additions to the staff have been made: Frank H. Pike of Chicago University to be assistant professor, Horatio B. Williams of Cornell to be an associate and Donald Gordon to be an instructor. Dr. Williams is spending the summer in Europe visiting laboratories and arranging for the purchase of apparatus for electrocardiographic and other work. Professor Burton-Opitz will have charge of the instruction of the medical students and Professor Pike of much of the work in general physiology. A course in clinical physiology, dealing with the application of physiologic methods to problems of clinical medicine has been established. Changes in the laboratories will be made during the present summer. The income of the George G Wheelock Fund is to be devoted to the extension of the library. The chief professorship of physiology, held by Frederic S. Lee, has been entitled the Dalton professorship, in memory of Dr. John C. Dalton, who was in point of time the first experimental physiologist of America and gave distinguished services to the Columbia School of Medicine for thirty-five years.

Research Laboratory Extends Its Activities.—On January 1 a special division of the research laboratory of the department of health was organized under the title of "Laboratory for Special Therapy and Preventive Medicine," and while the work of this new division is still partly in the process of organization, the following special fields are now covered by the new activities of the laboratory: 1. Cerebrospinal meningitis. The production, distribution and administration of antimeningitis serum. The performance of lumbar puncture for the diagnosis of cases of suspected meningitis. 2. Trachoma and other communicable diseases. A systematic investigation of the etiology and infectiousness of these diseases with special reference to microscopic diagnosis. 3. Syphilis. A study of the Wassermann reaction as a preliminary to making this test available to physicians, hospitals and dispensaries, in cases in which the patient is unable to pay to have examination made in private laboratories. The laboratory is ready at present to receive a limited number of specimens for examination. 4. Gonorrhea. An investigation of gonorrheal vaginitis in young girls in hospitals and other institutions for children. The preparation and clinical application of vaccines for gonorrheal infections. 5. Streptococcus and pneumococcus serums. The production of these serums and an investigation as to their clinical value. These serums will be supplied in suitable cases, where bacteriologic examinations can be made.

Buffalo

Antituberculosis Work.—The second annual report of the Buffalo Association for the Relief and Control of Tuberculosis announces that the association has neither income nor endowment, but that the sum of $3,327.14 was available for the conduct of the Day Camp from the sale of national red cross stamps. In the Day Camp there were ninety-eight admissions and of these thirty patients were able to remain both day and night at the camp. Of these patients sixteen were sent to the State Tuberculosis Hospital, Raybrook. The tuberculosis dispensary of the association was open for 357 days and during this time 746 new patients were examined. Of these 239 were of tuberculosis of the lungs, thirty of tuberculous lesions other than pulmonary. One hundred and twelve cases were suspicious and in 365 tuberculosis was not found.

NORTH CAROLINA

The State Society Meeting.—The fifty-eighth annual meeting of the Medical Society of the State of North Carolina will be held in Charlotte, June 20-22, under the presidency of Dr. Chalmers M. Poole, Salisbury.

Personal.—Dr. Archibald A. Campbell, Statesville, has been elected county superintendent of health for Iredell County; Dr. J. Stevens Brown, Hendersonville, county superintendent for Henderson County; Dr. J. Rufus McCracken, Waynesville, county superintendent of health for Haywood County, and Dr. J. D. McMillan, superintendent of health for New Hanover County.——Dr. J. Ernest Dawdy has been reelected city physician of Winston-Salem ——Dr. J. Rainey Parker has been elected physician to the State Home of Orphans of the I. O. O. F., Goldsboro.

OHIO

Personal.—Dr. John D. O'Brien, pathologist of the Massillon State Hospital, has resigned to become director of the Cleveland Rest Cure Sanitarium near Strongville. He will be succeeded by Dr. Orlando D. Tatge, Massillon.——Dr. D. W. Brickley, Canal Winchester, has been appointed local surgeon for the Erie and Big Four Systems at Galion, vice Dr. Chalmers D. Morgan, Galion.——Dr. Ira J. Kail, a member of the staff of the Ohio Hospital for Epileptics, Gallipolis, has resigned and will practice in Huntington, W. Va.

Cincinnati

Personal.—At the annual election of the officers on the staff of the Cincinnati Hospital, May 26, Dr. B. Knox Rachford was elected president; Dr. Robert Carothers, vice-president, and Dr. Meyer L. Heidingsfeld, secretary.——Dr. and Mrs. Joseph Edward Pirrung left for Europe, May 31.——Dr. Simon P. Kramer has gone abroad.——Dr. William Nickels, an intern in the City Hospital, was operated on for appendicitis, May 18.

University of Cincinnati Notes.—The medical department of the university will introduce an innovation in medical teaching during the coming session. The entire senior class will spend the morning in practical work in clinical lectures and bedside instruction in the various hospitals, and lectures will be given only in the afternoons. The dispensary clinics will be attended only by the junior students.——The Board of Health of Cincinnati has decided that the equipments and resources of the departments may be utilized by the students of the university in the practical teaching of hygiene and sanitation.

PENNSYLVANIA

Leprosy in Pittsburg.—On May 24, a case of tuberculous leprosy was discovered in Pittsburg. Yee Tung, a bookkeeper in a Chinese store was taken to the Municipal Hospital and placed in a tent until a house can be erected for him.

Milk Stations Opened.—The Wyoming Valley Society for the Prevention of Tuberculosis has recently opened six stations in Wilkes-Barre and vicinity, with a trained helper in charge to teach mothers how to modify milk and in other ways properly to feed and care for babies.

Diphtheria in Pottsville.—Six rooms in the Benjamin F. Patterson Memorial School Building in Pottsville were closed by the school board May 25, all text-books and school appliances were ordered destroyed and all rooms fumigated because of diphtheria among the pupils. On May 24 a meeting was called by the council, school board and health authorities to take action because of the spread of this disease and it was decided that new sewers should be built to take the place of open ones in some parts of the town and that a sewage disposal plant should be established.

Philadelphia

Essington Hospital Opposed.—Mayor Reyburn has opposed the sale of the Lazaretto property at Essington, for sanatorium purposes, as it is likely to become a valuable part of the city's harbor. It was desired by the board of health for use of children.

New Society of Ophthalmologists.—At a meeting held May 14, the Philadelphia Polyclinic Ophthalmic Society was organized. Dr. Wendell Reber was elected president and Dr. Joseph L. McCool secretary, and Drs. William Campbell Posey, William M. Sweet and William Zentmayer were elected the executive committee.

Gifts for Jewish Charities.—At the annual meeting of the Federation of Jewish Charities of Philadelphia, on May 11, the report showed that the sum of $138,300 had been allotted to twelve charitable institutions during the fiscal year. Among the institutions receiving gifts were: Jewish Hospital Association, $32,000; Jewish Foster Home, $22,000; Jewish Maternity Association, $9,500; National Jewish Hospital for Consumptives, $3,000.

Jewish Sanatorium Report.—The second annual meeting of the Philadelphia Jewish Sanatorium for Consumptives, Eaglesville, was held at the institution, May 7. The report for the year showed that 111 patients had been admitted to the institution and 90 had been discharged. Of those treated, 80.9 per cent. had been cured. The total income for the year was $25,000. The following officers were elected: President, Louis Gerstley; vice-presidents, Dr. Isaac Leopold, J. H. Louchheim and B. E. Block; secretary, Dr. Abraham J. Cohen, and treasurer, Morris Apt.

TEXAS

New Hospital Opens.—The new hospital of the Southern Pacific System, Houston, was opened May 27.

Diploma Mill Dean Sentenced.—It has been reported that Dr. J. William Decker, dean of the diploma mill known as the Gate City Medical College, located at Dallas, Texas, has been given a penitentiary sentence for using the mails to defraud.

Lepers in Texas.—The State Health Department has had made a list of the lepers now in the state of Texas, who number 30. Of these 11 are reported married and 9 single; 10 are severe cases, 2 medium and 6 mild; 20 are said to be Americans and 2 Mexicans; 16 are male and 6 female. As to location, 11 are in Galveston, 8 in San Antonio, 3 in Dallas, 3 in Sourlake and 1 each in Liberty, High Island, Del Rio, Comfort and Austin. They vary in age from 13 to 68 years.

Desire Texas National Park.—At its recent meeting the house of delegates of the State Medical Association of Texas passed a resolution in which it stated that the Panhandle of Texas is a healthful country and that the Palo Dura Canyon is a most beautiful and wonderful natural creation worthy of national recognition and preservation, and that it was the sense of this body that the Congress of the United States should take steps toward the creation of a national park and health resort at this spot.

Personal.—Dr. Frank C. Beall has been elected secretary of the faculty of the Fort Worth University medical department, vice Dr. William R. Howard. Dr. Robert B. Grammar has been elected vice-president of the board of directors and Dr. Frank D. Gray has been elected a director, vice Dr. Ira C. Chase.——Drs. Charles C. Jones and Thomas G. Calhoun suffered severe losses in a fire in Tenaha, April 29.——Dr. George H. Lee, Galveston, fractured his arm, April 19, while cranking his automobile.——Major Thomas B. Fryar, N. C., N. G., Tex., Corsicana, has been designated to attend the maneuvers on the Mexican frontier.——Dr. Robert L. Hall, Terrell, has been reelected health officer of Kaufman County.

UTAH

Personal.—Dr. Perry G. Snow has been appointed professor of anatomy in the state university, vice Dr. John Sundwall.——Dr. Charles G. Plummer, Salt Lake City, who has been seriously ill with septicemia, has recovered.——Dr. Howard P. Kirtley, Salt Lake City, has been placed in charge of the free dispensary of the Volunteers of America, Salt Lake City.

GENERAL NEWS

Sioux Valley Physicians to Meet.—The next meeting of the Sioux Valley Medical Association will be held at Sioux Falls, S. D., July 20, under the presidency of Dr. Prince E. Sawyer, Sioux City, Iowa. The membership of this society is made up of physicians from South Dakota, Minnesota, Nebraska and Iowa.

Canal Zone Sanitation.—The report of Col. William C. Gorgas, chief sanitary officer of the Isthmian Canal Commission, for March shows that there were 43 deaths from all causes among employees, of which 27 were from disease and 16 from violence, equivalent to a respective annual average death rate per thousand of 6.76 and 4. The annual average death rate per thousand for whites was 3.88 and for blacks 7.76, a substantial reduction as compared with March, 1910.

Confederate Surgeons Meet.—The annual meeting of the Association of Medical Officers of the Army and Navy of the Confederacy was held in Little Rock, Ark., May 17-18, and the following officers were elected: president, Dr. William F. Beard, Shelbyville, Ky.; vice-presidents, Drs. Carroll Kendrick, Kendrick, Miss.; John B. Bond, Little Rock, Ark.; Clarence J. Edwards, Abbeville, La.; and James D. Croom, Mexton, N. C.; and secretary and treasurer, Dr. A. Augustine Lyon, Nashville, Tenn.

Pure Water Association.—The National Association for Preventing the Pollution of Rivers and Waterways met at Johns Hopkins University, May 6. The chairman referred to Senate Bill No. 640, New York, entitled "An Act to Amend the Public Health Law in Relation to the Distribution of Sewage and Manufacturing Wastes into the Waters of the State," as a general form for a species of standard bill for uniform legislation in the various states. A committee of organization was appointed to formulate the aims and objects of the association and to draw up a plan of organization. This committee is composed of Drs. Henry M. Bracken, St. Paul, William H. Welch, Baltimore, Lt.-Col. Jefferson R. Kean, M. C., U. S. Army, and Messrs. Calvin W. Hendrick, Baltimore, and Rudolph Herring and H. de B. Parsons, New York City.

Tropical Medicine Meeting.—The eighth annual meeting of the American Society of Tropical Medicine was held in New Orleans, May 18-19, under the presidency of Dr. William S. Thayer, Baltimore. After the first morning session, luncheon was served at the refectory on the campus of Tulane University, and at the afternoon session leprosy was discussed and Dr. Charles W. Duval, New Orleans, demonstrated cultures of the *Bacillus lepræ* in his laboratory. The second morning session was devoted to pellagra, and on May 20 an excursion was taken to the leper colony at Indian Camp. The following officers were elected: president, Dr. Joseph H. White, U. S. P. H. and M.-H. Service; vice-presidents, Drs. Judson Daland, Philadelphia, and Richard P. Strong, Manila, P. I.; secretary, Dr. John M. Swan, Philadelphia; assistant secretary, Dr. Allen J. Smith, Philadelphia; treasurer, Dr. Charles Lincoln Furbush, Philadelphia; and councilors, Drs. Ramon Guiteras, New York City, and Charles C. Bass, New Orleans. A committee was appointed to arrange for a congress of tropical medicine at the Panama Exposition, consisting of the incoming president and Drs. George Dock, St. Louis, and William H. Welch, Baltimore, and S. Creighton Wellman, Oakland, Cal. It was decided that the next meeting of the society be held at the same place as the American Medical Association and on the day before that meeting.

Army Medical Corps Examinations.—The surgeon-general of the army announces that preliminary examinations for the appointment of first lieutenants in the army medical corps will be held July 10, and September 5, at points to be hereafter designated. Full information concerning these examinations can be procured on application to the "Surgeon-General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be between 22 and 30 years of age, a citizen of the United States, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, of good moral character and habits, and shall have had at least one year's hospital training, after graduation. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received in order to lessen the traveling expenses of applicants as much as possible. The examination in subjects of general education (mathematics, geography, history, general literature and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School. In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the adjutant general at least three weeks before the date of examination. Early attention is therefore enjoined on all intending applicants. There are at present sixty-one vacancies in the medical corps of the army.

FOREIGN NEWS

Tribute to Aged Physician at Nice.—The Italian *Policlinico* states that there is an endowment at Nice for bestowing small prizes annually on persons who have distinguished themselves particularly in "works of kindness and charity." Among the recipients at the recent distribution of the prizes last month was Count G. Naldi, dean of the physicians at Nice, aged 91.

Date of International Dermatologic Congress.—We are informed from Rome that the date of the International Dermatologic Congress, which is to convene at Rome this fall, has been advanced one week, so that the opening day will be September 18. The secretary general is Dr. G. Ciarrocchi, 5, Piazza Grazioli, Rome.

Metchnikoff Goes to Southern Russia to Study the Plague.—The plague has been endemic in Astrakhan for some months although it seems to have been kept under comparative control. The cable states now that Metchnikoff has gone to this point to study how the bacilli of the plague live during the summer when the plague disappears and whether they are the guests of certain animals or are carried over from season to season in attenuated human cases. Until these questions are answered, he says, it will be impossible to control the plague effectually.

Biennial Gathering of Spanish Obstetricians.—The meeting convened at Madrid April 28 and the royal palace was thrown open to the members for a reception, the king and queen taking a special interest in this branch of medical science. During the meeting by-laws were adopted founding a national association for obstetrics, gynecology and pediatrics, of which Dr. Fargas was elected president and was tendered a banquet. The occasion was hailed as an onward stride in the "movement for collective fraternity between the members of the medical profession." Dr. Fargas is professor of gynecology at the university of Barcelona.

LONDON LETTER

(From Our Regular Correspondent)

London, May 20, 1911.

Great State Insurance Scheme Against Illness and Unemployment

Before a crowded and sympathetic House of Commons Mr Lloyd-George, Chancellor of the Exchequer, introduced a bil "to provide for insurance against loss of health and for th prevention and cure of sickness and for insurance agains unemployment." This bill, which has been promised for som time, 's the most important of all the measures of "socia reform" to which the government is pledged and far surpasse any form of state insurance in existence, including the Germa scheme of Prince Bismarck, on which it has been to som extent modeled. The main difference is that the latter doe not insure against unemployment. At present only a smal proportion of the workers (about 6,000,000) are insure against illness (by the friendly and other societies) and a insignificant portion against unemployment. Those who stan most in need of insurance make up the bulk of the uninsure for the reason that they cannot afford to pay for it. Indeed about a quarter of a million of policies lapse every yea because the insured cannot keep up their payments. In th German scheme the workman contributes according to hi wages from 7 to 20 cents a week and the benefits vary accordingly. But the benefits of the lower class are too small for thi country and it has been decided to establish one scale of benefits for all classes, though the contributions are reduced fo those earning low wages. The contributions will be 8 cents week for men and 6 cents for women, but men who earn les than $4 a week will pay only 6 cents and those earning $3 o less 4 cents; while women who earn only $2 will pay 2 cent The cost of the insurance will be provided from three source —contributions from the workers, the employers and th state. An employer will pay 6 cents a week for each employe and the state will pay 8 cents, but in the case of workme earning the lower wages mentioned above the employer mu also provide the deficiency in the workman's contribution

The reason given is that he profits by the cheap labor, but Mr. Lloyd-George appears to have ignored the economic fact that low wages do not necessarily mean cheap labor. Insurance will be compulsory for all employees whose incomes are below the income tax level ($800 a year). There will also be a voluntary section for those who are not working for an employer but are engaged in some regular occupation and are mainly dependent on their earnings for a livelihood, such as the village blacksmith. It is anticipated that there will be 9,200,000 men and 3,900,000 women in the compulsory class and 600,000 men and 300,000 women in the voluntary class.

MEDICAL BENEFITS

The benefits include medical attendance in illness. At present when a workman falls ill he runs up a bill with a doctor which he tries to pay, with his other bills, when he recovers, but often he is unable to pay. Under the insurance scheme the payment of the doctor is thus guaranteed. It is thought that this will lead to a great improvement in the doctoring of poor people. In the friendly societies physicians are paid a capitation fee of $1 per annum for attendance and medicine in case of illness, but this is not considered by the profession sufficient and quarrels are always taking place with the societies. It is contended that proper attention and expensive drugs cannot be provided for the money. In the state insurance scheme it is proposed to pay the physician more than the friendly societies have done, but the amount has not been fixed.

Another new departure is that the prescribing of drugs is to be separated from dispensing of them. The medicines will be dispensed by pharmacists, with whom an arrangement will be made. The object is that there shall be no inducement to the doctor to withhold expensive drugs should they be required. For women there will be a benefit of $7.50 in maternity cases to cover nursing and medical attendance. Another branch of medical benefit is assistance to the antituberculosis campaign. There are about 500,000 persons suffering from tuberculosis, which causes a great burden on the friendly societies. Between the ages of 14 and 55 one out of every three deaths is due to tuberculosis. At present there are only 4,000 beds in the sanatoriums for tuberculosis—a totally inadequate number. From the insurance fund $7,500,000 will be set aside for the purpose of building sanatoriums. For their maintenance a contribution of 24 cents for every insured person will be made, and in addition the state will contribute 8 cents. This will amount to about $5,000,000 a year. The sick allowance for insured persons will be $2.50 a week for three months, and after that $1.25 for another three months, but in the case of tuberculosis $2.50 will be paid for the whole six months. If a man is broken down altogether there will be a permanent disablement allowance of $1.25 as long as he is unable to earn a living in any way. For women the allowance will be $2 for the first three months and $1.25 afterward. If illness is due to a man's misconduct he will receive no sickness allowance, but will be entitled to medical treatment. Persons under the age of 16 will receive no sick pay, but will get the benefit of medical attendance. As in the German scheme, the funds will be collected by means of stamps on a card given to the workman.

PREVENTION OF MALINGERING

In the distribution of the benefits it is proposed to make use as far as possible of the well-organized and well-managed friendly societies. There will be a real check on malingering. Physicians' certificates are considered no check, but the members of a society naturally object to being swindled and will, as formerly, act as a check. The residue of the men who do not belong to a society will be collected in a body called the post-office contributors. As most of them will be uninsurable lives they will not be paid the same benefits as in friendly societies, but they will be a dwindling body, for in future men will enter the insurance scheme at the age of 16, before they have developed any serious disease. At present there will be an age limit of 45 years at which men can join the scheme at the ordinary rates; above this age they must pay increased contribution.

With regard to the finance of the bill it is estimated that within the first year the sum paid by all classes of contributors will amount to nearly $100,000,000, of which the employers will contribute $45,000,000 and the employees $55,000,000. The cost to the state will be about $23,000,000.

As stated, the entirely new feature of the bill is insurance against unemployment. On the Continent of Europe attempts have been made to do this, but they have been mostly failures because they are on the voluntary system. It has been decided that this insurance must be on a trade basis, because unemployment fluctuates according to trade. A beginning will be made with the more precarious trades—the engineering and building. Here there is not the same basis for actuarial calculation as in sickness and the proposals are therefore tentative. It is proposed that the workman and the employer will each pay 5 cents a week and that the state will pay a fourth of the total cost. There will be an abatement for employers who pay for their workmen by the year, which is an encouragement to constant employment and a discouragement to casual. Payment will not be made to a workman who is dismissed for misconduct or who is out of work through a strike or lockout. Relief will be given for unemployment due to fluctuation in trade. Two dollars a week will be paid, but no man can draw more than one week's pay for five weeks' contribution, so that a real loafer will drop out. This scheme will apply to 2,400,000 workmen.

No scheme such as this has ever been previously attempted. It appeals to the imagination of everyone and seems to have been received at first with unanimous approval and even enthusiasm by the whole press of the country, which includes Mr. Lloyd-George's most bitter opponents. It is the most far-reaching and deep-reaching project of social legislation ever atempted in any country, democratic or other.

CONSEQUENCES TO THE PROFESSION

As to its bearing on the medical profession, this bill is fraught with such grave consequences that it has aroused wide-spread apprehension. It involves the converting into contract practice of the treatment of all persons employed for a wage between the ages of 16 and 65 whose income is below $800. This comprises the greater part of the male population of the country and a considerable number of females. It is estimated that the total number of persons involved constitutes several million—the whole of the working class and a considerable portion of the lower middle class. There are very few doctors whose practice does not consist largely of this element of the population and many whose practice consists almost entirely of it. All that remains to them of private practice is the children below the age of 16 and the women, married or otherwise engaged, who do not work for a wage. Now contract practice has never been regarded with favor by the profession, and disputes are always occurring with the friendly societies in consequence of the low rate of remuneration.

The profession, both individually and through its various organizations, is showing great activity. The Royal College of Surgeons has petitioned the government to delay the medical provisions of the bill for a year, a committee of the British Medical Association has interviewed Mr. Lloyd-George, chancellor of the exchequer, on the subject. Special meetings of the divisions of the association have been called to consider the bill. While the physicians admit the value of the bill in regard to the benefits it confers on the working classes they think that if it does not receive important modifications it will inflict irreparable damage on the profession. Mr Lloyd-George has given personal assurances to the medical press with regard to the capitation payment. He has provided an annual sum of $21,000,000 for the provision of medical attendance, including drugs, dressings and appliances. The calculation is that this will permit a capitation fee for the doctors of $1.50 per head for each person insured. The amount will be increased on the advice of the central insurance office in districts where sickness is excessive. Moreover, the sum of $5,000,000 will be provided annually for the maintenance of sanatoriums, thus removing from the scope of domiciliary treatment phthisical patients who would otherwise make serious calls on the sum available for domiciliary medical attendance. The capitation payment of $1.50 so far is satisfactory, as the ordinary capitation grant of the friendly societies is only $1. However, there are several counterbalancing elements. Members of the friendly societies undergo medical examination before admission and therefore are physically selected. Under the bill all will be eligible. Again, in the friendly societies members are not entitled to attendance if the illness is due to their own misconduct; under the bill they are.

A great evil in connection with the contract practice of the friendly societies is that it places the doctor under the control of a body of ignorant and narrow-minded persons. To this the profession has objected quite as much as to the rate of remuneration. The wide-spread extension of this tyranny under the bill is viewed with dismay. From the standpoint of the workman it is also an evil that he should be deprived of all choice and compelled to accept the services of a particular doctor. In France and Germany, where under the insurance scheme doctors are under the control of committees consisting of employers and employees, this compulsion has aroused great dissatisfaction. It is strongly felt by the profession here that in the interests of the physician as well as of the workman free choice should be allowed. Mr. Lloyd-George has recognized the desirability of this and looks favorably on the institution of a wide panel of local doctors willing to serve.

A calculation has been made as to the effects of the bill on the incomes of doctors. There are 30,000 physicians in the country. The number of persons in receipt of incomes over $800 (the limit of income above which the bill does not apply) is 596.380. This allows, in round numbers, twenty per doctor. Taking $50 as the average expenditure per family for medical attendance this allows each doctor $1,000. If the remainder of the population pay at the capitation rate of $1.50 the pay received for them would be $1,800 per doctor per annum. In addition an average of $250 can be put down for appointments to infirmaries, schools, etc. The total is $3,050. For this the country doctor may have to travel as much as 10,000 miles in the year, a remuneration of about 30 cents per mile, the same as a job master gets for a horse and trap and an uneducated man to drive. Nothing is allowed for medical skill or knowledge or the interest on capital expended.

PARIS LETTER

(From Our Regular Correspondent)

Paris, May 12, 1911.

Physicians and Classical Studies

For some years there has been a continually increasing tendency to sacrifice the studies of Latin and Greek in secondary instruction in France. This tendency has called forth strong protest from the medical profession. The Société médicale du XIV-e arrondissement de Paris has just passed a resolution requesting all medical organizations to make a unanimous stand to preserve the traditions of classic culture on which the dignity and the authority of a physician depends.

Unforeseen Consequence of Prosecution for Illegal Practice of Medicine

The Syndicat médicale de Dunkerque has just prosecuted for illegal practice of medicine a woman practicing midwifery who carried puerperal fever. As the government could not be persuaded to take the initial action, the *syndicat* undertook it as civil party, and the woman was condemned. The outcome was very curious. The woman was insolvent and the government refused to imprison the woman, on the pretext that she was old, although the *syndicat* offered to pay the expenses of her maintenance in prison. The *syndicat* was therefore obliged to pay the expenses of the prosecution ($46, or 230 francs), and the result was *nil*, for the woman continued to practice her calling in defiance of the judgment which inflicted no punishment. It would seem desirable to have such a carrier of infection prosecuted for manslaughter by the family of the victim; a severe prison sentence would certainly be obtained.

Use of Copper Pipes to Distribute Drinking-Water

The Council of Public Hygiene and Salubrity of the Seine has just been called on to pronounce with regard to the harmfulness or otherwise of use of copper pipes for drinking-water. Dr. Armand Gautier, professor of chemistry at the Faculté de médecine, who was charged with the investigation, concludes, and the council agrees with him, that the substitution of pipes of red copper for ordinary lead pipes has no disadvantages. The experiments made by Toussaint, Burq and Galippe, on themselves and others, and repeated by M. Gautier, have shown that food, even acid food, may be safely eaten, even though it may have cooled in untinned copper vessels, and that such vessels may be used in the kitchen without danger.

Reconstruction of the Hôtel-Dieu of Lyons

M. Herriot, mayor of Lyons, has just laid before the Académie de médecine the plans for the new hospital which the city of Lyons proposes to build. There are to be 1,300 beds. All the university clinics are to be transferred thither. The following principles are to be carried out: isolation of pavilions; separation of the septic and aseptic cases in the surgical service; numerous isolation chambers in each service for dying and noisy patients, etc.; annexes (dining-rooms, rest rooms, open-air galleries, etc.); modern installations for application of the recent methods in treatment (mechanotherapy, physiotherapy, hydrotherapy, permanent baths, etc). The hospital will occupy about 40 acres (16 hectares).

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, May 11, 1911.

Personal

Professor Filehne, director of the pharmacologic institute at Breslau, has resigned his position.

Prof. Heinrich Braun, director of the university surgical clinic at Göttingen, died suddenly May 9, from heart disease, at the age of 64. He received his anatomic and physiologic training at the University of Giessen, and in 1874 devoted himself to surgery, being assistant until 1884 at the surgical clinic and policlinic at Heidelberg. In 1873 he joined the faculty and in 1878 he became professor extraordinary. In 1884 he was called to Jena as regular professor, and from there in 1888 to Marburg. In 1890 he went to Königsberg and from there to Göttingen. He has produced a large number of articles on the most various topics in surgery.

Annual Meeting of German Medical Association

This year's session of the German medical league (*Deutscher Aerztetag*) will occur at Stuttgart, June 23 and 24. Its transactions are likely to attract especial attention, for the important question is to be discussed as to what attitude the German medical professional organization, the *Aerztevereinsbund*, will take toward the new imperial insurance law. There is no doubt that the law will be adopted in the form in which it has been returned by the committee, and that the essential demands of the medical profession will not be complied with. The *Aerztevereinsbund* passed a resolution two years ago that the German medical profession would not be satisfied with the imperial insurance law unless the demands formulated by the association were incorporated into the law in their entirety and without modification, and that in case this was not done the physicians would proceed to help themselves. This self-help, however, can only result in an impediment to the execution of the law and there is no question but that the extension of the social insurance contemplated by the legislature will be largely nullified by such opposition. It can only be surmised what steps the government will take to meet such an opposition to a law which it has sanctioned. It may be regarded as beyond question that the governmen will undertake to overcome the resistance of the physicians. From all this it is easily seen how serious a situation confronts the German medical profession. It will require the greatest circumspection on the part of their leaders to avoid bringing on a conflict which will lead to a marked deterioration in the economic conditions of German physicians and which possibly may finally end in defeat.

International Exposition of Hygiene in Dresden

The international exposition of hygiene at Dresden wa ceremonially opened in the presence of the king of Saxony o May 6. Although as is the rule with exhibitions all th preparations are not yet completed, it is the general impressio of those who have so far visited the exposition that th arrangements are remarkably well adapted to the instructio of the public and the advancement of public and privat hygiene.

Twenty-Eighth Congress for Internal Medicine

As usual the congress for this year on internal medicine me at Wiesbaden in the latter part of April. The president wa Professor Krehl, the Heidelberg clinician. As a result of th rule adopted last year and a strict business administratio it was possible in the four daily sessions to dispose of nearl 100 papers. Each speaker was limited to twelve minutes an each participant in the discussion to five minutes, except th addresses on the first day to which were allowed forty mi utes each.

THE DIATHESES

The chief topic on the order of the day was "The Diatheses The addresses were by the Berlin clinician, Professor Hi the Munich pediatrist, Professor Pfaundler, and the Bas dermatologist, Privat-docent Bloch. The object was to pr sent the established facts and a criticism of the views, esp cially prevalent in France, regarding this general patholog conception, which is still regarded with a good deal of skept cism in Germany. His considered the history of opinion o this subject and discussed diatheses in internal medicine, sa ing that clinical experience compels us to recognize a relatio ship between certain groups of diseases apparently complete separated, and suggests a special pathologic basis for the Gout, diabetes and obesity stand in a mutual relationship each other. We see that they appear in individuals and oft in families, either simultaneously or successively, and oft also in connection with arteriosclerosis, contracted kidne calculus formation, skin diseases, disturbances of digestio migraine and other nervous affections. There are always constitutional disturbances. As a rule, a hereditary predisposition is evident. Their prominent symptoms seldom exhibit themselves before the second or third decade, as they remain latent until that time. Still this latency is only apparent, for already in early childhood we notice prodromal symptoms and it is possible to make a prognosis in regard to certain parents on the basis of the health conditions of their offspring, especially abnormal tendencies to fat accumulation or emaciation, enuresis, nervous pain, inclination to frequent vomiting or to frequent fever or catarrhs of the respiratory and digestive apparatus. With puberty some symptoms become less prominent and others come to the front. In later life, obesity, diabetes or gout appear. Among the French, for as much as fifty years, such a predisposition has been recognized and called "arthritism" or the "arthritic diathesis." Among the Germans, during this period, clinical research has taken a different direction, while the French have retained more sympathy with ancient medicine. His reviewed the history of medicine from the time of Galen and showed how even when pathologic anatomy was flourishing, clinicians were still endeavoring to satisfy themselves with single clinical pictures as constitutional. Then pediatrics furnished new material and dermatology added to it. In Germany the idea of constitutional tendencies was revived especially through the efforts of O. Rosenbach, who called attention to the necessity of taking the functional disturbances into consideration in addition to the anatomic changes. The theory was further developed by F. Krans and it was placed on a theoretically very acceptable basis by Martius of Rostock. His remarked in conclusion that we must depend especially on chemical investigation for the actual explanation.

DIATHESES IN CHILDREN

Professor Pfaundler discussed diatheses in pediatrics. By diathesis is meant a preparation for disease, a readiness for the appearance of certain diseases and groups of diseases. The presence of such predisposition is observed with especial clearness in children, for certain children sicken more readily than is to be expected from their age and character, although they are living under the same conditions as other children. The short period of time between birth and the appearance of the disease makes possible also a good supervision and the exclusion of diseases depending on external influences. The first children's disease which gave occasion for pondering this theme is scrofula, for the occurrence of which we now regard two elements as necessary, constitution and infection. We see that the tubercle bacillus alone cannot produce scrofula; the infection must attack an organism of a certain character which has been termed by Czerny, of Strasburg, the exudative diathesis. In addition to scrofula or the exudative diathesis there is an entire series of diathetic predispositions among children, such as the condition which we designate as the *status thymicolymphaticus*, infantile arthritism, and others. We recognize the condition of myxedema in which a series of lesions occur among which that of the thyroid gland is to be regarded as central. So the combinations of disease phenomena which interest us are relatively clear. One thing is quite striking: these combinations in certain cases affect especially the organs derived from the mesenchyma, the nonepithelial portions of the mesoderm. A whole series of questions are suggested by this fact: To what extent is the predisposition congenital? Did it first develop in the uterus or did it have its origin in the parental germ, or is it a genuinely inherited predisposition arising from injury to the germinal tissue affecting a long series of ancestors? Research on these questions is still scarcely blocked out. Pfaundler's assistants have collected data in regard to the health of the brothers and sisters of children with these diatheses and those of healthy children with the result that diathetic predispositions were found in the former six times as often as in the latter. But it is difficult to collect similar data in regard to the parents, and quite impossible in regard to the grandparents in consequence of our hitherto faulty genealogic investigations. The great variability and the multiplicity of the grouping of the individual elements indicating diathetic predisposition are remarkable. With reference to this, Pfaundler has constructed a series of tables based on numerous investigations. Further explanations may be expected from functional tests, such as those instituted in Berlin by Finkelstein on the tolerance of nourishment.

DIATHESES IN DERMATOLOGY

The last speaker, Bloch, dealt with diatheses in dermatology. A large number of diseases are observable at various periods of life which must be regarded not as simple organic diseases, but as the expression of a common constitution. Some help to the understanding of these may probably be obtained by the investigations on chemical allergy or anaphylaxis and the behavior of the organism toward foreign albumins. It is now known that in many cases a foreign albumin may provoke severe symptoms of poisoning and some of these have a striking similarity to those observed in diatheses.

THERAPEUTICS IN THE DIATHESES

Mendelssohn, of Paris, gave an account of the present status of the arthritism question in France and Armstrong, of London, reported on the radium treatment of metabolic diseases. His expressed doubt with reference to the permanency of the asserted successes. Linser, of Tübingen, has cured a number of skin diseases, which may be classed as of the diathetic type, by means of injection of normal human blood serum. Pick, of Prague, endeavored to find some connection between the phenomena under discussion and the law of heredity. Starting with Mendel's law of heredity, he shows apparently a regular occurrence of certain distinguishing characters in the family genealogic trees. Finally, O. Hansen, of Christiania, reported the success of treatment of severe blood diseases with serum. A number of speakers described the production of diathetic symptoms by the action of certain chemicals. Reicher, of Berlin, has been able in diabetic patients of a certain class to reduce the quantity of sugar in the blood to one-half by the use of radium emanations, while in patients of another class the method was not successful. These are, however, only experimental findings from which as yet no conclusions as to therapy can be drawn. Kraft, of the *Weisser Hirsch* sanatorium, commented on the extent to which the preference of a meat diet over a vegetable diet leads to the reduction of the amount of salts in the body.

OATMEAL IN DIABETES

From the mass of other articles we can only note briefly a few of the most interesting. Professor Magnus-Levy of Berlin believes that the oatmeal cure in diabetes depends on a peculiar substance in the oat starch not yet more definitely characterized. This view was opposed by many of the speakers in the discussion, while others sustained it, but the value of the oatmeal cure itself was recognized for the most part.

ASTHMA

Stäubli, of St. Moritz and Basel, described the influence of the high altitude on asthma. He remarked that for the production of asthma various factors still partly unknown are responsible and the same is true with the influence of therapy. The mountain climate has long been recognized as a remedy which acts more favorably with younger patients. It is worthy of note that the action does not run parallel with the increase in height; in individual cases extreme heights are serviceable, but this is often not the case as, for instance, Davos with its fifteen hundred meters (5,000 feet) is too high, while a few hundred meters lower the asthma attacks disappear. A permanent cure is not always obtained but the general invigoration of the body by the long freedom from the attacks is of importance. The speaker also made some interesting statements regarding the unusual prevalence of asthma in certain families, but he does not consider the danger of inheritance of the disease as great enough to constitute a reason for advising an asthmatic patient not to marry.

PREDISPOSITION OF THE APICES TO TUBERCULOSIS

New light is shed on the question as to why the apices of the lungs are first attacked in tuberculosis by some experiments of Bacmeister, of Freiburg. Some years ago, W. A. Freund called attention to the fact that persons with so-called phthisical chests, generally from early youth, presented chests which were narrow and incapable of expansion in the upper part, chiefly because of insufficient mobility of the first rib. Notwithstanding the great extent of experimentation on animals and the countless numbers of guinea-pigs, rabbits, etc., which have been made artificially tuberculous, it has hitherto not been possible to produce experimentally a tuberculosis of the lung apices. Bacmeister passed a wire around the first rib in young rabbits with the result that the growth of the upper part of the chest was retarded relatively to the general growth and the lungs showed conditions quite similar to the habitus phthisicus in man. These rabbits were then infected artificially with tubercle bacilli, both by way of the blood channels and by inhalation. The latter experiments gave no result but the former produced a quite typical tuberculous affection of the apices of the lungs. Thus the affection of the apices followed after the glands first acted on had been infected.

CURATIVE INFLUENCES ON TUBERCULOUS LUNGS

Koeniger, of Erlangen, believes that he has established as the result of numerous observations the fact that tuberculous pleurisy, which not infrequently occurs as a complication of pulmonary tuberculosis, often exercises a favorable influence on this disease. This influence is to be referred partially to the fact that the lung at the affected point is compressed and kept quiet, but also to the fact of chemical action from the pleurisy. Bruns, of Marburg, has succeeded in immobilizing individual parts of the lung for therapeutic purposes by a new process. The former Marburg clinician, Brauer, obtained very good curative results in severe tuberculous processes by induced pneumothorax, filling the pleural cavity of the affected side with gas to such an extent that the lungs were prevented from movement and partly compressed so that the wound surfaces were in contact and cicatrization could thus take place. Further experiments have now also shown that by interrupting the circulation in part of the lung pathologic processes can be influenced; practically success was achieved in so-called bronchiectasis by ligation of the artery supplying a part of the lung. The supply of blood and oxygen gradually ceased and the affected region of the lung dried up. But tubercle bacilli depend on moisture for their development.

APPENDICITIS

Fischler, of Heidelberg, described disturbances of the large intestine which occur in the neighborhood of the appendix and may present the picture of appendicitis. Such are hypertrophy of the cecum and mobility of this portion of the intestines accompanied by symptoms, chronic catarrh of the mucous membrane and similar conditions. In these cases operation can be of no service but only appropriate dietetic and medical treatment. Professor Krehl, of Heidelberg, concludes from these observations that the time must soon come when our views in regard to appendicitis must undergo revision. In the first place the aim should be to develop finer diagnostic methods.

TEST FOR PANCREAS SUFFICIENCY

Winternitz, of Halle, has been seeking for methods of forming a judgment as to the activity of the pancreas. After thorough experiments he has found that a complicated compound of iodin, iodobehenic acid, is split into its constituents only by the juice of the pancreas, so that on the administration of iodobehen, the appearance of iodin in the urine and the amount excreted permit a conclusion as to the functional activity of the pancreas.

BILE IN THERAPEUTICS

Singer, of Vienna, reports experimental and clinical investigation which he has instituted in conjunction with Glaessner on the laxative action of the biliary acids. They could demonstrate a noteworthy function of the bile in promoting the peristalsis of the colon by injecting bile into the rectum of dogs and afterward also in man. These injections gave a prompt and thorough evacuation in from ten minutes to one-half an hour. Cholic acid was isolated as the active agent, which was effective in the form of suppositories and enemata. The chief seat of this action is in the colon.

THE RÔLE OF THE SPLEEN IN DIGESTION

The investigations of Prym, of Bonn, on the part taken by the spleen in the work of digestion are worthy of notice. He investigated the question whether the spleen has the influence which has been formerly claimed on the excretion of pepsin in the stomach. For this purpose he instituted a large number of animal experiments, in part of which he removed the spleen entirely and in part he inserted it under exact control beneath the skin of dogs. He reached the conclusion that the excretion of pepsin is independent of the spleen.

BLOOD-PRESSURE IN NEPHRITIS

Bittorf, of Breslau, allowed oil to flow into the renal artery and obtained thereby a marked rise of blood-pressure. From this he concludes that in nephritis mechanical obstruction in the small branches of the artery is the cause of the increased blood-pressure.

MECHANICAL PREDISPOSITION OF PARTS OF LUNG TO DISEASE

Engel, of Düsseldorf, gave a mechanical explanation for the fact that in infants pneumonia affects as a rule quite definite parts of the lung. The peculiar conditions of childhood occasion in the position of the ribs the existence of impressions on the lung tissue in which the lung is not so well supplied with blood and air as in other places. Inflammation of the lung begins quite regularly at these points, and it is remarkable that on the right side the corresponding places are in the apices, from which the inflammation gradually spreads downward; on the left they are the parts of the lower lobe in the neighborhood of the spinal column. Probably these inflammations in the child also afford an explanation of the fact that in the adult the first signs of pulmonary tuberculosis appear at the right apex.

NATURE OF GOUT

Gudzent, of Berlin, discussed the two forms of uric acid, one of which is not affected by our therapeutic measures to date. Investigations must now be made as to how far this form of the acid is responsible for the occurrence of gout. According to his results, probably the whole of our previous views regarding gout must undergo a revision.

SALVARSAN AND THE NERVOUS SYSTEM

Schreiber, of Magdeburg, described some nervous affections observed in the course of salvarsan treatment, and discussed the question whether these symptoms were due to the action of salvarsan or of the syphilis. So far, he says, no case has been learned of in which a toxic action of the remedy on the nerves could be demonstrated. In a case of arsenic poisoning often cited in this connection, the patient had previously been treated with various other arsenic preparations recognized as dangerous. In all the cases the disturbances were recurring manifestations of the syphilis which had been only apparently cured. The negative Wassermann reaction is no evidence against this conclusion in these cases. In forty patients it was possible to obtain a positive reaction with the cerebrospinal fluid while the test with the blood gave negative results. For early cases Schreiber recommends treatment with salvarsan as early as possible, then a course with mercury, and again a treatment with salvarsan.

EGYPT AS A HEALTH RESORT

Schieffer, of St. Blasien, places a very low estimate on th curative action of a stay in Egypt. In many respects h regards the climate of Egypt as injurious. Especially h recommends that before the trip the physical condition of th patient shall be very carefully investigated, for only th milder renal and pulmonary diseases can be favorably influenced. A physician who had practiced for many years in th desert stated that only of late years had there been opportunity to make scientific examinations on the spot. In part to be sure, they had had favorable results. Professor Kreh emphasized the importance of most careful clinical histories so far he knows of not a single case in which a serious diseas of the kidney has recovered in Egypt in which, in all probability, a cure might not also have been secured at hom Many a patient often spends his last dollars for a health tri to Egypt, but the physician must in the first place assum the responsibility of determining in such cases whether th patient shall make such a sacrifice.

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, May 9, 1911.

Bismuth Paste Praised

At a recent meeting of the Vienna Gesellschaft der Aerzt the method of using bismuth paste in treatment of certai surgical diseases was discussed, and the originator of th method, Dr. Beck of Chicago was present at the symposiu He was welcomed by the president and took part in the di cussion, in which all authors were unanimous on the meri of the bismuth paste, especially for treating fistulas a obstinate sinuses.

Eligibility of Foreign Members to the Vienna Laryngolog Society

The Vienna Laryngologic Society decided at its last mee ing to change its name to the Austrian Laryngologic and R nologic Society (Oesterreichische Laryngo-Rhinologische G ellschaft), and to permit its members to domicile themsel in any place of the world. Hitherto, ordinary members cou not continue their membership if they left Vienna, and ther fore a good many eminent specialists had to be refused admi sion. There is in nearly every important town of this emp at least one fully qualified rhinolaryngologist, who is now made eligible. Also foreign specialists, including German, French and American doctors, may now become members of the society, whose president now is Professor Chiari, head of the throat clinic of the Vienna General Hospital.

The Problem of Sexual Teaching in Schools

One subject has received much attention lately in our public and scientific press, which hitherto had been kept in the background from moral and other reasons—the enlightenment of children on the facts of propagation of life of animals and human beings. The realistic tendencies of modern times have drawn even the children into the whirlpool of these ideas and the necessity that girls especially should understand what it is impossible to hide from them has been a side issue of the movement termed "eradication of sexual diseases." Some years ago, the students on entering the university for the first time were handed a leaflet containing, in clear and instructive language, warnings against imprudence in sexual intercourse, and explaining the evils and dangers of gonorrhea and syphilis, both to the affected subject and to the offspring or wife. The next step was the instruction of the student before entering the university. In the higher classes of the preparatory schools, in which the pupils were between 16 and 18 years old, the teaching of anatomy gave a good opportunity for scientific instruction on this point. Such instruction was introduced into the gymnasia (schools equivalent to the preparatory schools) three years ago. Now, a group of teachers want the enlightenment on sexual problems to be given also to that vast number of children who leave school at the age of 14 and receive no further education thereafter. They justly point out that this class is more in need of knowledge on this subject, because from it the largest number of wage-earners are drawn, and because they are most subject to the dangers which threaten the ignorant. As an experiment, it has been decided to hand over the instruction on sexual subjects to the physician visiting certain schools, and it is left to his discretion to select the right moment for it. As a matter of fact, many teachers assert that in our country nearly all children at 14 know the leading facts of sexual matters. But the way they get their knowledge is often so demoralizing that a continuation of the present conditions must be prevented.

Marriages

Herman David Andrews, M.D., Buffalo, N. Y., to Mrs. Annie Lake Bird, at Niagara Falls., Ont., May 5.

Alexander E. Wrench, M.D., Montclair, N. J., to Miss Henrietta Bernasch of Brooklyn, May 10.

John W. Bronaugh, M.D., to Miss Ada Knox, both of Morinda, Okla., at Windsor, Mo., May 8.

Carmotte Ashley Cobb, M.D., to Mrs. Katharine Ogden Peck, both of Beaumont, Tex., May 3.

Frank W. Kidder, M.D., to Miss Irene Bonham, both of Los Angeles, Cal., May 10.

Deaths

Stanford Emerson Chaillé, M.D. dean of the faculty of Tulane Medical College; notable as a sanitarian, medical organizer and teacher; died at his home in New Orleans, May 27, from disease of the bladder, aged 80. He was born in Natchez; was graduated from the University of Louisiana, now Tulane University, 1853, and, after three years' study in Europe, returned and resumed his connection with his alma mater as demonstrator of anatomy, filling this position from 1858 to 1868, with the exception of three years during which he was surgeon and medical inspector in the Confederate service. From 1868 to 1908 he was professor of physiology, pathology, anatomy and hygiene in Tulane University, and from 1885 to 1908 was dean of the faculty. After fifty years' service, he retired in 1908 from active work in the college and was made emeritus professor and his golden jubilee was made the occasion of a notable celebration by the university. He was a member of the American Medical Association, American Public Health Association, and an honorary member of the College of Physicians of Philadelphia, and the Medical and Chirurgical Faculty of Maryland. Dr. Chaillé was a member and secretary of a commission appointed by congress in 1878 to investigate the cause of yellow fever, in the following year was one of the members and president of the Havana Yellow Fever Commission, and from 1885 to 1893 served as one of the seven civilian members of the National Board of Health. From 1857 to 1868 Dr. Chaillé was co-editor and proprietor of the *New Orleans Medical and Surgical Journal.* He was a voluminous contributor to the medical literature. Chief among his published works is that on "Origin and Progress of Medical Jurisprudence."

William Alfred Burgess, M.D. New York University, New York City, 1888; a member of the American Medical Association, and Association of Military Surgeons of the United States; first vice-president of the Wyoming State Medical Association; colonel and surgeon-general N. G., Wyo.; health officer of Cheyenne; a member of the local pension examining board; visiting surgeon to St. John's Hospital and attending surgeon to the Cheyenne Private Hospital; died at his home in Cheyenne, May 15, aged 46.

Verge Eugene Sweazey, M.D. University of Pennsylvania, Philadelphia, 1900; Army Medical School, Washington, 1902; who entered the medical corps of the army as lieutenant in July, 1901; and was retired with the rank of major, Dec. 27, 1910, on account of disability incident to service; died in Pasadena, Cal., April 16, from nephritis, aged 36.

William Appleton Rust, M.D. New York University, New York City, 1846; for ten years a member of the Boston School Committee; at one time a member of the Massachusetts legislature; a trustee of the Boston City Hospital and vice-president of the Boston Penny Savings Bank; died at his home in Brookline, Mass., May 15, from pneumonia, aged 87.

Horace Coleman, M.D. Medical College of Ohio, Cincinnati, 1849; surgeon of the 147th Ohio Volunteer Infantry during the Civil War; later a member of the local pension examining board of Troy, O., and an alderman of that city; for several years a resident of Washington, D. C.; died at his home in that city, May 12, from senile debility, aged 86.

William Frederick Gay, M.D. Tufts Medical School, Boston, 1899; professor of gynecology in the College of Physicians and Surgeons, Boston, and secretary of the Boston Medical Society; instructor in the Harvard Dental School, and a practitioner both of medicine and dentistry; died at his home in Boston, May 12, aged 41.

Richard Sappington, M.D. University of Maryland, Baltimore, 1851; and said to have been the oldest alumnus of that institution; one of the best known physicians and druggists of Baltimore; died at his home in Sunnyside, Baltimore, May 14, from senile debility, aged 84.

Emmanuel K. Deemy, M.D. New York University, New York City, 1860; Acting Assistant Surgeon, U. S. Army from 1862 to 1865; for many years a practitioner of Mechanicsburg, Pa.; died at the home of his son in Bellefontaine, O., May 15, from chronic nephritis, aged 76.

Michael Daniel Murphy, M.D. Bellevue Hospital Medical College, 1884; a member of the American Medical Association; president of the Middlesex County (Conn.) Medical Society in 1909-10; died at his home in Middletown, May 8, from heart disease, aged 53.

Emil H. Pohl, M.D. University of Oregon, Portland, 1893; a member of the American Medical Association; formerly professor of anatomy in Portland Medical College; died at his home in Fairbanks, Alaska, May 12, from cerebral meningitis, aged 41.

Stephen Harrison Griffith, M.D. University of Maryland, Baltimore, 1890; a member of the South Carolina Medical Association; who had recently moved to Greenwood; died at his old home in Gaffney, May 13, from heart disease, aged 44.

R. M. Reynolds, M.D. Philadelphia College of Medicine and Surgery, 1861; a veteran of the Civil War and for ten years thereafter an acting assistant surgeon in the U. S. Army; died at his home in Gypsum, Kans., April 25, aged 69.

William Perry Hager, M.D. Harvard Medical School, 1904; a member of the Massachusetts Medical Society and Northampton Medical Club; surgeon to the Dickinson Hospital, Northampton; died at his home, March 18, aged 36.

Frederick W. Kaiser, M.D. University of Alabama, Mobile, 1885; local surgeon at Flatonia, Tex., for the Galveston, Houston and San Antonio, and San Antonio and Arkansas Pass railroads; died at his home, May 13, aged 58.

Albert Henry Bill, M.D. Rush Medical College, 1875; of Cuyahoga Falls, O.; was instantly killed, May 9, in a collision between his buggy and a train on the Cleveland, Akron and Columbus Railway, aged 60.

Benjamin F. Crumrine, M.D. Medical College of Ohio, Cincinnati, 1876; a veteran of the Civil War; for twenty years a resident of San Antonio, Tex.; died at his home in that city, May 14, aged 66.

Thomas H. Beltz, M.D. University of Maryland, Baltimore, 1863; for more than thirty years a practitioner of York, Pa.; died at the home of his son in that city, May 11, from nephritis, aged 69.

Mary A. White, M.D. Northwestern University Woman's Medical School, Chicago, 1883; died at her home in Chicago, May 22, from arteriosclerosis, complicating chronic interstitial nephritis, aged 76.

Romania H. Palmer, M.D. Fort Wayne (Ind.) College of Medicine, 1882; University of Toronto, 1889; a pioneer practitioner of Harlem County, Neb.; died at his home in Alma, May 14, aged 72.

Andrew J. Rutledge, M.D. McGill University, Montreal, 1883; died at his home in Greenville, Cal., May 7, from the result of injuries received in an accident on the Indian Valley Grade, aged 55.

A. Grant S. Brubaker, M.D. University Medical College, Kansas City, Mo., 1899; formerly of Indianapolis; was found dead in his office in St. Joseph, Mo., May 15, from heart disease, aged 40.

William Renn Richards, M.D. University of Louisville (Ky.), 1902; for four years coroner of Floyd County, Ind.; died at his home in New Albany, May 10, from double pneumonia, aged 32.

Darius Cross Gee (license, Michigan, years of practice, 1903); for fifty years a practitioner of Centerville; died at his home in Ypsilanti, January 20, from senile debility, aged 82.

Edmund Childs Taylor, M.D. Willoughby (O.) University, 1837; for nearly sixty years a resident of Le Roy, N. Y.; died at his home in that place, May 8, from arteriosclerosis, aged 99.

John Smith Poyner, M.D. University of Nashville (Tenn), 1865; a member of the State Medical Association of Texas; died at his home in Thorp Spring, May 12, aged 77.

Garrett G. Hoagland, M.D. Jefferson Medical College, 1884; of Keyport, N. J.; a member of the Medical Society of New Jersey; died at Memphis, Tenn., May 11, aged 54.

John Richard Thomas Reeves, M.D. University of Maryland, Baltimore, 1858; a retired practitioner of Chaptico, Md.; died at his home, April 14, aged 78.

John A. Russell, M.D. Rush Medical College, 1877; died at his home in Chicago Lawn, Chicago, May 18, from cancer of the stomach, aged 60.

Duncan Dunbar McQueen, M.D. Manitoba (Man.) Medical College, 1895; died at his home in Winnipeg, May 6, from pneumonia, aged 45.

Christian J. Hartung, M.D. Rush Medical College, 1889; died at his home in Chicago, May 16, from hypertrophy of the liver, aged 54.

Joseph L. Webb, M.D. Eclectic Medical Institute, Cincinnati, 1871; died recently at his home in Beatrice, Neb., and was buried May 16.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

ERPIOL (DR. SCHRADER)

Report of the Council on Pharmacy and Chemistry

The original rules of the Council governing the acceptance of articles have recently been modified, particularly by adoption of Rule 10, which reads:

> "Unscientific and Useless Articles.—No article will be admitted which, because of its unscientific composition, is useless or inimical to the best interests of the public or of the medical profession."

In view of these modifications, the Council is reconsidering the articles already accepted with the view of determining their compliance with the rules as amended. In line with this the Council reconsidered Erpiol (Dr. Schrader), manufactured by the William S. Merrell Chemical Company, and from the evidence given below concluded that one of the constituents, gossypin, is inert and its use unscientific. The Council therefore voted that Erpiol (Dr. Schrader) be omitted from New and Nonofficial Remedies and authorized publication of the following report.

W. A. Puckner, Secretary.

In consequence of the more thorough scrutiny now given by the Council to the therapeutic value of the remedies admitte to New and Nonofficial Remedies, the Council has reconsidere Erpiol (Dr. Schrader), previously accepted for New and Nonofficial Remedies. Erpiol (Dr. Schrader) is the name applie to capsules containing apiol, ergotin and gossypin, which ar sold as an emmenagogue. The first two ingredients have recognized value in the treatment of diseases of the femal generative organs. The third, gossypin, is a preparation fro cotton-root bark, belonging to the somewhat indefinite class o pharmaceutical preparations known as resinoids.

Cotton-root bark (*Gossypii radicis cortex*, U. S. P.) ha been credited by some with pharmacologic and therapeuti properties, similar to ergot, especially in its action on th uterus; experiments on pregnant animals do not confirm thi view. Most authorities on gynecology either make no reference whatever to the drug or ascribe little or no value to it The preparations from the dried bark are inert.

From reports made to him, Professor J. U. Lloyd conclude (*Eclectic Med. Jour.*, 1876, xxxvi, 545) that a prime fluidextract of fresh cotton-root bark is an active therapeutic agen and deserving the attention of the medical profession, while tha of the dry bark is inert and worthless. The gossypin on th market is made from the dried bark.

Professor Lloyd, who is considered an authority on eclecti medicine, says: "Were it left to me to admit or exclude i by reason of its therapeutical position, I should exclude i because, in my opinion, it has never been demonstrated, i clinical practice, to be worthy of any therapeutic recognitio whatever."

As the available evidence indicates that gossypin is an ine preparation, Erpiol (Dr. Schrader) was considered in confli with Rule 10 and the Council has therefore voted that it b deleted from New and Nonofficial Remedies.

PERNICIOUS READY-MADE MIXTURES

As was stated last week in the report on Chichester Diamond Brand Pills[1] the promiscuous sale of drugs commonl reputed as having abortifacient action, is all too common. Th Australian Royal Commission,[2] appointed a few years ago t investigate the nostrum evil, came to the conclusion tha pharmaceutical manufacturing houses were largely responsib for the sale of abortifacients. The report of this commissio holds that ready-made emmenagogue pills are carried stock by these houses and it is but a simple matter fo irresponsible and criminally inclined persons to embark in th nefarious business of selling them. All that is necessary for such traffickers to order so many "No. —" pills from pharmaceutical manufacturing house and use the necessar boxes and labels. The commission referring to the ease wit which such products could be obtained, said, regarding th price list of an American manufacturer:

> "A whole page of the catalogue is filled with a list these homicidal preparations, offered at low prices. would hardly accord with public interests to publish copy of it; but the nature of the drugs, their deplorab consequences, and the absolute fatuity of taking the for the criminal purpose which is the ordinary cause their sale, cannot be too widely known. . . . They a commonly repacked and sold as secret medicines by pe sons who obtain a living by the traffic, and by pha macists."

The report further holds that it is a common thing t druggists to sell these ready-made pills over the count as they would sell a Seidlitz powder. While the Australi report mentions only one firm, the criticism applies to mo pharmaceutical manufacturing houses making pills or tablets. The following list taken from the catalogue of a pharmaceutical manufacturer, is typical of its kind:

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[1] The Journal A. M. A., May 27, 1911.

[2] Commonwealth of Australia: Royal Commission on Sec Drugs, Cures and Foods Report, 1907, I, 19.

39. Amenorrhea.
285. Emmenagogue, "A," Bonjean.
Emmenagogue Hobermann (721).
286. Emmenagogue, "B," Hooper.
287. Emmenagogue, "C," No. 4.
288. Emmenagogue, "D," Mutter.
Emmenagogue, Mutter, Improved (710)
Ergotin, Bonjean, 2 gr. (713).
Ergotin, Bonjean, 3 gr. (714).
Ergotin, Bonjean, 5 gr. (715).
294. Ergotin Compound, Goodson.

Should the firms who list these preparations be charged with the matter, their defense would be that all these many formulas for "emmenagogue pills" were made at the request of physicians, who prescribed them. While the defense is a weak one, nevertheless we believe that physicians should carefully refrain from prescribing such ready-made formulas. This applies particularly to preparations having therapeutically suggestive names, names which the public is quick to understand—or misunderstand—and to recommend for purposes not thought of by the prescriber. It is but another illustration of the general objectionableness of "ready-made prescriptions."

PRESS-CLIPPINGS AND NOSTRUM ENTERPRISE

Of the many charges that may be preferred against the "patent medicine" makers, lack of enterprise in obtaining prospective victims is not one of them. We have referred before to that brilliant stroke of advertising done by the exploiters of Purgen, who panegyrized their purgative on sheets of toilet paper. More recently two cases have been brought to our attention in which "patent medicine" makers have resorted to the use of the press-clipping bureaus, for lists of possible purchasers. The following news item appeared in the Brockton (Mass.) *Times.*

> "Mrs. Wm. Wilcox is at the Jordan Hospital, suffering from an attack of acute rheumatism."

This piece of news was garnered in by a clipping bureau and sent to one of its customers—the exploiters of the nostrum "Angeline." If its manufacturers are to be believed—which they are not—"Angeline will permanently cure acute and chronic rheumatism." So the Angeline booklet is sent to Mrs. Wilcox, evidently in the belief that advertising bread cast on the waters may come back after many days in the form of an order.

Raymond & Co., who sell "Raymond's Pectoral Plasters," also use press-clippings. A Sunday-school superintendent, of a small village in Virginia, recently received one of Raymond's "positive cures" for whooping-coughs, bronchitis, etc., with the following ingenious note:

> Dear Sir:—We noticed in the ——— *Journal* that Whooping Cough is interfering with the attendance of your school and are of the opinion that Raymond's Pectoral Plasters are not known in your vicinity, or this would not be the case. We wish you would hand the one inclosed to the mother of one of the little ones affected, that she may see for herself what they Accomplish. Then when you are both satisfied as to their Merit will you kindly advise us, on the inclosed card the name of the merchant in ——— who sells medicines of any kind that we may take up with him the sale of these Pectoral Plasters in your community.

Association News

THE LOS ANGELES SESSION

Additional Data About the Annual Session This Month

The Sixty-Second Annual Session of the American Medical Association will be held in Los Angeles, June 27 to 30. The Journal commenced to give information about it in February. In March there were full details of the railroad arrangements. The Los Angeles Number was issued May 20, devoting twenty-seven pages to a detailed and illustrated write-up. In that issue the programs of the sections were given. Additional information was published May 27, page 1589. The following additional announcements have been received:

MEDICAL ALUMNI REUNIONS AT LOS ANGELES

The usual class reunions will be held on Tuesday evening, June 27. The committee, through the local representatives of the various alumni, will arrange for the places of meeting and procure to the members the most reasonable rates for the dinners. A large register in charge of an attendant will be at the Bureau of Registration on the fourth floor of the Hamburger Building, Eighth and Broadway, where the alumni of the various colleges are requested to register. Members of the Association will confer a great favor on the committee by attending to this, as it will be impossible in any other manner to determine the number to be provided for by the caterers at the various reunion dinners. Information will be given by the registrar as to the places in the city where the reunions are held. It would greatly facilitate the work of the committee if the members who expect to attend reunions would at once notify the chairman by letter.

Andrew Stewart Lobingier, Chairman,
Committee on Section Entertainment and Alumni Reunions.
608 Helman Building, Los Angeles.

RED CROSS FIRST AID CAR

The American Red Cross First Aid Car will be at Los Angeles during the Annual Session. This car, engaged in teaching first aid to the injured in the various parts of our country, is devoted primarily to such instruction on the railroads, but at the various stops made opportunity is always taken to instruct employees in the various manufacturing plants and others. At Los Angeles we will be very glad to receive all members of the American Medical Association who care to visit the car. Its location will be announced later.

Charles Lynch,
Major, Med. Corps, U. S. Army, in Charge, First Aid Dept.

MEDICAL EDITORS TO MEET

The annual meeting of the American Medical Editors' Association will be held at the Alexandria Hotel, June 26 and 27, under the presidency of Dr. Joseph MacDonald, Jr. The annual banquet will be Monday evening at the same hotel. Further information can be obtained from Dr. MacDonald at 92 William Street, New York.

Correspondence

New Suture Material

To the Editor:—For a number of months I have been using, particularly in certain forms of plastic work, a new suture material to which my attention was first called by Dr. Gates, of Bucyrus, O. The material is enameled copper wire. This wire is used in electric work, is very cheap, and I have found it very satisfactory. I get it in two sizes, the smaller size taking the place perfectly of horsehair, while being in many respects much more satisfactory. I use it largely in cases in which I wish to secure accurate apposition of skin incision so as to avoid scar. I have also used the larger size in cleft palate work, using a shot to secure the ends of the wire, the shot not only holding the ends securely but in a large measure keeping the child from working his tongue against the roof of the mouth.

This wire is made by the Dudlo Manufacturing Company, of Cleveland, and it is so cheap that a dollar's worth will last for these purposes a long while. I have been using a larger size in some cases in closing the abdominal incision, but am not sure that it presents any advantages over silkworm-gut, except that it is materially cheaper.

J. F. Baldwin, M.D., Columbus, O.

The Round Ligament Operation

To the Editor:—In The Journal, May 20, is a letter from Dr. Raymond Turck, of Jacksonville, Fla., concerning the round ligament operation which has been under discussion. He makes therein a statement which may be construed as an insinuation that I heard of an operation performed by him in the Chicago Hospital during September, 1901, and immediately afterward published my paper on October 5.

It is rather curious that Dr. Turck should not have written this letter ten years ago. The explanation is simple. Dr. Turck has, within the last two years, developed an animus against me, for reasons which it is not necessary to go into here.

My first round ligament operation was performed on the living subject (Mrs. H., wife of an army officer) in the early part of April, 1901, in the Chicago Hospital (where Dr. Turck worked regularly). It was demonstrated to the staff of the hospital, by whom I was assisted, as an original procedure. I first conceived the idea in February and performed the operation in March on two bodies in the dissecting-rooms of Rush Medical College. During the following months I carried out the procedure several times in the Rush Medical Clinic and in the Presbyterian Hospital. These case-records are on file in the latter institution.

I wrote my short paper and made my "very crude drawing" during my August vacation. I did not publish it until October because I wished to examine my early cases occasionally to determine the results of the operation. At this period my usual procedure on cases of retroversion was Kelly's ventrosuspension. I did not abandon this operation until about three years later, after I had thoroughly tested my own operation, and had observed several patients who had successfully stood the test of pregnancy.

From Dr. Andrews himself, some time after my paper had appeared, I first heard that Dr. Frank Andrews had carried out a somewhat similar procedure. He had never published any account of it. From conversations which I have had with Dr. Andrews it is clear that he was the first to carry out the principle of the operation, though, not having made it public, he has no complaint against one who conceived it independently and first described it. Priority can be historically determined only by the evidence of publications.

As to Dr. English's letter in your same issue, I should like to point out that the operation is not meant to produce the result obtained by ventro-fixation or by the Alexander, Montgomery, Gilliam procedures or others of this variety. If it were so, his criticism would be good. I do not aim to suspend the uterus, or to draw it upward unnaturally, as is the effect of these operations. I aim merely at placing the organ in its natural anteverted position, trusting to intra-abdominal pressure acting on the posterior (upper) surface of the uterus to keep it there. Dr. Baldy has very satisfactorily elucidated this principle in his recent papers. If there is some degree of prolapse in addition to the retroversion, I always shorten the uterosacral as well as the round ligaments. If a surgeon wishes to suspend the uterus from the anterior abdominal wall, I advise him not to use my operation.

J. Clarence Webster, Chicago.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

FORMULARIES

To the Editor:—Please inform me where I can obtain the very best formulary now in print; and also a book of a general character, containing formulas for the manufacture of almost every compound known, both proprietary and otherwise.

V. J. Ward, M.D., Berlin, Ga.

Answer.—It is difficult to say which is the best formulary as that will vary with the purpose for which it is needed. In our opinion the "very best formulary" is "The Physicians' Manual of the U. S. Pharmacopeia and the National Formulary," published by the American Medical Association, price 40 cents. Information regarding patent or secret preparations is apt to be unreliable on account of the difficulties in making complete and accurate analyses of these preparations and because their secrecy enables their proprietors to change the formulas frequently. If the physician hopes to gain anything in his own practice by a knowledge of the composition of these medicines he is apt to be grievously disappointed, for the formulas, instead of testifying to rare knowledge of therapeutics, not in the possession of the average physician, usually call for ingredients, the therapeutic properties of which, if they have any, are well known to the medical profession. These properties are, however, usually so indefinite that they are little suited for use in any special case. It is an absurdity for a physician, after having given much time and skill to the exact diagnosis of a case, to apply a remedy which is equally suited to a dozen different, even if similar, ailments.

The following list includes the more prominent formularies:

Cumming: Formulary, L. S. Matthews & Co., 2623 Olive Street, St. Louis, $2.50 net.

Fenner: Complete Formulary, B. Fenner, Westfield, N. Y., $10 net.

Beasley: Druggists' Receipt Book, P. Blakiston's Son & Co., 1012 Walnut Street, Philadelphia, $2.50 net.

TEST FOR LEAD IN URINE

To the Editor:—Kindly describe a test for lead in urine which is reliable and which a general practitioner with limited technic and facilities could make in his office.

A. L.

Answer.—Any method of testing for lead in urine involves the evaporation of the urine and usually the passage of hydrogen sulphid, which processes give off highly offensive odors that the physician will hardly care to have in his office. The following is a reliable method but involves more apparatus than most practitioners possess.

A quart of urine acidified with acetic acid is evaporated to dryness and fused in a crucible with a little pure potassium nitrate until it becomes white. When the crucible is cool, dilute hydrochloric acid is added hot to extract the residue after ignition. The extract is then filtered and the filtrate treated with ammonia to alkaline reaction, to precipitate the phosphates and iron. Ammonium sulphid is added at the same time to throw down the lead and iron as sulphids. This deposit is washed three times by decantation with hot water; then water acidified with hydrochloric acid is added, and the whole allowed to stand until the next day. It is then filtered through a small filter and the residue washed. A little pure nitric acid is then added drop by drop to dissolve the lead sulphid left on the filter and to carry it through as nitrate. This filtrate is collected in a watch-glass, evaporated to dryness, and the final test made by adding a drop of water and a crystal of potassium iodid. A yellow precipitate denotes lead. (Peterson and Haines: Text-Book of Legal Medicine and Toxicology, 1904, ii, 388.)

The Public Service

Medical Department, U. S. Army

Changes for the week ended May 27, 1911.

Fisk, Owen C., lieut., on expiration of his present leave of absenc will proceed to the Army and Navy General Hospital, Hot Springs Ark., for observation and treatment.

Slater, Ernest F., M.R.C., now awaiting orders at New York City will proceed to Columbus Barracks, Ohio, for duty.

Roberts, William M., major, relieved from duty with the maneuve division, San Antonio, Texas, and will proceed to Fort Thomas, Ky. reporting on arrival to the adjutant-general of the Army.

Stanton, Samuel C., C.S., entered into contract for duty as attend ing surgeon, headquarters.

Heterick, R. H., M.R.C., left Fort Brady, Mich., on fifteen days leave of absence.

Crampton, Louis W., colonel, granted leave of absence for fou months, with permission to go beyond the sea, to take effect on hi relief from duty in the Philippines division.

Thomason, Henry D., captain, ordered to proceed to Raleigh an Asheville, N. C., to assist in the reorganization of the sanitar troops of the state.

Eliot, Henry W., M.R.C., now at Fort McKinley, Maine, i relieved from further duty in the Army transport service and wil report to commanding officer of that port for duty.

Vose, William E., major, granted leave of absence for two month and fifteen days, to take effect about July 15; ordered to proceed t Jackson Barracks, La., about July 1, 1911, for temporary duty, an after completion thereof, and on expiration of leave of absence, wi proceed to the Philippine Islands for duty.

Speissegger, Charles A., Jr., M.R.C., is ordered to active duty an will proceed to Fort Moultrie, S. C., for duty at that post; o return of Major Frank C. Baker, Medical Corps, Lieutenant Speis segger will stand relieved from further duty at that post and fro active service in the Medical Reserve Corps.

Powell, William A., captain, reports from detached duty wit troops to Fort McKinley, Maine, to leave of absence for ten days.

Bushnell, George E., colonel, promoted to, with rank from May 1, 1911.

Ireland, M. W., lieut.-col., promoted to, with rank from May 1, 1911.

Davidson, Wilson T., major, promoted to, with rank from May 1, 1911.

Kilbourne, Edwin D., captain, granted leave of absence for two months.

Bell, Leonard P., M.R.C., granted leave of absence to and including July 4, 1911.

Kean, Jefferson R., lieut.-col., will proceed to Los Angeles to represent the Medical Department at the sixty-second annual session of the American Medical Association in that city, June 27-30, 1911.

Roberts, William M., major, orders directing him to proceed to the Philippines Islands, June 5, is amended so as to direct him to sail from San Francisco July 5, 1911.

Medical Corps, U. S. Navy

Changes during the week ended May 27, 1911.

Rodman, S. S., surgeon, detached from the *Rhode Island* and ordered to the *New Jersey*.

Riggs, R. E., P. A. surgeon, detached from command of the naval hospital, Port Royal, S. C., and ordered to duty in connection with fitting out of the *Ohio* and to duty on board that vessel when placed in commission.

Rossiter, P. S., P. A. surgeon, orders of May 18 should read "naval hospital, Puget Sound, Wash.," instead of "naval hospital, Mare Island, Cal."

Thomas, G. C., asst.-surg., detached from the *Rhode Island* and ordered to the *Ohio*.

Malkin, G. M., A. A. surgeon, appointed acting assistant surgeon from May 18, 1911.

Kress, C. C., asst.-surg., detached from the naval medical school, Washington, D. C., and ordered to the *Celtic*.

Asserson, F. A., surgeon, detached from the naval hospital, Boston, and granted sick leave for four months.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 24, 1911.

Glennan, A. H., asst. surg.-gen., granted ten days' leave of absence from June 2, 1911.

Kerr, J. W., asst. surg.-gen., detailed to represent the service at the annual meeting of the American Association of Medical Milk Commissions to be held at Philadelphia, May 23-24, 1911; detailed to attend the ninth annual conference of State and Territorial Health Authorities with the Public Health and Marine-Hospital Service to be held in San Francisco, June 24-25, 1911; detailed to represent the service at the annual conference of State and Provincial Health Officers of North America, to be held in Los Angeles, June 30 to July 1, 1911.

Carrington, P. M., surgeon, directed to proceed to Vancouver and Victoria, B. C., on special temporary duty.

Nydegger, J. A., surgeon, relieved from command of the station at Pittsburg, Pa., and directed to proceed to the United States Marine Hospital at Stapleton, N. Y., and report to the medical officer in command for duty and assignment to quarters.

Anderson, J. F., P. A. surgeon, detailed to represent the service at the annual meeting of the American Association of Medical Milk Commissions to be held in Philadelphia, May 23-24, 1911.

Schereschewsky, J. W., P. A. surgeon, detailed to represent the service at a special conference on Conservation of Child Life to be held at Richmond, Va., May 22, 1911.

Bryan, W. M., asst. surg., granted ten days' leave of absence from May 21, 1911.

Stoddard, C. S., A. A. surgeon, granted one month and fifteen days' leave of absence from June 1, 1911.

Medical Economics

THIS DEPARTMENT EMBODIES THE SUBJECTS OF POSTGRADUATE WORK, CONTRACT PRACTICE, LEGISLATION, MEDICAL DEFENSE, AND OTHER MEDICOLEGAL AND ECONOMIC QUESTIONS OF INTEREST TO PHYSICIANS

PRESS BULLETINS ON HEALTH TOPICS

The value of newspapers as a medium of educating the people on public health topics is being widely recognized by medical and other scientific bodies, many of which, including the American Medical Association, send out regular press bulletins for the use of editors of newspapers. These bulletins contain announcements of public importance, abstracts of articles and editorials and news regarding new methods of treating disease or recent medical discoveries.

This work has also been taken up by a number of our state associations, notably the Colorado State Medical Society, which has for two years past maintained a press committee, the function of which is to supply to newspapers of the state short articles on disease and its prevention. The report of the press committee made at the last meeting of the state society recounts the work of the past year and is worthy of careful consideration by members of medical societies and of similar committees in other states. The report is, in part, as follows:

REPORT OF THE PRESS COMMITTEE OF THE COLORADO STATE MEDICAL SOCIETY

Written requests with assigned subjects were mailed to 189 members of this society. Replies were received from many, some refusals, others promises of papers later. About fifty-five complied with the request by sending in good, practical articles. This is a very good showing, when we consider that the work is only in its second year, and that most of those solicited were exceedingly busy members; but it is to these that we look always, as they are the ones who are most ready to sacrifice a few hours' rest or recreation for the good of the masses.

Of these fifty-five papers, fifty were revised, typewritten and published in the public press. Twenty were assigned to forty-eight weekly papers published in different parts of the state. These papers were first prepared in the form of proof-sheets, and were then mailed semi-monthly to the forty-eight weekly papers consenting to use the matter.

The other thirty papers were printed on the editorial pages of the Denver *Post*, the *Rocky Mountain News* and the Denver *Times*, one article a week in each of these papers. The papers, of course, were soon exhausted at this rate and as no more came in the work in these large dailies was of necessity abandoned, much to the disappointment of the editors of the press and of your committee.

The attitude of the press regarding this work, on the whole, is quite favorable, in some instances extremely so. Of course, it largely depends on the character of the matter submitted, and few professional men have the faculty of writing interesting articles for the layman. It is really difficult so to clothe a medical subject that it will be read with interest and understanding by the public. Every article had to be revised before it could be accepted for publication by the lay press. . . .

Of the 225 newspapers in this state that were written to regarding publication, fifty replied—forty-eight in the affirmative, while two requested pay for its insertion.

For this work the society appropriated $100 at our last meeting. Orders have been drawn, as will be shown by the treasurer's books, for the following items:

Postage	$ 25.19
Stationery and return postals....	20.00
Circular letters	2.00
Typewriting	20.00
Circulars	3.00
Return postal cards............	3.75
Files	.81
Proof sheets	22.75
Envelopes	2.50
	$100.00

The typewriting consisted of making the original lists of members and the assignments and lists of all newspapers published in the state; filling in, writing and addressing all original correspondence, both to members and to newspapers, and the making of three copies of the fifty papers which were published. . . .

Printers, stationers, stenographers and others connected with the work have been pressed into service wherever possible, and all responded nobly to the appeal, with a sacrifice in each instance. This, in conjunction with the work of the members who have so generously responded with material, has been the cost of this year's effort to educate the public on "How to Keep Well."

In closing, may I briefly give my conclusions, formed by two years' active service on this committee? The work is one of the most important which the medical profession can perform for humanity. The public is not yet ready to accept our offering in the spirit in which it is proffered, but is fast growing to recognize our sincerity of purpose.

That education on preventable disease is necessary is without argument. To make this effective, perseverance is equally important, for with each succeeding year some new generation must be reached. To accomplish this, there should be one center or bureau, of which each state society is a part. Papers could then be secured from the best writers in each society, could be collected by the press committee and could be forwarded on to the secretary of this department of the American Medical Association, there to be revised and printed. They should then be distributed to the various press committees of the state societies, whose duty it would be to see that the matter was properly placed in their own state and local press. This would greatly simplify matters and would reduce the cost more than half. As it is at present, each paper, to complete and place in the hands of the lay press, costs in the neighborhood of $5. Whereas, by the centralized idea, it should not cost more than four times this amount to cover the whole United States with each release.

As to the funds, if every state society would appropriate, say $50 for this purpose, sending it on to the Press Committee of the American Medical Association, and an additional $25 for postage for the state committee, a more persistent, consecutive and satisfactory campaign of education could be carried on.

The report of the committee indicates the principal practical difficulty encountered, viz., that of securing a sufficient number of papers to supply any number of newspapers with original and exclusive articles for any length of time. The amount of material needed to supply the newspapers of the entire country would be enormous. With the cooperation of all our members, however, it could be accomplished. The unselfish character of this work is realized when it is understood that the articles contributed for the use of the Colorado press bulletin were published anonymously, bearing only the imprint of the committee to show that they were approved by it. The field opened up by this method of popular education is attractive and well-nigh unlimited, and with the cooperation of the state associations and the leading members of the profession an enormous amount of good can be accomplished.

Advance proofs of the articles for use in Colorado during the coming year show the following titles among others: "What Modern Vaccines Are," "How to Control the Infectious Diseases of Childhood," "Proper Control of Tuberculosis," "Some Food Adulterations," "Shall Consumption be Registered?" "Is a Tumor Harmless?" "Poor Eyesight," "How to Control the Spread of Typhoid," "Overfeeding and Overheating in Winter," "How Typhoid Fever Spreads," "How to Avoid Diseases of the Lungs," "Colds," "How Tuberculosis is Spread," "To Dispose of the House-Fly," "Sanitary School-Rooms." These are all topics of the utmost importance to the health of every individual and both the public and the press will readily cooperate as soon as the importance and value of public education on health topics is made manifest.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Delaware: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

Illinois: Coliseum Annex, Chicago, June 13-15. Sec., Dr. James A. Egan, Springfield.

Iowa: Capitol Bldg., Des Moines, June 5-7. Sec., Dr. Guilford H. Sumner.

Kansas: Hotel Grund, Kansas City, June 13. Sec., Dr. H. A. Dykes, Lebanon.

Maryland: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

Michigan: University Bldg., Ann Arbor, June 13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

Minnesota: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

Missouri: Gymnasium of St. Louis University, St. Louis, June 12-14. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

New Jersey: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

New York: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

North Carolina: Charlotte, June 14. Sec., Dr. Benjamin K. Hays, Oxford.

Ohio: Columbus, June 6-8. Sec., Dr. George H. Matson, State House.

Pennsylvania: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C Schaeffer, Harrisburg.

South Carolina: State House, Columbia, June 13. Sec., Dr. A. Earle Boozer.

Texas: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

Virginia: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

Wyoming: University of Wyoming, Laramie, June 6-8. Sec., Dr. J. B. Tyrrell.

Idaho April Report

Dr. O. J. Allen, secretary of the Idaho State Board of Medical Examiners, reports the written examination held at Boise, April 4-5, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 34 of whom 25 passed and 9 failed. The following colleges were represented:

PASSED

College	Year Grad.	Total No. Examined.
University of Colorado	(1907) (1910)	2
Denver and Gross College of Medicine	(1910)	1
Rush Medical College	(1908) (1909)	2
College of Physicians and Surgeons, Chicago	(1892) (1908) (2, 1909)	4
Keokuk Medical College, Coll. of Phys. and Surg.	(1905)	1
Western Eclectic Coll. of Medicine and Surgery	(1909)	1
Sioux City College of Medicine	(1905)	1
University of Louisville	(1893)	1
University of Michigan, Dept. of Med. and Surg.	(1909)	1
Michigan College of Medicine and Surgery	(1895)	1
University of Missouri	(1908)	1
St. Louis University	(1908)	1
Creighton Medical College	(1900)	1
New York University Medical College	(1897)	1
Medical College of Ohio	(1908)	1
Ohio-Miami Medical College	(1910)	2
Ohio Medical University	(1898)	1
Jefferson Medical College	(1910)	1
University of Toronto, Ontario	(1907)	1

FAILED

College	Year Grad.	Per Cent
College of Physicians and Surgeons, Chicago	(1909)	72
Chicago College of Medicine and Surgery	(1909)	69
Illinois Medical College	(1901)	71
Medical College of Indiana	(1904)	62
Kansas Medical College	(1905)	72
St. Louis College of Physicians and Surgeons	(1906)	68
Creighton Medical College	(1907)	73
Tennessee Medical College	(1894)	60
University of Tennessee	(1894)	51

Georgia Homeopathic Reciprocity Report

Dr. R. E. Hinman, secretary of the Georgia Homeopathi Board of Medical Examiners reports that at the meeting hel at Atlanta, May 2, 1911, one candidate, a graduate of th Cleveland University of Medicine and Surgery, 1894, wa licensed through reciprocity with West Virginia.

New York State Board of Medical Examiners

A communication from Dr. M. J. Lewi, secretary of the New York State Board of Medical Examiners, states that a meeting of that board was rendered necessary for organizatio purposes by reason of the death of both Drs. William Warre Potter and W. E. Ely, respectively president and vice-president of the board. The meeting was called by Dr. Augustu S. Downing, First Assistant Commissioner of Education, Ma 19, 1911, at Albany. At this meeting Dr. Glentworth Reev Butler, Brooklyn, was elected president, and Dr. Henry Minton, Brooklyn, vice-president. The question committ was reorganized as follows: chairman, Dr. Lee H. Smit Buffalo; Dr. Ralph H. Williams, Rochester; Dr. A. W. Boot Elmira, and Dr. Henry B. Minton, Brooklyn.

In keeping with the action of the board at its last annu meeting, a resolution was adopted that on and after Jan. 1912, examination groups in each topic shall consist of twelv questions (instead of fifteen as heretofore) the first six which must be answered by the candidate and, from t remaining six, the candidate is to answer four questions of h own choosing.

Book Notices

Technik der mikroskopischen Untersuchung des Nerve systems. Von W. Spielmeyer Privatdozent und Assistent an d psychiatrischen und Nervenklinik in Freiburg i. Br. Cloth. Pri 4.40 marks. Pp. 131. Berlin: Julius Springer, 1911.

This handy manual deals with the microscopic technic the examination of nervous tissues in a manner adequate f practical purposes. It contains most recent methods at applicable in routine neuropathologic work. A feature deser ing of commendation is the omission of both the obsolete a the untried and theoretical in neurologic technic. The chapte on "Principles," and "Scope and Aims of Examinations In the Normal and Abnormal Histology of the Nervous Systen are excellent and appropriately placed as an introduction methods

Verhandlungen der Berliner medizinischen Gesellschaft aus dem Gesellschaftsjahre 1910. (Separat-Abdruck aus der Berliner klinischen Wochenschrift.) Herausgegeben von dem Vorstande der Gesellschaft. Band XLI. Paper. Pp. 380, with illustrations. Berlin: L. Schumacher, 1911.

This work consists of reprints from the *Berliner klinische Wochenschrift.* It is divided into two parts; the first gives the transactions and discussions on the various papers of the Berliner medizinische Gesellschaft, which numbers 1,638 regular members, and the second part contains the papers presented before this society.

Diseases of the Stomach and Intestines. By Boardman Reed, M.D., Member of the American Medical Association. Third Edition. Cloth. Price, $5. Pp. 1037, with 112 illustrations. New York: E. B. Treat & Co., 1911.

The third edition of this work retains the commendable features of the previous editions; the book has been subjected to a thorough revision, bringing it up to date. Several of the chapters have been practically rewritten and an entirely new chapter on "Arteriosclerosis in Relation to Affections of the Gastro-Intestinal Tract" has been added. The book presents in one volume the information needed by the practicing physician regarding the diseases of the stomach and intestine.

Diagnostic and Therapeutic Technic. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, A.B., M.D., Adjunct Professor of Surgery in the New York Polyclinic. Cloth. Price, $4 net. Pp. 775, with 815 illustrations. Philadelphia: W. B. Saunders Co., 1911.

Many methods of diagnosis and treatment, even the commoner ones, fail through faulty technic, or are neglected entirely by the practitioner because adequate descriptions of the procedures are not readily available in general medical texts. In "Diagnostic and Therapeutic Technic" Morrow describes a large number of these minor operations and diagnostic methods including transfusions, infusions, venesection, intubation, tracheotomy, exploratory punctures and aspirations, urethral and pelvic examinations, etc. Outline drawings showing instruments, position of patient and operator, and the successive steps in the more complicated operations accompany the text.

The chapters on anesthesia, including local and spinal anesthesia, are completely and well written. The dangers of the A-C-E mixture and of gastric lavage before the return of the reflexes after general anesthesia might well be emphasized more strongly. The points urged against spinal anesthesia are well taken.

In the administration of antitoxic serums, we question the advisability of advocating the axillary space as a site for the injections. The risk of injuring vessels and other structures in a struggling child is too great, when there are so many other regions where loose cellular tissue can be found.

A paragraph on preserving fluids for tissues might have been added with advantage to the chapter on the collection and preservation of pathologic material. Exploratory punctures, and the reasons for occasional failures to obtain fluid are interestingly discussed.

The chapters dealing with tne examination of special organs are prefaced by a brief review of the anatomy of the part under discussion. With the exception of the description of the ear, which is written in an unnecessarily popular style, these preliminary notes form a concise and valuable introduction to the study of the several organs. We commend especially the section on the larynx, in which a well illustrated description of intubation is given.

The typography is good. The outline drawings are more practical than artistic, and in one or two instances are misleading. Thus in illustrating hypodermoclysis the fluid is represented as in the breast instead of beneath it. This is a common error in performing hypodermoclysis and causes unnecessary suffering to the patient.

Aside from operations such as bronchoscopy, which only the skilled specialist is competent to perform, most of the procedures described are those which practitioners, particularly the large number who meet emergencies in practice remote from the larger medical centers, may at some time be called on to perform. The hospital intern and the older practitioner will find here a large store of practical and helpful information.

Medicolegal

When Orders for Physical Examinations Should Not Be Granted

The Court of Appeals of Kentucky says, in Lexington Railway Co., vs. Cropper (133 S. W. R. 968), a personal injury case brought by the latter party, that, manifestly, the application for a physical examination should be based on an affidavit showing that knowledge of necessary and material facts in respect to the plaintiff's injuries or condition can be acquired only by such examination; and the right to the order, being founded on necessity, will not extend beyond the necessities of the case. In no case should the order be granted merely for the purpose of obtaining cumulative evidence, or where the injuries complained of are so patent as to be apparent. In numerous cases of this character this court has decided that the defendant has not the arbitrary right to demand a physical examination of the plaintiff, but the application for an order for such an examination is a matter which addresses itself to the sound discretion of the trial court; and on appeal its ruling in granting or refusing the order will not be disturbed, unless it is made to appear that there was an abuse of that discretion. In this case there was no abuse of discretion, and no error, in refusing to grant an order for the physical examination of the plaintiff, when not applied for until after he had concluded the introduction of his evidence, on the second trial of the case, which had been pending for more than two years.

Sufficient Preliminary Proof by Physicians of X-Ray Photographs

The Supreme Court of California says that in the personal injury case of Kimball vs. Northern Electric Company (113 Pac. R. 156) certain *x*-ray photographs of the plaintiff's knee were introduced in evidence after two of the medical witnesses had been examined with reference to them. It was contended that the proponents of the photographs failed to introduce proof of their correctness, or that either of the physicians was an expert in such matters. While, perhaps, the examination was not so minute on that subject as one might wish, it did sufficiently appear that the two witnesses and others were present at another physician's office when *x*-ray plates were made of the plaintiff's knee, and that the photographs introduced in evidence were printed from those plates. While it would have been better, no doubt, to have introduced evidence of the familiarity of the physicians with the process of *x*-ray photography and the methods employed in preparing these particular exhibits, the court cannot see that the omission so to do amounted to error necessitating the reversal of the cause. The witnesses were qualified surgeons. It is well known that the *x*-ray is almost universally understood and used by surgeons of the present day in examining injuries. Doubtless the court required less preliminary proof from such witnesses than would have been exacted from laymen. The surgeons had testified without objection that they had examined the injuries themselves by the use of the *x*-ray apparatus, and this testimony in itself was an indication that they were familiar with the use of the Roentgen rays. When, therefore, they testified to the taking of certain *x*-ray pictures, or rather the making of plates, the court doubtless assumed that the ordinary methods of those familiar with such matters had been followed. While counsel for the defendant objected to the testimony of the surgeons on the ground of the failure of the plaintiff to show their expert qualifications, no request was made of the court that they should be preliminarily questioned on that subject. The surgeons put initials on the plates at the time they were made, and testified that those initials appeared on the prints introduced in evidence. But, even if an error were committed in the admission of testimony relating to the photographs, it was harmless, for it was evident that the condition shown by the photographs did not differ from the circumstances disclosed by the testimony of the physicians based on their own observations. A photograph is used like any other chart, for illustrative purposes; and where, as in this case, such illustrations do not mislead, no error is wrought.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

American Academy of Medicine, Los Angeles, June 23-26.
American Climatological Association, Montreal, Canada, June 13-14.
American Medico-Psychological Association, Denver, June 19-20.
American Otological Society, Atlantic City, June 26-27.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Wisconsin, State Medical Society of, Waukesha, June 7-9.

AMERICAN THERAPEUTIC SOCIETY

Twelfth Annual Meeting, held in Boston, May 11-13, 1911

Under the presidency of Dr. H. W. Wiley, Washington, D.C.

The officers elected were named in The Journal, May 27, page 1584.

Bromato-Therapy

Dr. H. W. Wiley, Washington, D. C.: Foods are of the greatest possible service in medical practice, when properly employed, not only in the prophylaxis of disease, but also in its actual treatment. This, of course, has long been recognized in the case of diabetes, but in many other affections we are only just beginning to appreciate their value, and I feel sure that when we have come to fully understand this matter a great step forward will have been made in the practice of medicine. We have, naturally, to examine into the properties of various articles of diet. A bitter controversy has been raised over the question, Is alcohol a food? Again, the respiration calorimeter has come to our assistance, and it has been shown by Atwater and his assistants that the average adult human organism is capable of completely oxidizing a considerable quantity of alcohol per day. This quantity, of course, varies in different individuals, but may be set down as about 3 ounces, provided the administration is distributed over different periods of the day. I think there is a marked tendency in the profession to regard the virtues of alcohol as very questionable. The old idea that if one is going to expose himself to extreme danger or extremes of climatic conditions, the body should be fortified by the use of alcohol, has disappeared. It is quite certain now that alcohol does not make one less apt to freeze, but more so, and that it does not give any such amount of energy as to be at all compensatory for the injury it may produce. On the witness stand I have stated that I considered alcohol a food because a certain quantity of it is burned in the body, with the production of heat and energy. In the light of recent investigations, however, and from theoretic considerations, I am inclined to the opinion that the effort to rid the body of even the small quantities of alcohol mentioned may, perhaps, consume a great deal more energy than is furnished by its combustion, and that, on the whole, it cannot be regarded as a food, even in the limited sense here described. The susceptibility to certain diseases of persons addicted to alcohol has been noted by many writers, and the records of death by sunstroke indicate that a very large percentage of the victims are alcoholics. The tendency which alcohol has to weaken the bodily resistance, therefore, is a matter not to be left out of consideration. The general result of the study of this problem has been an accelerated movement to restrict the use of alcohol in medical practice, and especially in hospital practice. Both as a means of preventing disease and as a remedy this agent is rapidly falling into disrepute, so that it bids fair to become merely a memory in our materia medica and the Pharmacopeia.

Some Observations on Vaccine Therapy

Dr. E. W. Nagle, Boston: To secure an active vaccine one must have a virulent type of bacteria; these must be killed at the correct time, before they begin to lose their cultural characteristics, and it is essential to subject them to the lowest degree of heat for the shortest possible time necessary to kill them. The question of dosage is a difficult one. I do not depend on the opsonic index, but rely entirely on the clinical symptoms. Usually my beginning dose is a small one: one-fourth of 1 c.c. (150,000,000 in the case of staphylococcus vaccine) increasing to 0.5 c.c., 0.75 c.c., and then 1 c.c., and continuing with this dose if there has been marked improvement. In cases where it seems imperative to bring the patient quickly under the influence of the vaccine—as when there is recurrence during treatment—I do not increase my dose gradually, but after the first small dose give a large dose once. In cases where vaccine is administered oftener than twice a week, I give smaller doses. The injections have always been given in the arm, alternating right and left in order to give the site of the injection the longest possible time to recover from any soreness. Chronic suppurative ears interest me especially, as they respond so readily to vaccine therapy. My success in treating nose cases with vaccine is not, I regret to say, to be compared with that obtained in discharging ears.

DISCUSSION

Dr. E. W. Nagle: In the suppurative ears we found the streptococcus, staphylococcus, pseudo-diphtheria bacillus, proteus and a number of bacteria which it was impossible to identify. In the nose cases there was also a great variety of bacteria, and many of these we were unable to classify. As to other treatment in conjunction with the vaccine, absolutely nothing else was employed, except in the way of cleansing procedures. All the patients had previously been treated by the ordinary methods.

Salvarsan as a Patented Product

Dr. F. E. Stewart, Germantown, Pa.: The object of the patent law being to promote progress in science and the useful arts, it logically follows that its proper application to materia medica inventions will promote progress in materia medica science, and the arts of preparing medicines and applying them to the healing of the sick. As now applied, the patent law hinders progress in the knowledge of drugs as therapeutic agents and injures the professions of medicine and pharmacy. Product patents are monopolies granted to persons who are not required to be interested in promoting science or in advancing the arts of medicine and pharmacy. Progress in materia medica science and in the pharmacologic arts is dependent on the cooperation of those engaged in the practice of the pharmacologic arts and in the results of the publication of their researches for the benefit of science. The position assumed by certain members of the medical profession, that it is immoral for physicians to make money out of the sale of drugs, is unwarranted. The wrong is in carrying on what ought to be a professional business in a commercial manner. Materia medica products cannot properly be introduced to science without using the educational machinery of the profession, viz., medical societies and press. When products are controlled by commercial introducers their introduction to science by the cooperative work of the profession is impracticable, because the opening of the journals and medical societies to their discussion converts the educational machinery of the profession into a great advertising bureau for the exploitation of monopoly. Most of the experimental work necessary for determining the value of new therapeutic agents is carried on in hospitals, dispensaries and other charitable institutions. When the results are appropriated by commercial houses for building up monopolies, beneficence is turned into commercial exploitation, a crime against humanity. Under a system of competition it is safe to open the educational institutions and their laboratories to the manufacturers of materia medica products, and ask their cooperation in developing the science of materia medica. Under the system of product patents maintained in this country the medical journals are forced to give the manufacturers advertising space that millions of money could not purchase; being compelled to do this in order to keep up with the foreign journals in publishing important news.

We are told that Ehrlich made an arrangement with the German house of Meister, Lucius and Bruening whereby this house furnished him with the money required to carry on the

"606" experiments which resulted in the discovery of dioxydiamidoarsenobenzol, with the understanding that if a product was obtained of sufficient value to warrant its commercial introduction, it was to be patented and the patent controlled by the house mentioned. I believe that the arrangement thus made represents a plan of cooperation between professional and commercial interests which, if purged of the monopolistic feature now pertaining to it, might be made in every way commendable. Medicine, including pharmacy, is an altruistic profession. Its object is to prevent disease and heal the sick; not to exploit the sick-room for gain. Cooperation between the medical and pharmaceutical professions and the great manufacturing houses with that end in view means progress, but such cooperation must include control of the pharmacologic arts by licensed practitioners of medicine and pharmacy and compliance with rules for the advancement of pharmacologic science.

The Uses and Limitations of General Anesthesia as Produced by Subcutaneous and Intravascular Injections

Dr. W. W. Babcock, Philadelphia: Burkhardt's method consisted of the intravenous injection of chloroform and of ether. Chloroform soon had to be abandoned, but ether is still employed to a limited extent, especially in Russia. In the seventy-five or 100 cases now on record there have been one death and several instances of pulmonary embolism. The method is not, therefore, to be recommended. I desire to call attention to the production of anesthesia by the subcutaneous injection of narcotics, which is a recent application of a very old use for these agents. It is not, as a rule, well adapted for children, but in adults I have met a very fair measure of success. In 10 per cent. of the cases in which it was tried I have found it possible to induce complete anesthesia, with abolition of the reflexes, and in from 50 to 60 per cent. sufficient anesthesia for operative purposes, though without entire abolition of these. The drugs employed are of three classes: (1) hyoscin or scopolamin; (2) morphin and apomorphin; (3) alcohol and similar agents. In regard to apomorphin, I am convinced that its main action is that of a sedative. It is, therefore, a terrible mistake to administer it in cases of narcotic poisoning, as is sometimes done. The method which I have found most satisfactory is to give a subcutaneous injection of one-eighth grain of morphin with 1/100 grain of hyoscin or scopolamin, and also an enema of normal salt solution containing 1 to 3 ounces of alcohol. In fifteen minutes the hypodermic injection is repeated, if necessary, and in fifteen minutes more a third injection may possibly be required. The doses are regulated entirely according to the effects observed. When apomorphin is employed, only a very slight emetic effect, or none at all, has been noted. Objections to this method are, first, that, as a rule, it is not suitable for abdominal operations; and second, that if toxic products are present in the system the narcotics will tend to retard elimination by closing up the emunctories. It is an ideal method for operations about the mouth, throat and nose, where ether proves very dangerous and unsatisfactory, and when it is used we can often dispense with tracheotomy. It is essential to watch the breathing of the patient very carefully, and sometimes it is found necessary to pull the tongue forward.

DISCUSSION

Dr. A. E. Gallant, New York: If during anesthesia the patient's head is kept in such a position that the chin touches the chest, the tongue will never fall back.

Dr. W. J. Morton, New York: It is not generally known that previous to the first use of ether anesthesia at the Massachusetts General Hospital (in 1846) my father, Dr. Morton, had employed this for thirty-seven private operations done by Dr. Henry J. Bigelow, and that, before beginning the administration of ether, he was accustomed to give large doses (40 minims) of laudanum.

Epithelial Conductors and Obstructors

Dr. Robert T. Morris, New York: The chief obstructor of the development of epithelium on raw surfaces is peroxid of hydrogen, a substance which is in universal use throughout North America. Next to it in this regard, and also next most commonly used, is gauze, and the third most destructive agent for young epithelial cells is some form of ointment. Then come the so-called protective coverings, such as gutta percha, which allow culture media to collect underneath. Among conductors of new epithelium one of the most remarkable is the moist skin of an egg, which some of the old surgeons believed actually to carry a vital principle. Other good conductors are animal membranes, like Cargile membrane, silver foil, and oiled silk (if properly sterilized). Substances which are entirely impervious are conductors to a very limited extent, if cut into strips and employed with great care.

Diabetes Mellitus from a Surgical Standpoint

Dr. Alfred King, Portland, Maine: In diabetes it is essential that there should be a careful and complete examination of the urine and a study of its changes, a consideration of the metabolic changes taking place in the fluids and tissues of the body, especially as regards nutrition and the processes of repair, and also a general examination, including the blood, blood-vessels, emunctories and resisting power. Gangrene, which is generally due to arteriosclerosis, often calls for surgical treatment, preventive, palliative or operative. In the lower extremities the disease may affect but one or more toes. In these cases if the line of demarcation forms early, if the adjacent parts are not inflamed, and if there is a good pulse in the posterior tibial artery behind the internal malleolus and in the dorsalis pedis, the removal of the dead portion alone may be sufficient. If, however, the line of demarcation forms slowly, if the foot is inflamed and the pulse in the arteries mentioned is feebly felt, if at all, operations on the foot are harmful. In such cases the amputation should be above the knee. The diabetic may require any kind of surgical procedure. Because of his disturbed metabolism, impaired nutritive and reparative processes, reduced resistance and depressed nervous system, the most careful consideration for the patient is called for, and also the most skillful application of the principles of surgery in the treatment of wounds. If, however, proper precautions are taken and the patient is properly prepared beforehand, a large proportion of diabetics can be operated on as safely and satisfactorily as other individuals.

Chronic Acetanilid Poisoning: A Definite Symptom-Complex as a Result of the Continuous Ingestion of the Drug

Dr. H. C. Gordinier, Troy, N. Y.: Chronic acetanilid poisoning is productive of the following perfectly definite and easily recognized symptom-complex: chronic cyanosis, cardiac insufficiency, a distinct blood-picture and definite renal changes. The acetanilid habit is much more common than is generally supposed, and its enslavement is comparable with or worse than that of opium or alcohol. Acetanilid has a special predilection for the cardiovascular system, acting as a virulent hemolytic poison.

DISCUSSION

Dr. P. K. Brown, San Francisco: In these cases of cyanosis the blood-picture alone usually makes the diagnosis clear. In my fatal case, previously reported, in which the patient took 60 grains of acetanilid within a short time, it is noticeable that, in addition to the terribly destructive action on the blood, there appeared to be an effort at repair, as shown by the presence of some red cells of very large size.

Dr. C. E. deM. Sajous, Philadelphia: There is one effect of the coal-tar products which is often overlooked, namely, constriction of the arterioles, as shown by animal experimentation. This, I think, offers ample explanation of the characteristic cyanosis. In my experience cases of acetanilid addiction are not so difficult to manage as those of opium addiction. The patients usually get over the habit readily, and with no permanent ill effects.

The Treatment of Leukemia with the Mixed Toxins of Coley

Dr. R. C. Larrabee, Boston: Five cases have been previously reported. I have now to report thirteen additional cases: nine of my own, three of Boldoff's and one of Coley's. Under this treatment the general condition of the patients, some of whom had been treated with the *x*-ray without benefit, usually improved markedly, and in many instances there was a very marked diminution in the number of leukocytes. In other cases the leukocytes did not diminish, though the general condition improved. It is noticeable that while the myelogenous cases were often benefited, the lymphatic cases showed no improvement. This mixed toxin treatment is to be regarded as merely palliative, not curative; but in many instances it adds greatly to the comfort of the patient and no doubt prolongs life. It should not be forgotten, however, that it is a dangerous treatment, and ought, therefore, to be employed with the greatest caution.

Hypo-Adrenia as a Cause of Death in Infections, and Its Treatment

Dr. C. E. deM. Sajous, Philadelphia: By hypo-adrenia I mean that form of adrenal insufficiency which occurs late in the course of a febrile disease, as a result of the exhausting secretory activity, probably aggravated by temporary local lesions, to which the adrenals are subjected during the early or febrile period of the disease. As stated by Morichau-Beauchant, the adrenals seem to show a special predilection for certain infections, by far the most marked in the case of diphtheria. If at the end of an infectious disease the case, instead of proceeding to convalescence, remains in a condition of asthenia, with low blood-pressure and temperature, there is good ground for the conclusion that terminal hydro-adrenia has occurred. As to the pathology, in the special type in question, no adrenal lesion may be discernible. In the majority of instances, however, the organs are congested, and may show here and there a limited hemorrhagic area. In these cases the use of adrenal gland or of pituitary body, which acts very similarly, though with less violence and more lasting effects, sometimes gives surprising results. In emergency cases large doses of the adrenal active principle may be injected with saline solution intravenously, but in the average case the glandulæ suprarenales siccæ of the U. S. Pharmacopeia given by the mouth, is fully as effective, if commenced as soon as asthenia and low blood-pressure appear. The dose of 3 grains, three times a day, should be increased gradually to 5 grains.

Malignant Endocarditis in New York City

Dr. T. E. Satterthwaite, New York City: Malignant endocarditis is a very serious disease, often difficult of diagnosis, and usually fatal, in spite of the best possible treatment. By pathologists it is believed to be simple endocarditis which has become infected by poisonous germs. It is so rare an affection that no one person can have had much personal experience with it, but I have had the unusual opportunity of studying 100 cases on the record books of several New York hospitals. With regard to the infecting agent, only those of the streptococcus, staphylococcus, pneumococcus and gonococcoccus groups were recorded, either as having been found in the living blood or in the body after death. Among the associated systemic diseases I found rheumatism in more than one-third of the cases, and suppurating foci, pneumonia, pleurisy, phthisis, syphilis, gonorrhea, influenza, tonsillitis, chronic peritonitis, chronic appendicitis, colitis and nephritis in varying proportions. In the 100 cases a germ was found in only thirty-three, and some of these cases were examples of mixed infection. The predominating germs were of the pus-producing varieties. Under the age of 4 years malignant endocarditis almost never occurs in New York, as shown by the statistics of a number of hospitals, including the Babies' Hospital. It is apparently most frequent between the ages of 30 and 40. Basing our prognosis on the 100 hospital cases, we may conclude that 85 per cent. of the patients die, while 10 per cent. improve for a time—how long is uncertain. In 5 per cent. only is there such a degree of improvement that it may be called recovery, so far as the malignant nature of the disease is concerned. In these 100 cases the number of weeks spent by patients in the hospital varied from one to thirteen, the majority succumbing before the end of the fifth week. Antigonococcic serum was used in one case, other serums in three, and vaccines in five; but in no instance was there recovery under these forms of treatment.

Other Papers Read

Other papers read were: "Note on Fluorescence Excited Within Human Tissues as a Method of Treatment," by Dr. W. G. Morton, New York; "A Modified Vaccine Therapy in Pneumonia, with Animal Experiments," by Dr. P. K. Brown, San Francisco; "Use of Nickel Sulphate in Medicine," by Dr. L. Kolipinski, Washington, D. C.; "Panhysterocolpectomy: Complete Excision of the Uterus and Vagina, with Closure of the Vagina, for Prolapsus," by Dr. A. E. Gallant, New York; "Considerations on the Treatment of Chronic Disease," by Dr. J. M. Taylor, Philadelphia; "The Treatment of Chronic Universal Perihepatitis," by Dr. R. W. Wilcox, New York; "The Newer Heart Remedies," by Dr. W. F. Boos, Boston.

SOUTH CAROLINA MEDICAL ASSOCIATION

Sixty-Third Annual Meeting, held at Charleston, April 18-20, 1911

Under the Presidency of Dr. James H. McIntosh, Columbia

Officers Elected

The officers for the ensuing year are the following: President, Dr. J. W. Jervey, Greenville; vice-presidents, Dr. A. E. Baker, Charleston, Dr. J. H. Miller, Laurens, and Dr. H. B. Lee, Summerville; secretary, Dr. Edgar A. Hines, Seneca; treasurer, Dr. C. P. Aimar, Charleston.

President's Address: The Imperative Necessity for Proper Drainage of Our Water Courses and Lowlands

Dr. James H. McIntosh, Columbia: The United States government spends millions of dollars every year on the development of the arid and unfruitful lands of the West, and by irrigation and drainage makes these acres to become the most productive and valuable lands in our country. We must impress strongly on this government of ours that the time has come for it to turn its paternal eye in this direction. There are thousands and thousands of acres of land in the South, rich in every constituent necessary to the production of enormous crops, but what it needs, and must have, is drainage, and, incidentally perhaps, irrigation. When these lands have been properly drained, not only will they become most productive, but in addition, we shall have abolished them as disease-breeding foci, and the whole country will feel the good effects. I urge the state and counties to take up this work at once, using the state convicts and county prisoners for that purpose. My attention has been directed to this matter particularly, because of my connection with life insurance work. It is rare, indeed, to come across a single application in which malaria does not figure as a cause of death of at least one member of the applicant's family, while in the personal history it is by far the most frequent cause of illness.

Multiple Neuritis, Probably Beriberi Associated with Pellagroid Erythema

Dr. Robert Wilson, Jr., Charleston: The patient was a medical student, 22 years old, of good habits. Illness began in August, 1910, with slight edema of lower extremities and fatigue on comparatively slight exertion. August 29, at which time general condition had improved slightly, according to his own account, he still had slight edema of legs and complained of weakness. Examination revealed a systolic murmur at apex moderate degree of anemia, knee-jerks sluggish, a pronounced erythema on back of each hand extending from base of phalanges to the wrist, tongue red. Urine contained no albumin. Two weeks later he returned to his home in Virginia. At this time the erythema had almost disappeared, but he was feeling very weak. No other symptoms had developed. On reaching home, September 14, he was exhausted and had to be carried from the train to his home; also had a temperature of 101 F. The fever continued several days and then passed off. The urine was scanty and dark. Immediately on reaching home he developed a multiple neuritis, the lower extremities suffering in greater measure than the upper. Improvement began very shortly and continued without interruption until complet recovery. When first seen the diagnosis of pellagra was made tentatively, based on the erythema, general weakness, red tongue and sluggish reflexes. Later developments, however, left little doubt that the case was one of beriberi. The most interesting feature of the case was the erythema which was identical in appearance and location with that which is characteristic of pellagra.

Herniotomy in Youth and Old Age

Dr. A. E. Baker, Charleston: At this time of life Nature's recuperating powers are weak and may not respond to therapeutic measures.

Wounds are sealed with collodion and no plaster of Paris should be applied to the child's body. About eight hours after operation a very young child may be permitted to leave the infirmary. The mother is the best nurse. The unmodified Bassini operation is faulty in the cure of hernia in old age. Method advised—approximating like tissue to tissue. The conjoined tendon is not a part of the closure of the internal abdominal ring—it serves only to close the lower two-thirds of the canal. Local anesthesia is preferable in old age.

DISCUSSION

Dr. C. B. Earle, Greenville: I would take exceptions with Dr. Baker as to a mother being the best nurse for the young child. I have operated on a number of young children, and I think the younger the child the more easily that child is controlled by a nurse. I do not think herniotomy should be done before two and one-half years, because we can easily get a cure by pressure. I would also take issue with Dr. Baker about the suture. The reason Dr. Baker advocates the linen or silk, is that the circulation is bad in old patients—the very reason which renders an unabsorbable suture more apt to become an irritating body and be thrown off, and irritation of the suture is probably the greatest cause of relapse after herniotomy.

Dr. J. Shelton Horsley, Richmond, Va.: I wish to add my experience to Dr. Baker's in regard to the postoperative treatment of children at their homes. I believe all children (private patients) under five years of age, do better if they are taken from the hospital as soon as the operation has been performed. They are accustomed to be carried about by their parents, to have their nourishment prepared in a certain way, and to environments which are distinctly different from those of the hospital. This abrupt change often interferes with the child's nutrition and in this way prevents healing of the wound. I believe also that all hernia patients over fifty-five years of age ought to be operated on under cocain unless they are excessively nervous. I recently operated on an old gentleman eighty-one years of age, under cocain, and he made an entirely smooth convalescence. The mere giving of a general anesthetic to a patient of this age is much more dangerous than the operation for the hernia.

Typhoid and Its Prevention by Vaccination

Dr. Alexander Lambert, New York City: Typhoid is an index of a community's sanitation, and at present the incidence of this disease decreases as the population increases—that is, typhoid is most prevalent in small towns and in the country. It is also more prevalent in the South than in the North. A considerable reduction in the number of cases of typhoid has been secured wherever a pure water-supply has been installed. In like manner supervision of urban milk-supplies has eliminated some typhoid. The Spanish-American War taught us the importance of the common house fly as a disseminator of the disease, and the importance of contact infection. War against the fly is spreading throughout the country, and isolation of typhoid cases is being more strictly carried out. The last factor to be discovered in the spread of typhoid has been the "carrier." Inasmuch as typhoid cases disseminate bacilli during the incubation period and for an uncertain length of time after recovery, while a smaller per cent. become chronic carriers, it has been impossible to control this factor in the spread of the disease. Realizing the impossibility of controlling the many factors concerned in the spread of typhoid, medical men redoubled their efforts to find some suitable method of prevention. Sir A. E. Wright, in 1898, began wholesale innoculations against typhoid in the British army in India, and continued this work in South Africa during the Boer war. Germany followed suit in the Hereros campaign, 1904-1907. The French Academy has just recommended that the same work be instituted in the French army, and in 1910 voluntary inoculations against typhoid were begun in the United States army. So far the results of typhoid vaccination have been gratifying; the morbidity has been reduced more than one-half, and the mortality by considerably more than this. Our army on the Mexican border is immunized, and so far there has not been a case of typhoid, which is in contrast to the late war with Spain, when one-fifth of the army had typhoid and 86 per cent. of all deaths during the war were due to the same cause. The vaccination is entirely harmless, consisting of three hypodermic injections, first of 500,000,000 dead bacilli, then one billion ten and twenty days later. The general reaction following these injections consists of malaise, headache, and slight rise of temperature, with a local reaction of hyperemia the size of the palm of the hand, and at times swelling of the axillary glands; both reactions usually subside within forty-eight hours.

A Typical Case of Raynaud's Disease

Dr. T. E. Wannamaker, Jr., Cheraw: The patient, a well-nourished colored male of 27 years, has suffered from the disease since 14 years of age. Has lost the terminal phalanges of all fingers on both hands, except middle finger of left hand, and that has been slightly affected. The same is true of the toes, and one leg was amputated above the knee at an early stage of the disease when the true nature of the affection was not recognized. Marked improvement followed surgical intervention but the fingers became affected two years later. Since then recurrences were inevitable, one or two attacks occurring each year. Heredity is suggested as an etiologic factor. Drugs seem of little value in treatment, except for relief of pain. Despite the partial loss of all extremities, this patient is able partly to earn his living as a shoemaker, but excessive use of his fingers predisposes to a recurrence.

The Successful Removal of Two Pieces of Steel from the Eye by Electromagnet

Dr. Charles W. Kollock, Charleston: These two cases were seen within eight days of each other. In the first the eye was seen about an hour after the accident had occurred. The fragment had flown from the top of a cold chisel, struck the cornea near its center, passed through the lens into the vitreous and wounded the pupillary edge of the iris in its flight. As the wound was open and recent an examination with the *x*-ray was not waited for. The point of the Parker magnet was held near the cornea and immediately the piece of steel slipped out. In two months the eye had become quiet, the lens had been absorbed and a little sight remained. A later examination showed that there was no vision, but the eye was quiet and painless.

The second case was seen about four hours after the injury had been received. The foreign body had passed through the center of the cornea, pierced the lens and rested partly in the lens and vitreous humor. It could be indistinctly seen in this position. The magnet held near the wound again easily drew the fragment from its resting place. There was a mild infection of the wound in this case as it was fully four hours after the accident occurred before it was seen. The man was a locomotive engineer and ran his engine a hundred miles with the eye exposed in its wounded condition. Nearly three months elapsed before the eye became quiet. A little vision remains in this eye which might be improved by clearing the pupillary space.

Complications and Sequelæ of Gall-Bladder Diseases as the Result of Delayed Diagnosis

Dr. LeGrand Guerry, Columbia: Within the last month I have operated in five cases of gall-stones, in which the patients were over 65 years of age, three out of the five were 70 years of age; four out of the five had stones in the common duct, and one an advanced interstitial pancreatitis. Jaundice is not a symptom of gall-stones. We do not have jaundice as a symptom until the common duct is involved. We must have obstruction of the choledochus somewhere to produce jaundice. Jaundice in gall-stones means that we have entered upon the second stage of the disease and instead of having simple stones in the gall-bladder to deal with, we have also a serious trouble of an obstructed and infected choledochus, which runs the mortality from one-half of 1 per cent. to 10 per cent. The following is a case in point: A man, aged 67, for fifteen years complained of indigestion. This was followed by numerous attacks of bilious colic (whatever that is) which would recur two or three times every year. There was a gradual failing in both appetite and health. Eleven months ago, severe attack of colic occurred, with high fever, sweats and point of tenderness. Profound jaundice developed, which led ultimately to diagnosis of gall-stones. Upon operation several hundred stones were found, with more pus; several stones of large size in the choledochus. As the result of the long continued absorption of toxins and cholemia, he probably had a myocarditis, nephritis, and undermined nervous system, with extremely low resistance. Operation showed a very large head of the pancreas. (In 27 per cent. of the common duct cases there are pancreatic complications.) Three weeks after operation patient was convalescent, when pulse began to rise and he died in seven days. Such cases show that we can remove the gall-stones, but not the kidney, heart and other complications—the result of procrastination and delay. If the symptoms in any given case do not demand intervention, they demand the very strongest possible reason for not interfering. We cannot, and we need never, expect success in the field of work if we wait until the symptom of jaundice is flung in our faces, and a diagnosis made as the man walks into the office. Jaundice, biliousness, indigestion and the other go-betweens for efficiency and sound knowledge should be expunged from the record, and an earnest effort made to place a true interpretation on symptoms. How often do we hear of innocent gall-stones? Innocent gall-stones, in our humble opinion, belong to the department of fiction, and instead of the stones being innocent, it is the innocent doctor.

Medical Inspection of Schools

DR. WILLIAM WESTON (Chairman of the Legislative Committee): A bill to provide for a system of medical examination of school children and students attending public schools and colleges within the state is now on the calendar of both the Senate and the House. This bill has the endorsements of the committee on medical affairs, likewise the committee on education. The bill has also been recently endorsed by the State Teachers' Association and many other organized bodies. There is every reason to believe that the bill will be enacted into law at the next session of the legislature. The committee believes that it has, after studying the laws of the various states of the Union as well as those of foreign countries, formulated a bill which will be of unusual benefit to the schools of South Carolina.

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-Sixth Annual Meeting, held at Atlantic City, N. J., May 9-10, 1911

(Continued from page 1606)

Conjugal Tabes Dorsalis

DR. A. A. ESHNER, Philadelphia: Sometimes several members of a family develop tabes or paresis, sometimes husband and wife, sometimes in addition a second husband or wife, sometimes one or both parents together with one or more children. The association is not common, although probably more so than is apparent. When husband and wife suffer, the former generally is attacked first. In one of my cases the symptoms appeared in husband and wife at about the same time. No history of syphilis was elicited, although infection may have occurred. In the second case it was learned incidentally that the husband of a woman who was under treatment for tabes likewise presented symptoms of the same disease, although he insisted that there was nothing wrong with him and declined treatment; he gave a history of an initial lesion.

Acute Dilatation of the Stomach in Pneumonia

DR. M. H. FUSSELL, Philadelphia: Acute dilatation of the stomach is a real complication or sequel to pneumonia fraught with great danger to the patient, usually easily relieved and generally unrecognized. Eleven cases have thus far been reported, including my own. In cases which have come to autopsy there has been found constriction of the duodenum at the root of the mesentery. The question as to which is primary, the duodenal obstruction or the dilated stomach, is still undecided. I believe that in these pneumonia cases there is an involvement of the innervation leading to dilatation, this dilatation in itself causing by traction a constriction of the duodenum. Unquestionably there are some cases with chronic dilatation which develop acute symptoms. The symptoms are vomiting, abdominal pain, distention due to enlarged stomach, constipation, collapse, splashing sounds, peristaltic movement over the stomach. Lavage brings great relief and, if dilatation has occurred after the crisis, recovery is almost certain to occur. Lavage must be done as often as distention occurs. When the patient is in collapse it is feared that passage of the tube may be fatal. This is a mistake, for the tube is easily passed and relief is marked. By turning the patient on his side or abdomen the constriction of the duodenum is relieved. Food and drink must be interdicted. Strychnin and physostigmin (eserin) are of value.

DISCUSSION

DR. C. G. STOCKTON, Buffalo: The most striking case I have ever seen was one of acute dilatation in a child of nine years. The size of the stomach was unbelievable. It was undoubtedly acute. I think that dilatation does occur in pneumonia more than we realize. I have seen it in two other cases of pneumonia.

DR. C. N. B. CAMAC, New York: It has been suggested, and some of the autopsies tend to support that idea, that the dilatation may possibly be brought on by involvement of the vagus by mediastinal exudate associated with pneumonia. In some of the cases there was at autopsy very extensive dilatation. It was almost altogether in lower lobe pneumonia.

DR. S. J. MELTZER, New York: Pneumonia produces very often a dyspnea and frequent swallowing without any saliva. It is possible that the presence of air thus swallowed may be a factor in the production of dilatation.

Comparative Toxicity of Various Alcoholic Beverages

DR. JULIUS FRIEDENWALD, Baltimore: Experimentally I found that pure alcohol is less toxic than inferior whisky, and good whisky less toxic than inferior whisky, but more toxic than pure alcohol. Brandy is more toxic than alcohol or whisky, and genuine brandy just as toxic as ordinary brandy. Rum is more toxic than alcohol, whisky or brandy, and gin more toxic than pure alcohol. Liqueurs are more toxic than pure alcohol, whisky or brandy, and just as toxic as rum. Beer is but slightly more toxic than pure alcohol, and ale is no more toxic than beer, but more toxic than pure alcohol. Wine is more toxic than alcohol or whisky, and red wines are more toxic than white wines.

DISCUSSION

DR. G. M. KOBER, Washington, D. C.: Did Dr. Friedenwald estimate the amount of fusel oil present before injecting? My impression is that whenever the amount of fusel oil exceeds 1 part to 1,000 it is toxic.

DR. V. C. VAUGHAN, Ann Arbor, Mich.: The fact that a substance proves poisonous when introduced intravenously does not say that it will prove poisonous when given by the stomach. I do not think his investigations have taken into account this relative toxicity.

DR. J. FRIEDENWALD, Baltimore: I did not estimate the amount of fusel oil before injection. It is difficult, of course, to draw any conclusion from a small number of experiments of this kind. This was a little bit of work done experimentally on rabbits to obtain the pathologic effect of alcohol on them.

Two Cases of Leukemia with Disease of the Gums

Dr. Henry Jackson, Boston: These two cases are of especial interest in that the chief symptom in each case was due to disease localized in the gums. The gums were much thickened, measuring 1 inch in cross section; along the edge was superficial ulceration, and they bled easily when touched. Both cases were considered as some local disturbance of the gums and mouth until the blood examination made the diagnosis possible. The first case is one of acute lymphatic leukemia. As the glands were not enlarged in the first part of the disease this case suggests that the cause of the leukemia is to be sought in the bone marrow, rather than in a disturbed function of the lymphatic glands. This supposition is further substantiated in that though most of the cells were typical large lymphocytes, some of them were very similar to myelocytes, as granules were present in the cell substance. The second patient was a man 36 years of age, a dentist. Swelling of the submaxillary glands was soon followed by swelling of the cervical glands and gums; gums tender, hemorrhage; chief complaint great weakness. He was admitted with a diagnosis of scurvy. In this case the first impression of the stained specimen suggested an acute lymphatic leukemia, but the granules showed the cells to be abnormal myelocytes.

DISCUSSION

Dr. R. C. Cabot, Boston: It seems to me we have more difficulties as years go on in a fair demarcation of the clinical picture of acute lymphoid leukemia from the clinical point of view. It has always been an occasional stumbling-block that certain cases of whooping-cough have such an enormous number of lymphocytes and there are several instances of supposed leukemias reported recovered which were obviously whooping-cough. There is another difficulty, namely, a septic lymphocytosis.

Dr. Henry Koplik, New York: Most men working among children feel that the blood picture in children can scarcely be compared with that of the adult. Anemias in children so closely simulate leukemias in the adult that one must be cautious in speaking of lymphatic leukemia.

(To be continued)

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Medical Research, Boston

April

1 *A New Type of Cell Inclusion, not Parasitic, Associated with Disseminated Granulomatous Lesions. S. B. Wolbach, Boston.
2 *Nature of Trachoma Bodies. S. B. Wolbach, Boston, and S. H. McKee, Montreal.
3 Studies on Bacterial Variation. L. F. Rettger and J. L. Sherrick, New Haven, Conn.
4 A Chemical Study of Human Sweat. L. W. Riggs, New York.
5 Two Cases of Tumor Metastases Involving the Parathyroid Glandules. R. L. Thompson, St. Louis.
6 *Accessory Thyroid Tissue Within the Pericardium of the Dog. J. L. Swarts and R. L. Thompson, St. Louis.
7 *Recuperation of Nerve-Cells After Functional Activity from Youth to Senility. D. H. Dolley, Columbia, Mo.
8 *Study of the Hemopoietic Serum of Carnot. R. C. Larrabee, Boston.
9 *Studies in Immunity to Tuberculosis. A. K. Krause.
10 Biology and Biochemistry of Bacteria and Their Relation to Therapeutics. A. I. Kendall, Boston.
11 *Pathologic Changes Which Develop in the Kidney as a Result of Occlusion by Ligature of One Branch of the Renal Artery. W. DeB. MacNider, Chapel Hill, N. C.
12 Chronic Passive Congestion of the Liver. F. B. Mallory, Boston.

1. **A New Type of Cell Inclusion.**—In five human cases Wolbach found peculiar and striking cell inclusions. Four of these cases occurred in a series of nine hundred necropsies. The lesions have considerable resemblance to miliary tubercles. They consist at first of groups of epithelioid cells and giant cells. Later, a proliferation of connective tissue takes place, which leads to a fibrous tissue focus surrounding the giant cells. Extensive necrosis or caseation does not occur. Complete cicatrization is the rule. The inclusions are made up of two materials with different staining reactions. The type structure is that of a central mass with radiating straight or spinous projections. They bear a superficial resemblance to forms assumed by the acid-fast bacteria, including the tubercle bacillus, following certain methods of inoculations, and to the capsular material with spinous projections occasionally encountered in experimental lesions produced by certain fungi. They are found most often in giant-cells. The smaller forms are often found within endothelial leukocytes and occasionally within endothelial cells, which are attached to the walls of the lymph-spaces. Rarely the inclusions have been found free within the sinuses of lymph-nodes. The lesions in which these inclusions occur have been found in lymph-nodes, spleen, liver and lung. The most striking feature in the consideration of the lesions in which the inclusions occur is the wide distribution throughout the body. Tuberculosis has been excluded, as far as a most painstaking search for tubercle bacilli can exclude tuberculosis; also none of these cases show a typical tuberculous lesion in any part of the body. According to Wolbach the most important deduction to be made from this study is that it is a hitherto undescribed, generalized process of non-infectious origin.

2. **Nature of Trachoma Bodies.**—Wolbach and McKee hold that trachoma bodies are not specific of trachoma, nor are they parasitic in nature. In sections, they are found only in the most injured portions of the epithelium, where typical mucus-secreting cells are absent. On the other hand, in the more normal portions of the epithelium, where mucous cells are present, trachoma bodies cannot be found. Granules identical in size and staining reaction with the red granules of trachoma bodies may be found in disturbed mucous secretion. The so-called plastin material of trachoma bodies is similar in staining reaction and arrangement with certain forms of mucous secretion. The authors have come to the conclusion that trachoma bodies are the product of mucous secretion under pathologic conditions.

6. **Accessory Thyroid Tissue of the Dog.**—Of twenty-four animals showing pericardial thyroids, the structure of these bodies corresponded almost identically with the structure of the thyroid gland of the same animal in twenty-one instances. The exceptions were in two colloid goiter dogs which showed normal pericardial thyroids and in one animal with hyperplastic thyroid which showed a normal pericardial thyroid. In the limited amount of human material so far examined, Swarts and Thompson have failed to find thyroid tissue within the pericardium.

7. **Recuperation of Nerve Cells.**—The following conclusions are deduced by Dolley from the nature of the anatomic reaction in the Purkinje cell and the differential counts for the different animals.

1. To the end of its life-cycle the cell continues to react and there is manifest the attempt toward reorganization and restoration.
2. The power of recuperation is an inherent capacity, varying in each individual after the same degree of exhaustion.
3. The equipment of chromatin affords a valuable index of the power of the cell taken by itself and of the capacity of the individual when taken collectively. In the poorest recoveries the chromatin was more scanty and more delayed in restoration; in the best it was more rapid and tended to swing back to a more distinct excess as compared with an average.
4. Very young puppies show a greater and more wide-spread reaction to a given strain than adult dogs and recover from it more slowly.
5. The best recovery was in the dog which was in the best state of training.
6. The process of recuperation after exahausting activity is slow. After a physical overstrain of the kind employed complete recovery could not be expected in the best subject under two weeks, while the least capable subject used shows that it may be a matter of several months, or likely longer.
7. There is a wide range of anatomic states in different though apparently normal animals under the same external conditions.
8. Natural senescence and natural death, from the point of view of the nerve-cell, may happen independently of any extraneous cause whatsoever and are the inevitable final result of its natural activities. The morphologic price of activity is age.
9. Premature senility is the certain outcome of the injudicious and extravagant expenditure of energy without adequate chance for rest and recuperation.

8. **Hemopoietic Serum of Carnot.**—Larrabee was unable to verify the work of Carnot either experimentally or clinically.

On the experimental side the results were wholly negative, the average change in the red corpuscles after "hemopoietic serum" being a slight decrease. In a number of instances the injection of the serum was followed by considerable changes, never so great as those observed by the French writers, and apparently representing merely normal fluctuations. The latter were shown, in a few animals, to be much more marked than is commonly supposed. The serum was administered to eleven patients with anemia of various sorts. In three there was an immediate increase of red corpuscles exceeding 250,000, the maximum being 828,000. All were in post-hemorrhagic anemias.

9. **Immunity to Tuberculosis.**—As a result of his experiments, the following conclusions are drawn by Krause:

1. Sensitization of non-tuberculous guinea-pigs with tuberculoprotein does not alter their resistance to experimental tuberculous infection.
2. Sensitization to tuberculoprotein and relative immunity (increased resistance) to infection can occur coincidently in the same animals.
3. Resistance to infection is markedly lowered during the period that a sensitized animal is suffering from symptoms of anaphylactic shock.

11. **Pathologic Changes in the Kidney.**—Ligature of the posterior branch of the renal artery, MacNider says, leads to a necrosis of the greater portion of the cortex and the superficial portion of the medulla of approximately the posterior one-third of the kidney. An imperfect anastomosis between the vessels of the two vascular zones of the kidney is possible and does develop. With the development of the anastomosis there is at first an ingrowth of connective tissue cells into the necrotic zone, followed by an ingrowth of renal epithelium. Some of the glomeruli are regenerated by an ingrowth of capillary buds which later become canalized and contain blood. A secondary fibrosis is inaugurated, and with its development there is an atrophy of renal tubules, fibrosis of the glomeruli and obliterative changes in the vessels. The resulting picture is comparable to a chronic interstitial nephritis.

American Journal of Diseases of Children, Chicago

May

13 *Studies on Infant Nutrition: 1. Metabolism in Chronic Malnutrition. A. M. Courtney, New York.
14 *Etiology and Nature of Hard Curds in Infants' Stools. J. Brennemann, Chicago.
15 A Duodenal Tube for Infants. A. F. Hess, New York.
16 Spasm of the Pylorus in Infancy. J. L. Morse, Boston.
17 Blood Transfusion in Infants by Means of Glass Tubes. B. Vincent, Boston.

13. **Metabolism in Chronic Malnutrition.**—A summary of the analysis of the behavior of fat in patients under observation by Courtney brings to light the following peculiarities in the effect produced by fat intake. In all patients it undoubtedly produced an increased peristalsis of the small intestines. Whether this effect was produced by the fat independently, or whether the fat facilitates the similar action of the carbohydrates can for the present not be stated with a degree of certainty. The increased peristalsis results in a fall of fat absorption and, in an abnormal composition of the feces, which expresses itself in a high content of insoluble soap. However, the lack of fat absorption and the withdrawal of mineral bases by the unabsorbed fat did not reach a sufficient degree of intensity to be regarded as very important factors in causing the defective nutrition noted in the patients. On the other hand, the fat of the food failed to produce the principal effect that it invariably causes in health. Namely, it failed to bring about in connection with the carbohydrate of the food the normal gain in weight in the patients, who did not suffer from any difficulty in nitrogen assimilation, and whose diet contained a sufficient amount of calories for normal growth.

14. **Etiology of Hard Curds in Infant's Stools.**—The principal point emphasized by Brennemann is that when he resorted to the time-honored expedient of boiling the milk, he found almost without exception that the digestion improved, and that without any exception the hard curds disappeared within a day or two without otherwise altering the food. In all his experiences he has never seen a hard curd unless a considerable amount of raw milk casein was given, and he has neve seen curds persist or occur when boiled milk, no matter i what amount, was given. He also points out that certai very diverse foods, commonly recognized as easily digeste foods, such as buttermilk, condensed milk, dried milks, sodiun citrated or otherwise alkalinized milks, all have one thin in common—they do not curdle in hard masses as raw mil does. On the other hand, it is certainly a question whethe the use of rennin, as in pegnin or chymogen, has decided, o indeed, any advantages when the milk is previously boiled over boiled milk itself; and when not boiled the result is no satisfactory because of the toughness of the small curds tha are formed. Even in the preparation of "eiweissmilch," wit raw and boiled milk, respectively, there is an appreciabl difference in the consistency and amount of the curd and th amount of whey extracted; hence a difference in the ultimat food itself in the very respect that makes it unique an effective as a therapeutic measure. He who uses raw "eiweissmilch" will get very different results from another who use boiled milk in its preparation.

Medical Record, New York

May 13

18 Mistakes in Diagnosis of Chronic Lesions. W. A. Bartlet New York.
19 *Prevention of Insanity: Hygiene of the Mind. A. J. Rosanoff, Kings Park, N. Y.
20 *Etiology of Pancreatic Disease. J. E. Davis, Detroit.
21 Ocular Manifestations of the Peripheral Affections of th Fifth Cranial Nerve. G. H. Bell, New York.
22 *Chlorids, Phosphates and Sulphates of the Urine in La Stage of Pulmonary Tuberculosis. J. C. Warbrick, Chicag
23 Postoperative Urinary Incontinence. J. B. Squier, New Yor
24 Short Talks with My Students and Others: Being Rando Suggestions for the Younger Practitioners. R. H. M. Dawbarn, New York.
25 *Acute Tonsillitis and Its Treatment. H. Hays, New York.

May 20

26 Random Recollections of a Long Medical Life. S. Smit New York.
27 *Diagnosis of Cancer of the Uterus. E. Atlee, Philadelphia.
28 Holzknecht's Method for Measuring Dose of Roentgen Ray J. B. Stern, New York.
29 *Comparative Longevity of the Sexes. A. H. Stewart, Lawton, Okla.
30 Segregation and Education of Children Affected with Rin Worm of the Scalp. U. J. Wile, New York.
31 Two Cases of Gastric Ulcer Due to Diseased Gall-Bladder an Appendix. A. Judd, New York.
32 *Prognosis of Lobar Pneumonia. T. F. Reilly, New York.

19. **Prevention of Insanity.**—Rosanoff presents a certai modern standpoint of the etiology of insanity and a revie of measures of prevention which have been practiced wit some degree of success and which may, therefore, be recommended for general adoption.

20. **Etiology of Pancreatic Diseases.**—During the past yea Davis has observed and treated one case of carcinoma an three of diabetes mellitus in which functional tests pointed t involvement of the pancreas. Advantage was frequentl taken of the test findings and adjustment made in the quantitative relations of the fat, protein and carbohydrate. Th results have been convincing that very marked relief wa consequently afforded; furthermore, in two of the case which have resulted fatally, prolongation of life was ver evident.

22. **Chlorids, Phosphates and Sulphates of the Urine in Pulmonary Tuberculosis.**—Warbrick states that the changes i the chlorids, phosphates and sulphates in the last stages pulmonary tuberculosis are not as great as would be expecte in the last part of a wasting disease. The chlorids are somewhat increased, but this might be accounted for by the lar amount of food that must be taken to keep up repair. Th phosphates are sometimes increased also. The sulphates we found to be increased in three examinations of the urine.

25. **Acute Tonsillitis and Its Treatment.**—Hays recommen the treatment of tonsillitis by means of a 50 per cent. silv nitrate solution, after thorough anesthetization of the tons with cocain. The silver is applied to the opening of ca crypt, and the patient afterward uses a spray of peroxid hydrogen.

27. **Diagnosis of Cancer of Uterus.**—The relation of bod weight to early diagnosis is the point discussed by Atlee, w maintains that the point of importance to be considered i

not actual weight of the individual, but comparative weight of that individual at different periods. The actual maximum weight of the constitutionally light woman can but differ greatly from the actual maximum weight of the constitutionally heavy woman.

In the furtherance of this research, twenty-four cases have been carefully studied by Atlee and the evidence obtained is interpreted to point almost conclusively one way, viz., that the incipient stage of cancer of the uterus is coincident with the maximum weight of the woman, irrespective of age; and that the duration of this incipient stage may vary, as does that of the recognized stage of the disease.

29. **Comparative Longevity of the Sexes.**—A statistical study made by Stewart shows that there is a great preponderance of women in the older population, and the greater the age the greater is this preponderance. After making all due allowances for the greater mortality of man in war and from accidents from dangerous occupations and from masculine excesses Stewart feels that there are good reasons for believing that nothing short of a constitutional difference can account for the greater tenacity of life in women. Woman is a physiologic miser, she accumulates energy without expending it, while man is a physiologic prodigal; he expends more energy than he accumulates.

32. **Prognosis of Lobar Penumonia.**—The two general conditions, Riley says, which betoken an approaching dissolution in most cases are the presence of the so-called Romberg Passler syndrome, and, second, the failure of the right heart. In the first instance, the dilatation of the blood-vessels in the splanchnic area causes the normally low blood-pressure to sink much lower; this is accompanied by an increased rapidity of the heart. Shortly afterwards tympanitis becomes a marked symptom. The patient then looks as though he had been bled excessively. He has the appearance of profound shock; the pulse becomes irregular and this is often followed by delirium, hallucinations, restlessness and later stupor and coma; although occasionally the heart becomes much slower, the patient invariably dies when this symptom is well developed. In the second class the patient is cyanotic and there is great dyspnea, the jugulars are full and pulsating, the heart dulness is sometimes increased to the right, and the liver dulness almost always increased. Occasionally such a patient is saved; they usually die of asphyxia. When death has begun, the earliest indication of which is an increasing dyspnea, and a rattle with each respiration, which persists after coughing, recovery is unlikely. Riley says it would be difficult to get a unanimous opinion among any group of medical men of the present day that any form of treatment has any specific value as a cure of pneumonia. Personal views as to their ability to alter the prognosis by this or that treatment will always prevail. Certainly the prognosis can be influenced by the treatment and prevention of symptoms, complications, and sequelæ, but it is difficult to measure this in a concrete way. Last, but by no means least, in making a prognosis we must take into account the mental attitude of the patient. Hopefulness, determination to win, and patience sometimes prevail when there does not seem to be a glimmer of hope. These mental phenomena cannot be measured, but, when coupled with confidence in the physician, undoubtedly have a favorable influence. Possibly the loss of this personal confidence in the physician is an added factor in the high mortality in hospital practice.

American Journal of Urology, New York

April

33 Phenolsulphonephthalein as Test for Renal Function Before Operation. E. L. Keyes, Jr., New York.
34 Value of Vaccines in the Treatment of Infections of the Urinary Tract. H. Cabot, Boston.
35 Time and Method for Prostatectomy. B. Tenney, Boston.
36 Some Untoward Consequences of Phimosis and of Circumcision. G. H. Edington, Glasgow.
37 Perineal Prostatectomy. A. H. Ferguson.

Kentucky Medical Journal, Bowling Green, Ky.

May

38 *Rheumatic Eye Disease. S. G. Dabney, Louisville.
39 Ectopic Gestation. H. A. Davidson, Louisville.

38. **Rheumatic Eye Disease.**—Hot applications to the eye are believed, by Dabney, to be generally useful. In iritis, atropin is the mainstay while leeches and dionin are often useful. He uses the dionin in 10 per cent. solution; it allays pain for a considerable time and is said to promote the absorption of the atropin. Dabney is under the impression that the profession underrates the value of frequent sweat baths. He says that elimination by this means and by frequent systematic muscular exercise combined with careful avoidance of constipation, are all important measures.

Journal of Nervous and Mental Diseases, New York

May

40 Growth Changes in the Nervous System. H. H. Donaldson.
41 A Case of Cerebral Decompression of Five Years' Standing, in Which a Large Cerebral Hernia Has Resulted, with Marked Improvement in Optic Neuritis. J. H. Lloyd, Philadelphia, and J. M. Spellissy, Philadelphia.
42 *Study of Heredity in Insanity in Light of Mendelian Laws. G. L. Cannon and A. J. Rosanoff, New York.

42. **Heredity in Insanity.**—The material on which the authors made their observations consists of the pedigrees of eleven patients and includes thirty-five different matings, a total of 221 offspring. They found that both parents being neuropathic, all children will be neuropathic. One parent being normal, but with the neuropathic taint from one parent, and the other parent being neuropathic, half the children will be neuropathic and half will be normal, but capable of transmitting the neuropathic make-up to their progeny. Both parents being normal but each with the neuropathic taint from one parent, one-fourth of the children will be normal and not capable of transmitting the neuropathic make-up to their progeny, one-half will be normal but capable of transmitting the neuropathic make-up, and the remaining one-fourth will be neuropathic. Both parents being normal, one of pure normal ancestry and the other with the neuropathic taint from one parent, all the children will be normal, half of them will be capable and half incapable of transmitting the neuropathic make-up to their progeny. Both parents being normal and of pure normal ancestry, all children will be normal and not capable of transmitting the neuropathic make-up to their progeny.

Annals of Surgery, Philadelphia

May

43 Recent Advances in Pulmonary Surgery. J. H. Jopson, Philadelphia.
44 *Injury as a Causative Factor in Cancer. W. B. Coley, New York.
45 *Acute Ulcer Peritonitis in Typhoid. F. Hawkes, New York.
46 *Radical Cure of Femoral Hernia in the Aged. P. M. Pilcher, Brooklyn, N. Y.
47 Acute Diverticulitis. H. A. Bruce, Toronto, Canada.
48 Appendicostomy to Safeguard the Excluded Colon in Lane's Operation for Chronic Intestinal Stasis. A. E. Rockey, Portland, Ore.
49 Case of Chylous Cysts of the Mesentery. W. H. Axtell, Bellingham, Wash.
50 Removal of the Ureter with a Tuberculous Kidney. G. E. Shoemaker, Philadelphia.
51 Use of the Moorhof Bone Plug in the Surgical Clinic of the University of Minnesota. J. C. Stewart, Minneapolis.
52 *Use of Scarlet Red and Amidoazotoluol in Stimulating the Epitheliation of Granulating Surfaces. J. S. Davis, Baltimore.
53 An Improved Device for Transfusion. H. H. Janeway, New York.

44. **Injury as Causative Factor in Cancer.**—A careful study of over 1,200 personal observations has convinced Coley that local trauma of any kind, from chronic irritation to a single local contusion, is not infrequently the direct exciting cause of malignant tumors of all types. That a single local injury may cause a carcinoma as well as a sarcoma, is no longer open to speculation. Coley believes that his cases fulfil all the conditions necessary to establish a definite causal relationship between a single trauma and the development of a cancer. This relationship in no way depends on ability to offer a scientific explanation of it; nor does it depend on the acceptance of any one of the various hypotheses as to the etiology of cancer. It can equally well be explained whether we accept the extrinsic or intrinsic origin of malignant tumors.

45. **Typhoid Ulcer Peritonitis.**—Hawkes claims that early operation is not usually suggested in these cases because the diagnostic value of abdominal rigidity at its first appearance is not appreciated, and that on this account a persistent

search for it is not made from the time that the patient begins to suffer from abdominal discomfort. The records show that it is only recognized, as a rule, when marked pain is complained of, and unless other alarming symptoms are present, the case is, unfortunately, too often watched until the rigidity becomes general and a spreading peritonitis has become well established. He believes that enough evidence is at hand to justify the statement that an early exploratory operation exerts a distinctly beneficial influence, not only on ulcers that may be about to break down but on others as well, thus preventing their further progress toward separate perforations, a condition recognized as almost invariably fatal.

46. **Femoral Hernia in the Aged.**—The radical cure of femoral hernia in the aged which Pilcher advocates consists of the following steps: (1) Intracutaneous injection of .2 per cent. solution of cocain along the line of incision. (2) Incision, enucleation of the sac, and exposure of the femoral ring. (3) Opening the sac and inspection of the contents, incision of point of constriction, and return of intestines to abdominal cavity. (4) Transfixation and ligature of the neck of the sac with a single ligature, and fixation of the stump of the sac to the abdominal wall above the femoral ring. (5) Single purse-string suture uniting Poupart's ligament, Gimbernat's ligament, the pectineal muscle and the sheath of the femoral vessels, obliterating the patency of femoral canal. (6) Closure of the wound with interrupted silk sutures, without drainage.

52. **Scarlet Red Dressing of Ulcers.**—Davis says that scarlet red and amidoazotoluol will not heal every wound, but in the majority of cases, when applied with the proper technic, they will cause epithelial stimulation in the edges of the most sluggish wounds, and give a rapid healing which is stable and resistant, and which has the macroscopic and microscopic appearance of the normal skin. There is no tendency to subsequent contraction, and the skin becomes movable on the underlying tissues in a reasonable time. The consensus of opinion is that there is no danger of producing malignant growths by the clinical use of these substances. Davis' experience has convinced him of this, and, he says, although occasionally there is an overgrowth of epithelium, this soon assumes the level and the appearance of the normal skin.

Journal of the American Public Health Association, Urbana, Ill.

April

54 Further Contribution to Our Knowledge of Insecticides. C. T. McClintock, H. C. Hamilton and F. B. Lowe, Detroit.

Boston Medical and Surgical Journal

May 11

55 *Experimental Work on Fusion of Nerves and Its Practical Bearing on Infantile Paralysis. H. O. Feiss, Cleveland.
56 Case of Hemiatrophy from Scleroderma. P. C. Knapp, Boston.
57 The Towns-Lambert Treatment for Morphinism and Alcoholism. R. C. Cabot, Boston.
58 *Review of Two Hundred and Fourteen Cases of Extra-Uterine Pregnancy at the Massachusetts General Hospital. W. P. Coues,. Boston.

May 18

59 Meningitis in Infancy. J. L. Morse, Boston.
60 Complete Rupture of the Supraspinatus Tendon. Operative Treatment with Report of Two Successful Cases. E. A. Codman, Philadelphia.
61 Intussusception in Children. J. H. Young, Newton.
62 Treatment of Intussusception in Children. W. E. Ladd, Boston.

55. **Fusion of Nerves.**—Nerve "fusion" is nothing more nor less than a method which attempts to render permanent the arrangement of the fibers in that stage of regeneration when they run in more than one direction. It is a method for taking advantage of the confused nerve pattern of the scar in the transitory stage and fixing that pattern in the hope that, when regeneration is finally completed, the fibers will have grown down different tracts from those which they originally occupied, thus defeating chemotaxis. So in a case of paralysis, if some of the fibers in the nerve are degenerated and their sheaths are empty, the question arises whether the interposition of a proper scar in the course of that nerve may distort its nerve pattern so as to enable the empty tracts to become occupied again with new fibers. Not only this, but also whether some of the branches that form on the sprouting ends of the divided axis-cylinders may also be made to enter tracts which have previously been empty, thus gaining not only a new distribution of fibers, but also an actually greater number. In this preliminary report, Feiss details the method of procedure adopted by him, and also reports one instance in which it was used on the human. But not sufficient time has elapsed to make a final report.

58. **Extrauterine Pregnancy.**—The conclusions arrived at by Coues from a study of these 214 cases are as follows:

1. Irregular flowing seems to play the important part given it in the books as a symptom of extra-uterine pregnancy.
2. The importance of a long period of sterility as a cause of extra-uterine pregnancy does not seem to be borne out by these statistics.
3. Conditions possibly leading to extra-uterine pregnancy: The fact that cystic ovaries, disease of the opposite tube, adhesions or a previous miscarriage occurred in over 83 per cent. of 202 cases is suggestive, and is in agreement with authorities as to the possible relation of such conditions to extra-uterine pregnancy.
4. The fact that in only 26.5 per cent. of 207 cases the pain was sudden is of interest. In about three-fourths of the cases the sudden, severe pain was preceded by pain of less severity, coming on gradually.
5. Of considerable interest is the leukocytosis observed in the cases in shock. This is apparently a perfect example of leukocytosis after hemorrhage. The finding of a temperature of 100 or over in 43.4 per cent. of the cases, and of a temperature of 101 or over in 14.4 per cent. of cases, is also of interest. Ordinarily it is supposed these cases rarely have any fever.
6. Active hemorrhage at operation. Some observers with much experience in this subject say that active hemorrhage actually seen at operation occurs so rarely as to be practically negligible. It occurred in 4.4 per cent. of all the cases operated on. It is possible that the hemorrhage was in some cases started up by operative manipulation.
7. Immediate vs. delayed operation.

These statistics, Coues points out, show that it is best to wait for a time before operating on patients in shock. Twenty-five per cent. mortality of those operated on in shock, 8.3 per cent. mortality of those for whom the operation was delayed for a time. Active stimulation and blood-pressure-raising drugs seem to be best given after the bleeding points in the tube are secured. Rest and morphia while waiting are most important. Waiting any length of time with a case of extrauterine pregnancy in good condition is dangerous, since it has been shown that bleeding may recur at any time, so that in a few hours the patient may be again in a desperate condition.

Quarterly Bulletin of Northwestern University Medical School Chicago

April

63 *Improved Technic in Brain Surgery. E. W. Andrews, Chicago
64 *Desmoid Tumors of the Abdominal Wall After Operation E. W. Andrews, Chicago.
65 Methods of Testing the Mental Status of Subnormal Children E. R. Shaw.
66 *Treatment of Puerperal Sepsis by Intravenous Injection o Mercuric Bichlorid. H. M. Stowe, Chicago.
67 Mild Traumatic Neuritis of Brachial Plexus. K. Speed Chicago.
68 *Study of Forty-Seven Wassermann Reactions After Injectio of Salvarsan. J. S. Eisenstaedt, Chicago.
69 *Peculiar Catheter Accident. V. D. Lespinasse, Chicago.
70 Pediatric Clinics of Europe. J. H. Hess, Chicago.
71 Movability of Heart and Aorta in Health, Evidenced by Ski agrams Taken in Unusual Positions. C. A. Elliott, Chicag

63. **Improved Technic in Brain Surgery.**—Andrews cites case in which he used glass tubes for subdural drainage o the lateral ventricles in a case of internal hydrocephalus. H says he is convinced that the use of a thin glass, rather tha a metal, tube contributed not a little to the success of thi interference. The smoother surface texture of glass and th lighter specific gravity probably contribute to this result Skiagrams taken three years after the operation show th tube to have remained exactly where inserted, and the per manent cure speaks for its persistent utility.

64. **Desmoid Tumors of Abdominal Wall After Operation.**— Two cases, both following hernia operation, are reported b Andrews but one of these was not examined histologicall and was not seen by him before the mass had formed. I was possibly not a true desmoid, but a chronic ligneou abscess, like the "holzphlegmone" of the neck. He says tha desmoid tumors should be removed by operation, inasmuc as the tendency is to grow larger and occasionally to sta degenerative retrograde or malignant changes.

66. **Treatment of Puerperal Sepsis.**—Stowe has given 1 injections of 1/5 grain of mercuric bichlorid in septic case

and has never seen any bad or toxic results therefrom. He says that intravenous medication appears to offer the quickest, most accurate and most dependable method of drug administration and that the reputed dangers of embolism are greatly overestimated. Mercuric bichlorid is not the ideal drug to combat septicemia, but it has the advantages of being easily associated with other forms of treatment, is harmless in action and is worthy of trial in serious cases. Care should be taken, however, to keep the teeth clean and to omit salines during the course of treatment.

68. **Wassermann Reactions After Injection of Salvarsan.**—The results of Eisenstaedt's study show that the injection of salvarsan in specific disease does not cause a rapid disappearance of the Wassermann reaction. Cases of latent syphilis, even after the injection of salvarsan, may show a positive reaction. Those cases of lues marked by dry lesions do not react as readily to salvarsan as those characterized by moist or succulent lesions, as judged by the effect on the Wassermann reaction. In those cases of primary lues, in which the patients were injected early with salvarsan, the Wassermann reaction may remain negative for relatively long periods. The injection of salvarsan late in the primary stage of syphilis does not seem to affect the appearance of the Wassermann reaction.

69. **Peculiar Catheter Accident.**—In this case the first loop of an ordinary knot had been tied in the catheter as the filiform coiled up in the bladder. The patient was quite sensitive and had several bladder spasms while the instrument was in place. Lespinasse suggests that probably during one of these spasms the end of the rat-tail of the catheter was crossed over the shaft, and a large loop was formed. This loop being drawn down to its present size by the traction and the resistance of the prostatic urethra. In this particular case no harm was done to the patient.

Philippine Journal of Science, Manila

December

72 *Experiment with Orange-Red Underwear. J. M. Phalen, U. S. A.
73 *Treatment of Strychnin Poisoning with Chloroform. A. O. Shaklee, Manila.
74 *Bone Lesions of Small-Pox. W. E. Musgrave and A. G. Sison, Manila.
75 *Specific Treatment of Leprosy. E. R. Whitmore and M. T. Clegg, Manila.
76 *Tuberculosis in the Philippines. E. R. Whitmore, Manila.
77 Therapeutic Inoculations of Bacterial Vaccines. E. R. Whitmore, Manila.

72. **Experiment with Orange-Red Underwear.**—As the result of very extensive experimentation and observation, Phalen's final judgement is that the test underclothing has added materially to the burden of heat on the system, a burden which undoubtedly is the great cause of tropical deterioration. To balance this, it is protective against the chemical ray, the influence of which is regarded as of little moment, and which is sufficiently excluded by khaki clothing and the campaign hat worn at present. Certainly no beneficial effect whatever was observed from the use of this clothing. This experiment suggests that any efforts toward increasing the physical well-being and efficiency of the soldier shall be directed toward protecting him from the debilitating effects of heat and humidity. After giving due weight to the prejudice against the clothing, the persistent complaints of greater heat, greater weight and increased perspiration lead Phalen to the conclusion that the colored garments are more receptive to heat rays than are the white.

73. **Chloroform in Strychnin Poisoning.**—Shaklee found that dogs poisoned with doses of strychnin which are certainly fatal may recover from the effects of the strychnin if properly treated with chloroform, together with the intravenous injection of liberal quantities of Ringer-Locke solution. Better results are obtained if the chloroform is given by intratracheal insufflation and in uniform concentration as low as consistent with the condition of the patient. Dogs saved from strychnin death by means of chloroform are likely to die later of chloroform poisoning. Chloroform is far inferior to ether for the treatment of strychnin poisoning, and probably for the treatment of convulsions in general.

74. **Bone Lesions of Small-Pox.**—The cases of eight patients who were suffering from deformities of the forearms and hands caused by small-pox contracted during childhood are reported by Musgrave and Sison. The deformity in nearly all the cases consisted of a shortening of both forearms together with enlargement and irregular development about the elbow joints, and irregular enlargements, shortening and other deformities of bones of the wrist, hands and fingers. The authors are of the opinion that the seat of the primary lesions is in that active part of the bone between the epiphysis and diaphysis which grows ex utero, and that the most probable cause of the deformity is primary inflammation and destruction of the secondary center of ossification situated between the epiphyses and diaphyses, resulting in premature ossification.

75. **Specific Treatment of Leprosy.**—Whitmore and Clegg have prepared a vaccine, a glycerin extract and a soap solution from an acid-fast bacillus which Clegg cultivated from leprous tissue. They have used these preparations in the treatment of cases of leprosy for twelve and one-half months, without noting any improvement in the condition of any of the patients. In some of the cases they have noted reactions after the injections, but they are not prepared to say whether or not these reactions are specific. The glycerin extract of this organism does not produce a skin reaction on leprous or tuberculous patients, nor on normal persons. They have treated these same leprous patients for two and one-half months with a soap solution of leprous spleen, rich in leprosy bacilli, without noting any improvement in the condition of the patients. They have treated cases of leprosy for eight months with injections of atoxyl and also with injections of a mixture of sodium cinnamate and mercury cinnamate, without noting any improvement in the patients. They have treated cases of leprosy for eight months wtih injections of Nastin B. These patients already had been treated with injections of Nastin B for nine months by Dr. Teague. At the end of the seventeen months no improvement was noted.

76. **Tuberculosis in the Philippines.**—The result of Whitmore's work seems to indicate that none of the specifics used by him were of especial value in the treatment of pulmonary tuberculosis in natives of the Philippines.

Providence Medical Journal

May

78 Acute Osteo-Arthritis of the Spine After Trauma in Osteo-Arthritic Patients. F. J. Cotton, Boston.

Lancet-Clinic, Cincinnati

May 13

79 Ocular Complications of Measles. L. D. Brose, Evansville.
80 *Blastomycosis. A. Ravogli, Cincinnati.
81 Ipecacuanha. W. E. Bloyer, Cincinnati.

80. **Blastomycosis.**—Iodid of potassium in blastomycetic dermatitis failed in all Ravogli's cases. He prefers the use of tonics. A mixture of arsenic and chlorid of iron has given better results. He relies on the local treatment. The scraping of the granulating surfaces with the sharp curette is necessary, and the raw surface is cauterized with pure lysol. The resulting wound is dressed with gauze saturated in castor oil and balsam of Peru in equal parts. When the small abscesses reappear the exposure to the Roentgen rays has given beneficial results. Ravogli says that perseverance and courage must be used to obtain success in this affection. It is difficult to rid the tissues of the spores budding in their midst, but with perseverance in continuous treatment, giving no quarter to the fungi, and with the use of strong, escharotic cauterizing antiseptics, he has obtained a permanent cure in two cases, and in one, although rather extensive, a marked improvement.

Canadian Medical Association Journal, Toronto

May

82 A Study of Eight Hundred and Fifty Cases of Scarlet Fever with a More Particular Consideration of Seventy-One Fatal Cases. J. McCrae, Montreal.
83 *Relation of the Thyroid to the Female Generative Organs. J. R. Goodall and L. C. Conn, Montreal.
84 Medical Inspection of Schools in All Countries. J. Stewart, Halifax.

83. **Relation of Thyroid and Female Generative Organs.**—Shortly after the onset of pelvic pain and discomfort, the patient noticed a gradual enlargement of her thyroid, dyspnea, tachycardia and other symptoms of thyroid disease. After a while an operation was done and when the abdomen was opened the pelvic disease proved to be a chronic tuberculosis, involving tubes, ovaries and uterus extensively. All these organs were removed. About twelve days after the operation, the authors noted that the thyroid was decreasing in size. This continued and six months after the operation the woman was entirely well. The thyroid had enlarged synchronously with the onset and progress of a grave disease of the generative organs, and with the removal of the pelvic disease the goiter visibly diminished to dimensions below the normal. The authors believe that there can be no hesitation, then, in claiming that the pelvic disease was the cause and the thyroid enlargement the effect. This led them to investigate the subject further, clinically and experimentally, and the following conclusions represent the results of this work:

1. The relation between the female genitals and the thyroid is very intimate.

2. The generative organs which stand in such close relation with the thyroid are the ovaries.

3. That the uterus is devoid of any influence on thyroid activity, except in that its function may affect the ovarian function, and through this the thyroid.

4. Thyroid activity is in a measure under the governance of ovarian activity.

5. Ovarian hyperactivity is a frequent cause of the development of exophthalmic goiter.

6. Diminished or absent ovarian activity usually coincides with myxedema.

7. Puberty, menstruation, pregnancy, lactation and menopause exercise a profound influence on thyroid secretion.

8. Thyroid secretion and ovarian secretion do not supplement each other; they neutralize each other.

9. The ovary has two secreting structures—the corpora lutea and the interstitial cells.

10. It is the secretions from the latter which seem to bring the ovary and thyroid into such close relation.

Ophthalmology, Seattle, Wash.

April

85 Incipient Glaucoma, Its Diagnosis and Treatment. A. A. Bradburne, Southport, England.
86 Operation of Simple Trephining of the Sclera for the Relief of Glaucoma. R. H. Elliot, Madras, India.
87 Arterial Hypertension and Its Relation to Morbid Changes in the Eye. L. C. Peter, Philadelphia.
88 Eye Tuberculosis and Its Treatment. J. E. Windbiel, Amsterdam, N. Y.
89 Bilateral Partial Tenotomy, with a Greek Cross Test-Object for Use During Operation. S. L. Ziegler, Philadelphia.
90 Extractum Corporis Ciliaris in the Treatment of Sympathetic Ophthalmia. E. B. Heckel, Pittsburg, Pa.
91 Visual Malingering. H. V. Würdemann, Seattle, Wash.
92 A Case of Varix or Angioma Venosum of the Orbit. J. F. Klinedinst, York, Pa.
93 Relation of the Anterior Ethmoid Region to Diseases of the Eyes. J. I. Dowling, Albany, N. Y.
94 A Case of Infection Following Cataract Extraction Treated by Vaccines, with Rapid Recovery. R. P. O'Connor, Fort Screven, Ga.
95 Telescope Eyeglasses. K. Scott, London, England.

New York Medical Journal

May 20

96 *Case of Aneurysm of the Arch of the Aorta. J. Tyson, Philadelphia.
97 Nervous Affections in Relation to the Adjustments of the Eyes. G. T. Stevens, New York.
98 *Certain Lesions of the Lymph-Nodes. D. Symmers, New York.
99 The Manual Treatment of Certain Forms of Ulceration of the Skin. E. F. Cyriax, London.
100 *Pick's Syndrome, with Report of Case. E. E. Cornwall, Brooklyn.
101 Training for Public Health Work. A. E. Shipley, Brooklyn.
102 Causes of Constipation. S. Floersheim, New York.
103 Removal of the Third Digital Phalanx with Formation of a New Joint. E. Beck, New York.

96. **Aneurysm of Arch of Aorta.**—In Tyson's case the aneurysm was treated by wiring on two different occasions. The first time ten yards of silver wire were introduced into the sac. The most striking change which succeeded the wiring was the disappearance of the aneurysmal murmur, and the pain abated. There was no reduction in the size of the tumor. The systolic murmur which disappeared after the wiring remained absent. About two months afterward the aneurysm was again wired. Eighteen feet of No. 2 silver wire were introduced and 10 feet of No. 1 wire. The pain was again relieved by the wiring and the patient was able to sleep. The pulsation appeared also to be somewhat less strong. Notwithstanding the treatment, the aneurysm continued to grow rapidly. The man died about five weeks later. At the autopsy one piece of wire was seen to extend down the aorta, through the aortic valvular orifice into the left ventricle. It was a double loop, both ends being mixed up in a mass of wire. The lower end came to within 1 inch of the apex and the wire was quite firmly attached to one of the pectinate muscles.

98. **Certain Lesions of the Lymph-Nodes.**—Symmers summarizes his paper as follows:

1. Primary disseminated epithelioid tuberculosis of the lymph nodes, while rare, is by no means unknown. Its occurrence as a epiphenomenon in status lymphaticus, however, appears not to hav been recorded, so that the case described in this communicatio would seem to occupy an unique position.

2. The histologic changes in Hodgkin's disease resolve themselve into three stages, the first of which is characterized by focal hyper plasia of lymphoid cells and is succeeded, among other features, b the formation of multinucleated giant-cells and interstitial con nective tissue overgrowths. Although the lesion may not progres beyond this granulomatous stage, cases occur in which the con nective tissue stroma undergoes such extensive hyaline metamor phosis that the cellular details are obscured and the histologi individuality of the process is established only with difficulty. Thi transformation would appear to represent an attempt at healing.

3. A type of Hodgkin's disease exists, either primarily in th cervical region or in the thorax, in which the growth may invad surrounding structures and initiate secondary nodules in distan parts. In either issue the process admits of at least two legitimat interpretations: First, that invasion of surrounding viscera ma be referred to sarcomatous transformation of an originally gran ulomatous lesion, or that it is an expression of compulsory growt and thus locally malignant rather than malignant in the sense tha the infiltrating cells possess autonomous properties. Second, tha the occurrence of secondary nodules may signify neoplastic conve sion of the original growth and the transmission of autonomou qualities to cellular emboli deposited in distant parts, or that th transplanted provocative agent finds a suitable field of activity i the form of lymphomatous foci preexisting in the organ secondaril involved, or that it actually brings such foci into being, the proces throughout remaining within the bounds of an inflammatory lesio But when such highly presumptive evidence of malignancy a destructive infiltration of neighboring tissues and the formation c secondary nodules in distant parts is combined with changes in th morphology of the growth indicated by the development of va numbers of large round cells and of myeloid giant cells, neoplast conversion would appear to be established beyond doubt.

100. **Pick's Syndrome.**—The signs and symptoms whic essentially constitute Pick's syndrome are: Enlargement c the liver with obstinately recurring ascites, but withou jaundice and without signs of cardiac abnormity, in a patien who gives a previous history of pericarditis. Pick believe that the latent pericarditis disturbs the circulation, thereb producing hepatic engorgement and also connective tiss hyperplasia which interferes with the ramifications of th portal vein and thus brings about the ascites. He calls thi pathologic complex pericarditic pseudocirrhosis of the live Cornwall cites such a case occurring in a boy, aged 19, aft an attack of typhoid.

Albany Medical Annals

May

104 The Formation of Gall-Stones. H. W. Carey, Troy, N. Y.
105 Symptomatology and Differential Diagnosis of Gall-Stone Di ease. H. C. Gordinier, Troy, N. Y.
106 Surgical Treatment of Gall-Stones. J. B. Harvie, Troy, N.

Medical Fortnightly, St. Louis

May 10

107 Is Anything the Matter with the Doctors? W. J. Robinso New York.
108 In the Twilight. C. E. Warren, North Easton, Mass.
109 Surgical Eponyms. M. Hagen, Chicago.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinic lectures, single case reports and trials of new drugs and artifici foods are omitted unless of exceptional general interest.

Lancet, London

May 6

1 Sensibility of Alimentary Canal in Health and Disease. A. Hertz.
2 *Symptomatic Vagaries of Partial Pyloric Obstruction. A. Maylard.
3 Indications of Inborn Proclivity to Gout. Sir D. Duckwor
4 Suprapubic Transverse Fascial Incision in Gynecology. Wilson.
5 Aneurysm of the Innominate Artery; Proximal Ligatur Recovery. P. Sargent.
6 *Reversible Pulmonary Crepitation in Cardiac Failure. Morison.
7 Infant Mortality. W. E. Heilborn.

2. **Symptomatic Vagaries of Partial Pyloric Obstruction.**—The points of most significance in partial pyloric obstruction, according to Maylard, are intermittent attacks of dyspepsia, coupled at such times with the physical signs of gastric peristalsis or gastrectasis in often otherwise healthy patients.

6. **Reversible Pulmonary Crepitation in Cardiac Failure.**—Morison uses the adjective "reversible" rather than hypostatic, static or postural, to emphasize the fact that the well-marked crepitation denoting pulmonary congestion in the most dependent part is abolished, usually altogether and always, almost, by a single rotation of the patient on his own axis in bed, and in the short space of time which that movement occupies, a fact no doubt explicable by the nature and degree of the congestion in question. It is always, so far as his experience goes, denotative of a grave degree of cardiac failure when reversible from one lung to the other, but may nevertheless disappear and leave the patient in a position to resume his normal activity. While exhibiting the sign, however, he is compulsorily bedridden. It is not the state of the arteries, but of the heart which accounts for it. The sign denotes enfeebled ventricular action. It may be associated with an apical bruit of mitral incompetency, which disappears on convalescence; or no such bruit may be present. As it so happens, Morison has noted it more frequently in the absence than in the presence of organic valvular disease. The cardiac rhythm may be quite regular—has been so—in the cases in which he has observed it, and its rate only moderately, or, at times, considerably, increased.

British Medical Journal, London

May 6

8 *Hemorrhoids. E. S. Bishop.
9 Operative Treatment of Rectal Carcinoma. J. W. Smith.
10 Practical Points in Operating on Kidneys and Ureters. E. Deauesly.
11 *Appendicular Dyspepsia and Treatment of Diffuse Peritonitis. R. C. B. Maunsell.
12 Deaths Following Gastro-Jejunostomy Not Due to Anastomosis. C. H. Whiteford.
13 Pathology and Treatment of Fistulæ. H. Drummond.
14 Similarity Between Acute Abdominal and Acute Pulmonary Conditions. G. G. Wray.
15 Mechanism of Transmission of Trypanosoma Lewisi from Rat to Rat by Rat Flea. C. Strickland.
16 Drainage Tube for Suprapubic Cystotomy, Liver Abscess and Abdominal Cysts. L. McGavin.

8. **Hemorrhoids.**—In Bishop's opinion the radical method of obliterating the perineal portion of the internal hemorrhoidal plexus (Whitehead's operation) is the one method which can be relied on to prevent any return of the condition. In order to carry this out effectually, he says that the whole perineal portion of this plexus up to the pectinate line should be removed, and the submucosa beyond brought down and firmly fixed to the skin. Failure to do this is at the root of organic stricture of the anus following an operation. In many, at least, of the cases or organic stricture following operation, dissecting out the resulting scar tissue, freeing of the external sphincter, and bringing down of the submucosal layer to the skin will result in a cure.

11. **Appendicular Dyspepsia.**—For several years it has been Maunsell's practice to open the abdomen by the ordinary oblique incision, remove the gangrenous or perforated appendix, and pass large "cigarette" drains from the wound to the bottom of the pelvis and to one or both kidney pouches, according to the diffusion of the purulent exudate. Silkworm-gut stitches are then placed in position, but not all tied, and the patient is nursed in the "Fowler" position, whilst plenty of saline solution is administered by the rectum. He does not find it necessary, even in the most diffused cases, to make counter openings in the loin or elsewhere. The drains are removed in from thirty-six to forty-eight hours and more of the sutures are tied, but the wound is not completely closed.

Clinical Journal, London

April 26

17 Gangrene Cholecystitis. H. J. Waring.
18 A Case of Carcinoma of the Rectum. E. M. Corner.
19 Clinical History and Treatment of the Less Obvious Types of Gummata. H. Curtis.

May 3

20 Principles of the Treatment of Colitis. W. H. White, R. Hutchison and P. L. Mummery.
21 Operations for Pott's and Dupuytren's Fractures. R. P. Rowlands.

Quarterly Journal of Medicine, London

April

22 *Infection of the Urinary Tract in Children by Coliform Organisms. W. M. Jeffreys.
23 *The Third Sound and "B" Wave in Slow Heart Action; Fallacies in the Interpretation of Records. J. D. Windle.
24 Paroxysmal Tachycardia of Brief Duration. E. E. Laslett
25 Modern English Cardiovascular Teaching. T. Lewis.
26 Alterations of the Hydrochloric Acid in the Gastric Juice. Due to Carcinoma of the Stomach. G. Graham.
27 *Influence of Salicylates on the Cardiac Lesions of Chorea. E. A. Cockayne.
28 The Viscosity of the Blood. C. Allbutt.
29 Influence of Bacterial Emulsions on Phagocytosis. F. Golla.
30 Tuberculin in the Diagnosis and Treatment of Tuberculosis. E. C. Hort.
31 *On Oxycephaly. H. M. Fletcher.
32 Treatment of Gastric Ulcer. E. I. Spriggs.

22. **Infection of the Urinary Tract in Children.**—Among 121 cases collected and studied by Jeffreys, sixty-seven were due to coliform organisms, thirty-seven to staphylococcus, ten to streptococcus, three to pneumococcus and four to other organisms. Of fourteen cases occurring during 1910, five patients died of the disease and one of meningococcal meningitis, in which the coli infection was a complication. There were sixteen cases in 1909, twelve cases in 1908 and nine cases in 1907; the remaining nine cases were scattered over the previous six years, and one of the patients died of the disease in 1905. Only ten dated the trouble from some previous illness, generally an acute specific fever. In thirty-four cases there was definite evidence of bowel trouble of one kind or another, in ten cases the bowels were noted as regular, and in sixteen there was no evidence pointing to bowel trouble.

With regard to the chief symptoms complained of, in thirty-seven cases they pointed to bladder trouble, usually painful micturition; three cases were brought up for diarrhea and vomiting, nine for abdominal pain, five with meningeal symptoms, four for debility and in two there were no symptoms. Four cases were discovered in children suffering from some other illness. Twenty-one began with symptoms pointing to bladder trouble and nine with symptoms suggesting pyelitis. In thirty cases there was no evidence to suggest the mode of onset. There was evidence pointing to pyelitis in thirty cases; in twelve the right kidney only was affected, in three the left only. The renal trouble began in or was confined to the right kidney in seventeen cases, the left in five; in one of the latter the right kidney was more markedly affected than the left. In eight cases there was no evidence to show which kidney was first affected. Examination of the urine shows that pus was present in nearly every instance, fifty-six out of sixty. Albumin was present in forty-five and blood in fifteen. The urine was acid in thirty-nine cases, alkaline in seven, neutral in one and in the remaining thirteen cases no note was made of the reaction. Casts were noted as being present four times.

Only twenty-one patients were discharged as being cured, that is to say, with no symptoms and no pus in the urine. Nine died; of these six died of the urinary trouble and three of some other disease, of which the urinary infection was a complication. Six were discharged *in statu quo ante* and twenty-three as "improved;" this usually meant that symptoms had abated but that pus was still present in the urine. Altogether fourteen patients were untreated, except by rest in bed and nursing; of these, one was cured, five went out unchanged, two were "improved," and six died, three of the latter from some other complaint. Forty-six patients were treated with drugs, or local applications to the bladder, and twenty of them were cured, four with washing out the bladder, one with alkalis by the mouth, five with antiseptics by the mouth and one with vaccines. The remainder had various combinations of the above methods. The usual treatment was on three lines: 1. Alkalis. 2. Urinary antiseptics. 3. Local treatment to the bladder. These were usually combined. Jeffreys thinks it most important to treat the bowel condition by washing out the large intestine and keeping it acting by means of aperients, but being careful not to produce further irritation of the large intestine, as is very likely with aperients. Judging by three cases cured by appendicectomy, it seems well worth while resorting to this measure in stubborn cases.

23. **Third Sound and B Wave in Slow Heart Action.**—A third sound with an associated B wave was present in 2 out of 193 observations made by Windle on normal individuals. The pulse-rate was abnormally slow and sinus irregularity present in both cases. In thirteen instances of the number of persons examined, a decided B wave was present in the venous tracing, in none of which a third sound was heard. Marked sinus irregularity was present in nine of the records. The pulse-rate in these cases varied from 50 to 60 per minute. When the pulse-rate was quickened in cases in which the B wave was persistently present under normal conditions, it did not show in the tracing when the pulse rate exceeded 80 per minute. When associated with sinus arrhythmia it was absent from the venous curve when the arrhythmic beats approached this rate. Windle found that the B wave may first appear in the venous tracing coincidently with regular slowing of the heart to a rate of from 50 to 70 per minute under digitalis. This may be brought about in the normal heart. In no case observed was there a third sound present. In slowing resulting from partial heart-block due to squill, an extra wave succeeding, blocked auricular waves is shown to occur. Coincidentally with the establishment of heart-block in this case, a clearly marked third sound was present. Venous curves showing the B wave may present a close resemblance at times to those resulting from extra-systoles or cases of heart-block. With a certain rate of pulse the B and A waves may fall together and give an appearance to the curve closely simulating an increased A-C interval.

27. **Influence of Salicylates on Cardiac Lesions of Chorea.**—The records of 780 hospital patients with chorea, treated during the last eight years, were carefully examined by Cockayne in order to discover whether salicylates really have the power of preventing the onset of carditis, or, if already present, of checking its further progress. Of the 780 patients, 355 were given salicylates and 425 received other treatment: 156 received doses below 60 grs. a day, 95 between 60 and 100 grs., 60 between 100 and 200 grs., 19 between 200 and 300, and 8 received doses of more than 300 grs. a day; the remaining patients were treated with acetosalicylic acid. If the drug has no effect the numbers showing cardiac change should be in the proportion of thirty-nine untreated to thirty-two treated with salicylates, and the actual numbers obtained are so near these that the disparity can have no significance. It might be thought that the larger doses would have had more effect in preventing the progress of the cardiac trouble, but the statistics do not suggest that the size of the dose has any such effect. Cockayne assumes that the organisms of rheumatism were probably present in the myocardium, endocardium or pericardium in these cases, and the salicylates (in the doses usually given) appear to have had no action in preventing their entrance into the heart, nor in stopping their further activity when once established there. This is confirmed by their inability to check the continuance of that low intermittent fever, with its daily or almost daily rise, usually to some point between 99 and 100 F., so characteristic of rheumatic infection in childhood. The fact that they do not prevent the formation of subcutaneous nodules, and that they have no action on choreic movements, which is probably due to toxins elaborated by organisms lying near the blood-vessels of the cerebrum, and poisoning the nerve-cells in their vicinity, would lead one to expect, by analogy, that they would have no action in the similar conditions found in the heart, and Cockayne's results show that this is the case.

31. **Oxycephaly.**—The cranial deformity generally known as oxycephaly is also described under various appellations, such as acrocephaly, known as *Thurmschädel*, *Spitzkopf*, tower or steeple-head, *turritum caput*, *tête à la Thersite* (Hamy). The cardinal signs are the characteristically shaped head, exophthalmos and impairment of vision, sometimes amounting to total blindness, associated with changes in the fundi oculorum. The aspect of the patient is very striking, the great height of the forehead sloping gradually upward to the vertex with feebly marked superciliary ridges. The vertex of the skull appears pointed instead of flattened or rounded, and a ridge, or bony prominence, is sometimes felt in the region of the bregma. The hairy scalp may be raised above the normal level and present the appearance of being perched on the top of a cone. Viewed laterally, the ears appear placed on a lower level than normal. The temporal ridges and depressions are feebly marked. Exophthalmos is present in all the well-marked cases. It is sometimes extreme, and dislocation of the eyeballs in front of the eyelids occasionally occurs. Failure of closure of the eyes, especially during sleep, may lead to lachrymation and conjunctivitis as in Graves' disease. Not infrequently the protrusion of the eyeballs is unequal on the two sides. Divergent squint is common and gives a peculiar appearance to the bulging eyes; occasionally the squint is convergent. Nystagmus is present in the majority of cases.

The complexion tends to be muddy, sallow and dark, especially in the older patients. The hair was dark in all the cases Fletcher has seen. They are usually mouth-breathers; the open, gaping mouth adds to the grotesque appearance and gives it a stupid vacant expression. In many cases the palate is shortened and extremely highly arched. The teeth are liable to early caries, the incisors are prominent. The last upper molars may remain unerupted, owing to the shortening of the superior maxilla. Intelligence is unimpaired in quite a large proportion of cases, and may be above the average. It is probable that in cases with a mental development below the average this may be due to the ocular defect, which develops in early life and produces a backwardness from "deprivation," to use Ireland's term. One of Fletcher's patients showed a remarkable degree of intelligence; finding that he was unable to read letters, he speedily taught himself to read the blind alphabet.

Medical Press and Circular, London

April 26

33 *Tachycardia in Children. E. Cautley.
34 Eclampsia: Puerperal Septicemia. H. Jellett.
35 A Case of Natural Delivery Following Cesarean Section. B A. H. Solomons.
36 Pyloric Stenosis in Infancy. N. P. Marsh and K. W. Monsarrat.

May 3

37 Relation Between the Teeth and Certain Diseases of the Skir and Mucous Membrane. W. K. Sibley.
38 Morbid Mental Growths. G. H. Savage.
39 Chlorid of Ethyl as General Anesthetic. A. Malherbe.
40 Mental and Sick Nursing—a Retrospect and a Prospect. R Jones.

33. **Tachycardia in Children.**—Cautley emphatically state that the proper treatment of tachycardia depends on it causation. If there is true dilatation, rest is essential unti the heart has reverted to its normal or almost normal size This must be followed by gradual exercise; at first passiv exercises, and then resisted movements while in bed, slowl increased according to the results obtained. Subsequentl the patient is allowed to sit up, to get up, to walk about th room, to walk downstairs and on the level, to walk upstair and up a gradual slope, and then increasing distances up hil at a gradually increasing pace. The slightest shortness o breath is a sign of strain. In no instance should a schoo child be allowed to join in violent games until compensatio has been perfectly established for at least six months. Games such as croquet, golf, archery, badminton and lawn tenni can be taken up by degrees. Bicycling can be begun at slow pace on a level road, six to eight miles an hour, an ultimately limited to ten to twelve miles an hour. Shor bursts at a high speed and long distances must be forbidde For the neurotic heart rely on general hygiene, residence in non-stimulating climate, hydro-therapeutics; and a non-stim lating diet, devoid of alcohol, meat extracts, tea and coffee, an containing only a moderate amount of meat. Attend to t digestion, regularity of the bowels, sufficient sleep, and simple mode of life. The most suitable drugs, in Cautley opinion, are the valerianates, especially the valerianate zinc, bromids and belladonna. During an attack of tr tachycardia an attempt may be made to cut it short applying to the præcordium a cold compress, an ice-bag, spray of ethyl chlorid, or a mustard leaf, and giving stro

black coffee or sal volatile by mouth. In the intervening periods the treatment must be carried out on the lines appropriate for the treatment of the neurotic heart.

Annales de Gynécologie et d'Obstétrique, Paris

April, XXXVIII, No. 4, pp. 193-256

41 The Ovaries of New-Born Infants. M. Delestre.
42 Hysterectomy Without Opening the Uterus, for Hemorrhage from Placenta Prævia; Mother and Child Doing Well. Reymond and H. Cazalis.
43 *Treatment of Hemorrhage from Abnormally Situated Placenta. Champetier de Ribes and A. Couvelaire.

43. **Hemorrhage from Abnormally Situated Placenta.**—De Ribes analyzes his sixty-eight cases of this kind between 1890 and 1907. The mortality was 10.29 per cent., but two of the seven patients who died were moribund when brought in, and another was in advanced septicemia. A number of the children were prematurely born and died soon afterward, but twenty-five of the thirty-six children born alive left the maternity in good condition. In eight of the total sixty-four cases delivery proceeded normally and in seven nothing was required but podalic version. In eleven cases the hemorrhage was controlled by merely rupturing the fetal membranes, six of the children being born alive. In thirty-eight cases this was supplemented by introduction of the inflatable bag, twelve of the twenty children surviving.

Couvelaire reviews the experiences in 162 cases at the Baudelocque clinic during the last twenty years. The total mortality was 6.7 per cent., and excluding the moribund cases, only 1.28 per cent. The nearer to term the greater the viability of the children, only nine succumbing of the nineteen infants weighing over 3 kilograms at birth, while only two survived of the seventeen less than 2 kilograms in weight. Treatment was by rupturing the membranes, supplemented or not with the inflatable bag. In cases of neglected hemorrhage, in which the women are liable to die of septicemia if they survive the shock of their hemorrhages, he realizes the advantages of the Porro operation as removing at once the source of the hemorrhage and the organ which is liable to be the portal of entry for septicemia. He recently performed this operation with eminent success in thirteen minutes, with 10 gm. of chloroform, the hemorrhage being behind the placenta and very profuse.

Annales de l'Institut Pasteur, Paris

March, XXV, No. 3, pp. 193-286

44 *Experimental Typhoid Fever. E. Metchnikoff and A. Besredka.
45 Protection of Red Corpuscles Against Hemolysis by Dilute Solution of Formol. (Etude de la stabilisation des globules rouges de mammifères—du mouton en particulier—par les solutions tres diluées de formol.) P. A. Delille and L. Launoy.
46 Mechanism of Deviation of Complement Test: the Antihemolysins in the Serum. (Mécanisme de la réaction de Bordet-Gengou. II.) Crendiropoulo.

44. **Experimental Typhoid Fever.**—The research reported was done on fifteen anthropoid apes, fifty-one monkeys and a number of the ordinary laboratory animals. The fifteen chimpanzees alone were susceptible to typhoid infection by way of the mouth, while none of the lower monkeys, guinea-pigs or rabbits developed typhoid by this route, although in two monkeys of the macacus type typhoid bacilli could be cultivated from the spleen and lymph-glands but there were no characteristic lesions in the intestines. The picture of experimental typhoid differs entirely from that of experimental peritonitis induced by injection of typhoid bacilli in rodents. Vaccination with killed bacilli, which protects guinea-pigs against peritoneal infection, proved powerless to prevent experimental typhoid in the apes. This shows, Metchnikoff says, that we make a mistake when we attempt to apply to man the results of experimental research on guinea-pigs and rabbits.

Annales des Maladies des Org. Génito-urinaires, Paris

April 1, XXIX, No. 7, pp. 577-672

47 *Surgical Means to Estimate Kidney Sufficiency. (Moyens chir. de se renseigner sur l'état des reins quand cathétérisme urétéral et séparation échouent.) V. Rochet.
48 General Principles in Treatment of Gonococcus Urethritis. B. Motz.
49 Experimental Research on the Internal Secretion of the Prostate. N. Serrailach and M. Parés.

April 15, No. 8, pp. 673-768

50 Complete Prolapse of Bladder in 15-Months Infant. (Inversion vésicale.) Dervaux.
51 Rare Deformity of the Kidney. (Anomalie du rein.) M. Gerard
52 *Cystoscopy and Catheterization of Double Ureter. O. Pasteau.
53 *Renal Tuberculosis and Tuberculous Bacteriuria. G. Bolognesi.

47. **Surgical Means to Determine Kidney Sufficiency.**—Rochet refers to the cases in which catheterization of the ureters and intravesical segregation of the urine are impossible for any reason. The disadvantages of the various technics in vogue are obviated by a method which he has found very useful and describes as follows: The diseased kidney is not incised, but the ureter below is exposed and a small lengthwise buttonhole is made in it 6 or 7 cm. below the kidney. A short catheter is then pushed up through this buttonhole into the pelvis of the kidney. This collects all the urine from this kidney, and a large bougie is pushed down into the lower end of the ureter to plug it so no urine can pass out through it. The previously cleansed bladder collects the urine from the other kidney and the functioning of both is thus plainly beheld. If conditions require it, nephrectomy can follow at once or after an interval, as was done in one of Rochet's two cases. It is best to suture the buttonhole, as it did not heal up in the one case in which this was neglected.

52. **Catheterization of Double Ureter.**—Pasteau adds another to the twelve cases on record of double ureters on one or both sides, and discusses the cystoscopic findings with this anomaly, with or without two orifices in the bladder for each ureter. In his case there were three ureter mouths; the ureter catheter could not be passed through one, but it passed readily through the two others.

53. **Tuberculosis of the Kidneys and Tuberculous Bacteriuria.**—Bolognesi reports a case of the latter. The patient was a ii-para, aged 29, with symptoms suggesting tuberculosis in a wandering kidney. The kidney was removed, but notwithstanding the tuberculous bacteriuria only slight lesions were found in the kidney and they were not tuberculous. The case confirms anew the fact that tubercle bacilli can filter through the almost intact kidney parenchyma, with merely some minute and non-specific lesion. The tuberculin reaction was positive, but there is no evident tuberculosis in any organs. The patient is still in good health.

Lyon Chirurgical, Lyons

April, V, No. 4, pp. 301-420

54 *Kidney Stones. (Gravité opératoire des interventions pour calculs du rein.) M. Rafin.
55 Mechanism of Hernial Strangulation. (Mécanisme de l'étranglement herniaire.) J. Petrivalsky.

54. **Kidney Stones.**—Rafin reviews the statistics from eight European clinics in regard to operative treatment of kidney stones. In 287 aseptic cases the total mortality was 4.5 per cent.; this includes 34 pyelotomies without a fatality, and 193 nephrectomies with a mortality of 4.6 per cent. Operative treatment is thus shown to be comparatively harmless in the cases with little or no infection. The outlook is graver in the infected cases; the mortality in 158 nephrectomies for septic kidney stones was 18.4 per cent.; 14.2 per cent. in 7 pyelotomies and 5.3 per cent. in 205 nephrectomies. In 69 other cases the lithiasis was bilateral; one of Brougersma's two patients in this class had five operations before a complete cure was realized. Operative treatment in the aseptic cases gave excellent results, irrespective of the method followed.

Presse Médicale, Paris

April 22, XIX, No. 32, pp. 317-332

56 Cooperation of the General Practitioner and the Laboratory. (Le laboratoire et le practicien. Leurs rôles respectifs dans les analyses de produits pathologiques.) L. Hallion and A. Bauer.
57 Flexible Drains. (Le drainage par drains métalliques souples.) L. Lemaire.
58 Pterygium. (Sur la structure, le pronostic et une opération modifiée du pterygion.) A. Terson.
59 Chronologic Connection Between Ovulation and Menstruation. H. Busquet.

April 26, No. 33, pp. 333-340

60 Electric Heating of Deep Tissues. (La diathermie.) D. Labbé and M. Blanche.
61 Agar-Agar. A. Martinet.

Revue de Chirurgie, Paris

April, XXXI, No. 4, pp. 401-512

62 *Bilateral Tubal Pregnancies with Triplets. (Etude sur les grossesses tubaires bilatérales simultanées à propos d'un de grossesse tubaire à trois foetus.) P. Launay and Seguinot.
63 Tuberculosis of the Hip-Joint. (Coxotuberculose et son traitement.) P. Coudray.
64 Tumor in Salivary Gland. (Cylindrome de la glande sublinguale.) L. Heully and A. Boeckel.
65 *Hemorrhage in Gall-Bladder as Source of Biliary Colic. (Sur un point de pathogénie de la colique biliaire dans quelques formes de cholecystite non calculeuse.) S. Solieri.

62. **Bilateral Tubal Pregnancy.**—Launay and Seguinot have found forty-one cases of bilateral tubal pregnancy on record, and they report a case in which there was a twin pregnancy in one tube and a simultaneous single pregnancy in the other. The size of the three three-months fetuses proved that the pregnancies were practically simultaneous. In only fifteen cases on record was the tubal pregnancy simultaneous on both sides.

65. **Biliary Colic in Cholecystitis Without Gall-Stones.**—Solieri refers to Sheldon's compilation of thirty-seven cases of apparent gall-stone colic without gall-stones. Henkel has also encountered seven cases of the kind, and Solieri has recently had a patient in his charge with typical, periodical biliary colic although there was not a trace of gall-stones in the gall-bladder or biliary passages. The patient was convalescing from typhoid and the operation revealed typhoid ulceration of the mucosa of the gall-bladder, with repeated hemorrhage from this ulceration. The hemorrhages had distended the inflamed walls of the gall-bladder and induced the typical attacks of pain as the walls contracted in the effort to expel the dense mass resulting from the accumulated blood. The first attack of colic lasted two days and seriously depressed the patient but the temperature returned practically to normal after evacuation of the gall-bladder. Four days later another attack of colic came on, and opening up the gall-bladder again revealed that it had filled up with blood anew although no immediate source for the hemorrhage could be detected. After this there were no further disturbances and the patient rapidly recovered. A tumblerful of blood was removed from the gall-bladder the second time it was opened. Pure typhoid cholecystitis of this type must be rare; typhoid infection of the gall-bladder generally sets up a more chronic inflammation or a rapidly fatal phlegmon (Lejars).

Archiv für Verdauungs-Krankheiten, Berlin

April, XVII, No. 2, pp. 119-240

66 *Estimation of Hydrochloric Acid in Stomach Content. (Ueber prozentualen und absoluten Salzsäuregehalt des Mageninhalts und seine Bedeutung für die Funktionsprüfung des Magens.) J. Schütz.
67 History of Intubation of the Duodenum. J. C. Hemmeter (Baltimore).
68 Physiologic Chemistry of the Human Pancreas. J. C. Hemmeter.
69 Importance of the Thread Impregnation Test for the Recognition of Ulcers of the Upper Digestive Tract. M. Einhorn, New York.
70 *Palpability of the Appendix. (Zur Palpierbarkeit des Wurmfortsatzes.) W. Orlowski.
71 Gastric and Duodenal Ulcers. Four Cases. G. A. Friedmann (New York).
72 *Pathology of Gastric and Intestinal Disease. (Kasuistische Beiträge zur Pathologie der Magen- und Darmkrankheiten.) E. Solms.
73 *The Therapeutic Use of Bile. (Die physiologische Funktion der Galle.) Z. Inouye and T. J. Sato.

66. **Percentage and Absolute Amount of Acid in Stomach Content.**—Schütz writes from von Strümpel's clinic in Vienna to sustain the view that the total amount of hydrochloric acid is the chief criterion in the study of gastric functioning. He describes the technic best adapted for research in this line, and gives the tabulated details of twenty-one cases of various stomach affections. His findings show that cases should be grouped as those with hyposecretion and hypomotility, in which case the absolute amount of hydrochloric acid is small. The other group contains the cases with large absolute amounts of hydrochloric acid with normal or increased stomach content an hour after the test meal. He suggests also for the hydrochloric acid unit, $1 \text{ c.c. } \frac{n}{10} \text{ HCl}$.

70. **Palpation of the Appendix.**—Orlowski was able to palpate the appendix in 250 of 510 men who had never had any symptoms on the part of the appendix. He was surprised to find that the appendix was tender in 58.4 per cent. of the 250 cases. In examining for the appendix he begins to palpate at the psoas iliacus, the patient lying on his back, and palpates along the cecum to the appendix from below upward and from without inward. If the abdominal wall is too rigid, he has the patient lie in a hot bath to relax the muscles. With this technic he found it easy to detect the appendix in over 50 per cent. The appendix can seldom be palpated its entire length. He reviews considerable work in this line in Slavic literature as well as Rudnitzki's work in the *Archiv.* The latter was not so successful in palpating the appendix, but he found it tender in 59.7 per cent. of the cases in which he was able to palpate it.

72. **Pathology of Gastro-Intestinal Tract.**—Solms reports from Boas' clinic in Berlin four unusual cases, three being remarkable for the rapid and pronounced increase in weight with progressive cancer in men of 32 and 39. In the first case a gastric carcinoma had evidently developed in an ulcer treated four years before. Not a trace of tenderness or tumefaction could be detected on examination, six months after the first symptoms. Treatment for the hyperacidity improved conditions but two months later a large tumor was palpable and the laparotomy showed an inoperable growth. This case confirms the malignancy of these rapidly developing carcinomas. The outlook for operative treatment is more favorable in cases in which the symptoms have been longer in developing. The patient increased over 18 pounds in weight in the first eighteen days of his stay in the clinic and he was discharged, but symptoms returned in a week. In the next case the patient gained nearly 8 pounds in a week, notwithstanding the presence of advanced carcinoma at the pylorus, hidden behind the liver. In the third case the lack of a palpable tumor, the gain of nearly 13 pounds in a week in connection with the age, 32, spoke against cancer. The only symptoms had been occasional vomiting, commencing in March; by October the patient felt weaker, with a sensation of distention of the stomach even when the food was restricted to fluids. There was no pain in the stomach nor blood in the vomit; the appetite persisted good, but toward the last there were occasional cramp-like sensations in the abdomen and considerable loss of weight. In December he entered the clinic and gained nearly 13 pounds in weight in a week but on discovery of occult blood an inoperable carcinoma was found at the junction of the duodenum and jejunum. In a fourth case the trouble was a syphilitic ulceration at the splenic flexure. In the fifth case there were evidences of gastrectasia and gastroptosis in a woman of 23, but there were no signs of stenosis of the pylorus. After gastro-enterostomy the patient was permanently cured, suggesting the possibility of some kinking as responsible for the persistent vomiting.

73. **Bile in Therapeutics.**—After discussion of the physiologic functioning of bile, its antiseptic and diastatic action and the way in which it promotes peristalsis and absorption of fat, Inouye and Sato give the metabolic findings in fifteen cases and report others, all confirming the advantages of bile as a rational organotherapy against the symptoms produced by defective secretion of bile in jaundice from various causes. It promotes absorption of fat, they say, and if it is given fasting, with considerable water, it does not disturb the digestion in the stomach. It also exerts a laxative action. They prefer to give the bile in the form of condensed ox-gall in sweetened peppermint water, in the dose of 0.5 or 1 gm. (7.5 to 15 grains) an hour before meals, three times a day.

Beiträge zur Klinik der Tuberkulose, Würzburg

XIX, No. 2, pp. 337-430. Last indexed April 8, p. 1075

74 *Wind Instruments and Emphysema of the Lungs. (Führt die funktionelle Beanspruchung der Lungen beim Spieler von Blasinstrumenten zu Emphysem?) E. Becker.
75 *A Century of Tuberculosis at a Health Resort. (Die Sterblichkeit der Bevölkerung Lippspringes an Tuberkulose von 1801-1909.) Werner.
76 *Tuberculosis in Infants. (Ueber Säuglingstuberkulose.) R. Pollak.

77 *Interpretation of the Findings in the Lower Lobe. (Zur Beurteilung einseitiger Unterlappenbefunde.) A. Bauer.
78 *Adenoid Vegetations in Relation to Tuberculosis. (Die adenoiden Wucherungen des Nasen-Rachenraumes in ihren Beziehungen zur Tuberkulose.) G. Simon.

74. **Wind Instruments and Emphysema of the Lungs.**—Becker has been studying the vital capacity in twenty-two players of wind instruments, and a number of other persons. The findings show that there is a tendency to over-distention of the upper part of the lungs in players of wind instruments, but that diffuse chronic emphysema is generally the result of disturbances in breathing caused by chronic inflammatory narrowing of the bronchi.

75. **Tuberculosis at a Health Resort 1801-1909.**—Werner declares that never and nowhere in the world have such data been available as he has found at Lippspringe in Prussia. He also asserts that nowhere in the world has there been such a general and intensive dissemination of tubercle bacilli as during the 100 years and more at this place since it became famous as a health resort for consumptives. During the last seventy-six years, 170,000 visitors came for a course of the waters and fully 80 per cent. were consumptives. They were lodged mostly in private houses and there was no suggestion of measures to prevent contagion. At the same time the parish records for over a century give the cause of death of the native population. These data show that early in the last century nearly 10 per 1,000 of the population died of tuberculosis, but this proportion has been growing constantly less until in the last four years it amounted only to 3.5 per thousand. The population of Lippspringe is unusually stable, and the data presented speak against the assumption that pulmonary tuberculosis is highly infectious. If this were the case, the whole population of Lippspringe would have died off of tuberculosis. The consumptives' sojourn at Lippspringe is restricted to the six warmer months of the year, and hence it must require longer than six months for children and adults to acquire tuberculosis. As the population escaped infection, even with this close contact with the tuberculous, there seems to be little danger of infection of visitors by each other at such a health resort. Another point brought out by these data is that closed institutions are not superior to ordinary spa conditions as far as security against infection is concerned.

76. **Tuberculosis in Infants.**—Pollak surveys the experiences in this line at the Vienna policlinic, giving the details of a few typical cases of tuberculosis in infants. In three no clinical symptoms of tuberculosis could be discovered until over eight, fourteen and eighteen months after a positive tuberculin reaction had been obtained. The most frequent sign of tuberculosis in infants is involvement of the bronchial glands, manifested by the cough and wheezing during expiration. Cutaneous tuberculides are also a frequent early sign. Tuberculous meningitis often develops a few weeks after primary infection of the infant, but tuberculosis may exist throughout the first year of life without any clinical manifestations. The prognosis depends essentially on the severity of the infection: infants infected from a patient with advanced tuberculosis generally succumb, while the surviving infants had generally derived their infection from a mild source. It was found that the tuberculous infants grew up with the phthisical habitus. This habitus is thus the consequence of early infection with tubercle bacilli.

77. **Interpretation of the Findings in the Lower Lobe.**—Bauer gives the details of nine cases of a unilateral process in the lower pulmonary lobe. In two, tuberculosis had been incorrectly assumed; in seven others the alleged tuberculous process in the lower lobe still persists, but tubercle bacilli have been found in only one case. The findings show that normally the lower lobes are more movable and more active in their excursions than the upper lobes and apices which are so readily rendered immovable by cicatricial changes. The findings may vary in degree, but their constant presence at the same points is significant. He always examines early in the morning, before the first cough and expectoration, again during and after this, and again in the afternoon; that is, twice a day, systematically, at shorter or longer intervals.

78. **Adenoid Vegetations in Relation to Tuberculosis.**—Simon has examined eighty-eight excised adenoid growths, finding tubercle bacilli in them only in three cases, once from a robust and apparently healthy girl with negative tuberculin reaction. He did not find tubercle bacilli in the vegetations from six children with pronounced pulmonary tuberculosis and only once in those from six children with manifest tuberculosis of the bronchial glands, showing that the tonsils and vegetations must play only a subordinate part as portals of entry for the tubercle bacillus. He advises in treatment merely measures to act on the lymphatic diathesis, leaving the adenoid vegetations alone unless they interfere with respiration. Dieting, brine baths, etc., will act indirectly on the vegetations. But it is extremely important in every case of enlarged tonsils and vegetations to examine the thorax with care, as also, when there are signs of disease of the bronchial glands or bronchial catarrh, the nasopharynx should be investigated with special care.

Beiträge zur klinischen Chirurgie, Tübingen

March, LXXII, No. 2, pp. 265-580

79 *Idiopathic Talipes Cavus. (Hohlfuss.) E. Müller.
80 Indications with Abdominal Contusions. (Indikationsstellung bei traumatischen subkutanen Bauchverletzungen.) M. Hopp.
81 *Perforation of Gastric and Duodenal Ulcers. G. Petren.
82 Surgery of Vessels. (Zur Chirurgie der Gefässe.) J. Amberger.
83 Deep Goiter with Accessory Goiters. (Ueber Struma retrovisceralis mit Halskyphose und über laterale Nebenkröpfe.) A. Reich.
84 Anatomy and Surgery of the Biliary Ducts. (Gallenausführungsgänge.) H. Kunze.
85 *Treatment of Parathyreopriva Tetany by Parathyroid Grafts. (Behandlung der Tetania parathyreopriva mit Ueberpflanzung von Epithelkörperchen.) M. Krabbel.
86 *Acute Carcinosis. P. Horn.

79. **Talipes Cavus.**—Müller reviews twenty cases of severe contracture of the plantar muscles of various origin. An inherited tendency was evident in three cases and in another family two sisters were affected. Subcutaneous resection of the plantar aponeurosis is generally sufficient, at least for children, followed by a plaster cast and the use of a screw apparatus. This suffices in the milder cases; in the more severe it is necessary to resect the soft parts with a wedge excision in the tarsus, including the four cartilage faces of the mediotarsal articulation, or a wedge from the tarsometatarsal articulation.

81. **Perforation of Gastric and Duodenal Ulcers.**—Petren gives summaries of 100 cases of acute peritonitis from perforation of an ulcer of the stomach or duodenum requiring operative treatment. The material is compiled from thirteen hospitals in southern Sweden. There was more than one perforated ulcer in 5 per cent. of the cases, and the ulceration was generally of comparatively long standing; in more than half the cases the patients had had symptoms of ulcer years before or recently or both, and in only ten had the ulceration run a latent course, and in these cases it was generally in the duodenum. In more than half of the cases, vomiting occurred in connection with the perforation. In fifty-nine cases the perforation was sutured and twenty-eight of the patients were saved, while only three recovered of the forty-one in which this was not done. In the fifty cases in which the operation followed the perforation within fourteen hours, twenty-four of the patients recovered, while only seven of the others were saved. The tabulated data show conclusively that an operation in the first twelve hours, with complete suture of the perforation, are very important conditions for a favorable outcome, especially when the patient is under 40. Whether the stomach was full or not, does not seem to influence much the outcome when the operation followed in less than twelve hours. When the pulse is 120 or over the prognosis is grave. He discusses the technic, his work filling 137 pages.

85. **Parathyroid Grafts for Tetany.**—Krabbel reports a case of tetany following strumectomy in 1901. The tetany developed the day after the operation. The patient was an otherwise healthy girl and the attacks of tetany returned only during menstruation; the cramps were limited to the hands, but there were also headache, vertigo, tremor and pains in the

side and back. After seven years, four parathyroids from another goiter patient were implanted in a hole made for them in the tibia. Improvement gradually followed, completely relieving the patient of the annoying manifestations of her postoperative tetany. In a second case genuine tetany developed in a young man with chronic tuberculous cystitis and hypoplasia of the genitals. A parathyroid was implanted in a preperitoneal space and there has been no further manifestation of the tetany since, not even when a cystoscope is introduced. The hypoplasia of the testicles in this case suggests that several of the glands with an internal secretion may be abnormal, or at least rudimentary. The patient succumbed to tuberculosis of the kidney ten months after the operation.

86. **Acute Carcinosis.**—Horn has collected 182 cases, including five from his own experience, in which cancer developed and ran its course in about three months, with metastasis in 83 per cent. He gives the summaries of the material, calling attention to the predominance of these galloping cancers in the lung, kidneys and liver, organs in which primary carcinoma is comparatively rare. None of these galloping cancers was found in the uterus or skin, and the breast, stomach and rectum were only rarely involved. Over 51 per cent. of the patients were under 40, seventeen under 10, twelve between 10 and 20; twenty-seven between 20 and 30 and thirty-seven between 30 and 40. In the cases in which the breast was involved there had generally been preceding mastitis; both breasts were affected in 34 per cent. of the forty-one cases of mammary carcinoma. In twenty-six of the cases the carcinosis had been misinterpreted. The lung carcinomas made only slight local disturbances, the metastasis in the brain having dominated the clinical picture, so that the diagnosis was generally cerebral tumor. The acute cachexia will generally supply the clue if the possibility of acute carcinosis is borne in mind, especially with a history of preceding trauma, development during pregnancy or puerperium, involvement of a predisposed organ and comparative youth. Operative treatment has no chance for success in this acute malignant disease. In conclusion, he reports a case of primary sarcoma of the thyroid leading to acute miliary sarcomatosis with multiple metastasis in the gastro-intestinal tract.

Berliner klinische Wochenschrift

April 24, XLVIII, No. 17, pp. 741-784

87 *Kinks which Develop in Our Drainage System in Chronic Intestinal Stasis. (Schleifen welche sich in unserem Magendarmkanal bei chronischer Darmstase enwicklen.) W. A. Lane.
88 *Chronic Intestinal Stasis Treated by Short-Circuiting or Colectomy. Fifty Cases. (Chronische Darmstase, behandelt mittels Kurzer zirkulärer Umschneidung oder Kolektomie.) H. Chapple.
89 Linear Amputation. (Indication, Technik und Nachbehandlung der "linearen Amputation.") W. v. Oettingen.
90 *Removal of Large Angioma of the Brain. R. Cassirer and R. Mühsam.
91 *Pyelitis of Pregnancy. N. Markus.
92 The Roentgen Rays in Gynecology. M. Fraenkel.
93 Responsibility of the Surgeon from Legal Standpoint. (Der Operationsvertrag.) Katz.

87-88. Similar articles appeared recently in our British exchanges.

90. **Angioma of the Brain.**—Cassirer and Mühsam report a successful operative case of Jacksonian epilepsy involving the left side, in a young man. The attacks had gradually increased in number and severity during six years, with finally "touch paralysis" of the left hand. An operation revealed an angioma of the pia mater which had penetrated into the cortex. The dura flap was replaced and a week later the angioma was removed, ligating even the minutest veins. Left facial paralysis and paralysis of the arm and leg were noted at once after the operation, but this gradually subsided except for a little paralysis of the fingers, as part of the center for the hand was removed with the tumor. There have been no further epileptic attacks since, and the young man has resumed his work as a forester, for which his epilepsy had long completely incapacitated him. There are only a few such cases on record—three are cited from Krause's experience. In all, the circumscribed epilepsy was the main symptom, the course was extremely slow and gradual, and there was none of the general symptoms common with brain tumors, or merely traces of headache or choked disk, while in each case there was a history of some trauma, possibly slight and in childhood. Intervention has generally been restricted to ligation of the vessels and destruction of the tumor tissue, but extirpation has given excellent results in a number of cases.

91. **Treatment of Pyelitis of Pregnancy.**—Markus remarks that pyelitis in pregnant women is generally confined to the right kidney pelvis, and is due to compression of the right ureter by the gravid uterus, exaggerating the normal angular course of the right ureter into actual kinking. The gravid uterus has a tendency to deviate to the right, and by simply having the women lie on their left side all trouble from compression of the right ureter ceases at once. Rosinsky has found this the sovereign measure in treatment of the pyelitis of pregnancy, and Markus adds his testimony in regard to the remarkable benefit from it in two cases in his practice. The trouble came on in one with a chill, high fever, tenderness at McBurney's point and a painful area in the sacral and right kidney region, with albumin and pus in the urine, and both diplococci and colon bacilli. No benefit was derived from a course of local treatment for the assumed cystitis. The uterus, four months pregnant, was found to be deviated to the right, probably from adhesions left from a former pregnancy. The patient was instructed to lie on the left side and mineral waters and hexamethylenamin were given internally to flush out the kidney from within. These measures, previously ineffectual, promptly cured the patient when supplemented by reclining on the left side. The temperature was normal by the end of a week and the urine free from pus and bacteria by the ninth day. Ten days after complete recovery there was a slight recurrence of the pyelitis which yielded at once on resumption of treatment. This recurrence, he adds, sustains still further the assumption of compression of the ureter as the cause of the trouble as the patient got up. The second patient was eight months pregnant and the same treatment proved equally effectual.

Deutsches Archiv für klinische Medizin, Leipsic

CII, Nos. 3-4, pp. 217-450. Last indexed April 29, p. 1302

94 *Distribution of Goiter in Saxony. (Verbreitung des Kropfes im Königreich Sachsen mit bes. Berücksichtigung der geologischen Verhältnisse.) E. Hesse.
95 *Testing Kidney Functioning. (Zur Funktionsprüfung der Niere.) P. v. Monakow.
96 *Research on Functioning of Kidneys with Chronic Vascular Disease. Schlayer.
97 Ventilation of the Lungs with Emphysema. (Gasaustausch zwischen der Aussenluft und den Alveolen. III.) R. Siebeck.
98 Increased Metabolism with Chronic Leukemia. (Steigerung des Stoffwechsels bei chronischer Leukämie und ihre Ursachen.) E. Grafe.
99 *Spastic Constipation and Its Relation to Antiperistalsis. (Die spastische Obstipation und ihre Beziehungen zur Antiperistaltik.) G. Boehm.

94. **Goiter in Saxony.**—Hesse's map seems to indicate that mountainous regions, irrespective of the geologic formation, are particularly prone to goiter. He is inclined to incriminate some physical factor, possibly hill-climbing, in the origin of goiter, but believes that several causes probably cooperate. In the Marienberg epidemic of goiter it was found that the collars worn had been too tight, the young people's necks growing in circumference faster than the parents had realized.

95. **Tests of Kidney Functioning.**—Monakow reports from the Munich clinic in charge of von Müller extensive research on the capacity of the urine to eliminate salt and nitrogen, iodin and water. The elimination of each was tested daily for from three to eight weeks. On a constant diet he gave the patients on one day 20 gm. of urea, or gave 10 gm. of salt or had the patient drink 3 quarts of water, each on a separate day, supervising the elimination in the urine thereafter. The findings in nine cases of nephritis are tabulated with the necropsy findings in most, thirty-three tables giving an oversight over the metabolism. They demonstrate beyond question that there are kidney disturbances in which the elimination of salt proceeds normally, while the elimination of nitrogen is extremely defective. In other cases the salt may be eliminated defectively, while the output of nitrogen is normal. It is possible to determine the conditions in this respect in each individual case and thus permit proper treatment. Compari-

son of the clinical course with the anatomic findings seems to indicate that the glomeruli are involved in the elimination of nitrogen, while the convoluted tubules are engaged more in the elimination of salt and of water.

98. **Functioning of Diseased Kidneys.**—Schlayer devotes over thirteen pages to the tabulation of the details of forty-one cases of what he calls chronic vascular nephritis, including contracted kidney. With the chronic vascular disturbance, the elimination of water is defective, while that of salt is unmodified, elimination of milk sugar is retarded, while that of iodin proceeds as under normal conditions. The vessels of the kidneys are injured by prevailing conditions and may become hypersensitive, in which case there is polyuria, or the vessels may be so severely injured that they act sluggishly, in which case there is oliguria. Even ingestion of large amounts of salt and water is not followed by elimination of the salt or of the water, as the kidney vessels are not sufficient for the task. He thinks that this is the first time that attention has been called to this oliguria form of contracted kidney. The kidney vessels may seem to be normal on histologic examination, but this does not guarantee their functional integrity. With contracted kidney the injury of the vascular system of the kidneys is practically universal, in contrast to the anatomic findings. In both acute and chronic vascular nephritis the elimination of solid substances and hence the specific gravity are determined by the biologic behavior of the kidney vessels.

99. **Constipation and Antiperistalsis.**—Boehm reports clinical experiences and reviews the results of experimental research, all suggesting that excessive antiperistalsis may sometimes be responsible for intractable constipation. Atropin never failed to control it in his cases.

Deutsche medizinische Wochenschrift, Berlin

April 27, XXXVII, No. 17, pp. 769-816

100 *Radioactivity of Mineral Waters. H. Kionka.
101 *Prognosis and Course of Pneumococcus Meningitis. F. Rolly.
102 *Diagnosis of Gout from Purin Metabolism. A. Magnus-Levy.
103 Technic to Avoid Febrile Reaction After Intravenous Injection of Salvarsan. W. Wechselmann.
104 *Length of Sojourn of Food in the Body. (Dauer des Verweilens der Nahrungsmittel im Körper.) A. Hiller.
105 *Treatment of Sluggish Intestinal Functioning by Hot Enemas. (Darmträgheit und ihre Behandlung mit warmen Darmeingiessungen.) A. Hiller.
106 Duodenal Ulcer. (Duodenalgeschwür.) Séyffarth. Commenced in No. 15.
107 *The Wassermann Reaction in Lead Poisoning. (Wassermannsche Reaktionen bei Bleivergifteten.) A. Dreyer.
108 *Kidney Colic and Herpes Zoster. E. Rosenberg.
109 Sterilization of the Hands. (Altes und Neues zur Händedesinfektion.) P. Sick.
110 *Experimental Scarlet Fever. (Experimentelle Untersuchungen über die Scharlachätiologie.) G. Bernhardt.
111 *Pectineal Hernia. Ulrichs.

100. **Radioactivity of Mineral Waters.**—Kionka surveys our present knowledge in regard to the properties of radium and radioactivity. Radium and its chemical compounds lose half their active power in 1,760 years, and this period is accepted as the "half value constant unit;" this unit for the emanations is only 3.8 days, and for induced radioactivity only half an hour. The emanations send out only alpha rays and have a general action, while radium itself has a local action, sending out both alpha and beta rays and also the gamma rays which are identical with the Roentgen rays. Sifting the literature shows, he says, that absolutely certain success cannot be guaranteed from radium treatment in any affection or disease, but that good results have been achieved in chronic rheumatism and in gout. It relieves the pain in many cases and, exceptionally, in deforming arthritis; and a little more often in neuralgia, especially sciatica. The pains in tabes have also occasionally been relieved, but the other symptoms were unmodified. In local treatment of tumors and nevi it has also done good service. Gudzent has definitely proved that radioactive substances are able to transform the sparingly soluble sodium monourate into a more easily soluble body, and thus permit the dissolving out of the deposits of urates in the gouty. The action depends on the length of exposure to the emanations rather than on the dosage. Fofanow witnessed the subsidence of artificially induced tophi in animals under the influence of radium emanations.

101. **Pneumococcus Meningitis.**—Rolly states that thirty patients with pneumococcus meningitis have been treated at the medical clinic at Leipsic during the last five years, and four of the patients recovered. Frequently repeated lumbar puncture not only permitted differentiation, but had a direct curative effect. The fluid contained increased numbers of polynuclears in the early stages, while the mononuclears predominated toward the close of the disease process. In the first three of the four cases with recovery, the meningitis seemed to develop at the same time as the pneumonia, but in the fourth case the meningitis seemed to have been the first localization. The meningitis developed with sepsis and endocarditis in 20 per cent. of the total thirty cases; with otitis media in 10 per cent.; with disease of the accessory nasal sinuses in 30 per cent.; after trauma in 3 per cent., and with unknown primary localization in 10 per cent. With pneumococcus peritonitis the onset is generally stormy, but it may be masked by the predominant disease. The delirium was aggressive, the patients screaming and trying to get out of bed until they fell into coma; death followed in from two to twenty-five days. Only six of the total thirty patients lived for more than ten days, except the four who recovered. Repeated and copious withdrawal of cerebrospinal fluid by lumbar puncture evidently gave vent to swarms of pneumococci, and the influx of fresh fluid brought bactericidal reenforcements to the spot. Large doses of hexamethylenamin seem indicated also, as the drug passes into the cerebrospinal fluid, according to experiences recently reported. In one of the four cases with a favorable outcome, Rolly applied lumbar puncture sixteen times, withdrawing a total of 600 c.c. of fluid. The patient was a girl nearly 3 years old. The other convalescing patients were 6, 18 and 20 years old. The prognosis of pneumococcus meningitis seems to be graver than in the epidemic form.

102. **Diagnosis of Gout from Purin Metabolism.**—Magnus-Levy reports the case of a man of 43 with disturbances ascribed to gout until the metabolic findings were found constantly normal. The apparently gouty disturbance in both feet was then ascribed to flat-foot, but no benefit was derived from treatment on this assumption. Finally a tophus developed in the ear, which confirmed the diagnosis of gout. Levy is convinced that there were actual flat-foot disturbances, and that they provided the point of lesser resistance so that the gout localized at this point rather than at its usual sites. His has recently published a similar case in which the elimination of uric acid proceeded as in normal conditions, and yet the patient presented typical gout. These cases suggest that the explanations offered for the mechanism of gout do not fit all the cases.

104. **Length of Sojourn of Food in the Body.**—Hiller used uncooked ripe peas for the test, finding that they passed readily and harmlessly through the alimentary canal and were easily recognized in the stool. Experiments on a number of healthy persons, on ten with gastric fever and fifteen with typhoid, besides a number of other patients, showed a number of interesting points in regard to intestinal functioning. The food eaten at one time does not pass through the intestines in one mass; the peristaltic contractions move along more rapidly the part of the intestinal content which is nearest the walls, leaving the center to follow more slowly. When the peristalsis is abnormally active on account of irritation of the bowel walls, or abnormally sluggish in cases of constipation, the bowel content is moved along to correspond. With normal conditions the swallowed peas showed that the food sojourned in the intestines from eighteen to forty-two hours, with habitual constipation from forty-two hours to five days. Catarrhal irritation of the intestine increased the peristalsis so that the sojourn was reduced to thirteen or fifteen hours, and, with dysentery, to six or nine hours. In typhoid there is evidently a paralysis of the bowel during the second, third and fourth week in the severer cases. In treatment of habitual constipation Hiller has been much pleased with the effects of a systematic enema of hot water every morning, injecting a quart of water at a temperature of about 95 to 104 F.

There is probably an antiperistaltic reflex which forces the water past the sigmoid flexure, as, beside the stool which follows at once, fluid stool is expelled about fifteen minutes later and again from half an hour to an hour afterward. The effect of this hot enema does not wear off like that of other measures to act on the bowels. He has one patient who has kept it up regularly with constant benefit for two years to date.

107. **Wassermann Reaction in Lead Poisoning.**—Dreyer obtained a positive Wassermann reaction in four of thirty-five patients with lead poisoning free from any signs or history of syphilis. He also suggests that a positive reaction may be obtained in mercury poisoning in persons free from or cured of syphilis, the metal poisoning leading to erroneous conclusions.

108. **Kidney Colic and Herpes Zoster.**—In Rosenberg's case the long dubious diagnosis of nephrolithiasis was cleared up by an eruption of herpes zoster and the discovery of a hypersensitive zone that fitted in with Head's theory. The intense colics in the right side of the abdomen in the extremely nervous woman of 26 were not accompanied by any signs of trouble in the kidney region, palpation, urine and Roentgen-ray findings all being negative. Not until after a year and a half was the diagnosis rendered certain by the herpes and hypersensitive zone. The case confirms in every respect that recently reported by Bittorf in which the right herpes zoster in the eleventh dorsal segment region accompanied colics in the right kidney region from intermittent hydronephrosis in a wandering and probably calculous kidney.

110. **Experimental Scarlet Fever.**—Bernhardt was able to induce apparently typical scarlet fever in monkeys by inoculation with scrapings from the tongue of scarlet fever patients. The inoculations were successful even when made in the mouth alone. The monkeys were of the smaller species and the inoculations gave positive results in fourteen of the nineteen experiments, only three being positively negative. He was able by passage through the monkeys to obtain the virus pure.

111. **Pectineal Hernia.**—Ulrichs reports a third case of this form of hernia encountered at the Urban Hospital in Berlin, bringing the total to fifteen on record of which he knows. In this latest case the hernial sac was extremely long so that it lay along behind the femoral vessels, below the fascia, close to Gimbernat's ligament. There was no external evidence of the hernia except a broad, shallow protrusion just below Poupart's ligament, filling the oval foramen.

Jahrbuch für Kinderheilkunde, Berlin

April, LXXIII, No. 4, pp. 391-544

112 Digestion of Farinaceous Foods in Infant Feeding. (Weitere Untersuchungen über Mehlabbau.) M. Klatz.
113 Amino-Acid Content of Urine in Children. (Aminosäurengehalt des Kinder- und Säuglingsharn.) R. Hadlich and P. Grosser.
114 *Action of Sugar and Salt on Infant Organism. (Wirkung von Zucker und Kochsalz auf den Säuglingsorganismus.) S. Cobliner.
115 Etiology of Congenital Inspiratory Stridor. W. P. Shukowsky.
116 Epidemic of Typhoid in a Boys' Orphan Asylum. (Zur Klinik des Abdominaltyphus im Kindesalter.) H. Vogt.

114. **Action of Sugar and Salt on Infant Organism.**—Cobliner used a 5.5 per cent. solution of grape sugar and infused up to 200 c.c. in twenty-three infants. He gave to twenty-five others 2 to 3 c.c. of sodium chlorid with their food, and in nineteen others made a subcutaneous injection of 200 c.c. of a 0.9 per cent. salt solution. The findings in regard to the following reactions with these and other tests reported are tabulated for comparison. Among the conclusions drawn from them is that the kidneys of young infants are more susceptible than those of adults. They do not eliminate salt supplied suddenly in large amounts; retention follows and sometimes edema occurs, even in perfectly healthy infants. A temperature reaction is also the rule.

Medizinische Klinik, Berlin

April 23, VII, No. 17, pp. 641-678

117 *Benign Stenosis of the Splenic Flexure. (Gutartige Stenose an der Flexura coli sinistra.) E. Allard.
118 *Present Status of Salvarsan. (Welche Stellung gebührt dem Salvarsan in der Syphilistherapie.) G. Stümpke.
119 Diagnosis and Treatment of Isolated Mitral Stenosis. H. Birrenbach.
120 *Case of Cerebral Neurasthenia Cured by Breathing Exercises. H. E. Knopf.
121 Technic of Catheterization of the Ureters. H. Lohnstein.
122 *The Wassermann Reaction as an Aid in the Detection of Criminal Responsibility. (Die Wassermannsche Probe als Hilfsmittel der forensisch-psychiatrischen Beurteilung; Schwachsinn; sexuelle Delikte.) S. Placzek.
123 Blood Findings in Scarlet Fever. (Zytologische Blutuntersuchungen bei Scharlach.) O. Roth.

April 30, No. 18, pp. 679-720

124 *Lactation. (Das Stillen, seine Technik und Indikationen.) S. Weiss. Commenced in No. 17.
125 Radium from Biologic Standpoint. H. Klonka.
126 *Symposium on Operative Treatment of Gastric Ulcer. (Magengeschwür.) M. Wilms and Others. Commenced in No. 16.
127 *Bronchoscopy. (Zur klinischen Bedeutung der Endoskopie der unteren Luftwege.) A. Ephraim.
128 *Salvarsan in Small-Pox. R. Lenzmann.
129 Reflex Epileptic Seizures in Appendicitis. Two Cases. F. Berndt.
130 *Substitute for Mountain Sunshine. (Kann man die "Höhensonne" künstlich ersetzen?) G. Breiger.
131 Has Silicic Acid Balneotherapeutic Action? (Hat die Kieselsäure balneotherapeutische Bedeutung.) H. Schulz.

117. **Stenosis of Splenic Flexure.**—Allard reports two cases of non-malignant stenosis of the left flexure of the colon. The patients were men of 25 and 51, with long chronic constipation. Attacks of colic, localized predominantly in the left hypochondrium in one case and more diffuse pain throughout the abdomen in the other, were explained by kinking of the splenic flexure with resulting growing together of the transverse and descending colon, evidently traceable to some pericolitis not perceived at the time. If internal measures do not prove successful after a reasonable trial, he adds, operative treatment should no longer be delayed, as such cases as these show that it is indispensable.

118. **Salvarsan in Syphilis.**—Stümpke summarizes his experiences as teaching that although there is little chance of eradicating syphilis with salvarsan at one blow, yet this should be the ideal aimed at, and consequently in recent infection an intravenous injection should be made, followed by another after a week. The second dose should not be given earlier than this, as witness, he remarks, the case reported by Fovento of Trieste—severe hemorrhagic nephritis developing at once after the second dose of salvarsan by intramuscular injection, the first having been intravenous, three days before. Repeated control by the Wassermann reaction is indispensable. He adds that at present no one knows how the syphilis is going to run its course as a whole after salvarsan treatment, and thus a certain expectant attitude is justified, although this should not deter from the use of salvarsan in cases with malignant manifestations or refractory to mercury, and early in syphilis in infants.

120. **Respiration Exercises in Treatment of Neurasthenia.**—Knopf has long been extolling the benefits of systematic breathing exercises as a kind of internal massage of the viscera, regulating the functioning of the liver, bladder and bowels besides the influence on the respiratory organs. The main feature of his exercises is that the deep inspiration and deep expiration succeed each other without any pause, and thus there is no stationary congestion in the parts. His success has been particularly good in stuttering, asthma and chronic bronchitis, and the diuretic and cholagogue action has given great relief in heart disease. He noticed that goiter seemed to be much influenced by the breathing exercises in certain cases, the thyroid increasing nearly half an inch in size during inspiration and subsiding again to even less size than at first during expiration. While studying the effect of the exercises on vascular goiter, he encountered a patient with a medium goiter who had had an extremely painful hemorrhagic gynecologic affection for three years. As during this period any breathing was painful, she did not use the abdominal muscles in breathing and they evidently atrophied. During the following years, as all deep breathing had ceased, there was no fluctuation in the blood-pressure in the brain. Consequently the vasomotor nerves and muscles in the brain suffered from disuse and the brain did no receive sufficient nourishment. The defective supply of bloo

and nourishment of the brain explained the defective functioning of the brain, the cerebral neurasthenia, which had rendered the patient a physical wreck, as she said, irritable and depressed, with insomnia and tremor, the slightest physical exertion causing extreme shortness of breath and dizziness, the motor innervation morbidly sensitive to fatigue. All these symptoms vanished under the breathing exercises in such a short time and so completely that there can be no question of the correctness of the above diagnosis, made retrospectively. The exercises are done with the trunk bare, in front of a mirror, until the chest is seen to expand properly. At her first exercise, this patient nearly fainted during the deep inspirations and could proceed only after a brief rest each time. But in a day or so conditions improved and by the thirteenth day the patient no longer suffered from shortness of breath; appetite had returned, and the bowel functioning was normal. No other measures were attempted except the exercises.

122. **Wassermann Reaction from Forensic Standpoint.**—Placzek reports a case of criminal sexual actions in a young man who gave a positive Wassermann reaction as the first and only sign of inherited syphilis, previously unsuspected, but revealed by investigation of the antecedents.

124. **Lactation.**—Weiss concludes his study of the technic and indications for the most effective breast-nursing, with the statement that only serious chronic diseases, such as advanced nephritis, psychoses, retinitis, etc., may contraindicate nursing the infant in certain circumstances in which the physician must decide, but that there are no absolute indications forbidding the mother to nurse her child. Acute infectious diseases and mild febrile affections should not deter the mother from nursing; Salge has reported a case in which the mother with severe scarlet fever nursed her infant and Weiss has also had a case of the kind, both children thriving and escaping infection. Even when menstruation has returned, the children continue to increase in weight according to careful research by Jacobius at the Berlin Infant Dispensary.

126. **Gastric Ulcer.**—This is a continuation of the symposium on this question, the present contributions being from Hochenegg, Friedrich, Wilms and Borchardt on the indications for operative treatment of gastric ulcer, preferred mode of intervention and results to date.

127. **Importance of Endoscopy of Lower Air Passages.**—Ephraim comments on the lack of appreciation of the advantages of direct visual inspection of the air passages in dubious cases. Instead of wasting valuable time, the practitioner should resort to endoscopy which may clear up the diagnosis in a moment. Besides the disturbances from a foreign body in the air passages, he has had six recent cases of hemoptysis or dyspnea which endoscopy explained as due to a primary sarcoma in a bronchus or carcinoma in the lung, or stenosis from a goiter or aortic aneurysm. The hemoptysis in one of these cases had returned periodically for three years, and tracheobronchoscopy first revealed that the hemorrhages proceeded from varicose veins in the trachea which were then easily cauterized. He has never witnessed hemorrhage result from the endoscopy, and knows of no such case on record, not even recurrence of hemoptysis.

128. **Salvarsan in Small-Pox.**—Lenzmann gave salvarsan in each of three cases of small-pox. He reports that it proved harmless and a favorable influence seemed to be apparent.

130. **Substitute for Mountain Sunshine.**—Breiger ascribes the benefit from the sunlight at high altitudes to the preponderance of the ultraviolet rays, which induce a persisting active hyperemia, lasting for hours, without any tendency to sweating. He thinks that this same result can be accomplished with artificial light rich in the ultraviolet rays, and reports experiences in this line. He suggests that it opens possibly new horizons for treatment of tuberculosis, etc.

Mitteilungen aus den Grenzgebieten der Med. und Chir., Jena

XXIII, No. 1, pp. 1-168. Last indexed April 22, p. 1233

132 Prognosis of Extensive Resection of Small Intestine. (Prognose der ausgedehnten Dünndarmresektionen.) V. Lieblein.
133 *Ulcer in Jejunum After Gastro-Enterostomy. J. Exalto.
134 Experimental Research on Regeneration and Neoformation of Lymph-Glands. (Die anatomischen Grundlagen der Chirurgie der Lymphdrüsen.) A. Vecchi.
135 *Tardy Rachitis in Relation to Mineral Metabolism. (Zwei Fälle von sogen. "Spätrachitis." Der Mineralgehalt der Knochen und der Mineralstoffwechsel im Vergleich zu der kindlichen Rachitis.) J. A. Schabad.
136 Diagnostic Significance of Exaggerated Phloridzin Glycosuria. Caro.
137 *Curative Action of Normal Animal Serum on Suppurating Processes. L. Fejes and E. Gergo.
138 Hydrops of Total Bile System with Chronic Occlusion of Common Bile Duct. (Hydrops des gesamten Gallensystems bei chronischem Choledochusverschluss und seine Bedeutung für den Chirurgen.) W. Kausch.

133. **Peptic Ulcer After Gastro-Enterostomy.**—Exalto reviews the literature on this subject and reports extensive experimental research, all confirming the assumption that these ulcers after gastro-enterostomy are due to the action of the acid gastric juice on the intestinal mucosa, and that this acidity should be neutralized with alkalies in prophylaxis. After a gastro-enterostomy the patient should keep up an ulcer diet for a long time. His experience indicates that the posterior retrocolic gastro-enterostomy according to von Hacker, as near to the duodenum as possible, is least liable to be followed by a peptic ulcer.

135. **Tardy Rachitis.**—Schabad reports two cases of rachitis in sisters. One was a girl of 16 and the metabolic findings in regard to minerals are recorded and compared with the chemical findings in the bones after her death from tuberculous pleurisy, and with the metabolic findings in her twin sister. Schabad regards the trouble in this case as a juvenile chondrodystrophy, the lack of benefit from phosphorus-cod liver oil and other features distinguishing the trouble from ordinary rachitis.

137. **Horse Serum in Treatment of Suppuration.**—Fejes found that the bactericidal action of fresh normal animal blood-serum in the test-tube is apparent also when the serum is brought into contact with an infectious focus in the tissue. Gergo reports the application of this method in 100 cases in acute suppuration. He used normal horse or cattle serum, first aspirating the pus, then injecting a little serum into the focus to rinse it out, aspirating all excessive fluid, then covering the puncture hole with a scrap of sterile gauze, held in place with adhesive plaster. A single treatment is generally sufficient, and it seems to be immaterial what germs are involved or where the abscess is located. The functional and cosmetic results are superior to those obtained by any other means, while the bactericidal serum seems to induce a passive immunization, and there is also an active immunizing by the hyperleukocytosis and phagocytosis induced. He injects the serum with a needle which has no opening at the tip but a row around just below the tip, thus rinsing the walls of the cavity more effectually. A chill and serum exanthem may follow if care is not taken to aspirate out the superfluous serum. The main field for this serotherapy is in acute abscesses in the soft parts, but he has found it useful also in two cases of purulent bursitis and in several bone and joint lesions, but his experience in this line has not been enough for a definite verdict.

Münchener medizinische Wochenschrift

April 25, LVIII, No. 17, pp. 881-936

139 *Salvarsan in Cancer. (Erfahrungen mit Salvarsan bei malignen Tumoren.) V. Czerny and A. Caan.
140 Roentgen Rays in Diagnosis of Gastric Ulcer. (Zur Röntgendiagnostik des runden Magengeschwürs.) F. de Quervain.
141 *Radical Mastoid Operation. (Radikaloperation des Ohres.) K. Herschel.
142 The Salvarsan Question. A. Stühmer.
143 Pregnancy Diabetes. (Zur Kenntnis des sogen. Schwangerschaftsdiabetes.) H. Ehret.
144 Color Tests for Sugar, Creatin and Creatinin in the Urine. W. Autenrieth and G. Müller.
145 Teaching the Deaf to Understand Speech by the Movements of the Lips. (Ueber den Absehunterricht für Schwerhörige.) M. Nadoleczny.
146 Case of Tetanus Following Subcutaneous Administration of Radiolcarbenzym. K. Laubenheimer and A. Caan.
147 Secondary Syphilis in Monkeys and Rabbits. C. Grouven.

139. **Salvarsan with Cancer.**—Czerny and Caan report experiences with salvarsan in twelve cases of malignant tumor, the results, they say, justifying further trials in this line unless the patients are much debilitated. Sarcoma seems to

feel its effect most; there may be a stormy reaction at first. Their experience suggests that the ordinary doses should be repeated several times, possibly combining intravenous injection with a local injection into the tumor. Operable cancers should always be removed, of course, but in case of sarcoma with a positive Wassermann reaction it might be well to precede the operation with salvarsan, similarly to the Esmarch iodin treatment.

141. **Radical Operation on the Ear.**—Herschel pleads for immediate suture after the radical operation, with careful after-treatment to prevent formation of adhesions or recesses while promoting cosmetic healing. The best means to attain this, he thinks, is by filling the hole with small square gauze pads; this prevents excessive granulation. This he combats, besides, with silver nitrate, a bead of the nitrate melted on the end of a sound. This tamponing and cauterization gave good results, the healing period being much shortened by this and the primary suture in his fifteen cases, all the patients being completely cured in from four to seven weeks except one who required a second operation. The results for the hearing are better the earlier operative treatment is applied, and he urges practitioners not to delay too long, as, besides the annoyance from a suppurating ear, the danger from complications is like smoking when sitting on a powder keg. One of his patients, promptly cured by the technic described, had been treated daily for two years and every second day for four more years by an ear specialist, while the ear kept on calmly suppurating. It has been his frequent experience that conditions were found much worse than had been anticipated when the region was opened up. In one such case the mastoid process had not been at all tender, yet the cells were found filled with pus even up to the sinus. The ear had been suppurating for years and there was a fistula in the hammer region, but the suppuration seemed to have much declined of late and there had never been any threatening symptoms. He operated only on the desire of the patient to be delivered from the annoying running of the ear, and rejoiced indeed that he had done so when he found the mastoid process thus riddled with disease. It is far better, he declares, to operate and possibly find in a few instances lesions apparently less serious than had been suspected, than to let a single case like this escape the radical operation which soon would have come too late to save the hearing or possibly the life.

Virchows Archiv, Berlin

April, CCIV, No. 1, pp. 1-160

148 Histomechanics of the Vascular System and Pathogenesis of Angiosclerosis. R. Thoma.
149 Neoformation of Blood-Vessels. (Neubildung von Blutgefässen.) R. Minervini.
150 Multiple Primary Carcinomas. S. Pusateri.
151 Case of Papilliferous Mammary Adenocarcinoma with Papillary Metastases in the Axillary Glands. S. Pusateri.
152 Contribution to the Adenomyoma Question. (Nachnierenkanälchen mit Glomerulusanlage in der Leistengegend beim menschlichen Embryo.) R. Meyer.
153 Mitosis with Non-Malignant Epitheliomas. (Verhalten der Mitosen bei den gutartigen papillären Epitheliomen.) J. Catsaras.
154 Changes in Stomach with Pernicious Anemia. (Magenveränderungen bei perniziöser Anämie.) S. Herzberg.

Wiener klinische Wochenschrift, Vienna

April 27, XXIV, No. 17, pp. 583-618

155 Salvarsan in Syphilis in Children: Twenty-Six Cases. (Heilwirkung des Salvarsans bei der Lues des Kindesalters.) J. v. Bokay, L. Vermes and Z. v. Bokay.
156 *Diagnosis and Pathogenesis of Cholelithiasis. E. Biernacki.
157 Case of Alternating Tetany and Epilepsy. (Tetanieepilepsie.) A. Luger.
158 Alizarin Indicator for Titrating Alkali in the Blood. (Neuer Indikator zur Bestimmung des titrierbaren Alkalis im Blute.) P. Bernhardt.

156. **Gall-Stones.**—Biernacki's experience has convinced him that gall-stone disease is one of the manifestations of the uric-acid diathesis; it is frequently accompanied by other signs of this uric-acid tendency. He has noticed a certain regularity in the development of the gall-stone troubles; a number of attacks may occur over a period of six to eight weeks and then there may be a pause for several months. The patients frequently connect the attacks with certain seasons. During these periods the slightest error in diet may bring on the colic, while during the intervals gross errors in diet are tolerated without harm. These free intervals explain the benefit frequently ascribed to certain drugs or measures which the patient happened to be taking at the time the free interval arrived. Biernacki says that he has had many patients with typical attacks of pains, fever and jaundice a year or two after they had been operated on for gall-stones. Some of his Carlsbad patients of this class figure in the literature as "cured operative cases." He believes that so long as the tendency to cholecystitis persists there will be new formation of concrements. Dietetic prophylaxis is the main thing, avoiding excess in eating, and highly seasoned food and alcohol.

Zeitschrift für Geburtshülfe und Gynäkologie, Stuttgart

LXVIII, No. 1, pp. 1-259. Last indexed Feb. 18, p. 551

159 Venous Myomas of the Uterus with Intravascular Growth. A. Sitzenfrey.
160 No Evidence from Experimental Research Reported that Eclampsia is Due to Anaphylaxis. F. Felländer.
161 *Organotherapy of Osteomalacia. (Zur Klinik und Organotherapie der Osteomalacie, nebst anatomischen Untersuchungen über die "interstitielle Eierstocksdrüse.") R. Stern.
162 Antiseptic Lavage of the Vagina in Obstetrics. (Sind die antiseptischen Scheidenspülungen bei der Geburt bakteriologisch begründet?) O. Burckhardt and K. Kolb.
163 Origin of Mammary Glands in the Axilla. (Zur Genese der Achselhöhlenmilchdrüsen.) A. von der Heide.
164 Anaerobic Blood-Cultures in Puerperal Fever. (Infektion und Fäulnis.) A. J. M. Lamers.
165 *Necessity for Microscopic Examination of Assumed Recurrences of Cancer of the Uterus. A. Sitzenfrey.
166 *Resuscitation of New-Born Infants. (Behandlung des Scheintods Neugeborener.) F. Ahlfeld.
167 Leukoplakia of the Uterus. J. Hofbauer.

161. **Osteomalacia.**—Stern reports the case of a woman of 41 who had borne eight children, and osteomalacia developed after her sixth delivery. She was treated with milk from a castrated goat. Great benefit followed as in Fränkel's case, but this improvement was not a complete cure, and the symptoms recurred after a stationary period of several weeks. The ovaries were then removed and a complete cure was soon realized except for the irreparable lesions. The case sustains the assumption of an internal secretion of the ovary and its antibody, but his further research to study the subject still closer gave negative findings.

165. **Necessity for Microscopic Examination of Alleged Recurring Cancer.**—Sitzenfrey reports a case in which a woman, 46 years old, had the uterus removed for an adenocarcinoma, six years after the death of her consumptive husband. Three months later a local ulceration was assumed to be recurring cancer but the microscope revealed that it was a tuberculous process in the retroperitoneal tissue, evidently infected from the intestines. The diarrhea observed the fourth day after the first operation, had evidently been due to tuberculous intestinal ulcers. The second laparotomy in this case revealed inoperable tuberculous conditions. If the excised scrap had been examined with the microscope in time, the patient would have been spared this useless second operation. In another case the supposed recurrence proved to be merely granulation tissue but this was not ascertained until after a number of lymph-glands had been removed; the enlargement of the lymph-glands was probably due merely to the inflammation after the radical operation, kept up by the trauma from daily vaginal irrigation. Sitzenfrey believes that such mistakes in the diagnosis of recurring carcinoma are more common than generally recognized. Wertheim says that the cicatricial tissue after his abdominal hysterectomy is liable to be heavy and tough, so that his assistants have frequently diagnosed recurrences in these harmless lumps, especially when the tissue is the seat of an inflammatory process.

166. **Resuscitation of New-Born Infants.**—Ahlfeld emphasizes that the causes and clinical picture of the asphyxia of new-born infants vary from case to case, so that individualized treatment is imperatively necessary. In order to ensure this, he clears the child's upper air passages and places it at once in a bath tub, keeping the water constantly at 38 to 40 C. (100.4 to 104 F.). All the examination of the child is done in the hot water. He insists that the umbilical cord should be cut at once in case of asphyxia; no change that can benefit the child can occur by means of the placental circulation, and

onsequently there is no use in leaving it with the mother. n the hot water the capillaries of the skin filled with blood elieve the congested organs and the stimulus from the change rom room temperature to that of the hot water has a powerul action on the circulation. It is then easy to inspect the hild and estimate its viability and determine whether the ir passages are free or not. He adds two more to the four ases he has previously published, in which the child breathed ut there was no action on the part of the heart; on the other and, a new-born child may be dead and yet its heart may eep beating. This renders it difficult to distinguish actual rom apparent death of new-born infants, and this decision s much facilitated by observation of the child in the hot ater. If the air passages cannot be cleared, he holds the hild up by its legs for fifteen seconds, tapping its thorax nd watching to see if mucus drips from its mouth or nostrils. f these manipulations fail, he wraps the child in a hot lanket and introduces a flexible catheter to aspirate the hlegm in the trachea and bronchi. If the passages can be leared in this way, the viable child makes a deep inspiration nd the heart action soon revives. Measures should be at and for these procedures at every childbirth, and especially hen there are pathologic conditions. Vigorous friction of he child's body has proved the best stimulus at this stage; he child is wrapped with hot cloths and is replaced in the ot water between each manipulation, pouring in hot water o keep the temperature at the desired height. Insufflation hrough a catheter and Schultze's swinging may effectually upplement the other measures, but the swinging is contraindicated with weakly and deformed children, the prematurely orn and those injured during birth, as also when there is uspicion of pressure on the brain. For this the hot bath s the best of all measures, possibly supplemented by a little enesection. Ahlfeld adds that if after half an hour of these easures there is no sign of life, except the contractions of he heart, there is no hope of reviving the child and further fforts are merely to satisfy oneself and the family that nothng has been left undone. He cites a number of typical cases o show the various factors responsible for the asphyxia in ifferent cases.

Zentralblatt für Chirurgie, Leipsic

April 29, XXXVIII, No. 17, pp. 597-628

68 *Operative Treatment of Varicocele. G. Nilson.

168. **Treatment of Varicocele.**—Nilson has operated in sixty-ve cases by the technic of which he gives an illustrated escription. It requires only fifteen minutes to complete it r less; and is done under local anesthesia. The stumps of he vein are drawn such a distance apart that there can be o question of regeneration of the blood canal later, while he testicle is safely suspended from the internal abdominal uscles. The long lower stump of the vein is drawn through ehind the lower fibers of the common aponeurosis of the nternal and transverse oblique muscles which are separated rom the front of the rectus without disturbing the lay of he fibers or cutting them. This holds the testicle firm while ffectually preventing, he says, recurrence of the varicocele.

Zentralblatt für Gynäkologie, Leipsic

April 29, XXXV, No. 17, pp. 641-672

69 *Childbirth in Progressive Muscular Atrophy. (Geburt bei Dystrophia musculorum progressiva Erb.) F. Gutzmann.
70 Ovariotomy During Delivery by Cesarean Section. (Weiterer Fall von Ovariotomie intra partum mit Kaiserschnitt.) A. Hesselbach.
71 Connection Between Ovulation and Conception. (Beziehung der Konzeption zur Menstruation.) S. Chazan.

169. **Childbirth with Progressive Atrophy of the Muscles.**—utzmann adds another to the two such cases on record; in ll the period of expulsion was extremely protracted. This onfirms the importance of the action of the abdominal musles in delivery.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 16, XXXII, No. 46, pp. 483-498

72 The Hypophysis Cerebri in Relation to Obesity. (Sulla patogenesi della degeneratio adiposo-genitalis.) G. A. Pari.

April 18, No. 47, pp. 499-506

73 Influenzal Peritonitis. M. Lodi.

April 20, No. 48, pp. 507-514

174 Hysteric Trophic Superficial Processes. (Disturbi trofici della cute di origine isterica.) C. Coniglio.

April 23, No. 49, pp. 515-530

175 *Test for Albumose in Urine. (Il mio metodo di ricerca dell' albumosuria.) U. M. Fittipaldi.

175. **Test for Albumose in the Urine.**—Several years of experience have confirmed, Fittipaldi says, the advantages of his technic for detection of albumose in the urine. The presence of considerable albumin does not interfere with the findings. After precipitation with alcohol the precipitate is dissolved in soda solution, 31 or 32 per cent. The solution is then tested with a 5 per cent. solution of nickel sulphate mixed with equal parts of ammonia. A few drops of this mixture are added to the alkaline solution, and the presence of products of proteolysis is revealed by an orange-yellow tint. This test reveals the presence of albumosoids in a proportion of 4 to 10,000, or less. It is less sensitive than some of the other technics, he declares, but it is a reliable one. He quotes a number of authors who have reported favorably on his technic.

Policlinico, Rome

April 16, XVIII, No. 16, pp. 485-516

176 Blood Pigment in Urine not Pathognomonic of Malaria. (Sopra un preteso segno patognomonico della infezione malarica.) C. Mars.

April 23, No. 17, pp. 517-552

177 *Improved Test for Indicanuria. (Nuovo metodo per la ricerca dell' indacano nelle urine.) M. Barberio.

177. **Nitrite Test for Indican in the Urine.**—Barberio comments on the great importance of examining the urine for indican as a sign of disease, and recommends a 1:2000 solution of sodium nitrite for the reagent. This keeps well; 2 or 3 drops are mixed with 5 c.c. of filtered urine and well shaken. Then 5 c.c. of concentrated hydrochloric acid and 2 c.c. of chloroform are added. The tint changes from clear yellow to violet; the chloroform, colorless at first, changes to blue, while the supernatant fluid is dark yellow, pinkish or violet. Comparison of the findings with this technic and with Obermayer's shows that the chloroform takes up the indigo blue more rapidly and intensely with the former. The rapidity of the technic avoids the formation of indirubin and thus protects against another source of error, but its chief advantage is that the reagent, the sodium nitrite solution, is so easily prepared, so stable and acts so promptly, thus adapting it for every-day routine practice.

Riforma Medica, Naples

April 17, XXVII, No. 16, pp. 421-448

178 *Sulphur Reaction in Urine with Cancer. (Sull'aumento degli acidi ossiproteinici nelle orine di carcinomatosi.) H. Salomon and P. Saxl.
179 Regeneration of Blood in Anemic Animals Under Quinin. (La rigenerazione del sangue nelle anemie da sottrazioni sanguigne in animali chinizzati.) D. De Sandro.
180 *Lumbar Puncture in Cerebral Hemorrhage. A. Rossi.

178. **Sulphur or Oxyproteic Acid Reaction in the Urine with Cancer.**—Salomon and Saxl give in condensed form the technic for determination of the proportion of oxyproteic acid in the urine in relation to the total nitrogen. In the healthy the proportion is about 1.2 per cent., but in case of cancer the oxyproteic acid nitrogen seems to range from 3 to 4.5 per cent. Their technic was given in detail recently in The Journal, May 27, page 1593.

180. **Lumbar Puncture in Cerebral Hemorrhage.**—Rossi has been applying lumbar puncture for diagnosis and estimation of the prognosis in cases of cerebral hemorrhage, and here gives the clinical history and necropsy findings in seven cases. They show that admixture of blood with the cerebrospinal fluid indicates very serious conditions. When the hemorrhage into the brain occurs suddenly, the gravity of the case depends on the amount of blood pouring out into the tissues and into the cerebrospinal fluid. When the cerebral hemorrhage occurs more insidiously, the symptoms are mild at first, but they increase rapidly in gravity from the reaction on the part of the meninges, etc. The presence of blood in the cerebrospinal fluid in this class of cases warns of impending danger, notwithstanding the mildness of the symptoms at first. The discovery of blood in the spinal fluid further serves to differentiate cerebral hemorrhage from conditions which might

otherwise be confounded with it, such as embolism, congestions, epilepsy, encephalitis and uremic and diabetic coma. The nine typical cases reported represent examples of each of these three groups.

Hospitalstidende, Copenhagen

March 22, LIV, No. 12, pp. 305-328

181 *Favorable Influence of Exposures to the Arc Light on Respiration in Heart Disease. (Undersøgelser over den universelle Buelysbenandlings Virkning paa Respirationen ved Hjertesygdomme.) V. Rubow and C. Sonne.

182 Case of Multiple Sclerosis with Conjugate Ocular Paralysis of the Voluntary Lateral Movements with Retention of Vestibular Reflex Movements. H. Rønne.

March 29, No. 13, pp. 329-360

183 *Wassermann Reaction in the Blind, Deaf Mutes and Epileptics of Denmark's Asylums. (En Undersøgelse af Blinde, Døvstumme og Epileptikere i Danmark ved Hjælp af Wassermann's Reaktion.) O. Thomsen and W. Leschly.

April 5, No. 14, pp. 361-384

184 *Salvarsan in Syphilis. H. Boas. Commenced in No. 13.

185 Site of Principal Lesions in Advanced Tuberculosis. (Hvilken Lunge findes fortrinsvis angreben ved Lungetuberkulosens sidste Stadium?) K. Secher.

April 12, No. 15, pp. 385-416

186 Spirometer Findings in Pulmonary Disease. (Spirometriske Undersøgelser hos Brystsyge.) F. Tobiesen.

187 *Blotting-Paper Test for Free Hydrochloric Acid in Stomach Content. (En ny Metode til Bestemmelse af den fri Saltsyre i Mavesaften.) I. Holmgren.

188 Two Cases of Volvulus. H. v. Thun.

181. **Effect of Arc Light Exposures on Respiration in Heart Disease.**—Rubow and Sonne report experiences which show that arc light exposures have a marked influence on the respiration in heart disease, rendering it slower and less shallow and thus relieving the dyspnea. They record the findings in a number of cases before and after exercise, the effect of the arc light exposures far surpassing that attainable by any other means. The results confirm in every respect Hasselbalch's statements in regard to this action on the respiration. His research was on healthy persons, but Rubow and Sonne have applied the procedure to supplement the ordinary measures, rest, dieting and heart tonics, in heart disease, when the dyspnea still persisted after their systematic application. Unless the arc light induces an erythema it does not have the desired effect on the respiration. The incandescent light baths in common use lack the ultraviolet erythem-inducing rays, and thus fail to have the same effect on the respiration as the arc light.

183. **The Wassermann Reaction in Deaf-Mutes and Epileptics.**—Thomsen and Leschly have previously reported their findings in regard to the Wassermann reaction among the inmates of the asylums in Denmark, and they here report that the findings were constantly negative in 146 blind inmates and in all but 3 of 344 deaf-mutes and 1 of 259 epileptics. There were no signs or history of syphilis in two of the cases with a positive reaction, but there was a history of keratitis at one time in the two others.

184. **Salvarsan in Syphilis.**—Among the fourteen syphilitics whom Boas treated with salvarsan, two seemed to be uninfluenced by the medication, while he has not encountered a single refractory patient among the last 302 patients given mercurial treatment. Only two of the entire fourteen have been free from recurring symptoms to date. In several cases there was persisting local infiltration and 0.028 gm. of arsenic was recovered in one case from the necrotic tissue which sloughed off for months after the injection. This patient was entirely incapacitated for business for several months after the injection, as a direct consequence of it. One patient presented symptoms of acute arsenic poisoning after the injection, with edema and erythema of the face, paresthesia in fingers and toes, vomiting, headache and high fever. The edema persisted for sixteen days. Another patient three weeks after the injection developed pains radiating from the focus to the neck, with vertigo. Even in the most favorable cases, Boas affirms, the symptomatic benefit was no more pronounced than is usual under mercury. There was recurrence of symptoms earlier than under the old treatment. He mentions further a fatality recently reported by Morata; a young man, healthy except for a mild recurrence of syphilis two years after infection (papules in the mouth and adenitis universalis), vomited blood three hours after intravenous injection of 0.04 gm. salvarsan; anuria and collapse followe
and he died the next day in coma, necropsy showing inten
congestion of the epithelium of the kidneys evidently arrest
ing renal functioning completely. Boas' final conclusions a
to the effect that salvarsan should be reserved exclusively f
the cases in which ordinary treatment has failed.

187. **The Blotting-Paper Test of Gastric Acidity.**—Holn
gren's application of capillary attraction to quantitative est
mation of the free hydrochloric acid in the stomach conte
was described in THE JOURNAL, March 18, 1911, page 857.

Books Received

Books received are acknowledged in this column and su
acknowledgment must be regarded as a sufficient return for t
courtesy of the sender. Selections will be made for review in t
interests of our readers and as space permits.

MYSTERIES OF LIFE SERIES. By Isabelle T. Smart, M.D., Medic
Examiner of Defective Children, Department of Education, City
New York. Book 1: What a Mother Should Tell Her Little G
Pp. 105. Book 2: What a Mother Should Tell Her Daughter. I
105. Book 3: What a Father Should Tell His Little Boy. Pp. 1
Book 4: What a Father Should Tell His Son. Pp. 103. Clot
$2.50 per set; 75 cents per volume. New York: The Bodmer P
lishing Co., 1911.

HYDROTHERAPY FOR STUDENTS AND PRACTITIONERS OF MEDICI
Embodying a consideration of the Scientific Basis, Principles a
Practice of Hydrotherapy and some allied Branches of Physiolo
Therapy. By G. K. Abbott, M.D., Dean of the Faculty and P
fessor of Hydrotherapy and Practice of Medicine in the College
Medical Evangelists. Cloth. Price, $3. Pp. 308, with 30 illust
tions. Loma Linda, Cal.: The College Press, 1911.

ONE THOUSAND SURGICAL SUGGESTIONS. Practical Brevities
Diagnosis and Treatment. By W. M. Brickner, B.S., M.D., N
York, Adjunct Surgeon, Mount Sinai Hospital. With the Collabo
tion of E. Moschcowitz, M.D., J. P. Warbasse, M.D., and H. Neuh
M.D., New York, Associate Editors, American Journal of Surge
Fourth Edition. Cloth. Price, $1. Pp. 227. New York: Surg
Publishing Co., 1911.

INDEX-CATALOGUE OF MEDICAL AND VETERINARY ZOOLOGY. P
33. (Authors: W to Werbitzki.) By C. Wardell Stiles, Ph.
Consulting Zoologist, Bureau of Animal Industry, and Albert H
sall, M.R.C.V.S., Assistant Zoologist, Bureau of Animal Indust
U. S. Dept. of Agriculture, Bureau of Animal Industry, Bull. No.
1911.

CONTRIBUTIONS TO MEDICAL SCIENCE. By Howard Taylor Ri
etts. 1870-1910. Published as a Tribute to His Memory by
Colleagues Under the Auspices of the Chicago Pathological Soci
Cloth. Price, $5.33. Pp. 497, with illustrations. Chicago: T
University of Chicago Press.

UEBER MORBIDITÄT UND MORTALITÄT DES MENSCHEN, ZUGLE
EIN BEITRAG ZUR FRAGE DER KONSTITUTION. Von Dr. Julius Bar
Privatdozent und Assistent am Pathologische-Anatomischen Univ
sitäts-Institut in Wien. Paper. Price, 2.50 marks. Pp.
Vienna: Franz Deuticke, 1911.

TRANSACTIONS OF THE AMERICAN ASSOCIATION OF GEN
URINARY SURGEONS. Twenty-Third Annual Meeting, held at Geo
Washington University, Washington, D. C., May 3-5, 1910. Vol.
Paper. Pp. 409, with illustrations. New York: F. H. Hitchco
1911.

SIEBENUNDACHTZIGSTER JAHRES-BERICHT DER SCHLESISCH
GESELLSCHAFT FÜR VATERLÄNDISCHE CULTUR. Enthält den Gene
bericht über die Arbeiten und Veränderungen der Gesellschaft
Jahre 1909. Paper. Pp. 69. Breslau: G. P. Aderholz, 1910.

SOME NEGLECTED FACTORS IN EVOLUTION. An Essay in C
structive Biology. By Henry M. Bernard, M.A. Cantab, F.
Edited by Matilda Bernard. Cloth. Price, $3 net. Pp. 489, w
47 illustrations. New York: G. P. Putnam's Sons, 1911.

HANDBOOK OF THE TREES OF THE NORTHERN STATES AND CAN
EAST OF THE ROCKY MOUNTAINS. By Romeyn B. Hough, B
Author of "American Woods." Cloth. Price, $8. Pp. 470, w
illustrations. Lowville, N. Y.: R. B. Hough, 1907.

AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INF
MORTALITY. TRANSACTIONS OF THE FIRST ANNUAL MEETING. Pa
Pp. 356, with illustrations. Johns Hopkins University, Baltim
Nov. 9-11, 1910.

PAPERS READ BEFORE THE AMERICAN SOCIETY OF TROPICAL M
CINE AND PUBLISHED UNDER ITS AUSPICES. Volume V, 1
Paper. John M. Swan, Secretary, 1818 Lombard St., Philadelp

ANNUAL REPORT OF ST. JOSEPH'S GERMAN HOSPITAL OF BA
MORE, IN CHARGE OF THE SISTERS OF THE THIRD ORDER OF
FRANCIS. For the Year 1910. Paper. Pp. 48.

THE NERVOUS LIFE. By G. E. Partridge, Ph.D., Formerly
turer in Clark University. Cloth. Price, $1 net. Pp. 216.
York: Sturgis & Walton Co., 1911.

DIE NEURALGIEN DER TÄGLICHEN PRAXIS. Von Dr. O. Schell
Arzt in Königsberg i. Pr. Paper. Price, 1.80 marks. Pp.
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F. B. Howard.

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HE POSSIBLE DIAGNOSIS AND A TECHNIC IN EXCISION OF A CHRONIC INDURATED ULCER OF THE POSTERIOR WALL OF THE STOMACH *

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The technic of operations on the stomach for ulcer, riously enough, followed that for cancer, and the dical operation for ulcer situated near the pylorus is ractically identical with that for cancer. To-day we re in many instances operating on ulcer not only to lieve the symptoms for which it is directly responsible, ut to prevent cancer development on the ulcer base. he physician, more particularly the stomach specialist, ardly has a fair chance to study the relationship tween ulcer and early cancer; for such knowledge we ust go to the surgeon who, having a large experience stomach surgery, excises, whenever possible, all hronic calloused ulcers and submits each specimen to e examination of an expert pathologist. In the Mayo linic 71 per cent. of excised cancers of the stomach ere found to have developed on an ulcer base, and oubtless many excised chronic calloused ulcers, if carefully examined, will be found to be undergoing early cancer changes; hence, wherever the location, wide excision, outside of the area of induration, is imperative as a logical surgical procedure. Not much has been written about excision of chronic ulcers of the posterior wall of the stomach (saddle-bag ulcer not considered); in fact, nothing of value with which I am familiar, prior to Coffey's beautifully illustrated article,[1] in which he describes among others, one case of this type, and an article by W. J. Mayo.[2] In Coffey's case, direct attack by excision through an opening in the gastrohepatic omentum was employed. Mayo describes and illustrates effectively, "transgastric excision of calloused ulcer of the posterior wall of the body of the stomach"; five patients have been operated on by him successfully after this technic. A note at the end of Mayo's article credits L. S. Pilcher with having made a successful transgastric excision of an ulcer of the posterior wall of the stomach in a similar manner.[3]

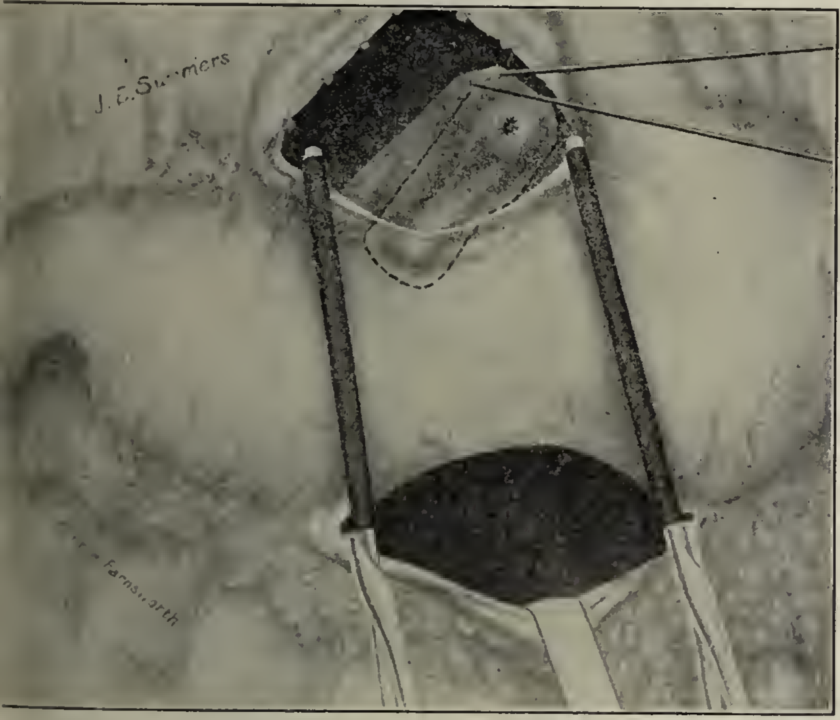

Fig. 1.—Gastrohepatic and gastrocolic omentum opened; ulcer eed, showing perforation and area of induration.

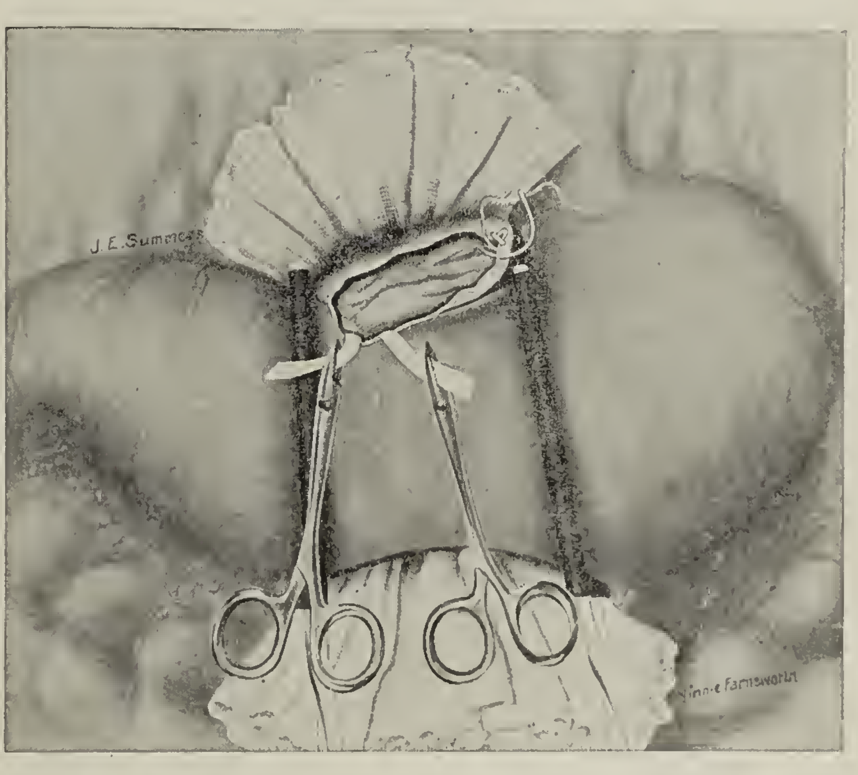

Fig. 2.—Lesser cavity of the peritoneum packed off; gauze packing in stomach.

Very few ulcers of the posterior wall of the body of the stomach have been attacked surgically. Moynihan ("Abdominal Operations") does not describe a technic, writing, "Though I have often found large adherent ulcers on the hinder surface (stomach) I have never been prevented from doing the usual operation" (posterior gastro-enterostomy).

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* Read before the Nebraska State Medical Association, May 3, 911.

[1] Coffey, R. C.: Surgical Treatment of Ulcers Along the Lesser Curvature of the Stomach, Surg., Gynec. and Obst., December, 1910, p. 545.

[2] Mayo, William J.: Transgastric Excision of Calloused Ulcer of the Posterior Wall of the Body of the Stomach, Ann. Surg., December, 1910, p. 797.

[3] Case reported in the Long Island Med. Jour., May, 1908.

Our knowledge of the different forms and locations of gastric ulcer has been made possible only by a careful study of the subjective and objective symptoms and by comparing them with the operative findings. To date we have learned little from other methods, including the *x*-ray. I shall incorporate the essentials of the history of a case referred to me, as the symptoms differ somewhat from those commonly given of ulcer of the stomach, and may aid toward a recognition of chronic ulcer of the posterior wall of the stomach, particularly where its base is adherent to the pancreas or other structures.

REPORT OF CASE

During the latter part of December, 1910, Dr. A. D. Dunn of Omaha, turned over to me for operation in the Clarkson Hospital a man giving an undoubted history of chronic gastric ulcer. The notes on history and examination are by Dr. Dunn.

History.—"W. H., policeman, aged 40, married, was first visited Oct. 7, 1910. Family history negative. During the past two years, with a gradual onset, there had been, commencing about half an hour after meals, a sense of fulness and heaviness in the epigastrium with some belching; this condition would last one to two hours. The discomfort was greater after a full meal, and was increased by sour vegetables and condiments. One year before the man had vomited blood. For the past two months he had vomited blood frequently and for several weeks blood had been present daily in the vomitus; his stools had been tarry, and he had rapidly grown pale and weak. Blood showed 2,500,000 reds and 30 per cent. hemoglobin; there was marked tenderness in the epigastrium; he complained bitterly of pain across the back, which was worse after eating; there was a hyperesthetic, tender area to the left of the tenth, eleventh and twelfth dorsal vertebræ. The patient was sent to the hospital and put on a Lenhartz diet. The course was completed in six weeks, at the end of which time the blood had disappeared from the stools; vomiting had ceased and he was largely free from pain; he returned home. One night he overate; the epigastric pain recurred with intensity and blood reappeared in the stools; he complained of pain in the region of the heart, which usually commenced between 11 and 12 o'clock at night and lasted until 3 or 4 in the morning. There was intense soreness and heaviness in the testicles, which made it difficult for him to rise from his chair.

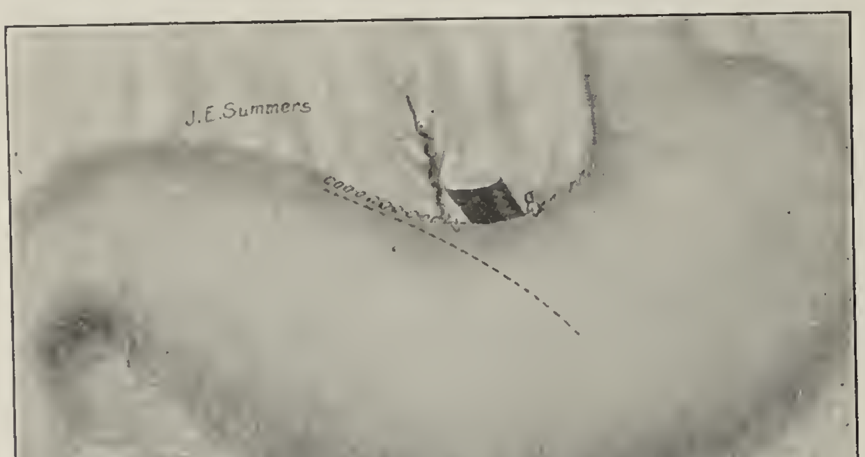

Fig. 3.—Dotted line, sutures in the posterior wall of the stomach; the repaired openings in the gastrohepatic and gastrocolic omentum; cigarette drains.

Examination.—"Dec. 8, 1910: Patient is much improved in general appearance. There is marked tenderness and rigidity in the epigastrium; the fifth, sixth and seventh interspaces in the nipple line are exquisitely tender, as is the whole right and left dorsal area on both sides from the sixth to the twelfth dorsal vertebræ. Both testicles are hyperesthetic but do not appear abnormal. A test breakfast shows a total acidity of 82; hydrochloric acid, 60; blood present. No retention after eight hours from a test meal.

"The patient returned to the hospital and after one week's starvation a modified Lenhartz diet was again instituted. During three weeks there was little improvement; pain persisted to the extent of making his nights miserable and th stools were rarely free from occult blood. As soon as any increase was made in the diet the pain would be aggravated and the occult blood would be in greater evidence. Inasmuch as there had been no satisfactory results from medical treatment, and the patient's physical condition and the blood findings (reds 5,000,000, whites 5,500, hemoglobin 85 per cent.) were such as to warrant an operation, it was deemed th proper moment for surgical intervention in an obstinate and persistently bleeding ulcer."

Operation.—I operated on Dr. Dunn's patient in the Clarkson Hospital Jan. 2, 1911. The ulcer was situated on the posterior wall of the stomach; it was large and indurated. Th anterior wall of the stomach could be invaginated into th ulcer base to the depth of one-half the length of the las phalanx of the thumb. After the usual application of stomac clamps the gastrohepatic omentum and the gastrocolic omentum were opened as indicated in Figure 1, and with gauz protection the ulcer was freed from firm posterior attachments, in the doing of which I perforated the base, openin the stomach. The ulcer base was so adherent to the pancre that I am inclined to believe perforation with adhesion ha already taken place. The induration extended over and acro the lesser curvature; I might designate the ulcer as a "turn saddle." Before the ulcer was excised the cavity of the less peritoneum was packed off as indicated in Figure 2, and it was excised the stomach was lightly stuffed with gauze f further protection of the wound—also shown in Figure Figure 3 illustrates well the line of sutures in the posteri wall; there were two continuous, a through-and-through (n the Connell) and an imbedding musculoperitoneal. Figure also shows the closed gastrohepatic and gastrocolic tempora wounds for technic. Two large cigarette drains were int duced, each to the line of suture in the stomach wall and co ing out, the one at the upper end of the abdominal incisi and the other at the lower. Our patient has, to date, made most excellent recovery.

The peculiar pains complained of may be explain by the posterior adhesions. The splenic artery ru along the upper border of the pancreas as a rule, but have seen one case of fatal hemorrhage from a gast ulcer which ulcerated into the splenic artery runni within the pancreas tissue. Cases of fatal hemorrha from gastric ulcer have been reported in which t ulcerated splenic artery was the source, but whet or not a variation in the usual position of the ves was the reason, I am not informed. Brinton says th 58 per cent. of fatal gastric hemorrhages come from t splenic artery. The possible relation of an ulcer of t posterior wall of the stomach to the splenic artery wou suggest extreme gentleness in the freeing of adhesio

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DEFINITE KNOWLEDGE OBTAINED BY MEANS OF THE X-RAY *

E. M. SALA, M.D.

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While it is possible for an expert photographer so alter *x*-ray negatives and prints that they may be m to represent almost anything, yet there can be no qu tion about the *x*-ray's wide range of usefulness in solv the many perplexing problems with which the surg is continuously confronted.

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* Read before the Western Surgical Association, Chicago, De ber, 1910.

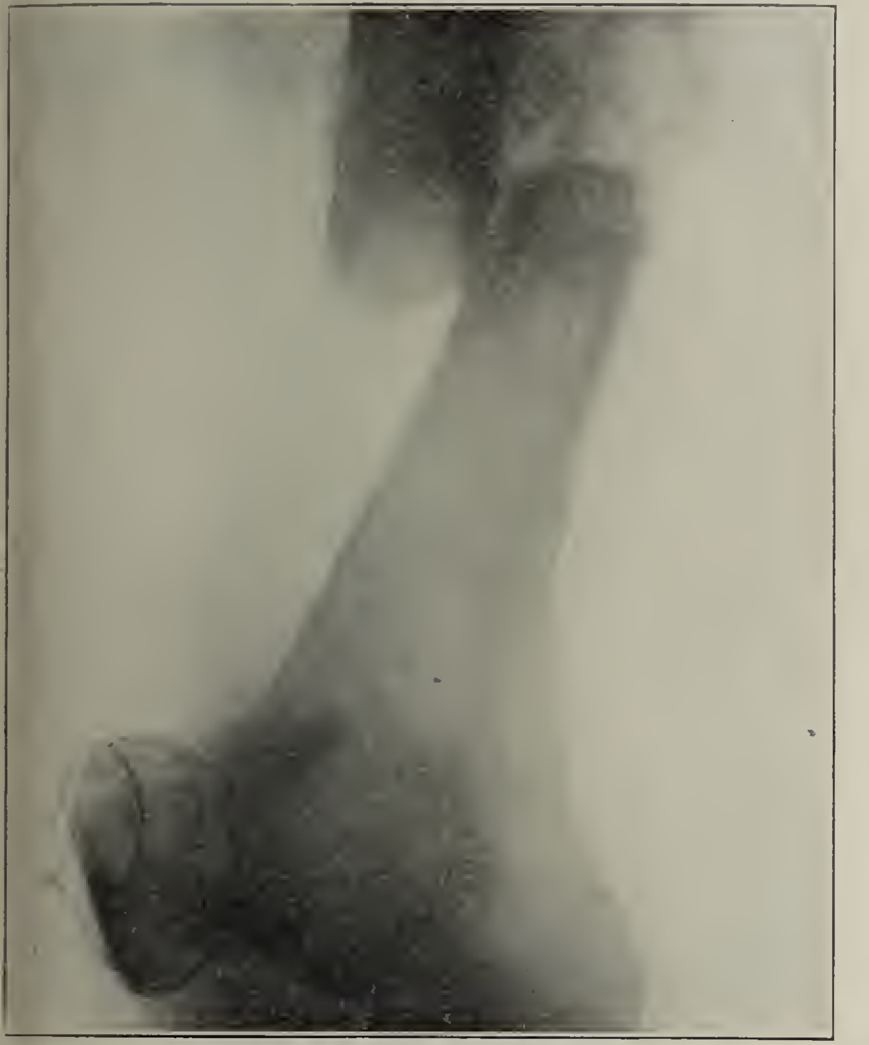


Fig. 1.—This (Case 1) illustrates very well what was considered a fairly good result in fractured femur preceding the time of the *x*-ray. Here we have not to exceed one inch of shortening in a lateral union of a square break. This fracture was adjusted by several physicians and thought to be in perfect position.

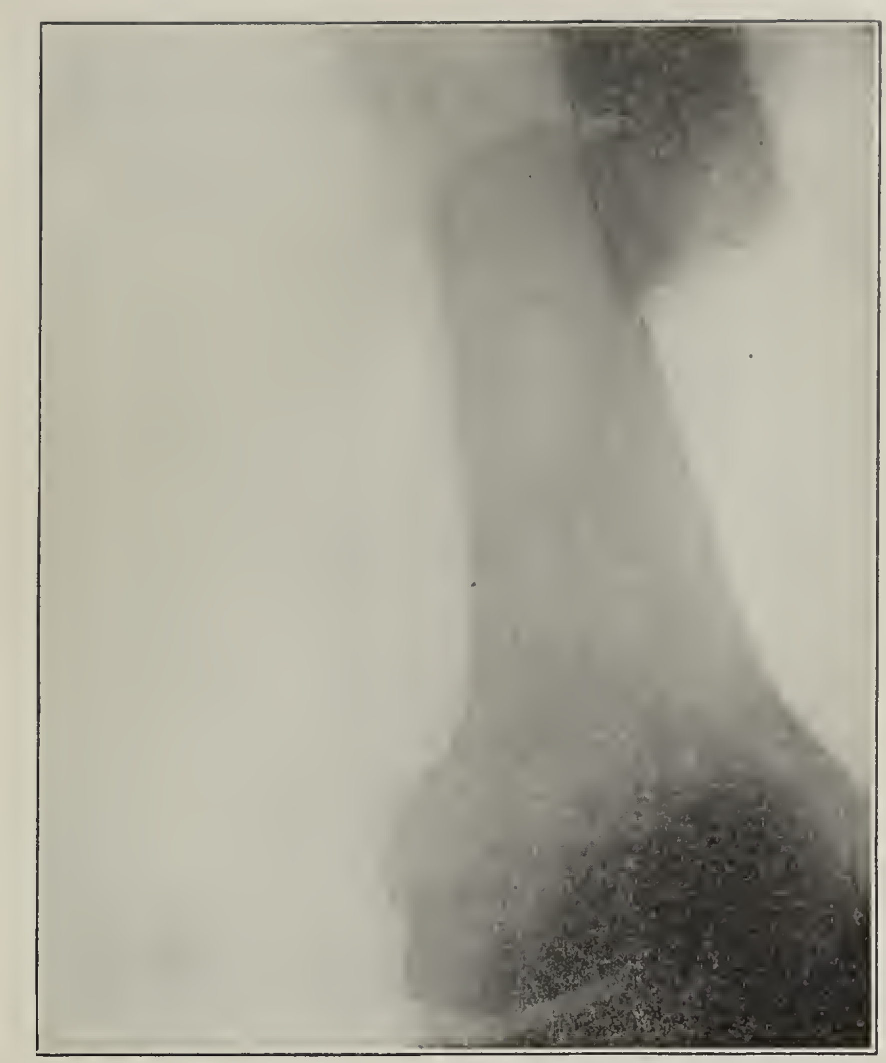


Fig. 2.—Another view of fracture (Case 1) shown in Figure 1. While the patient has a very good result for a fractured femur, yet it is not quite what we should expect with the aid of the *x*-ray. In this illustration and in Figure 1 the outlines of the bone have been reenforced in order that they might be clear after reduction and reproduction.

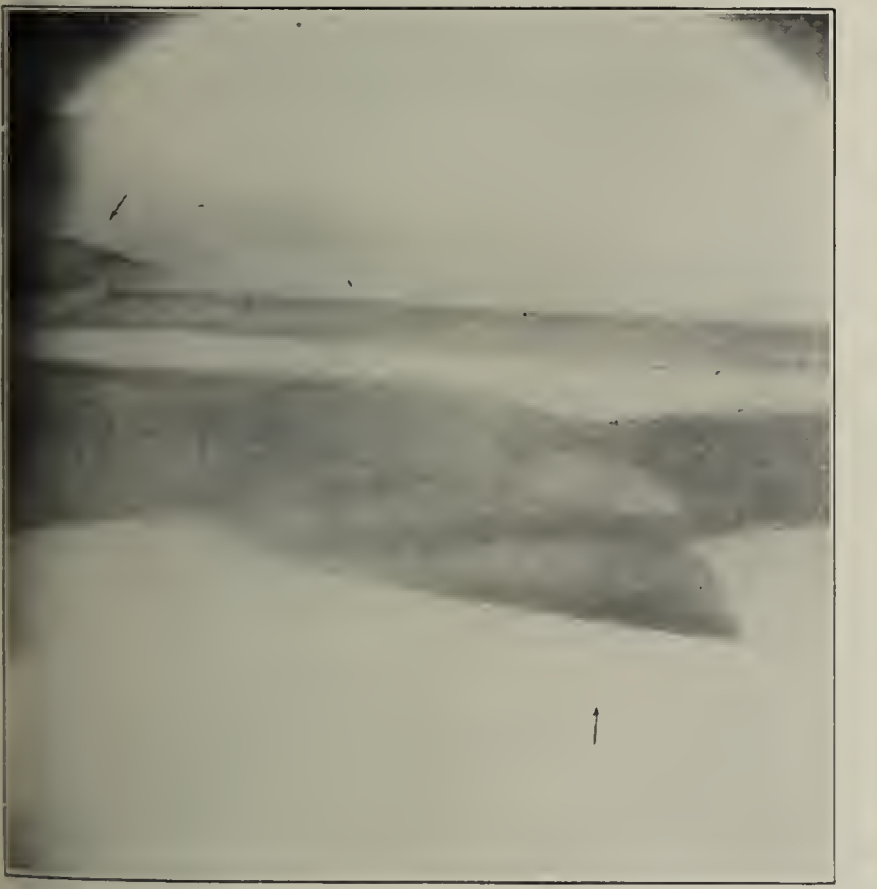


Fig. 3.—Double compound fracture of tibia and comminuted fracture of fibula. This (Case 2) shows how necessary it is to take exposures from two or more directions in order to have a correct understanding of the existing deformity. This patient was injured in an automobile accident and escaped with only his life; he sustained other serious injuries besides the one here shown. Owing to the shock and other conditions present it was thought best not to operate on him and readjust the fragments as they should be. The main efforts were exerted to save his leg from amputation. This was accomplished by the aid of an ambulatory splint and the application of plaster-of-Paris molds.

Fig. 4.—Lateral view of double compound comminuted fracture of tibia and fibula (Case 2). The patient now, six months after accident, is walking on the leg without any apparent evidence of shortening. He has discharged some small pieces of bone and has experienced a rather protracted disability, but the result seems as good as we could have obtained by an operation so far as usefulness is concerned. New bone has bridged across the gap caused by the displaced fragment of bone, the fragment has grown to the new bone and the whole leg seems strongest at what would appear to be its weakest point. In this and Figure 3 also the outlines of the bone in the radiograph have been reenforced.

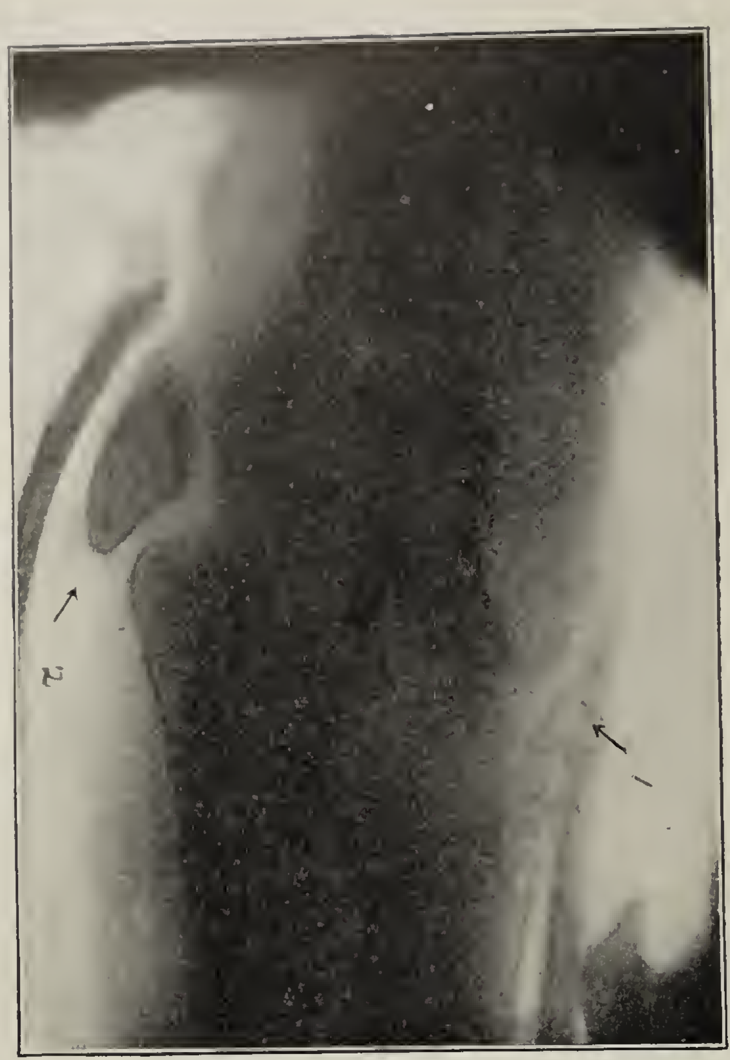


Fig. 5.—Fracture and partial dislocation of left elbow (Case 3). Arrow 1 points to detached external condyle and Arrow 2 to internal condyle. Arm is still in splints after a labored effort by two good physicians to adjust break without operation. This adjustment is probably as good as it could be without an open operation.

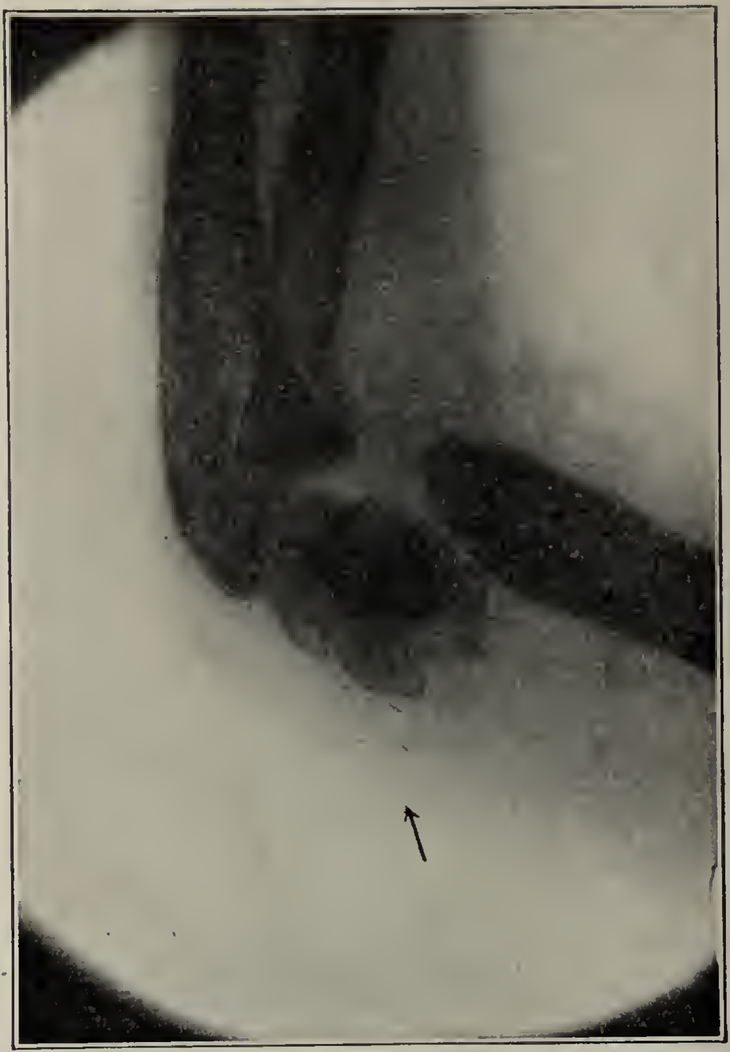


Fig. 6.—Lateral view of same fracture (Case 3) of both condyles before wiring, upper fragment protruding through skin. The outlines of the bones have been reenforced in this set of radiographs also.

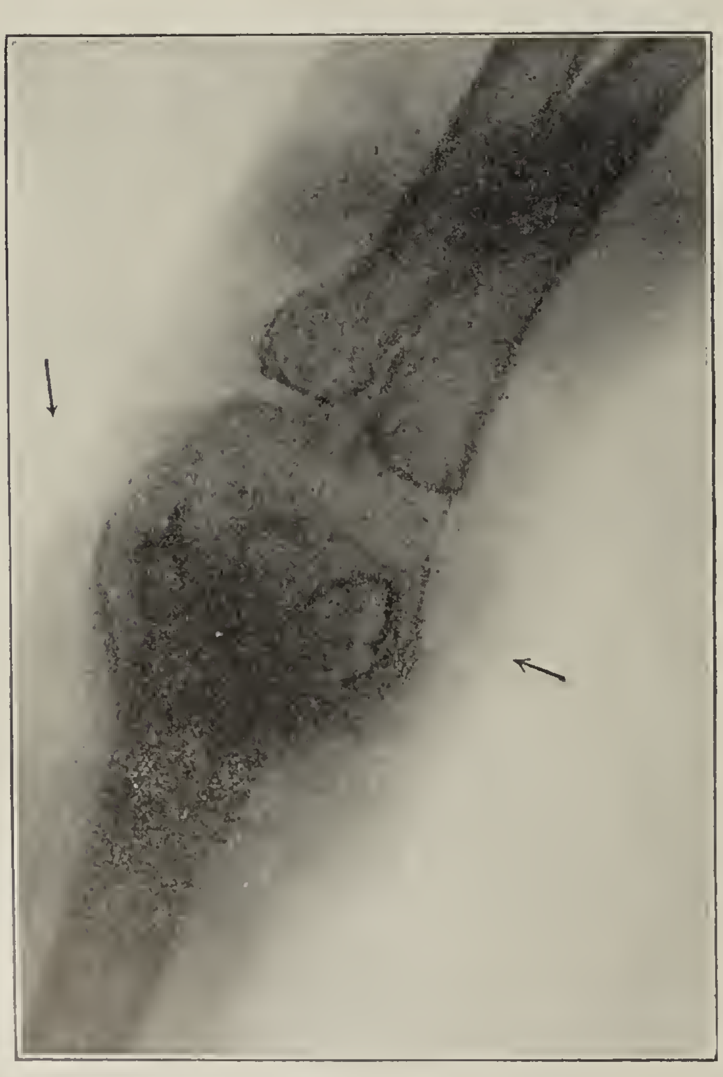


Fig. 7.—Same elbow (Case 3) after adjustment and wiring condyles in place. It was necessary to open elbow by incisions in three places and tissues were elevated so we could see clear through arm in front of bones. One incision was made where bone had penetrated through skin.

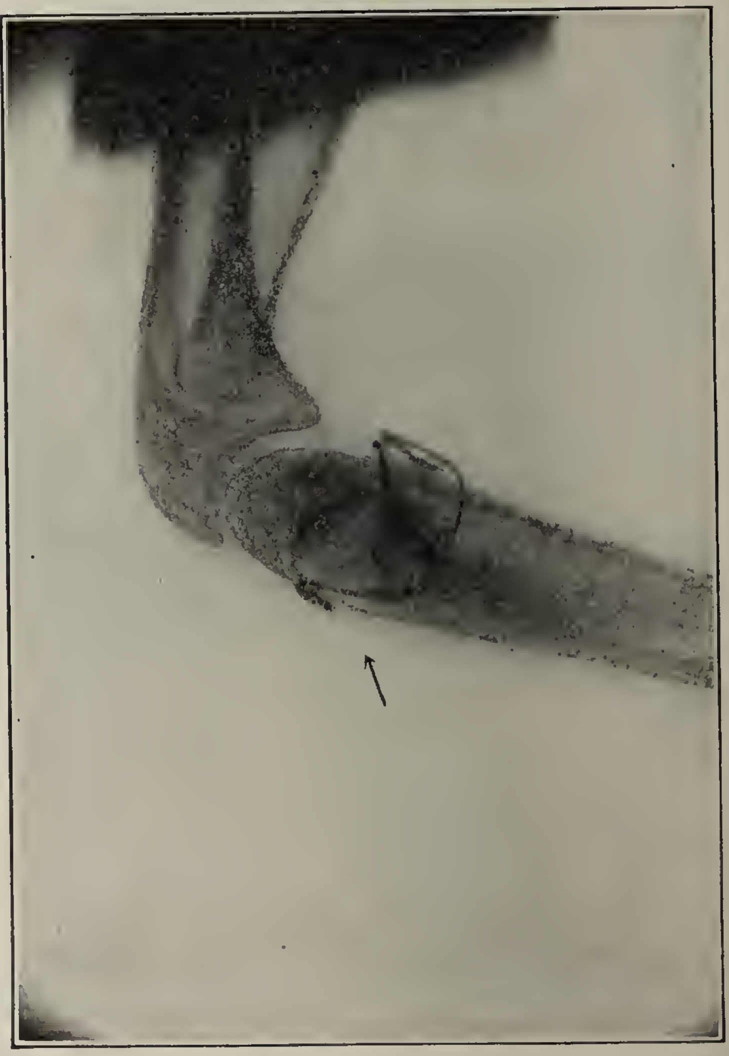


Fig. 8.—Lateral view of same fracture (Case 3) after wirin Elbow was put in splints and kept quiet for six weeks, no passi motion being permitted until inflammation had entirely subside Four months after injury boy has full use of arm.

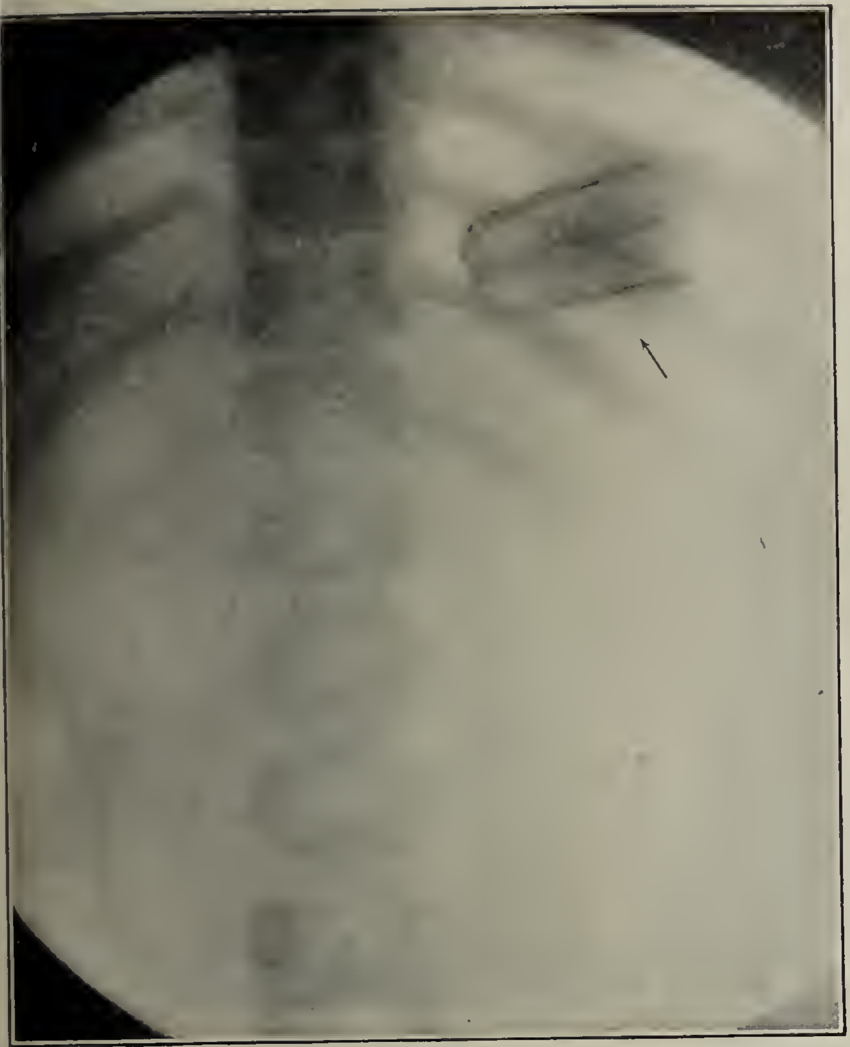


Fig. 9.—A girl, 8 years old (Case 4), swallowed a fence staple. A skiagraph (not reproduced here), taken three hours afterward, showed the staple being churned about in the stomach. This shows the staple about to leave the stomach. Here the staple made a half turn while being radiographed and we have a double view of it. In this set of pictures the outlines of the staple and some of the bones have been reenforced.

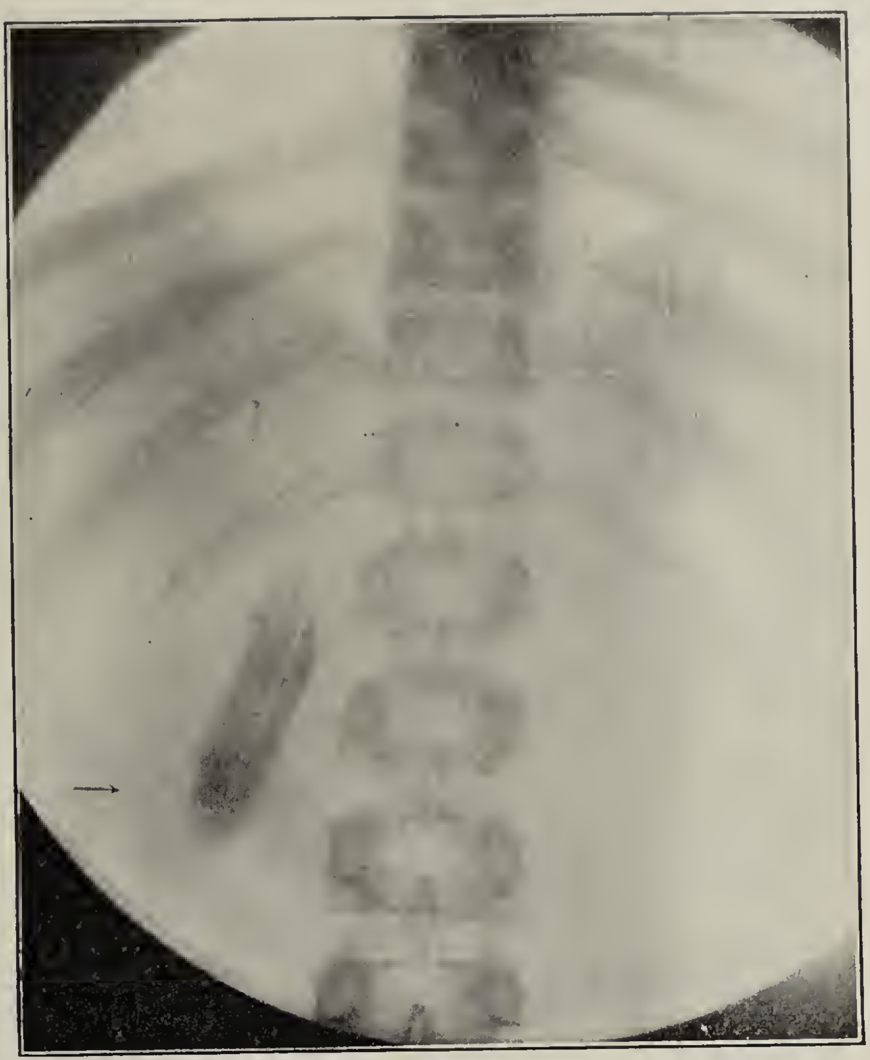


Fig. 10.—This shows the staple traversing the descending duodenum on the opposite side of spine from Figure 9 and down below last floating rib. The staple was not aided in its progress by any form of treatment. Here we also get a partial double view on account of the peristaltic action of the bowel.

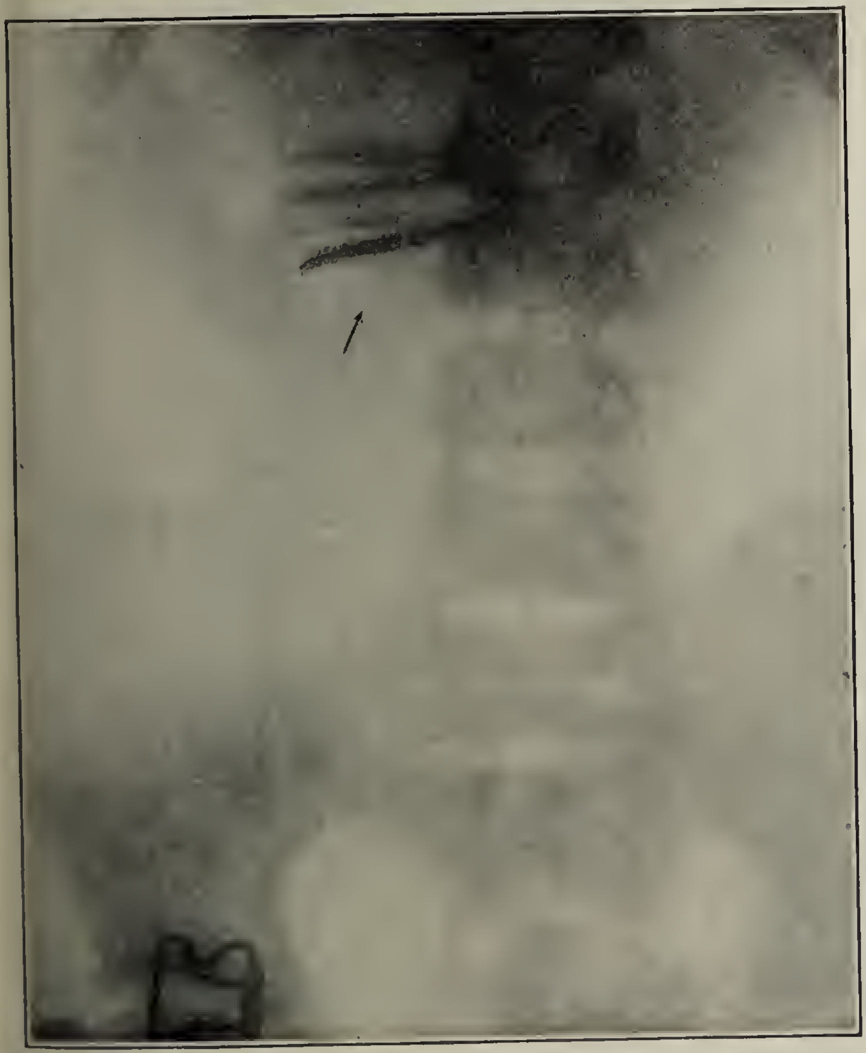


Fig. 11.—Staple in ascending duodenum about the duodenojejunal juncture; it has almost completed a circle; this is also a double view. Figures 9, 10 and 11 were all taken during the same hour, showing the speed with which such things travel. The staple then had traveled from the upper right-hand corner to the jejunum in one hour's time, or in four hours after being swallowed.

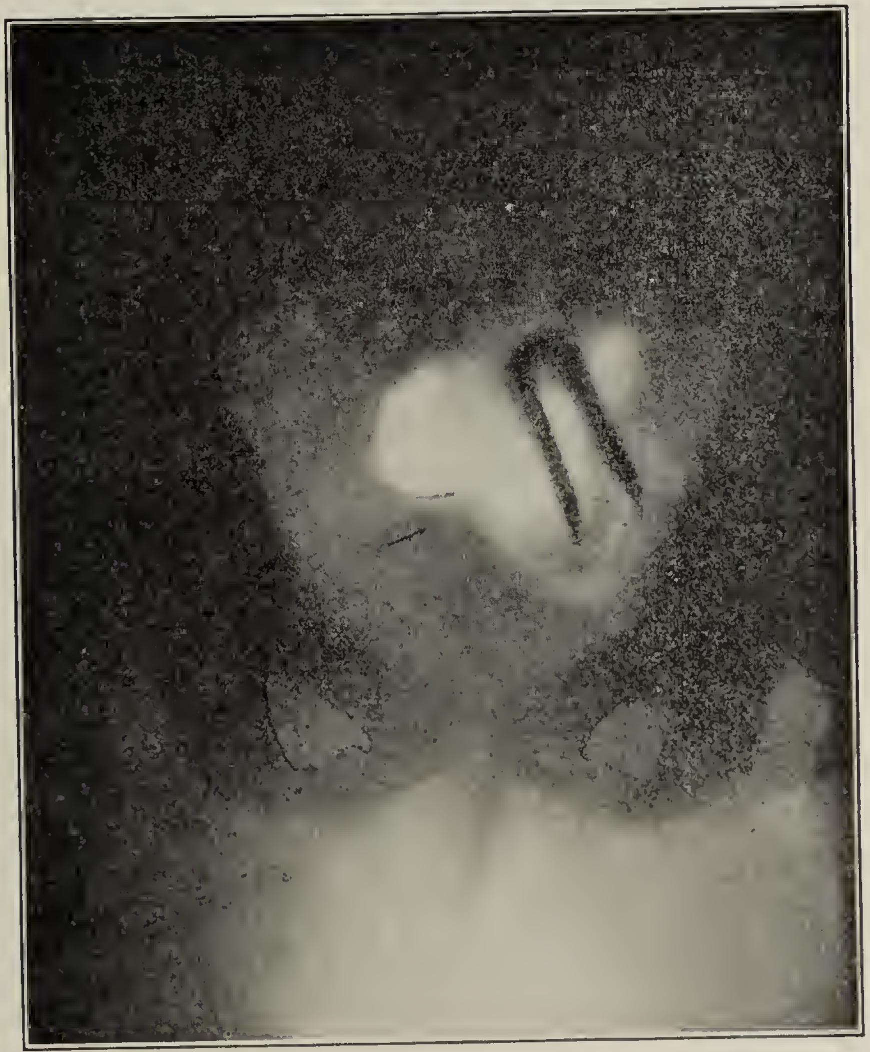


Fig. 12.—This was taken thirty-six hours after Figures 9, 10 and 11, and shows the staple to better advantage, evidently because it was more stationary. No treatment was given the child except an enema, thirty-nine hours after the staple was swallowed, when the staple was washed away. This plate was exposed to the x-ray nine seconds. It appears as though the staple had turned around in the large bowel, but it was evidently proceeding arch first and was about to make the loop of the sigmoid.

An agent for one of our large *x*-ray houses recently said that certain physicians had told him that "the *x*-ray was a thing of the past and it would soon be done away with." Such conclusions can be due only to one of two causes: either these physicians have fumbled their own *x*-ray work or some one else has fumbled it for them.

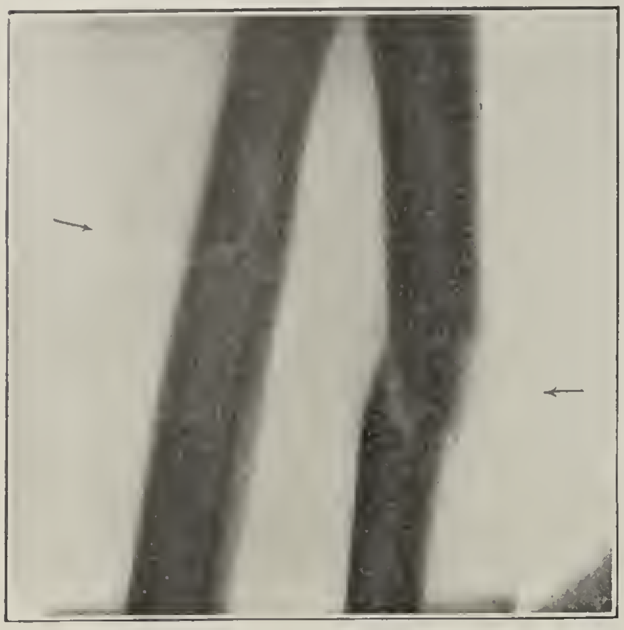


Fig. 13.—Fracture of both bones of forearm (Case 4). Here we have quite clearly demonstrated a condition in fractures of two bones parallel to each other in which it seems almost impossible to secure a perfect coaptation without an operation, because when one bone is perfect the other is out of adjustment, and if the second bone is perfect the other is out.

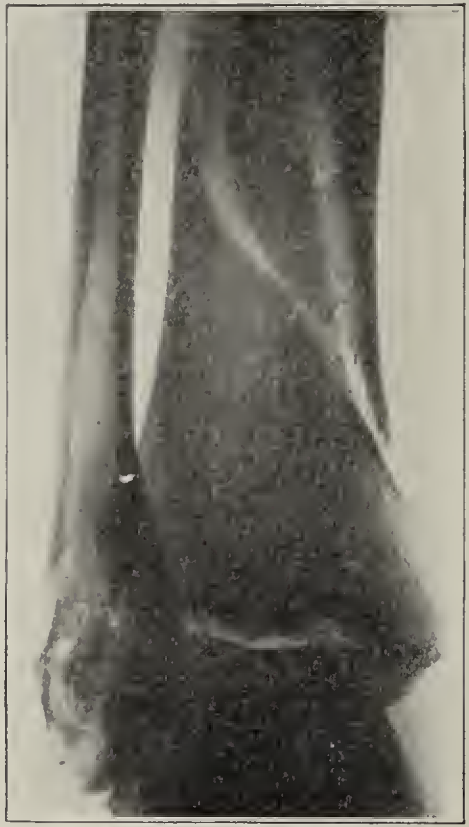


Fig. 14.—Simple fracture of lower third of right tibia (Case 5), which at first glance appears to be a comminuted fracture. The diamond-shaped piece of bone in reality is a part of the main bone, the white mark all around it being caused by the peculiarity of the break.

Some one has well said: "To read the report of finding a renal calculus, a tuberculous hip or a frontal sinus disease is one thing; to realize the long road of failure and discouragement which the writer traveled to reach that end is quite another." The man who sells you the machine tells you that it will take any old thing at any old time; he puts it in and shows you how it is done; after he is gone your troubles just begin. When you have spoilt about two or three hundred plates and punctured half a dozen tubes you begin to realize how little you really did know about the business in the beginning. I spent six years trying to take a picture of a hip-joint before I succeeded in getting one that I would dare exhibit without an apology. Some one has said that "not failure, but low aim, is crime."

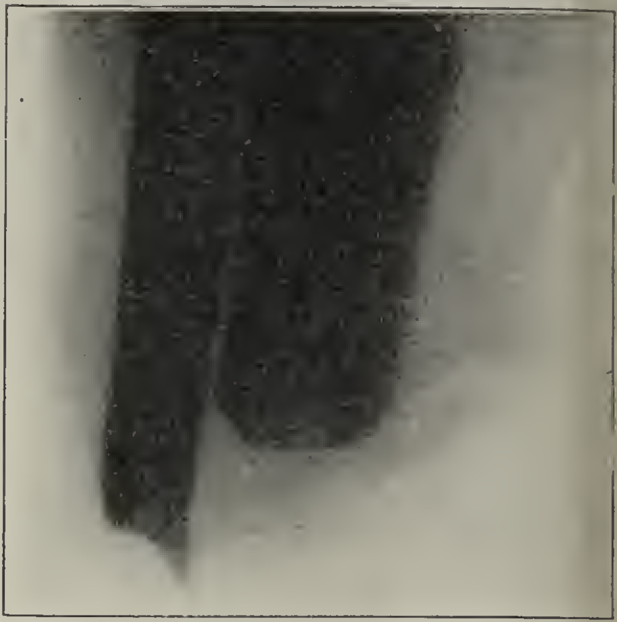


Fig. 16.—Amputated leg (Case 7), fibula being left half an inch longer than tibia with an additional spicula projecting one-fourth inch further. This leg gave trouble until reamputated and bones made even, which shows the importance of making bones even. If either bone is to be left long it should be the tibia, because it is the larger and the bone that bears the weight of the body, the fibula being only a brace.

The *x*-ray is no longer estopped by the query whether these things can be taken; that is, radiography is a highly developed art.

Much of our work previous to the *x*-ray was problematical. A fracture would be adjusted so that the part looked all right to the naked eye and allowed to go at that, but to-day it is different. After the fracture is adjusted an *x*-ray is taken, and if the bones are improperly adjusted the fracture is treated accordingly. Time was when a surgeon might say that an injury to a joint was a simple sprain and stick to his opinion without fear of contradiction, but to-day he may be forced to change his opinion when confronted by the *x*-ray findings. It is surely a great source of satisfaction to be in practice in the present age as compared with the many uncertainties which existed in the practice, say twenty years ago.

In fractures the *x*-ray shows us, many times, a very imperfect adjustment of the bones in what had seemed a perfect adjustment when examined without the aid of the *x*-ray. Frequently amputations refuse to heal and it is not always possible for one to say why, without the aid of an *x*-ray. A small piece of bone may have been left in rounding off the edges of the bone; or it may be found that the bone was left long when it should have been short. The case shown in the collection here (Figure 16) is a very good illustration of how this happens. Here the sur-

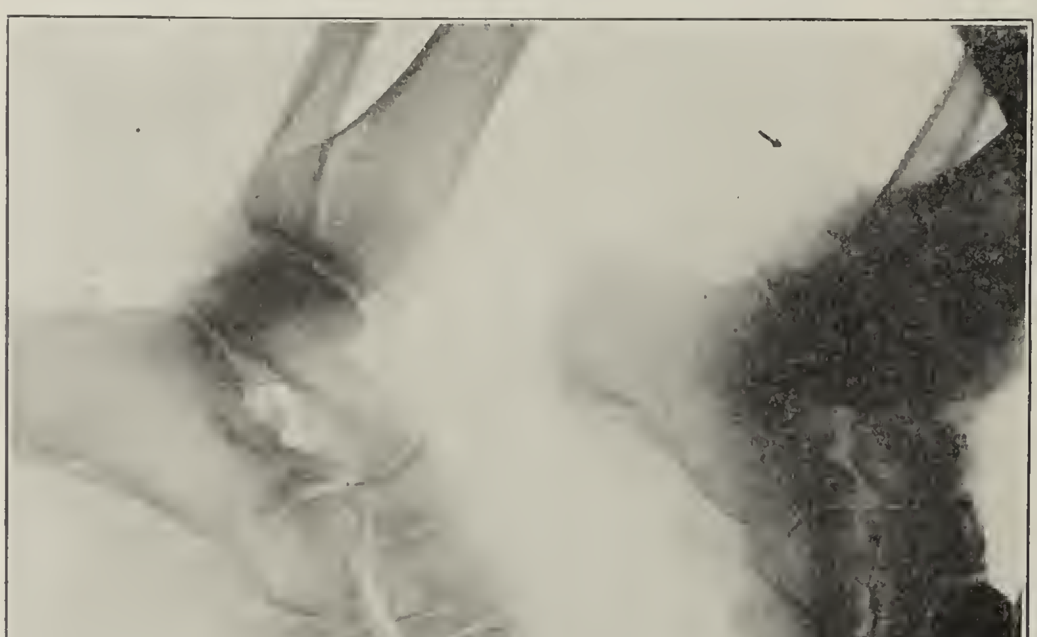


Fig. 15.—Normal ankle on left and sprained ankle (Case 6) on right with particles of tibia broken off. Such injuries tell the reason why some sprained ankles do not recover rapidly, there being a fracture in addition to the sprain. These breaks are always overlooked without the aid of an *x*-ray. The two views demonstrate how it is possible to develop a negative so that all the soft tissues and even the tendons disappear, the single foot view showing a shadow of the tendo Achillis. The outlines of the particles of broken tibia on the right have been strengthened for fear they would not otherwise show in the reproduction.

geon, no doubt, thought that the bones were even; but nstead the fibula is half an inch longer than the tibia vith a sprig of bone extending down fully half an inch urther; this constantly gave trouble until removed. A ondition like this may be ascertained without the *x*-ray n a thin subject, but in the average individual it would e rather difficult, previous to operation.

The course of the ureters can be outlined when they ontain metal catheters; the stomach can be clearly outined when injected with bismuth and the work on the horacic cavity, so beautifully worked out by Beck, nakes the knowledge we may obtain with the *x*-ray very xtensive. The aid which the *x*-ray bears to a correct liagnosis (within its limits of course) cannot be understimated. Many of these points, thus hastily referred o, are illustrated by the accompanying radiographs and ase reports.

The *x*-ray, when in good working order, is one of the most valued adjuncts to good surgical work we have at our command. It helps to make surgery a more exact cience. It gives us a much clearer understanding of our cases and will, eventually, lessen to a great extent the vast number of cripples that were unavoidable previous to the time of the *x*-ray.

A CERTAIN AND SIMPLE METHOD OF OBTAINING THE KNEE-JERK

CURRAN POPE, M.D.
LOUISVILLE, KY.

In the study and investigation of neurologic cases, I am constrained to believe that the knee-jerk or patellar tendon reflex, correctly obtained, is one of the most important tests, if not the most important, in a great variety of cases. It is certainly a test that the general practitioner should more frequently make in the ordinary routine examinations of his practice. Perhaps not everyone is aware that the knee-jerk is often present, but inhibited by the patient, and that any method that will insure a correct response is well worth consideration. I have found it practically impossible for a patient to inhibit the knee-jerk if the method here described is employed. It was in an endeavor to prevent this frequent occurrence that the following plan was evolved.

The patient, male or female, should sit in an ordinary straight-backed office chair, relaxing the entire body as far as possible. The feet are then pushed forward so as to extend the lower limbs comfortably. This position produces complete relaxation of the flexor groups of muscles of the lower limbs, and, as it is these groups of muscles that inhibit the response, it seems rational to believe that the inhibition would be prevented.

With the limbs in the position indicated, and with the ends of the toes of both shoes on a line, the clothing is drawn reasonably snug over the patella with the thumb and forefinger of the left hand in right-handed individuals. The three remaining fingers and the palm of the hand should rest on the thigh just above the patella. With a percussion hammer a gentle tap is given the tendon and its response or the absence thereof can be both seen and felt, for the palm and three fingers of the left hand will give an excellent index of the prominence and activity of the response.

In this position, reinforcement is most satisfactorily performed, and a wider range of action obtained.

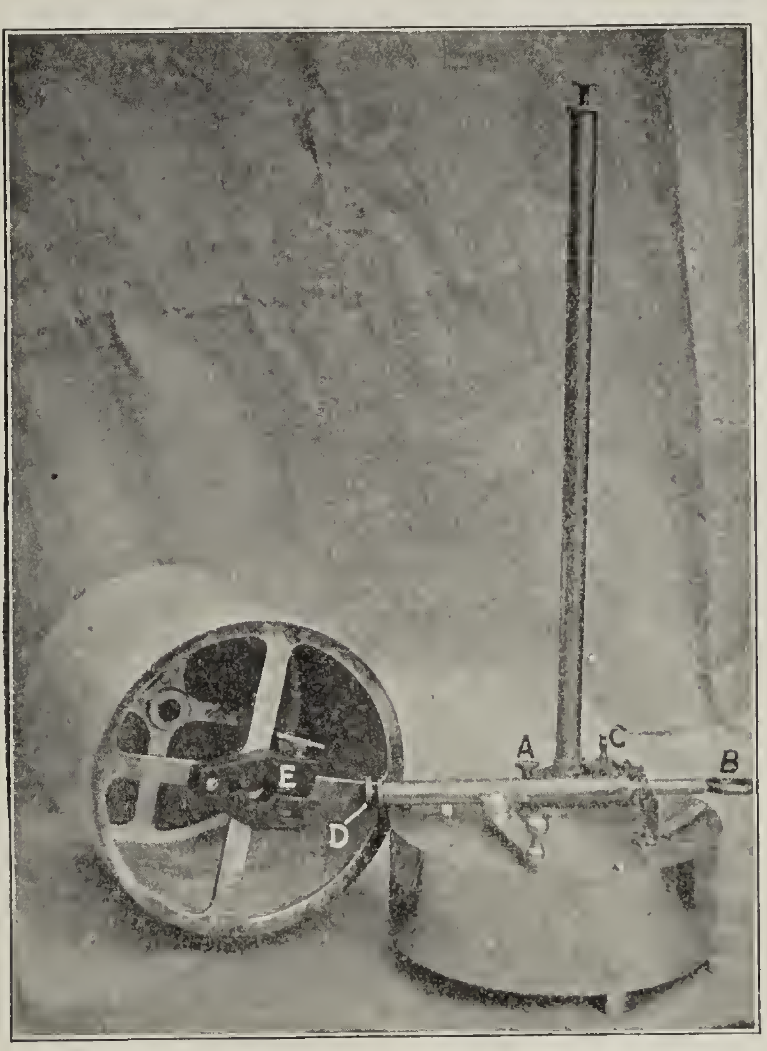
I have been unable to find a description of this method and, therefore, believe it to be original. It has stood me in good stead in some cases in which it was very important to know the presence or absence of this reflex.

115 West Chestnut Street.

A DRUM-SPINNING ATTACHMENT FOR AN ORDINARY KYMOGRAPHION

D. E. JACKSON, Ph.D.
Associate in Pharmacology, Washington University Medical School
ST. LOUIS

This attachment can be fastened to the base of a Harvard Apparatus Company's kymographion by means of a single thumb screw, as shown at *A* in the illustration. The device is "set" by pulling out the plunger by means of the ring *B*. When the knob *C* is pulled the drum will be spun around rapidly for one revolution and then stopped in exactly the same position as that from which it started. The writing-points of all muscle levers, tuning-fork, etc., remain constantly on the even surface of the drum paper. The plunger can be at once "set" and the drum spun again as many times as desired, thus allowing superimposed curves to be taken on the same base line. A set-screw *D* can be adjusted to regulate the speed at which the drum spins. A special clamp *E* fastened to the lower part of the drum permits it to be firmly clamped on to the drum spindle. With slight variations in regard to the attachment this device may be used on any ordinary kymographion. It is generally desirable to fasten the kymograph down to the table by means of a small hand clamp.



Drum-spinning attachment for an ordinary kymographion.

This spinning device was made for me by Mr. Paul Bauer, mechanician for the Washington University Medical School. It answers the same purpose as the pendulum, or spring myograph, with the added advantages that it is smaller, cheaper, and much more easily and conveniently manipulated by students.

THE X-RAY TREATMENT OF RINGWORM OF THE SCALP

L. DUNCAN BULKLEY, A.M., M.D.
Physician to the New York Skin and Cancer Hospital, Consulting Dermatologist to the Randall Island Hospitals, Consulting Physician to the New York Hospital
NEW YORK CITY

Although I have not heretofore attained all the success which could be desired with the *x*-ray treatment of ringworm of the scalp, I was so profoundly impressed with the results observed during a recent trip to London and Paris, that I do not hesitate to urge this plan of treatment when it can be properly carried out. As is the case, however, in many matters in medical and surgical practice, the personal equation and the experience of the operator are great factors in success in the employment of the *x*-rays; but with sufficient care and vigilance, dexterity can be secured by many in the use of this remedy, and the best results obtained.

Ringworm of the scalp is often regarded too lightly. While certain recent cases may yield readily to various forms of treatment, and while the disease tends to pass away at puberty, no one who has had much to do with ringworm of the scalp among poor children or in public institutions will underestimate its seriousness, or scorn any measure which offers a prospect of a speedy cure of this rebellious affection.

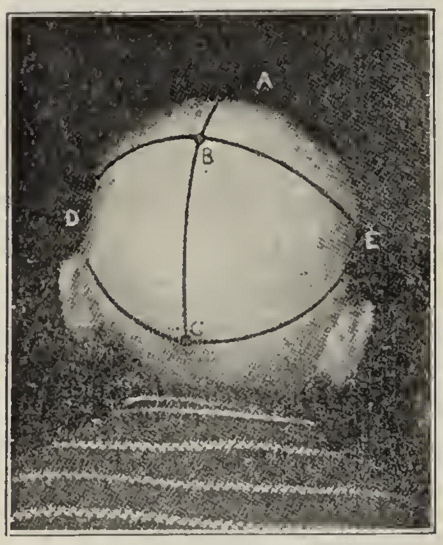


Fig. 1.—Child prepared for *x*-ray applications to whole scalp. The applications are made at right angles to the points A (toward the forehead), B, C, D and E.

In New York City, children with ringworm are very properly excluded from the public schools. When it gains a foothold in asylums it becomes a veritable nuisance and even a scourge, involving great care and expense in the segregation and treatment of those afflicted; of this I have had personal experience on many occasions. In some of the city institutions it has been very prevalent at times, and in the hospital on Randall's Island there are always many hundred children with ringworm, some of whom remain months, and even years uncured, in spite of intelligent medical treatment and faithful nursing.

In Paris, some time ago, ringworm became so prevalent that there was established in the Hôpital St. Louis a special school, with instructors, where several hundred children were kept under treatment, as it was found impossible to check the disease by out-patient management. It was here that Sabouraud made his remarkable studies, which have thrown so much light on the subject, and here that he developed and systematized the treatment now under consideration. The result of this has been that, whereas there were at one time large numbers of children under his care, about 300, I understood that, when I was visiting the school recently to study the process of cure, there were only about fifty in the school. The numbers of affected children have steadily diminished, and the disease is largely stamped out in Paris by means of *x*-ray treatment, some thousands having been thus treated.

In London, ringworm became so prevalent and obnoxious that the Metropolitan Asylums Board created what is known as the "Downs School," in the country at Sutton, in Surrey, about fifteen miles distant from London, where children affected with ringworm were sent from the various public institutions under its charge. From the first, it was placed under the medical care of Dr. Colcott Fox, of London, who gives all day Saturday to the work, and through whose courtesy I was enabled to spend considerable time there, examining the children and watching the method of treatment. The direct *x*-ray applications were given by Dr. H. O. Adamson, who has done much to make this mode of treatment effective; he also spends all Saturday there, and another man does *x*-ray work on two other days of the week, all with skilled nurses.

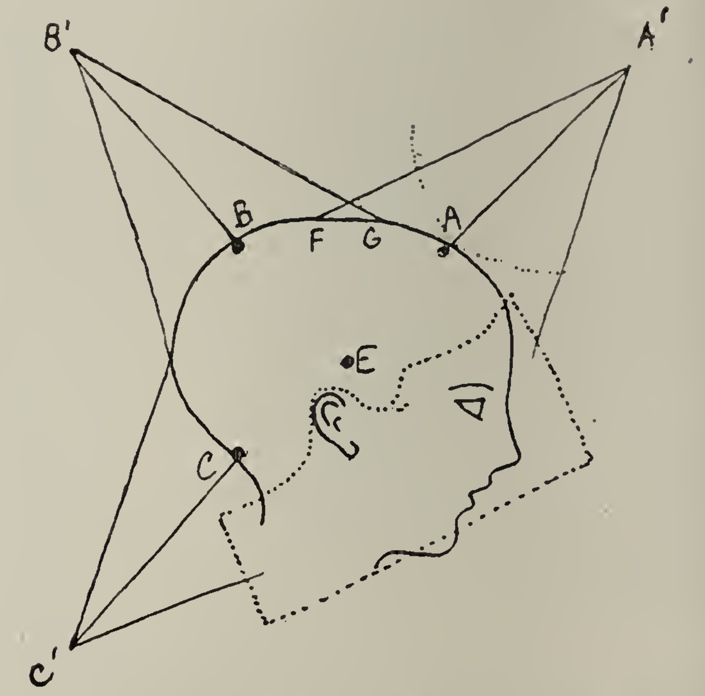


Fig. 2.—Points A, B, C and E receive each a full pastil dose. A′ F, B G indicate the angle at which rays from A′ and B′ fall on scalp, and the distance from the source of the rays as compared with the normal distance A′ A and B′ B. The dotted line represents the sheet of lead used to protect the ear and face when point E is *x*-rayed.

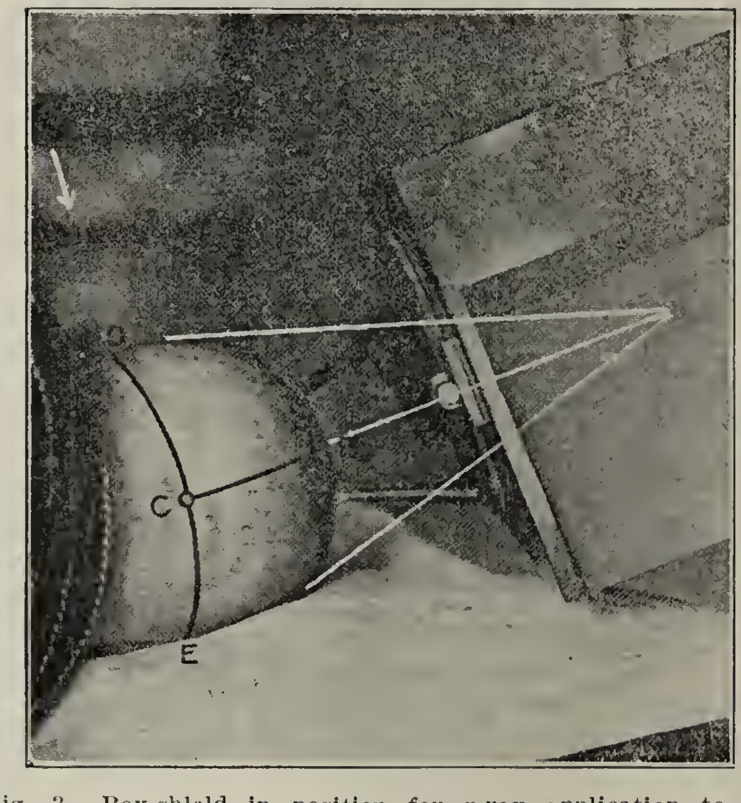


Fig. 3.—Box-shield in position for *x*-ray application to upper occiput (B). The white lines indicate the direction of the rays through the aperture in the box. The white arrow indicates the direction in which the dose is to be aimed when the left side of the scalp is being rayed. The ear and side of the face is then covered by lead-foil as in the diagram (Fig. 1). Similarly when C is rayed the neck and back are protected. (The pegs here shown were found to be somewhat too thick and have since been made more slender.)

The institution consists of six dormitory buildings, holding seventy patients each, with other buildings for administration, schools, laundry, electric plant, etc. The dormitories have been full much of the time, with over 400 children, but of late they are less crowded, as the disease seems to be well under control. Several thousand children have been treated and cured there, almost 1,000 in 1909, and 598 up to July 16, 1910. On July 9 forty-five were admitted and thirty-one discharged, and thirty-two were discharged on July 16, admission being only every two weeks. The children stayed in the schools about three months each, and were then returned to the institutions from which they came. As they were all under the continual care of the Metropolitan Asylums' Board, in other institutions, they were under constant observation, and the authorities were in a position to know if there was any return of the disease. I was, therefore, greatly interested to learn that it was the rarest thing to have a child sent back for treatment, and my inspection of the books showed that this very seldom occurred.

The same treatment for ringworm of the scalp has also been carried out on a large scale by Dr. J. H. Sequeira, in the out-patient department of the London Hospital, where there is a most elaborate and excellent *x*-ray outfit, at one time thirteen nurses being employed. There had been about 2,000 ringworm cases treated since July, 1906, and 580 during the half year ended July 1, 1910.

A very intelligent nurse brought some new patients while I was there; I asked her how many children she had brought from her institution, and she replied "about 200." I then asked her how many she had brought back uncured, and she said, not over two or three of the entire number.

There have been also reports from others who have made extensive and successful use of this method of treatment. My personal observation was quite enough to satisfy me that we have in this method the means of controlling a disease which has hitherto been the source of vast annoyance to physicians and managers of many public institutions.

When the claim was first made in the medical journals that obstinate ringworm could be cured with a single application of the *x*-ray I was incredulous, and although treatment by the *x*-ray has been used for some years in the New York Skin and Cancer Hospital, I have to admit that I do not know of any cases which have been cured by a single exposure; and I now believe that the fault has been in the technic of the operation, for the testimony obtained in Paris and London was that this was almost invariably the case.

It is not necessary here to make any extended remarks on the different forms of ringworm of the scalp, or on the diagnosis, which can be so easily established by the microscope, but only to state that all forms of the disease, and also favus,[1] seemed to yield to the right administration of the *x*-rays. The secret of success lies in securing a proper strength and duration of exposure which shall effect complete depilation of the hair, no more and no less; and this is secured by means of a radiometer, the most practical of which is that known as the "pastil of Sabouraud." These pastils consist of small discs of cardboard, coated with a yellow preparation containing platino-cyanid of barium; they are exposed to the *x*-rays during the treatment until they change to a pale green color, corresponding exactly to a test scale accompanying them.

There are, of course, many elements to consider in connection with the operation of the *x*-ray which this is not the place to discuss; suffice it to say that no one should attempt the treatment here described without a good working knowledge of this powerful agent. It is to be remembered that the effects of the ray will vary with: (1) the intensity of the rays produced; (2) the distance of the anticathode, or target, from the treated part; and (3) the duration of the exposure. The intensity of the rays may vary in the same apparatus from day to day or even in the course of the same day, with the high or low tension in the tube, with the temperature, state of the barometer, action of the coil or static machine, thickness of the glass of different tubes, condition of the conductors, etc., so that a time exposure, as practiced by many, may be a very uncertain guide; unless, therefore, there is some efficient radiometer to measure accurately the amount of rays used, there is great danger of overdoing or underdoing the work, as will be mentioned later. This, however, can be accurately determined and regulated by the pastil of Sabouraud.

The distance from the anticathode, or target, is fixed by Fox by means of three light wooden pegs, about 3 inches long, protruding from the tube-holder, which rest on the affected part; Sabouraud adheres to tubes made of metal or lead glass of various sizes, the ends of which rest on the scalp. Sabouraud makes the distance 15 cm. or 6 inches, and Fox 17.5 cm. or 7 inches.

Having, thus, the distance a fixed element, and the matter of the intensity of the application determined definitely by the change in color of the pastil, the duration of the exposure becomes a negligible quantity, provided that the pastil reaction is accurately attended to; but Fox has also clocks, one for each of three patients treated at the same time, which are set at the beginning of each exposure, so that after a certain number of minutes the pastil is removed and frequently examined, in comparison with the standard color to which it is to be changed.

The pastil is inserted at exactly one-half the distance from the anticathode to the scalp, 7.5 cm. or 3 inches from the former by Sabouraud, and 3½ inches by Fox. In the apparatus employed by Sabouraud, the pastil is made to adhere to the plate holding the metal or glass cylinder for localizing the *x*-rays, which thus has to be wholly removed each time it is inspected. In the apparatus used by Fox, the pastil is applied on the end of a plug which is inserted in the proper position, and so can be removed much more easily, without disturbing the apparatus.

The time occupied by an exposure necessary to change the pastil correctly, as practiced by Fox and Adamson, (from 20 to 30 minutes) surprised me, for it was more than I had been accustomed to allow in such cases. Sabouraud states that by using very hard tubes he had been able to reduce the exposure to about six or seven minutes for each sitting, but he had arranged matters so that the usual sittings last from ten to fifteen minutes, according to external conditions of the atmosphere, the tubes, etc.[2] All of them use quite a small tube made by Drisler, which has a wonderful endurance; running eight hours daily they will often last for from two to six months. Sabouraud used a static machine until recently, when he introduced a coil; he now employs both; both Fox and Sequeira use coils.

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[1] At the meeting of the British Medical Association in London, in July, 1910, Dr. Daily reported in regard to the treatment of favus at the special school established by the London County Council for these cases in Frick Street. One hundred and fifty children had been admitted, eighty-two of whom were treated with the *x*-ray with one single application, the entire scalp being covered in five exposures by the method advocated by Adamson. The treatment was perfectly successful.

[2] Brit. Jour. Derm., 1906, xviii, 207.

I could not learn just how it was that the time of exposure by Fox was so much longer than the exposure by Sabouraud, but it had to do, of course, with the apparatus employed. The experience of all the workers was, however, that the pastil (when it was genuine and correctly employed) was to be relied on, and represented the dosage of x-rays which the average skin will stand, whereas less than the measure of a pastil dose was inefficient to produce complete depilation, and would not effect a cure. They told me that they did not recognize idiosyncrasies as to the effect of the x-ray on different skins, and did not find it necessary to vary the dosage for different patients. Adamson[3] says, however, that some pastils are more sensitive than others, and recommends only those obtained from the original makers (Drault, of Paris) and then only with the "B tint" which accompanies the book of them, since the "B tint" was apparently not a fixed standard, but was adjusted to each series of pastils.

For the proper employment of this treatment it is necessary that the hair should be cut very short with a clipper, and it is commonly wise thus to clear off the entire scalp in order also to detect small incipient patches, which might be overlooked and so protract the cure. When there are but few patches these can be treated by isolating them with localizing tubes of proper size, or lead shields, but when there are more than five scattered patches the rule is to depilate the scalp completely by means of the x-rays. Sabouraud accomplishes this in ten or twelve exposures, covering each circle that has been treated with a disc of lead foil, so that the rays shall not touch it again.

Adamson[4] has presented a simplified method of depilating the entire scalp with five exposures, which I observed to work so perfectly that I shall describe it as briefly as possible, presenting his illustrations, with his kind permission. The object of the method is to make applications of the x-rays at five different points of the scalp, in such a manner that while the areas of exposure encroach on each other, the rays fall at such an oblique angle that there is no injurious effect from overlapping, but each and every portion of the scalp receives the full pastil dose of x-rays; so that the areas which have been treated are not covered with lead foil, as by Sabouraud.

The location of the several applications is shown in the accompanying illustrations. The hair being clipped short over the whole head, five points are marked on the scalp with a blue skin-pencil: A, in the center line, from $1\frac{1}{2}$ to 2 inches within the frontal margin of the hairy scalp; B, near the center of the crown, five inches back of A; and C, just above the lower border of the hairy scalp, which should also be 5 inches from B; at the sides of the scalp D just above and in front of the left ear, and E just above and in front of the right ear. These points should also be 5 inches from the center line. The points are then connected with lines made by a blue pencil, which should meet each other at right angles (Fig. 1).

A Sabouraud pastil dose is given over each of these points A, B, C, D and E in succession, beginning with B, in such a manner that the point is the center of each area rayed, and the anticathode at a distance of 6 inches is vertically over the point, and so at right angles to each of the other applications (Fig. 2); the forehead, nape of the neck, the ears and side of the face must b protected with lead or rubber when exposed to the ray Most of the applications are made with the patient lyin down (Fig. 3). The aperture in the box through whic the rays pass is 3 inches in diameter, and $3\frac{1}{4}$ inch from the anticathode, so that the rays diverge, at th head, to a circle 6 inches in diameter. Care must b taken in applying the rays at A, E, C and D to hav the center of the area over the point indicated, so th about half the dose goes on the scalp, and much of it o the shield protecting the face, ears and neck, otherwi there will be an overexposure somewhere.

When Adamson's account appeared nearly two yea ago, he had used this method in seventy-five cases wit perfect results; as I observed its workings it was exce lent. Since that time he must have treated hundreds other cases in this way, for a large share of the childre in the Downs School had the entire scalp depilated f extensive ringworm by this method.

The effects of the application of x-rays in these cas are very interesting. There are, of course, no visib results from the exposure at once; at the end of abo seven days there may be a slight erythema, but generall not, and nothing occurs until about two weeks after th operation, when the hairs begin to fall with the slighte traction, and within a week later the process is in fu operation. By the end of a month from the time exposure, the scalp is pretty well bared; the roots of th hairs are found to be atrophic and their points shar ened. The hairs affected by the trichophyton are the la to fall, and must be removed by daily washing with soa Fox washes the head every day, from the beginning, an keeps the scalp lightly anointed with a carbolized petr latum, which prevents the affected hairs from carryin the disease. Sabouraud treats the scalp from the fir day of the operation to the end, with a daily applicati of a weak tincture of iodin: tincture of iodin (fresh prepared) 1 part, alcohol 9 parts.

The diseased patch, or the whole scalp when treate remains bald for a month or two, when it becomes co ered with fresh hair (lanugo), and within from thr to four months, if the process has been properly carri out, the hair will have regrown well, with no trace of th parasitic disease.

In the Downs School, where I had the opportunity observing large numbers of children at various perio after the single application of the x-rays, it was possib to verify the facts above stated to a nicety. The childr were returned to their various institutions when the ha was partly regrown, and when Dr. Fox, who examin each child minutely, was satisfied that there were remains of the parasite on the originally diseas patches. This generally occurred at about the end three months from entrance, and as already state thirty-one children were discharged one Saturday, ar thirty-two a week later. Ordinarily, it is better to dete mine the cure by accurate microscopic examination the débris scraped from the site of the patches, aft being soaked with equal parts of liquor potassæ a glycerin, but with Dr. Fox this had become unnecessar and, as stated, the results proved the correctness of h judgment and sufficiency of the treatment. As alrea mentioned it was the rarest thing to have a child rea mitted, although being still in various institutions ve great care was naturally exercised against recurrence.

A few points remain yet to be considered. It is po sible that in certain cases the x-ray may not have be given to the full pastil dose, from error in judgment the operator as to the change in color of the pastil, and depilation may not be complete in the affected patches. This cannot be determined at once, and only after the expiration of at least a month should a second application of the x-ray be made; this necessity, however, seldom occurs in skilful and experienced hands. Then, again, if the proper dose of x-rays, as regulated by the pastil, has been much exceeded, one of two untoward results may follow: (1) there may be a burn, of more or less severity; or (2), permanent alopecia may result. Fortunately, the former rarely if ever happens now, except with very unskilful handling of the rays, and occurrence of alopecia is also very exceptional. I was told that permanent baldness had happened a few times in the very earlier trials of this method in London, but not in later years. I know of one case in New York in which the hair did not come back over a localized area, but this was from repeated use of the rays in unskilful hands. If the hair does not grow within six months the alopecia will be permanent.

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[3] Brit. Jour. Derm., 1906, xviii, 183.
[4] Lancet, May 16, 1909

Some question has arisen in regard to the possible effect of x-rays on the structure or functions of the brain, and this was the subject of a special discussion at a joint meeting of the dermatologic and electrotherapeutic sections of the British Medical Association;[5] the conclusion was unanimously reached that in the many thousands of cases in which the x-ray method had been practiced this had not occurred, and that "they might regard the specter of brain trouble as abolished." There was not even headache after the prolonged and repeated exposure to the x-rays in operating on the entire scalp, though some think it not desirable to employ this treatment in children under the age of 3 years.

As for the mode in which proper x-ray treatment cures ringworm of the scalp, all are agreed that it does this solely by effecting a complete depilation, and that the parasites are in nowise killed by the x-ray, in the doses used. The trichophytic hairs are liable to spread the disease, but the contagiousness of the patient ceases when they have all fallen, a month or so after the exposure to the x-rays.

Sabouraud[6] makes some interesting remarks concerning the gain, financial and other, which has been accomplished by the perfecting of this method of treatment of ringworm of the scalp. In these he shows that whereas before 1904 there were 300 beds in the Ecole Lallier, at the Hôpital St. Louis, occupied by these patients, whose stay averaged over two years each, he has reduced the number to 100, and the average time for a cure to a little over three months; and whereas, in 1903 there were 110 discharged cured, he now discharges more than 500 annually. The cost of each child for a cure was originally about 2,000 francs, whereas now it is but 260 francs, effecting a saving of between 300,000 and 400,000 francs annually to the government.

In conclusion, I am well aware that much that I have written is well known to many, and that the value of the x-ray treatment of ringworm of the scalp is accepted by most if not all dermatologists, but I cannot help feeling that this really great advance in dermatology is not thoroughly appreciated by the profession, and that the technic is not so understood that the best results are commonly obtained. Undoubtedly in recent cases good results can often be secured by the older, well-known remedies, but long experience in public practice and institutions convinces me that there are multitudes of cases in which the disease remains uncured for very long periods, being held partially in check by treatment of various kinds. From what I saw in Paris and London I know that the treatment here described is thoroughly effective.

It is recognized that there are objections to the treatment, in regard to the perfect baldness of patches or of the entire scalp, which must be endured for six weeks or so; but certainly the prospect of a cure in three months, instead of over two years on an average (as under the skilful treatment in the Hôpital St. Louis in Paris, prior to 1904), warrants endurance of this relatively trifling annoyance. Sabouraud,[7] after studying the disease microscopically for many years, wrote in 1896: "Not only is there no curative treatment known for tinea tonsurans, but I believe I am authorized in saying that no antiseptic treatment whatever will be found in the future capable of accomplishing this end. For even if we vary the chemical nature of the antiseptics, that would hardly change their power of penetration, whether solid, liquid, or gaseous they would always meet the same obstacle, that they could not penetrate deep enough. The root of the hair is inaccessible to external antiseptics."

It was this conclusion which led him to experiment with various methods of depilation (for the hair cannot be epilated mechanically, as it breaks off), and as a final result we have the method now described which has given such brilliant success in thousands of cases, at the hands of many careful observers who vouch for the results.

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THE PRESENT STATUS OF THERAPEUTICS AND THE SIGNIFICANCE OF SALVARSAN *

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The value of salvarsan is being discussed at present almost exclusively by syphilographers and simply as a new remedy for syphilis. From this point of view the verdict as to its importance will depend on its efficiency as a therapeutic agent compared with that of mercury, whether it is more efficient or at least as good as that old specific remedy. General medicine, however, offers another point of vantage. Salvarsan is not simply an additional remedy for syphilis; it marks an epoch in medicine. This, I believe, will remain true, even if it be finally established that for syphilis this new remedy falls short of the old ones. Salvarsan presents a new departure and a new principle in therapeutics. It is from this point of view that I wish to make my remarks on the therapeutics of salvarsan. In order to elucidate my position, however, permit me to present in the first place a brief outline of the rapid fall and the slow rise of therapeutics during the course of the new medical era; this will assist us at the same time in the understanding of the present status of therapeutics.

For many hundreds of years practitioners of medicine lived in the bliss of ignorance; they were sure that they cured diseases—that the recovery of a patient was due to the drug which they administered. With the dawn of the new era in medicine, some seventy or eighty years ago, there came a sudden awakening—at least for a good many: the confidence in the action of drugs and therapeutic measures was shaken to its foundation. One of the most potent factors in this upheaval was the success of homeopathy: if patients can get well, it was argued, with such infinitesimal doses of drugs, they probably do get well without the assistance of any drugs and sometimes perhaps even in spite of the drugs. A remarkable situation now arose. While it is as clear as day that the practice of medicine has a right of existence only by the help which it can render to the sick, medicine of that day decided to go ahead without therapeutics. Pathologists began to establish anatomic changes corresponding to every disease, and clinicians diligently and conscientiously studied the symptoms of diseases by which these changes could be recognized during life. The interest of clinicians began to center preferably in such diseases as would lead to a confirmation of the diagnosis by a post-mortem finding. Thus the subject of therapeutics was relegated completely to the rear, and for a long period no man of standing in the science of medicine devoted his time to the study and furtherance of this most necessary branch in medicine. We know the anatomic changes which take place in diseases, said the celebrated Skoda; we can diagnose diseases, but we cannot cure them. We all know that even in our day we have not a few who still profess the same dangerous fatalistic doctrine.

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[5] Brit. Jour. Derm., 1909, xxi, 394.

[6] Sabouraud: Les Teignes, Paris, 1910, p. 804.

[7] Sabouraud, Les Teignes, Paris, 1910, p. 770.

* Read at the opening of the symposium on salvarsan at the annual meeting of the New York State Medical Society, April 18, 1911.

Permit me to say here in parenthesis that the intimate coalition of pathologic anatomy with clinical medicine led to another serious result: the identification of the pathologic changes after death with the preceding disease. This, too, is a misleading and dangerous conception. The pathologic state after death is only a consequence of the disease and not the disease itself. Disease in most cases is not a state, but a process, a functional disturbance which may lead to permanent anatomic changes, if not intercepted in time. I say it here because it cannot be said often enough, and because of the fact that functional disturbances are more readily amenable to corrections than permanent anatomic changes.

After a period of complete therapeutic nihilism the practice of medicine gradually began to recover from its shock. We need not dwell here on the development of surgical therapeutics, which was rather stimulated than hampered by pathologic-anatomic studies. Perhaps even in internal medicine the new pathology stimulated to new therapeutic activities by its dictum that disease is not a unit, an entity, but is a disorder, localized in various organs. At any rate, a method of treatment began to be developed which is directed against the disorder of organs and functions or against troublesome symptoms. In the course of many years, by diligent pharmacologic and therapeutic studies, a great many drugs were found and synthetically created which act on the kidneys, heart, gastro-intestinal canal, eyes, skin, etc., or relieve fever, pains, restlessness, insomnia, or supplant deficient secretions. The substitution method of treatment, although it relieves only the symptoms and must, therefore, be classed as belonging to symptomatic therapy, is a very interesting and valuable addition to modern therapeutics and is based on a new conception of the functional activity of some organs, that is, internal secretion. Besides the symptomatic therapy another method of treatment gradually grew up which is now known under the promising name of physiologic therapeutics. Perhaps even this method may have received a stimulus from another dictum of the new pathology, namely, that disease is nothing else but physiologic processes under changed conditions. The underlying principle of the physiologic method is to assist the sick man in getting well by all those means which keep the well man healthy and vigorous. Physiologic therapeutics lays great stress on the proper regulation of diet, air, water, light, exercise; on nursing, physical comfort and mental cheerfulness. All these therapeutic measures have as their aim, not the treatment of the disease, but, as stated before, the treatment of the patient, either to make him fit to resist the onslaught of the disease, or to make him at least comfortable while he is succumbing to it.

With the birth and development of bacteriology there seemed to be a new era in sight for therapeutics. The before-mentioned dictum of pathology that disease is not a unit was proved not to be entirely correct. It was established for various infectious diseases that each one was due etiologically to a well-defined microorganism. It seemed, therefore, plausible to expect that agents, capable of killing these organisms outside of the body, might prove to be efficient remedies for the disease produced by these organisms. A few years' experimentation, however, destroyed this hope; those germicidal agents when administered to the infected animal in sufficient quantity killed the host more readily than the virulent parasite. Yet, in the further development of the new branch of medical science, new, fundamental facts were brought to light and new means were discovered which enabled us in some instances to grapple, indeed, with the disease itself. I speak of the therapeutics of immunity, the principles of which I may perhaps state in the following manner. The old fact, which was disastrous to the old therapeutics, namely, that patients get well without any outside treatment, became the corner-stone for the new therapeutics. Scientists began to inquire into the method which the animal organism employs in dealing with diseases. And there it was found that one more claim of pathology was not entirely correct, namely, that there is nothing new in pathologic processes, that pathology is simply physiology under changed conditions. It was discovered, in the first place, that in diseases the assailed animal organism creates new products by means of which it tries to ward off the blows or even to destroy its assailant; and we have quickly learned to treat some diseases specifically by the very same new products. Either we borrow these products from one animal and give them to another which is short of its own ammunition, as in the case of antitoxins; or we try to stimulate the organs of the afflicted animal itself to a greater production of the defensive agents, as is the case when vaccine is used. We have thus acquired the means of treating specifically and effectively the disease itself or its chief cause at least in two grave cases, in diphtheria and meningitis, and perhaps also in tetanus.

Furthermore, in the course of these studies we have learned another very important fact, namely, that many phenomena which were considered as a part of the disease are actually a part of the attempt of the organism to cure itself. Here again we were quick enough to adopt this therapeutic procedure. Bier's method of treating chronic diseases presents such a brilliant instance. Hyperemia, which was considered as a sign of disease, is here employed as a therapeutic measure.

Let us take rapidly an inventory of our present therapeutic possessions. There are the two old remedies: quinin for malaria and mercury for syphilis. They are specifics indeed, but science and art have no share in their discovery, I shall return to them later. Since the rise of the new era in medicine three groups of therapeutic procedures were developed. 1. Drugs and measures to control or relieve symptoms of disease. 2. Physiologic measures to increase the resistance of the patients. 3. The reaction products of infected animals. The last-named group is beyond doubt one of the greatest acquisitions in therapeutics. But the extent of its usefulness will have natural limitations, which I shall not discuss here. As to the first group, I belong to those who believe that the control of symptoms is a very important factor in the treatment of patients and diseases. The attacks on the value of these drugs came from the anatomic school which never outgrew its therapeutic nihilism. Regarding the second group, I am ready to concede that there is a good deal of self-evident useful truth in the teachings of the school of physiologic therapeutics, but there is a glaring disproportion between the quantity and quality of its preachings. Furthermore, I am afraid that many of the medical apostles of the treatment of diseases by free water, free air, free speech and free press, are at the bottom of their heart therapeutic nihilists as far as drugs are concerned.

In still fewer words: We possess many drugs for treatment of symptoms of diseases, and we are well provided with good advice as how to treat the patients, but we have at our command extremely few remedies for the treatment of the disease itself or its chief cause. And what is worse: a great many of the better class of physicians are still dominated by the old fatalistic doctrine: You may study disease, you may understand it, and you may diagnose it, but you can never cure it.

Now let us look at salvarsan: what it is capable of accomplishing and how it was created. It is proved beyond controversy that salvarsan is capable of completely destroying in the animal body the spirochete of syphilis and of frambesia, the spirilla of European and African relapsing fever and the microorganisms of chicken spirillosis; in short, salvarsan is a specific remedy against a group of diseases caused by protozoan spirilla; it is a spirillocide. And it is not an accidentally discovered drug. We have here the first instance in the history of medicine of an efficient, specific, synthetic drug scientifically developed by the mental efforts of a single scientist. As a specific remedy and a drug it can be compared only with the two other specific remedies: mercury and quinin. I stated before that science and art had no share in the discovery of these drugs. Permit me to narrate briefly their histories. Regarding mercury it is known that corrosive sublimate and calomel were used for skin diseases by Arabian physicians as long ago as the ninth century. The gray ointment was invented in the thirteenth century and was used for the same purpose. When at the end of the fifteenth century syphilis broke out in Europe epidemically, the skin manifestations were treated as before by these mercurial preparations. When later it was recognized that these skin sores were manifestations of a specific disease, gray ointment, calomel and corrosive sublimate remained as remedies for syphilis; and so it went on for centuries. Wood introduced in 1854 the method of administering medicine by means of hypodermic injections; fifteen years later syphilologists began to administer mercury by this method and again corrosive sublimate, gray ointment (oil) and calomel were and still are the chief mercurial preparations employed in this manner. However much modern syphilologists may have contributed to the knowledge of the pathology and symptomatology of syphilis, it is quite evident that they have added very little of fundamental importance to our knowledge of its treatment. At any rate, neither syphilologists nor any one else can claim the credit of having discovered the value of mercury as a specific for syphilis. That knowledge was never discovered; it simply grew gradually in the course of many centuries and, let me add, in spite of violent opposition. For again and again the claim was set up by the antimercurialists that many of the manifestations which were considered as being due to syphilis were only symptoms of mercurial poisoning. Only within the last few years and before the recent salvarsan period, we find statements in the literature to the effect that the mercurial treatment of syphilis led in some cases to polyneuritis, to optic neuritis, to deafness and other affections of the nervous system. To this the syphilologist retorted that the affections of the nervous system in these cases were syphilitic manifestations and due to an insufficient treatment with mercury. Let me say here in parenthesis that we are now confronted with a well-known psychologic phenomenon, namely, that the persecuted readily acquire the methods of their tormentors. Some of our syphilographic friends proclaim now with great assurance that salvarsan causes optic neuritis, deafness and other affections of the nervous system.

Our knowledge of quinin as a specific remedy for malaria has a well-defined beginning. At about the middle of the seventeenth century the Countess of Chinchon, the wife of the Spanish viceroy in Peru, had malarial fever and was persuaded to use the bark of a Peruvian tree which the natives were in the habit of using for the same fever. After testing it first on a servant, she took the remedy and was cured. Her physician, del Vego, brought the remedy to Europe.

These histories show conclusively that science and scientists had nothing to do with the introduction of mercury and quinin as specific remedies.

I have said that the principles underlying the specific action of salvarsan were developed by the mental efforts of a single man. Before speaking of these principles and the various steps in their development, let me say a few words with reference to the personal element. To my mind that factor is of considerable importance for the future development of therapeutics. That science grows which attracts a large number of qualified enthusiastic investigators. In the past the gifted among clinicians were attracted by pathology and diagnosis. The pharmacologists studied the action of drugs on the organs of healthy animals. Neither of them studied the problem of how to cure diseases. Therapeutics did not attain the dignity of a science; the subject was often in the hands of men who did not enjoy the confidence of the discriminating medical savant. The investigator who gave salvarsan to medicine, however, is one of the keenest thinkers in medicine. For one-third of a century he has stood in the front rank of medical investigators and many of his contributions to medical knowledge are masterstrokes. Now this leader of leaders for a number of years bent all his energies to do for medicine that which medicine needs mostly, and that is to find remedies which could destroy the cause of diseases. These efforts were now crowned with a brilliant success. A chemical compound was synthetically constructed which fits exactly to a related group of pathogenic microorganisms, destroying them with one stroke within the animal's body wherever accessible. By the scientific position of the master and by his brilliant deed, therapeutics will rise now to a higher level in the estimation of discriminating medical men. That will help to attract to this field competent medical investigators, and therapeutics may become indeed a fruitful, a useful and a healing science.

Now let us look at the principles underlying the selective action of salvarsan. Ehrlich's chemotherapy is based on a few comparatively simple assumptions, some of which he conceived very early in his scientific life. Ehrlich assumes that a substance exerts a definite action on a living animal cell only when it becomes intimately connected with this cell or fixed by it. A cell, however, cannot fix any substance unless it has a receptor for it. The receptors for chemical substances Ehrlich calls chemoceptors. Various cells are provided with various chemoceptors. Hence when a chemical substance is introduced into an animal body, it becomes unevenly distributed among its tissues, on account of the difference in the affinities of the various tissues to this substance—the affinity of the tissue meaning the possession of specific chemoceptors for the corresponding substance. When the animal body harbors independent cells, for instance, pathogenic microorganisms, it may happen that only these organisms possess chemoceptors for the substance, or that they possess these receptors in larger numbers than the cells of the host. The result may then be that the substance would be fixed exclusively in these organisms or in much greater proportion than in the cells of the host. And if the union of the substance and the microorganisms would be of such a nature as to lead to the destruction of the parasite, the introduction of such a substance into an infected animal would lead to the extermination of the given parasite in that animal. Furthermore, when that substance is a compound, consisting of various, more or less firmly connected chemical groups, the entire complex might become fixed in certain cells, if the latter possess receptors for one of these groups. In this way a destructive group of a complex chemical compound might become active on a cell which possesses receptors only for one of its innocent partners. By successive attempts at introducing groups possessing receptors for certain microorganisms into a chemical complex possessing a poisonous group, a chemical compound may be finally created which would destroy the parasites and leave the animal host comparatively unaffected. Now that was the method by which salvarsan was created. But what an amount of ingenuity and strenuous endeavor had to be expended before this goal was reached! Ehrlich and his co-workers experimented first with trypanosomes. We shall not speak here of their work with dyes. The path which led up to the creation of salvarsan began with the studies of the arsenical preparations. Atoxyl was the first product which was investigated; but it was soon found that not only the trypanosomes, but also the nervous system of the infected animal, the optic and acoustic centers, possessed effective chemoceptors for this compound. Ehrlich soon recognized the true constitution of atoxyl, which permitted the substitution of various derivatives. And now the long and laborious studies began. At first arsacetin was reached, a promising compound which, however, was not yet free from affinities to the nervous system. The next much more satisfactory product obtained was arsenophenylglycin, which was the four hundred and eighteenth compound in the series. At this period Ehrlich's attention became more concentrated on the action of these arsenical compounds on spirilla. Arsenophenylglycin was found very active on the spirillum of relapsing fever. But still nearly two hundred more compounds were tested until the six hundred and sixth was reached. This product, dioxydiamidoarsenobenzol or salvarsan, proved to be ideal in its effects. It seemed to destroy completely the various forms of spirilla within the animal body. The nervous system of various species of animal hosts remained entirely unaffected by the drug. The curative dose formed in all instances only a small fraction of the toxic dose. Finally a single injection of the remedy accomplished in all the investigated animals and for all forms of spirilla a complete sterilization of the infected animal. Ehrlich laid great stress on this last fact, and for good experimental reasons. In the experiments with the other arsenical compounds and the trypanocidal dyes, it was discovered that the trypanosomes which escaped destruction rapidly acquired complete resistance to the destructive action of the remedies and then became ancestors of very resistant strains of parasites. In consequence of this experience it then became one of the aims of the chemotherapy to obtain a compound which would destroy all the parasites with one injection—*sterilisatio magna*. Such a compound was found in salvarsan; it destroyed with a single injection the various spirilla in various species of animals.

Salvarsan exerts some effect also on trypanosomes, but this effect cannot be compared with its action on spirilla. The same is apparently true also of the effect of salvarsan on the plasmodia of malaria. It seems that salvarsan exercises some general action on the protoplasm of various protozoan forms, but it holds more specific relations to the spirilla. The specificity of these synthetic products is one of the most promising facts. Highly interesting in this connection is the statement of Ehrlich that the arsenobenzol compound which is equally active on trypanosomes and spirilla becomes very active on the latter and indifferent to the former when iodin is introduced into this compound. It is evident that Ehrlich's method of creating synthetically, specifically active chemical compounds, offers great possibilities for future therapeutics. We ought also to remember the one statement of Ehrlich, namely, that he stopped temporarily at 606 because it was not necessary, for the present at least, to look for a still better preparation than salvarsan.

When we now turn our attention to human diseases which are caused by spirilla, we find in the first place that in relapsing fever one intravenous injection of salvarsan is sufficient to destroy completely all the spirilla and rapidly to cure the patient. This shows that the facts which were derived from animal experimentation hold good also for the human species, at least in such cases as relapsing fever, in which the blood is the main abode of the spirilla. It may be mentioned here that cases of filaria also seemed to have been cured by an intravenous injection of salvarsan. The problem, however, becomes complex when we come to judge the effect of salvarsan on human syphilis, for which we possess now quite a large literature. Not the least complicating element is the fact that a good many of the clinical writers on the subject are not sufficiently well trained in the methods of critical scientific observation. Another very disturbing element is the great bias of some of the authors. How else can the astounding facts be explained when one syphilologist states that he gave up the remedy after using it only in a few cases because of its comparative uselessness and of the harm it does to the central nervous system, while his colleague at the same institution reports with unbounded enthusiasm of the wonderful effect of the remedy in fourteen hundred cases of all forms of syphilis with comparatively little by-effects? Is it not further an evidence of glaring bias to ascribe an optic neuritis to the single injection of salvarsan and to leave out of consideration the effects of enesol and arsacetin, with which the patient was treated previously to the salvarsan injection—especially of arsacetin, the damaging effect of which on the optic nerve is an established fact? Besides the complexities emanating from personal factors, we deal in human syphilis with a chronic disease. In some instances the spirochetes are undoubtedly enclosed, at least temporarily, in tissues, which for the time being, cannot be penetrated by the salvarsan solution. Furthermore, the method of administration of salvarsan is still in an unsettled state; it is insufficiently absorbed from some subcutaneous or intramuscular injections, and it is too rapidly eliminated, when it is injected intravenously. In spite of all these difficulties, however, the great mass of accumulated evidence establishes beyond a doubt that in human syphilis salvarsan acts in the same specific manner as in the experiments on animals; that is, it destroys the cause of the disease. The following clinical results are undisputed facts. It was found that with but few exceptions an injection of this drug causes disappearance of all accessible spirochetes. There are already a considerable number of cases on record, in which an early injection prevented so far the development of secondary manifestations, the time elapsed being in some cases seven or eight months. Syphilitic manifestations of nearly all forms and in all stages were profoundly affected by a single injection; there were only a few exceptions to this rule. There are a good many cases in which all the external manifestations disappeared without recurrence so far. These facts are surely sufficient to show that salvarsan acts on human syphilis in a definitely specific manner, that is, it destroys the cause of the disease. Its action is at least as specific as that of mercury on the same disease. It differs from mercury and has some advantages over it in the following points. Salvarsan destroys all spirilla; mercury affects only the spirochetes of syphilis. Salvarsan produces apparently antibodies in the blood as is shown by the effectiveness of the serum and the milk of those who were injected with it; there is no evidence of the formation of antibodies by mercury. The effect of salvarsan is much more rapid than that of mercury; one injection of salvarsan accomplishes in two weeks as much as repeated injections of mercury accomplishes in six weeks. Finally, whereas mercury is inimical not only to the parasite, but also to the host, causing cachexia of the patient, salvarsan, reversely, acts rather favorably toward the host; it stimulates to rapid healing and causes an increase of the weight of the patient. Careful future studies will bring to light any further quantitative and qualitative differences between the actions of the two specifics for the same disease and will determine the conditions in which they may compete or they may supplement each other. This desirable end, however, can be brought about only by an unbiased, judicial and scientific attitude toward the merits and demerits of either of the specific remedies.

Here it must be acknowledged that one of the original important expectations regarding the actions of salvarsan has not been realized in human syphilis. While in the animal experiments one injection cured the disease permanently, this has not been the rule in the treatment of human syphilis, especially when the treatment is begun after the onset of the secondary manifestations. In a good many instances the syphilitic symptoms reappeared even after repeated injections of salvarsan. While it seems that relapses occur less frequently after intravenous injections and become strikingly less extensive and less frequent with the repetition of the injections, the fact remains true that in many instances the syphilitic human body cannot be sterilized with one injection. This fact would have had to be put down as a very serious drawback in the treatment of syphilis by salvarsan, on account of the possibility of the gradual development of resistant strains of spirochetes. Fortunately it has been recently discovered by Margulies, in Ehrlich's institute, that, in contrast to arsacetin and arsenophenylglycin, salvarsan does not produce strains of spirilla resistant to it. This important observation finds its confirmation in recent clinical experience. The third and fourth injection of salvarsan affects the syphilitic manifestations with the same promptness as the first injection. This fact is very significant; it takes away the motive for the aim to destroy all the parasites with one injection, and it may lead to important changes in the method of administration of salvarsan. On the basis of the foregoing considerations I have recently advocated, instead of the use of one large dose, the injection for some time at regular intervals of small doses of salvarsan in very dilute solutions into the lumbar muscles. By this method it may be possible to prevent local and general by-effects as well as relapses. The method offers the further advantage that it could be used by the general practitioner.

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SAMBON'S NEW THEORY OF PELLAGRA AND ITS APPLICATION TO CONDITIONS IN GEORGIA

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I wish to call attention to a new theory of pellagra, and especially to apply this theory to conditions in Georgia, and to show that the same conditions exist in Georgia to produce the disease that exist in Italy, the chief home of the disease. This theory was formulated by Dr. Louis W. Sambon, lecturer on tropical medicine at the Liverpool School of Tropical Medicine, who was detailed for three months in 1910 in Italy, where he studied pellagra. Dr. Sambon is a research student of recognized ability. In 1903 he formulated the tsetse fly theory of sleeping-sickness, which has proved true. His "Progress Report" on pellagra and the result of his investigations appeared in the London *Journal of Tropical Medicine* during September, October and November, 1910, and I shall draw freely on these accurate and interesting articles.

First, I wish to define pellagra according to our present knowledge. Pellagra is a non-contagious, non-inheritable disease, of insidious course, characterized by a peculiar, periodic eruption, and a series of symptoms involving the nervous and digestive systems, periodic and progressive. This definition is based entirely on the clinical history of the disease, and does not take into account the cause or the environment in which the disease develops. We can now proceed more fully to the consideration of this new theory of cause and origin.

There is one primary condition on which all theories are based, and one easy way by which we test freely and accurately every theory. It is stated in this simple way: Every theory to be correct must be in accord with the facts. On this simple proposition all theories must stand or fall, and by this same simple rule we may test this new theory of pellagra.

Sambon opens with five propositions:

1. Pellagra is not due to the eating of maize, either sound or deteriorated, as hitherto almost universally believed. In support of this statement are the following facts:

> A. Maize was grown in Italy from one and a half to two centuries before pellagra appeared in that country, and it is, therefore, impossible to connect the introduction of the new cereal with the first appearance of the disease.
>
> B. Pellagra occurs in people who do not eat maize or corn products. Casana stated at a meeting of the Catalonian Academy of Medicine that in Spain the greater prevalence of pellagra existed in those provinces where the cultivation and use of corn is unknown. Children contract the disease in Italy as early as the third month, provided they are brought outdoors and exposed to the bites of the *Simulium* fly. An illegitimate child was born in an Italian jail, and at five months was adopted by peasants living along a running stream. It developed pellagra in two weeks after exposure to the bite of this fly, though it had never eaten any corn products of any kind.
>
> C. The absolute failure of preventive measures on the part of the Italian government; *e. g.*, the inspection of maize and its products; abolition of the late varieties of maize; notification of cases; and establishment of pellagrosarios for the treatment of the disease.

2. Pellagra has a striking, peculiar, and well-defined topographical distribution. In northern and central Italy the pellagra foci are found in the narrower valleys of the country districts, where the streams are infested by the *Simulium* fly. Wherever pellagra is found, these flies are found in the districts bordering the streams.

3. These endemic foci, or stations, have remained exactly the same for at least a century. The disease presents the same relative proportions in all the affected districts, and towns are generally exempt.

4. The pellagra stations are closely associated with streams of running water. Pellagra is a rural disease, and the greater number of cases occur in the country districts, and especially among people living along running streams. The greater liability of field laborers is explained by the fact that they are more exposed to the infective agent than others. Nearly all the pellagrins in Italy say that in the spring they are greatly tormented by the bites of the sandflies. These flies are more active in the early morning and late evening.

5. A blood-sucking fly, of the genus *Simulium*, is, in all probability, the agent by which pellagra is conveyed. It is a periodic disease, the seasons of incidence being spring and fall, and the *Simulium* fly has these same periods of activity.

This is a condensed statement of the Sambon report as to conditions in Italy. We now turn to conditions in Georgia. I asked the junior and senior classes in the Atlanta College of Physicians and Surgeons for a statement of the cases of pellagra in their home communities with regard to sex and the relation of the homes of the pellagrins to standing or running water. Georgia is not in the statistical area, and this was as accurate a method as I could find to get an estimate. Thirty-six cases were reported, twenty-six women and ten men. All of the number but one either lived on or very near streams of water; this patient was a banker living in a small town and the relation of his residence to streams could not be determined. Thirty students reported from as many different communities. These separate reports follow:

Number of Report.	Number of Pellagrins.	Residence.
1	3	Swamp, 3 streams.
2	3	Swamp.
3	1	Stream within 50 yards.
4	1	Location wet and swampy.
5	2	Stream within ¼ mile.
6	1	Unknown.
7	1	¼ mile standing water.
8	1	¼ mile branch.
9	1	Between two streams.
10	1	¼ mile pond and stream.
11	1	300 yards of a branch.
12	1	On Chickamauga Creek.
13	1	Within 200 yards of creek.
14	1	Within 300 yards of creek.
15	2	Within ¼ mile of creek.
16	1	On stream.
17	1	On stream.
18	1	Resided on pond 5 years.
19	1	Between two springs and fresh branches.
20	1	Within 1 mile of stream.
21	1	Within 250 yards of stream.
22	1	Within 200 yards of stream.
23	1	12 years within 100 yards of stream.
24	1	15 years within 100 yards of stream.
25	1	Within 1 mile of stream.
26	1	Within ¼ mile of stream.
27	1	Within 30 yards of stream.
28	1	On sea coasts.
29	1	In city.
30	1	Within 100 yards of stream.

The testimony of these thirty men from different sections of Georgia and some of the other southern states agrees in this: The cases of pellagra in the South originate in those living on or near streams of running water. The idea was new to these students; they were from places far distant from each other, and yet their testimony is practically united. While in Franklin, N. C., last summer I investigated the premises and surroundings of a pellagra patient, a woman, who had recently died. The house bordered the road in front, and behind a branch of rapid mountain water ran within fifty feet of the back porch. On the right of the house was a perfect swamp, and the stream marked out a narrow mountain valley; exactly the same topographic conditions found in Italy by Sambon. These valleys and stream areas were so alike in situation and environment that he was able, after viewing the topography of a given locality, to state whether pellagra existed in that locality, and this without being once in error, and even before he was given the pellagra statistics of the given area.

The *Simulium* fly is of the order *Diptera*, or two-winged flies; family *Simuliidæ*; with the one genus *Simulium*, having species. Of these Sambon found three species in Italy—*Simulium reptans*, *S. ornatum*, and *S. pubescens*, chiefly the last. The two chief species in America are *Simulium venustum*, or black fly, the great biter of the Northern woods; and *Simulium pecuarum*, the southern buffalo gnat. This buffalo gnat causes the death of many mules and domestic animals. It is found along the tributaries of the Mississippi river, through the state of Mississippi, possibly all of Arkansas, in Tennessee, Kentucky, and parts of Missouri, Illinois, and Indiana. Since 1850 this buffalo gnat has killed many thousand domestic animals. The gnats appeared in Mississippi as early as 1818, and in 1884 killed in Franklin Parish, La., 300 head of stock in one week. They do not seem to appear every year in damaging numbers, but are always more numerous in time of flood. Sambon notes that in Italy the greatest number of pellagra cases occur in the flood and overflow years.

Two crops of the insect emerge from the streams each year; one appearing from February to April, and the other from September to December. The eggs are laid, when possible, in streams of rapid, shallow water, as in an ordinary branch or creek. Rock, leaves and brush in the water are good places. They hatch in about eight ays to a larva, passing in about four weeks into the upa stage, and emerging in three weeks, after having pent the pupa stage in the bottom of the stream, as the ature two-winged fly or gnat. Pellagra is most active n spring and autumn, and toxins have no relation to asons, whereas diseases of parasitic origin are seasonal.

It has been shown that the same topographic condi-ons exist in Georgia and some of the other southern ates that Sambon found in Italy. It has also been own by the united testimony of several students that ractically all the cases of pellagra are rural in origin nd exist along streams. I asked Dr. Bradley, assistant ate entomologist of Georgia, to determine for me, if ossible, whether any species of the *Simuliidæ* existed Georgia. He consulted Dr. J. M. Reade, professor of otany in the University of Georgia, at Athens, and they ound in a creek two miles from Athens the larvæ of the y in such numbers that they completely covered some f the rocks. Attached at the anal end, they waved their wo modified mandibles in the fast-flowing water in arch of desmids, diatoms, and other aquatic growths. hey were found February 8, and they merged as the pring brood of the mature fly March 27, 1911. This pecies was identified as *Simulium pictipes*, a remarkably rge species, found also and reported from the Adiron-ack Mountains, Texas, Michigan and California. This pecies was identified for Dr. Bradley by Dr. O. A. ohannsen of the Maine Experiment Station. The third ondition exists in Georgia as in Italy, viz., the presence f an abundance of *Simulium* flies. Lastly, we have a rge rural population, as has Italy.

To summarize:

1. Georgia and Italy both have pellagra.
2. The two have the same topographical conditions.
3. Pellagra originates in both territories along treams.
4. Both countries have many *Simulium* flies.
5. Both countries have a large rural population, from hich most cases of pellagra originate.

This theory of Sambon has received the support of ir Patrick Manson in the fourth edition of his book on ropical medicine; and Castellani and Chalmers support in their recent book on the same subject. Professor erni at the Pellagra Congress held at Milan, and Drs. loore, Wood and Taylor, spoke in favor of Sambon's nsect theory at the Columbia, S. C., Congress on Pel-gra, though Sambon had not in 1908 connected the *imulium* with the disease. The supreme criticism of he theory lies in the fact that the parasite has not yet een discovered, and this discovery is necessary to com-lete the theory. Analogies are always dangerous, and hen pursued too far lead one into an illogical abyss, ut I think that there is an analogy between pellagra nd malaria. Both develop in swamp and stream local-ties, both have periods of seasonal incidence, and emoval from the endemic areas common to each dis-ase results in improvement, and prevents reinfection. averan discovered the parasite of malaria in 1880, but was not until 1898 that Ross discovered the mosquito the definite host. The discovery would have been ust as real had Laveran discovered the insect first, and oss the parasite last. Indeed, this is the order in which ambon discovered the tsetse fly and the sleeping-sick-ess parasite as the cause of sleeping-sickness—insect irst and parasite last. The parasite of pellagra is a dis-overy to which we may look forward in the near future. ertain it is that the corn theory is not in accord with he facts, and must die the death of unfounded theories.

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A DIRECTORY FOR WET-NURSES: ITS EXPERIENCES FOR TWELVE MONTHS

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Most general practitioners and all men who deal especially with infants have had at one time or another occasion to find a wet-nurse for some sick baby. Often it has been a question of obtaining human milk within twenty-four hours to save the life of the baby. Anyone who has searched for a wet-nurse and has hunted hours and sometimes days without success, knows what a discouraging chase it has been; it has been doubly so when the emaciated baby was quickly slipping beyond all hope of recovery.

An attempt was made, about ten years ago, to register wet-nurses at the Boston Medical Library under the same system as an intelligence office and thus to centralize the demand and supply. This was a failure for several reasons: A mother who was forced to wet-nurse usually did so because she had not enough money to live on and, therefore, could not wait for a position. If she was married her husband had either deserted her, was dead, or incapacitated by disease, and she, therefore, was forced to become the wage earner of the family; if she was unmarried, she was either deserted by the father of her child or was unable to obtain help from him for various reasons. If she was lucky enough to obtain other sorts of work she weaned the baby immediately and boarded it with some woman. The attempt at the Boston Medical Library was, therefore, a failure. In 1906 Dr. F. P. Denny of Brookline, in closing the discussion of a paper that he read before the American Medical Association, said, "If some charitable institution, preferably a hospital under medical supervision, would keep at least a registry for wet-nurses, whose antecedents are well known, it would be of great benefit. Such an institution, using every precaution, in desperate cases, might furnish breast-milk on short notice." The matter dropped there and nothing more was done. This paper is a description of a directory and home for wet-nurses which has been run for one year, and which has been the means of saving many babies' lives. So far as I can find out, this is the first successful attempt to establish a directory for wet-nurses.

Two things are necessary for success: first, the directory must be run in connection with some babies' hospital where the problems of breast-feeding are understood; and second, the women must have a home where they can wait for work without expense to themselves. The money necessary for this venture was given by a philanthropist who made no restriction as to the scope of the work, but who wisely insisted that it should be widely advertised.

On Feb. 1, 1910, the directory was opened, under the supervision of the hospital of the Massachusetts Infant Asylum. A moderate-sized house was obtained with a parlor, kitchen and three bedrooms fitted for six women and their babies, and accommodations for a matron. The women at first took their meals at the hospital; later it was found wise to send the meals from the hospital to the house in a specially constructed box which was donated by one of the directors. The food is good and wholesome, such as is given to the wet-nurses in the hospital.[1]

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[1] Talbot, F. B.: Two Methods of Obtaining Human Milk for Hospital Use, Boston Med. and Surg. Jour., March 2, 1911, p. 304.

The next problem was to find the wet-nurses so that when the demand came there would be a supply. This was done in two ways. The first, and most important, was through the various maternity hospitals. It was quickly found that the directory was facilitating their work because one of their problems was to make provisions for the friendless mothers who had to go penniless out into the world, and it was found that in most instances the directory could help them in a very practical way. The second way was intended to create a demand as well as a supply. This was done by sending the following postal card to every physician in Massachusetts and all the large towns and cities of the New England States.

HOSPITAL OF THE MASSACHUSETTS INFANT ASYLUM
106 Chestnut Avenue
Directory for Wet-Nurses

Jamaica Plain, October 20.

A directory for wet-nurses has been .established at the hospital of the Massachusetts Infant Asylum, Jamaica Plain, telephone Jamaica 132. Wet-nurses may be obtained here at any time by paying a fee of ten dollars. The institution is not expected to make money and this fee is a nominal one to help pay expenses. The wet-nurses and their babies are examined physically by a physician; no one will be recommended with any signs of tuberculosis or syphilis. The babies are weighed at frequent intervals to determine how much breast milk the mothers are giving the babies and how well the milk agrees, as shown by their weekly gain in weight. An attempt is made to teach the mothers how to be cleanly, self-respecting and how to care for their babies. The directory requests you to send to it any woman who desires to obtain a position as a wet-nurse; she will be given board and lodgings free if she is a worthy person. In this way she will have an opportunity to remain with her baby and to get work. Further information can be obtained by telephoning the Hospital of the Massachusetts Infant Asylum, or Dr. Fritz B. Talbot, 311 Beacon Street, telephone Back Bay 173.

Many of the calls for wet-nurses were due to these postal cards and in a few instances they were instrumental in sending prospective wet-nurses to the directory.

When a woman applies for admission to the directory she and her baby are examined by the physician on duty who fills out the following card which is kept for reference.

Name of wet-nurse..
Taken on probation..............................Accepted..........
Comes from...
Birthplace........Age.....S. M. W........No. of children......
Confined. Date............Place.................................
Family history..
Past history..

EXAMINATION: Breasts..
Nipples.........................Mouth and throat...............
Lungs...........................Glands.........................
Skin............................Bones..........................
Wassermann reaction.............REMARKS........................
Baby—Physical condition...
This woman is. ....suitable for trial.
....M.D., Examiner.

The reverse side of the above card is intended for a record of the names of the infants nursed and the dates of first and last nursing.

A careful physical examination is made for signs of tuberculosis and syphilis. The Wassermann test is done on the blood of each woman at the Harvard Medical School. If the physical examination and the Wassermann reaction show that the woman is normal, she is admitted to the directory. Occasionally a wet-nurse can wait in her own home for a position, but she is required to come to the hospital with her baby for the physical examination and her address and telephone number are taken. Any woman who is unable or unwilling to come for examination is not recommended to a position, but her address is given to anyone who cares to look her up. These wet-nurses' names are put on a list and sent out in turn as they register.

Frequently the wet-nurse comes underfed or only recently up from her confinement; she must, therefore, be built up before she is allowed to go out to work. While she is waiting she is taught the proper care of herself and baby, and is required to do only light house work. The babies are watched and weighed carefull twice a week and it does not take long to find ou whether the breast-milk which they are receiving is goo or not. Once a week the babies are weighed before an after nursing for six consecutive nursings in order tha an idea may be obtained of how much milk is bein secreted. The supervision of two excellent traine nurses[2] as well as two more semi-trained associates mak it possible to obtain a very good idea of the physica condition and the moral character of the woman.

The directory charges a fee of ten dollars for suppl ing one of these women. This fee is used to pay, as fa as possible, the expenses of the institution, the balanc being supplied by charity. If the demand and suppl continue to increase the directory should be self-suppor ing at the end of another year. When the public do not appreciate what this nominal fee means, and con siders it exorbitant, the directory explains that the fe represents the trouble and time of finding the wome the physical examination, the knowledge about th women which could be obtained in no other way, an their board for the time which they have had to wai There are more people who consider the fee too littl than too much. The directory feels sure that the man physicians who have used the directory appreciate it much as the family does. The women are supposed receive wages of eight dollars a week which they sa for the future when they have to look out for themselve Some have saved over one hundred dollars. If for an reason they do not seem to be worth this amount or t family is unable to pay that much, they are allowed go for a smaller sum.

The baby must go with the mother in every instanc No exceptions can be made to this rule for the followi reasons: Usually a baby which requires a wet-nurse so sick that it cannot drain her breasts as does t normal infant; if the breasts are not emptied by t healthy baby after the sick one is satisfied, the milk so dries up. Second, if the nurse's baby is placed at boar the money earned would quickly be used up; and thir it is hoped that if the mothers and babies are ke together long enough, the former will become so attach to them that they will always care for them. It h been found that most of the mothers do become fond their babies. All have said, "I don't know what I shou have done if this opportunity had not been given me Lastly, the directory is profiting from the experience the wet-nurses in New York, whose babies are plac out to board as soon as the mother obtains a positio with a reported mortality of 95 per cent. The mortali among wet-nurses' babies while under our care has be zero.

After the wet-nurse has been in a position a week more the following cards are sent to the head of t family and to the family physician to be filled out:

DIRECTORY FOR WET-NURSES
UNDER AUSPICES OF
Hospital of the Massachusetts Infant Asylum
106 Chestnut Avenue, Jamaica Plain, Mass.

..............................191

M ....

Will you kindly answer the following questions regarding.....
.... and add any further inforn
tion which may be of service regarding her.

Respectfully,

..................................Supt

1. Is the wet-nurse neat?
2. Willing and cheerful?
3. Does she take correction well?
4. Orderly and thorough in her work?
5. Gentle and patient with her own baby?
6. Did she seem fond of her own baby?

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[2] Miss Alice Cheney and Miss Greta Mabry.

7. Conscientious?
8. What are the wet-nurse's faults, if any?
9. How much did your baby gain on her milk?
10. Did your baby improve?

Remarks:

DIRECTORY FOR WET-NURSES
UNDER AUSPICES OF
Hospital of the Massachusetts Infant Asylum
106 Chestnut Avenue, Jamaica Plain, Mass.

Dear Dr...

Will you kindly answer the following questions regarding..................................., who went as a wet-nurse to your patient, ...

1. Was the wet-nurse satisfactory?
2. Did she do well with the sick baby?
3. How well did her own baby do?
4. Would you be willing to recommend her again?

Remarks:

....................................M.D.

I expected that there would be a great demand for wet-nurses during the summer and fall months and was greatly surprised and gratified to find that this continued throughout the year during which thirty-five wet-nurses lived at the directory for varying lengths of time. Three to five women have been sent into families each month. In many instances one woman obtained several positions, from all of which came favorable reports about the sick baby. The majority of the reports which have come back say that the sick baby has gained three pounds n six weeks.

The early experiences of the directory were not hopeful. One of the first women who came deserted her baby one evening and was not seen afterward, despite the fact that the police were immediately notified. Some of the other women had no milk at all or were not physically fit to nurse, and were, therefore, returned to the charity from whence they came. With experience came better judgment in picking the women, and of late the directory has had very satisfactory applicants.

The wet-nurses themselves seem to be happy, and without exception have improved a great deal physically. Their babies have all gained weight in a normal manner. They have been in better general condition than the wet-nurses' babies who live continually at the hospital, even when they were weaned entirely from the breast. When the milk has given out, the women have returned to the directory and have been referred to the charity from which they came. One or two have been fortunate in securing the sympathies of the family with whom they worked and have obtained permanent homes; two others who were unmarried before coming to the directory have been married while under its care and are now living in homes of their own.

The physicians who have used the directory are scattered from Maine to Connecticut. Occasionally they required only a few ounces of human milk for the sick baby to get the necessary therapeutic effect. In that case the directory was able to supply small amounts of drawn breast-milk (from 4 to 12 ounces) which was delivered n sterile bottles packed in ice.

The obstacles to establishing a directory for wet-nurses seemed very big at first sight, but became less and less formidable as experience increased. The troubles of the past year have been insignificant when compared to the good the institution has done. I believe that similar directories could be established in all large cities for the good of the sick babies and the practitioners on the one hand, and of the wet-nurses and their children on the other.

Note.—The Northwestern University Medical School diet kitchen, at Chicago, under Dr. F. X. Walls, has been using human milk for a number of years. It always has a wet-nurse on its pay-rolls and at times more than one. The wet-nurses milk their breasts by hand and average 20 to 30 ounces to each nurse daily. This method of obtaining human milk is similar to that used at the hospital of the Massachusetts Infant Asylum, which was described by me in the Boston Med. and Surg. Jour., March 2, 1911, p. 304.

311 Beacon Street.

CONTAMINATION OF THE FLY WITH POLIOMYELITIS VIRUS

TENTH NOTE *

SIMON FLEXNER, M.D., and PAUL F. CLARK, Ph.D.
NEW YORK

There are still so many unsolved problems relating to the manner of the spread of epidemic poliomyelitis that every new fact would, at present, seem worth recording. The present point of view, based on seemingly accurate clinical observation, is to the effect that many cases of the disease can be connected with each other through evidence of direct and indirect contact of the ill and the well. Not all cases, however, have been so connected, and it remains, therefore, to ascertain whether any other agency than human contact may be invoked to account for the distribution of the infectious agent. Perhaps the most baffling cases are those which arise at widely distant points in a sparsely populated community. That certain of these cases are actually connected with each other through the intermediation of persons commingling with both the ill and the well seems highly probable; but strict search has failed often to establish the fact of such intermediation. Hence the possibility that insects take part in the dissemination of the infection has been suggested by many writers; but up to this time we have had no actual data on which to support this notion.

Insects that possess the power to migrate over a considerable territory, that affect all classes of society, that abound during the period of greatest prevalence of the disease, and that do not wholly disappear at any season, should be the first to come under suspicion. Many, if not all, of these conditions are fulfilled by the common house-fly, which, therefore, has been subjected to a series of contamination experiments.

The flies employed by us have been laboratory bred. Full-grown flies have been permitted to feed on the fresh spinal cord removed from monkeys inoculated with the virus of poliomyelitis and recently paralyzed. After feeding, the flies have been removed to a fresh receptacle from which certain numbers were removed at intervals, killed with ether, then comminuted with sand and extracted with saline solution, from which a bacteria-free filtrate was obtained by means of a Berkefeld filter. The filtrate was injected in the usual manner into the brain of rhesus monkeys. Brief protocols of two experiments follow:

Experiment 1.—A *Macacus rhesus* monkey was inoculated intracerebrally on May 2 with 3 c.c. of a filtrate prepared from the bodies of seven flies which had lived in clean surroundings for twenty-four hours after having fed on portions of the spinal cord obtained from a recently paralyzed (poliomyelitis) monkey. After recovery from the ether anesthesia, the monkey remained well until May 8, when it appeared somewhat weak. On May 9, it presented the common prodromal symptoms of excessive nervousness and excitability and the left arm showed paralysis. During the day the paralysis extended and affected the right arm. May 10, the legs were also paralyzed; the animal was etherized. The autopsy showed the characteristic lesions of experimental poliomyelitis in the spinal cord.

Experiment 2.—Another *Macacus rhesus* monkey was inoculated intracerebrally on May 3 with a filtrate prepared from the bodies of ten flies, which had fed forty-eight hours before on the spinal cord obtained from a paralyzed monkey. After recovering from the ether anesthesia, this animal remained well until May 13. By May 14, paralysis of all four extremities had developed and the animal was etherized. The autopsy showed characteristic lesions of experimental poliomyelitis in the spinal cord.

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* From the Laboratories of the Rockefeller Institute for Medical Research

The experiments recorded merely show that flies contaminated with the virus of poliomyelitis harbor the virus in a living and infectious state for at least forty-eight hours. They do not show that this is the limit of the period of survival, and they throw no light on the question whether the virus is retained merely as a superficial contamination or whether it can survive in the gastro-intestinal tract Experiments relating to these points are in progress.

HEXAMETHYLENAMIN: A REMEDY FOR COMMON COLDS

AUSTIN MILLER, M.D.
PORTERVILLE, CAL.

Acute infections of the upper respiratory tract, whether manifested as coryza, acute rhinitis, pharyngitis, or tracheobronchitis, are of the commonest incidence. A "cold," the grip, influenza nostras, catarrhal fever, acute bronchitis, are common terms used to designate such attacks. The infectious nature of the disease is almost universally accepted, although the identity of the infecting agent is not established. Walter's investigations[1] are of practical interest. He shows that the *Bacillus segmentosus* of Cautley and the *Micrococcus catarrhalis* are probably sometimes causative of acute rhinitis and infections of the middle ear and accessory nasal sinuses.

A cold may cause as much suffering and incapacity as many diseases considered more serious. Often the illness is prolonged from the usual few days to ten days or two weeks. These infections are only too frequently the starting-point of complications that are a life-long menace to well-being. Among such complications and sequelæ are a predisposition to repeated attacks, a tendency to "catch cold" easily, suppurations of the accessory nasal sinuses, otitis media, hypertrophied and chronically inflamed tonsils, adenoids, etc.

The diversity of treatment of colds is common knowledge; doctor and layman alike prescribe hot drinks, footbaths, sweats, quinin, coal-tar antipyretics, Dover's powders, whisky, and so on. And some as wisely prescribe time, since the disease is self-limited and a recovery is the rule after a period of greater or less discomfort.

In view of the reported excretion[2] of hexamethylenamin in the saliva, and by the middle ear and bronchial mucous membrane, I have been for the past year prescribing it for common colds.

In most cases it acts promptly and efficiently. The irritating, watery secretion of coryza stops; the fever, aching and malaise of influenza cease; the threatening disease is averted.

Hexamethylenamin should be administered at the earliest possible moment; that is, when the nose begins to feel stuffy or the discomfort begins—"when the cold is being caught." Its use, after the infection has existed for several days, is less gratifying, possibly on account of the mixed infection at that time with pus organisms.

As to the dosage, it seems necessary that a larger amount must be given to obtain antiseptic results in the gall-bladder, subarachnoid space or on the nasal mucous membrane than is required as an antiseptic in the urinary tract. The findings of Crowe[2] seemed to indicate that 75 gr. a day must be given in order to obtain quickly the desired effect in the gall-bladder. At the onset of cold the following prescription, which makes the do 15 gr. four times in twenty-four hours, is efficient:

℞
Hexamethylenamin .... gm. 12| or ʒi
Div. in chart. cerat. No. xii.
Sig. One powder to be taken in a goblet of cold water fo times daily.

Copious water-drinking is encouraged, which lesse the possibility of bladder irritation. This latter is t only ill effect of the drug, but it occurs only occasionall and ceases at once when the medicine is discontinue As a cure for colds it may be as great a boon as it h been proved to be as a urinary antiseptic.

TUBERCULOUS JOINT-DISEASE

REPORT OF A CASE ILLUSTRATING THE CRITICAL WATC FULNESS DEMANDED DURING CONVALESCENCE

JOHN JOSEPH NUTT, M.D.
NEW YORK

The patient, a young woman, had suffered since four yea of age from hip-joint disease. She had been under the care four different surgeons, all excellent men of high standin While a patient of the third surgeon, she became ve impatient to have the apparatus removed. She was weari at this time some sort of a convalescent splint the exa nature of which I do not know.

About five years ago the patient put herself under the ca of the fourth surgeon and was immediately told that s should nave discarded all braces ten years before. Since th time she has not only been without any protection to the joi but has had *massage* and *passive movements* prescribed. S complained of weakness from the first and during the la four years it has been increasing. The surgeon does not see to have appreciated the true significance of this subjecti symptom nor of the more indicative signs which are now w marked but must have been discoverable any time during t last three or four years. Weakness on first removal of a su port would be expected but with careful directions, looking the prevention of over-use, etc., this should tend to less rather than increase if convalescence is to result in a cure.

At present she is able to walk but a short distance and us the leg more as a prop or stay than as a support. Exami tion shows: An area of acute sensitiveness behind and ab the great trochanter; marked muscular spasm as the limi tions of motion are reached, and acute apprehension of t joint to weight-bearing or to the interarticular pressure cau by attempting to raise the leg from the table when in t reclining position.

A radiograph showed absence of head and neck of t femur, an almost completely filled acetabulum, and a partia formed socket above the old one, in which the remainder of t neck is articulating. There is a spot, half an inch in diamet back of the trochanter, which appears to be the site of active inflammatory process.

Protection from all weight-bearing, by the use of crutch has been ordered, without any apparatus for either immobili tion or traction, and, the patient's general condition bei excellent, it is expected that frequent examinations w determine a disappearance of the signs and that six mon or possibly one year will find the crutches unnecessa Should the signs persist or increase, more protective measu will have to be adopted. Passive movements and massage emphatically forbidden.

This case seems to illustrate the necessity of frequ examinations during convalescence from hip-joint d ease. In no other way can the signs of Nature be pr erly interpreted. Her approval or her disapproval of t demands made on the joint must be recognized a means must be taken to follow the path she points before serious damage is done the recovering articulati

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1. The Journal A. M. A., Sept. 24, 1910, p. 1091.
2. Crowe: Bull. Johns Hopkins Hosp., 1908, xix, 109; Barton: The Journal A. M. A., March 12, 1910, p. 871; Heitmuller: ibid., April 9, 1910, p. 1222; Hanzlick: ibid, June 11, 1910, p. 1940; Brown: ibid., April 16, 1910, p. 1308.

ANOTHER CASE OF SPOROTRICHOSIS IN MAN

ALBERT BEAM, M.D.

WILSEY, KAN.

In view of the considerable number of sporotrichal nfections in man reported recently by Sutton and others rom the middle West, the disappointments experienced by practitioners who fail to recognize the character of he infection, and the pain, danger and expense to which these patients are often subjected, the following more or less typical case may be of interest.

History.—The patient, C. H. B., aged 17, was the son of a farmer, a native and resident of Kansas. The family history was exceptionally good; past history negative. The present rouble consisted of an indolent ulcer on the left knee and four nodules on the inner side of the left thigh with the history that about one month before a small red papule appeared on the knee, which was opened with a needle. This papule spread out slowly and the nodules appeared one at a time. At this time the patient came under my care. There were no subjective symptoms excepting occasional prickling sensations about the ulcer.

Examination.—No systemic disturbance, enlarged glands, impaired functions or any other lesions were found. The ulcer was 3.5 cm. long, 1.5 cm. wide, 3 or 4 mm. deep, covered with a tough brown crust and filled with a dark brown, thick, tenacious pus. The edges of the ulcer were thickened, undermined and bluish-red in color. The line of junction of diseased and normal skin was clearly marked. The area, from edge of ulcer to normal skin, was about 7 mm. The nodules were cutaneous bodies evenly distributed over the lower two-thirds of the thigh, varying in size from a large pea to a hazelnut, definitely outlined and hard except that the lowest one fluctuated in the center. The lowest two were covered with bluish-red skin, the other two with normal skin. None of the lesions was painful or tender and no connecting lines or marks were found.

Treatment.—The pus was evacuated and the wounds dressed with solution of iodin. The patient was given increasing doses of potassium iodid.

Recovery was prompt and uneventful.

Therapeutics

ACUTE ENTERITIS IN CHILDREN: SUMMER DIARRHEA

While pediatricians ridicule the use of the term "summer diarrhea" as unscientific and inexact, still, when one hears or reads the term, a well-defined clinical picture appears before the mind. We all recognize that children from birth up to the age of 1½ or 2 years are especially liable, during the hot weather of our temperate zone, to be affected with frequent loose movements of the bowels, which not infrequently produce serious and sometimes fatal results.

The pathology of this condition is less definitely understood by us than the clinical symptoms and appearances. Even to apply to it the term "acute enteritis" is not free from criticism of inaccuracy and inexactitude. In a large proportion of cases, the trouble would seem to be, to a great extent, in the small intestine, and in another large proportion of cases the large intestine is equally and sometimes more extensively affected than the small intestine. Often, too, frequent vomiting would indicate that the function of the stomach is not performed in an entirely normal manner. In the cases in which the large intestine is extensively affected, and in which the presence of blood in the stools and tenesmus are common symptoms, it is fair to make a separate class and distinguish these cases as cases of colitis or ileocolitis.

In those which we distinguish as enteritis and in which it is customary to believe that the small intestine is chiefly affected, the most conspicuous symptom is diarrhea, accompanied sometimes by pain in the middle of the abdomen, but without tenesmus. This class of cases includes a considerable proportion of those forms of disease which have been distinguished as cholera infantum mainly from the rapid onset of the symptoms and the great depression which attends its onset. Possibly in the future a certain proportion of these cases may be distinguished from cases of ordinary acute diarrhea in children on account of the determination of some different bacterial origin.

Limiting, then, our attention at the present time to the cases of ordinary diarrhea seen in infants and young children during hot weather, it has been proposed (see article by Charles Hunter Dunn, The Journal, Aug. 21, 1909, page 599) to separate these cases into four classes: (1) those in which nervous influence has an important part in producing the symptoms; (2) those in which indigestion is the chief factor; (3) those in which bacterial fermentation seems to be of especial importance; (4) those in which bacterial infection is observed. The latter two it has been proposed by some writers to consolidate into one class and distinguish them as caused by bacterial action, but in the former class the bacterial action is exerted on the intestinal contents by the so-called saprophytic bacteria, while in the latter class the bacteria act on the tissues of the body. This third class has been designated, in accordance with the classification adopted by the pediatric department of Harvard University, as intestinal indigestion with fermentation, or fermental diarrhea. To this class belongs the larger proportion of cases of ordinary summer diarrhea of infants.

The descriptive term, "summer diarrhea" suggests several factors which have an important etiologic relation to this condition. First, during the hot weather of summer, young children become debilitated simply through the influence of the extreme heat. Second, during the hot weather the food-supply of infants is subject to special contamination and deterioration, consisting, as it does, mainly of milk, which usually undergoes transportation and more or less handling, so that a considerable number of hours elapses from the time it leaves the cow until it is consumed by the infant.

The treatment of this acute enteritis occurring in children during hot weather is not chiefly medicinal, but the most important part of the treatment is the hygienic and preventive treatment. In order to prevent these attacks of diarrhea, the child should be kept, so far as possible, from exposure to excessive heat, and should also enjoy a constant supply of fresh air. These conditions are secured least advantageously in the city, and especially in the crowded tenements where most of the poor people live, and where most of the children are compelled to pass the early part of their lives. In order to avoid the excessive heat and to obtain the necessary fresh air, it is exceedingly desirable that the children should be taken into the country or to the seashore during the months of July and August. Failing this, they should be kept out of doors as much as possible, on shaded roofs, in parks or, if possible, on ferry boats or boats provided especially for the health and amusement of the children of the poor. Daily bathing in tepid or cool water helps greatly to promote the comfort of the children who are obliged to remain in crowded houses.

Next to the air, the food demands consideration. As has been so repeatedly stated, the best food for the child, certainly during the first six months of its life, probably during the first nine months, and possibly during the first year, is the milk obtained from the mother's breast. Children who are fed in this way are far less liable to suffer from intestinal disorders during the hot weather than children who are fed on artificial food. In children who are not nursing at the mother's breast it is of the highest importance to give milk which is fresh, uncontaminated, and which has not undergone changes incident to fermentation and decomposition. Much has been said recently about the necessity of quickly reducing the milk to a temperature of about 40 F., and of keeping it at that temperature until it is used. This unquestionably prevents, to a great extent, deleterious changes in the milk, but these changes are far less likely to occur when the milk is used promptly after being obtained from the cow. Of course, in the largest cities where all the milk must be brought from a distance in the country, it is impracticable to obtain milk until it is at least twelve, often twenty-four, and possibly in some cases thirty-six hours old. Under these circumstances, special care must be taken to preserve the milk from contamination and from undergoing the changes which make it a poor food for infants. On the other hand, in the country and in the smaller cities there is really no reason why the milk should not be obtained fresh, so that it will not be more than twelve hours old when it is delivered to the consumer, and in many instances it is possible to obtain it directly from the cow twice a day. Under these circumstances, the problem of infant feeding is greatly simplified.

In children who have been weaned shortly after birth, cows' milk is probably the best substitute for mother's milk, which it is practicable to obtain, but in young infants it is not proper to feed cows' milk, however fresh, without modifying it so that it may conform more nearly to the composition of mother's milk which corresponds to the present age of the child. This matter of milk modification was referred to in this department Aug. 6, 1910, page 504. When these important prophylactic measures have not been carried out with sufficient precision and the infant has become the victim of an attack of acute enteritis, the problem becomes a somewhat different one.

When called to attend an infant who has recently been attacked by diarrhea, the first question which arises in the mind of the physician is as to the propriety of administering some laxative in order thoroughly to clear out from the intestine the offending material which is believed to be present there and to be causing a continuation of the diarrhea. Almost all writers and teachers to-day agree that the treatment should be initiated by the administration of a laxative. They do not, however, agree on which of the different laxatives should be selected. Castor oil, calomel, the salines, and rhubarb all have their advocates. Perhaps most writers advocate the use of castor oil, if it seems probable that the stomach is in a condition to tolerate it. It has been advised to administer castor oil at a considerable interval, as two hours, after any nourishment has been taken into the stomach, and to refrain from giving any further nourishment for two hours more. In case the first dose is vomited, a second dose may be given an hour later. If the patient is not vomiting at the time and no food is given for a considerable period before and after the administration of the oil, it will not, as a rule, cause vomiting, and will act speedily and effectively, and fro its after constipating effects will prove doubly useful both clearing out the offending matter from the intestine, and then checking a further tendency to diarrhea If calomel is selected as the cathartic, it may be give in doses of from 1/20 to ¼ grain, repeated at interval of half an hour until six or eight doses have been taken Or a single large dose may be given with milk of magnesia. This acts less promptly than the castor oil, bu is a favorite remedy with many practitioners. Other prefer one of the salines, especially sodium sulphate which may be given in dose of 10 grains to a child si months old, or 20 grains to a child a year old, as recommended by La Fetra. This depletes the intestinal circulation and at the same time clears out any fermentin food, bacteria or toxins which may be in the intestine Another useful laxative is rhubarb, which may be combined with soda. This requires several hours for it action but, resembling castor oil, it has the advantage o having an after constipating effect, and so counteract the continuance of the diarrhea.

It should not be overlooked that there are still a fe practitioners who, when called to a case of this kin and finding that the patient has already had half dozen or a dozen copious, loose movements from th bowels, are of the opinion that further stimulation intestinal action is unnecessary, and commence the trea ment with an opiate, administering it with the idea checking the excessive action of the muscular coat of t intestine, and feeling that there is less danger from t absorption of products of fermentation in the intesti than from the weakening of the patient by the excessi intestinal action.

After the intestine has been thoroughly emptied the administration of a laxative, it is customary to de the patient any food at all for from twenty-four forty-eight hours. Thirst will be a prominent and di tressing symptom, and to meet this it is customary give small quantities of water at frequent interval Some physicians, instead of giving simple water, gi barley water, feeling that they are giving some nouris ment in addition to the water, but the amount of nutr ment so administered is very, very small. After fro twenty-four to forty-eight hours the feeding of the chi must be resumed. The most generally useful food milk, which should be modified, of course, to the age the child and the power of digestion, if that can learned. If the capacity of digesting proteins is i paired, the proportion of proteins should be reduce If, however, the capacity of digesting starchy foods impaired, these should be reduced. Some believe th the digestive power of the individual can be learned observation of the feces; that when the feces have fetid odor, the power of digesting proteins is impair when they have a sour odor, the power of digesti starch is impaired; and when they have a rancid od the power of digesting fat is impaired. It will usua be found desirable not only to modify the milk in p portion to the age of the child, but to give this modifi milk diluted so as to render it easier of digestion. many cases it will be of advantage to give the milk p tially predigested by the use of pancreatin with t bicarbonate of sodium. For instance, the following m be used:

℞	Gm.	
Pancreatini	2	
Sodii bicarbonatis	8	or

M. et fac chartulas 24.
Sig.: Use as directed.

Dissolve one powder in two tablespoonfuls of water and add eight tablespoonfuls of milk. This may be gradually warmed and given to the child as soon as it gains the required temperature, or, having been raised to a temperature of about 100 F., the warming process may be continued for four or five minutes. If the warming process is continued for very many minutes the milk will develop a bitter taste and become less palatable to the patient, although, of course, not less digestible.

Here, again, the therapeutic management of the child may be varied according to the population of the city where he resides. Owing to the difficulty of obtaining fresh milk in the largest cities it will often be found advisable to resort to condensed milk. Thirty or forty years ago condensed milk enjoyed great popularity as a food for infants because it received the recommendation of specialists in the diseases of children who lived in the largest cities and who realized the difficulty of securing an adequate supply of fresh, uncontaminated milk for their poorer patients. Condensed milk became almost a craze, and the craze passed on from the larger cities to the smaller cities, and even to the country districts, but a few years sufficed to prove that children who were brought up on condensed milk were not so well developed as children who were fed on fresh cows' milk, and the pendulum swung the other way and condensed milk fell into disuse. However, in many instances, in the large cities, for brief periods of time, as for instance during the hot summer months of July and August, it will be found a most useful adjuvant in the feeding of children. If deemed advisable, one of the many artificial foods may be tried for a short time.

Beef juice, beef tea, and other meat preparations may sometimes prove useful temporarily, but their importance is so little compared with that of milk that their discussion need not detain us longer.

No child should ever be treated for any acute disorder without the physician ascertaining its temperature. When, in these cases, the child is found to have some fever, active efforts should be made to combat it. The most useful method of accomplishing this is by means of tepid or cool baths in connection with fresh air and avoidance of exposure to the sun. A sick child, and especially a child ill with diarrhea, should never be moved about by the handling and tossing up and down of which ignorant people are so fond. Nor should he be wheeled long distances in a baby carriage, which also imparts a continuous series of jolts to the little invalid. He should be laid on a bed or on a pillow and kept as quiet as possible. He should, especially if he has pain, have warm applications made to the abdomen. These may be a small rubber bag partly filled with warm water, a hot poultice, a spice paste, or simply hot flannel dry or moistened with alcohol and water.

Having discussed thus in detail the most important part of the treatment of the child, there remains now to speak of the less important part, the medicinal treatment. The most popular drug in this class of cases is bismuth. The notion that many physicians have that subnitrate or subcarbonate of bismuth coats over the mucous membrane of the intestine and so relieves irritation and inflammation is probably generally a delusion. Whether it acts as an antiseptic in antagonizing decomposition and fermentation of the intestinal contents, has not been determined. On the ground that small doses cannot have very much effect in protecting the mucous membrane of the intestines, it has been proposed to give large doses, of from 15 to 30 grains, but while some may hesitate to give doses of this size, there is considerable clinical evidence in favor of the usefulness of smaller doses, of from 5 to 10 grains.

Another drug of perhaps equal repute with bismuth is phenyl salicylate (salol). This often allays vomiting, if it is present, often relieves pain, and unquestionably diminishes fermentation and decomposition. It may be given in a dose of ½ grain for a child of one year, or 1 grain for a child of two years, repeated every two hours. It should not be given, however, for more than ten doses at this rate, as it readily causes phenol poisoning. If given longer the frequency of the dose should be reduced to once in six hours.

Again the question as to the advisability of giving opium arises. If, after the intestinal canal has been thoroughly cleared out the frequent loose movements continue, it will generally be found that small doses of opium will prove useful. The best preparation for children is probably the tincture of deodorized opium. The proper dose of this for a child of from 1 to 2 years is 1 drop, and for a child of 6 months it is ½ drop. With this drug may be combined various aromatics. Many physicians still use some combination of bismuth and opium, as:

℞	Gm. or c.c.		
Bismuthi subnitratis	6		ʒii
Mucilaginis acaciæ (fresh)	25	or	fl.℥i
Tincturæ opii deodorati	1		♏xviii
Aquæ cinnamomi	ad 100		ad fl.℥iv

M. et Sig.: A teaspoonful, in water, every two hours.
Shake.

It has been shown in the laboratory that the bismuth subnitrate can, although it is exceedingly rare that it does, cause a little irritation and nitrite poisoning. The bismuth subcarbonate can never do any harm; therefore, it seems advisable to always give the subcarbonate of bismuth rather than the subnitrate. Also, it seems not good prescription-writing to put bismuth, an insoluble preparation, into a solution which must be shaken, and in which the amount of bismuth in one dose may not represent the amount in another dose. It is much better, therefore, to order bismuth in powder and have this put into milk, or whatever nutriment the child is receiving. It can be put into a teaspoon of milk, and the child will readily sip it down. It may be ordered alone or in combination with phenyl salicylate as above suggested. A prescription for a child one year old would be as follows:

℞	Gm.		
Bismuthi subcarbonatis	6	or	ʒiss

Fac chartulas 20.
Sig.: A powder every two hours.

Or:

℞	Gm.		
Bismuthi subcarbonatis	3|		gr.xlv
Phenylis salicylatis	|50	or	gr.viii

M. et fac chartulas 10.
Sig.: A powder every two hours.

It is much better to order the deodorized tincture of opium alone and administer a drop or more, as deemed necessary, every three or four hours, depending on whether the child is drowsy or not. If less than one drop is required, it is easy for the nurse to put a drop into two teaspoonfuls of water and give the child one of them, which would represent ½ a drop of the preparation.

If the heart becomes weak, whiskey or brandy may be given. For a child 1 year old, from 10 to 20 drops, in plenty of water, and given at intervals of two hours, is a large enough dose.

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[*For other information see second page following reading matter*]

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GROWING ANIMAL TISSUES OUTSIDE OF THE BODY

Wöhler in 1828, by synthesizing urea, performed what up to that time was considered to be impossible, namely, the artificial production of an organic substance from mineral matter. Since then up to the present time there have been few advances in biology which seem so startling as do those which have been made in recent years, resulting in the establishment of a technic whereby animal tissues may be made not only to live, but also actually to grow outside of the body.

Harrison,[1] working at Johns Hopkins, in 1907, was the first actually to cultivate tissues outside the body. He found that the embryonic tissue of frogs, when transplanted into coagulable lymph, would develop normally. Burrows[2] in 1910, working under Harrison at Yale, was the first to grow normal tissues of warm-blooded animals; he used chick embryos in his experiments. Finally Carrel and Burrows[3] at the Rockefeller Institute, in September, 1910, succeeded for the first time in cultivating mammalian tissues. Recently they[4] have published a complete account of their technic and results. It was found that almost all the adult and embryonic tissues of the dog, cat, chicken, rat and guinea-pig could be easily cultivated *in vitro*. The life of these tissues varies from five days to about twenty days; but it may be prolonged by secondary and tertiary cultures. This property of growth *in vitro* is not limited to tissues of the lower animals, but is a characteristic also, at least to some extent, of human tissues; for these investigators succeeded in cultivating two human tumors, a sarcoma of the fibula and a carcinoma of the breast. In this connection it is interesting to note that a tumor grown outside of the body may also retain its malignant features; for a culture *in vitro* of the Rous fowl sarcoma when inoculated into a chicken caused the development of a sarcoma.

Lambert and Hanes have studied the question o cancer immunity by the method of cultivating tissues *i* *vitro*. They have found that "sarcoma cultivated i plasma from immune animals grows quite as vigorousl as in plasma from normal and tumor-bearing animals thus affording further proof of the absence of specifi cytolytic substances in the body fluids of animal immune to transplantable cancer." Although animal may be successfully inoculated with sarcoma cultivate *in vitro*, there is evidence of diminished virulence. Th duration of life of sarcoma cells grown in plasma seem dependent only on a renewal of the medium.

At Carrell's suggestion, Ruth has studied, also by thi means, the phenomena which occur in the cicatrizatio of wounds, developing principles outlined earlier b Carrell. For the purpose Ruth used small fragment of the skin of guinea-pigs and frogs in the centers o which he made a rectangular wound. The skin of th guinea-pig developed in most instances connective tissu cells alone; but the skin of adult frogs generated epithelial cells almost exclusively. He states that repair o such wounds consists of three mechanisms, as follows

1. Sliding of the epithelial edges of the wound towar the open central spaces, a process which occurs durin the first six or twelve hours.
2. Epidermization, a stage during which there is wandering out of epithelial cells from the edges of th shifted epithelium, either as isolated cells or as a thi continuous layer. These processes grow towards eac other from opposing edges at a rate of about 0.06 mn per hour, so that a wound of about 0.82 by 0.32 mn may be completely covered by epithelium about ten hour after the preparation of the culture.
3. Progressive contraction of the original edges of th wound, with the result that the space between the edge diminishes and the epidermized surface may finally b less than one-fourth of the original area of the woun

On the basis of Jacques Loeb's discovery that in certai marine animals growth is accelerated by a slight dim nution and retarded by a slight increase in the osmoti tension of the surrounding fluid medium, Ruth foun that the rate of growth of new epithelium was increase by a diluted medium both *in vitro* and *in vivo*. Thu he was able to retard or to accelerate the rate of growt of epithelial cells by injections into his animals of hype tonic solutions or distilled water.

The technic employed by these various investigato consists essentially in placing small pieces of living ti sue into fluid plasma which will coagulate immediatel and in maintaining the growth at the proper tempe ature. The observations are then made by keeping t cultures on a warm stage of a microscope. In a di cussion of their methods Carrell and Burrows state th theoretically the technic is very simple and that it not at all difficult to obtain at least some growth of tissue *in vitro*.

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[1] Harrison: Proc. Soc. Exper. Biol. and Med., 1907, iv, 140.

[2] Burrows, Montrose T.: The Cultivation of Tissues of the Chick-Embryo Outside the Body, The Journal A. M. A., Dec. 10, 1910, p. 205.

[3] Carrel, Alexis, and Burrows, Montrose T.: Cultivation of Adult Tissues and Organs Outside of the Body, The Journal A. M. A., Oct. 15, 1910, p. 1379.

[4] The articles by Carrel and Burrows, as well as those to which reference is made later in this editorial, are to be found in the Journal of Experimental Medicine, April and May, 1911.

[5] Carrel, Alexis: The Treatment of Wounds, The Journ A. M. A., Dec. 17, 1910, p. 2148.

By modifying their technic somewhat Carrel and Burrows have made the very important observation that certain laws of growth discovered by Jacques Loeb in lower organisms are true also for higher organisms; and in this respect their results are in agreement with those of Ruth previously mentioned. On the assumption that the blood is not the best possible medium for the growth of tissues they attempted to discover as nearly as possible what constitutes an optimum medium. Their reasoning in this connection is very interesting. "If the blood were the best possible medium, the cells would grow without restraint, the organs and tissues would lose their relative size and morphology and the whole body would become monstrous. Therefore, it may be assumed that the power of growth is kept under constant restraint, that every organ is compelled to follow the morphologic plan of the organism and that normal plasma is far from being the optimum medium for the culture of normal cells." From their experiments, which consisted chiefly in altering the osmotic tension of the plasma, they conclude that each tissue has probably its optimum medium. In general, hypertonic solutions retarded and hypotonic solutions accelerated the growth of tissues. For the spleen (of a chick) the optimum medium seemed to be three volumes of plasma to two volumes of distilled water.

It is difficult to estimate the importance of this new work. It lays bare practically a whole new field for experimental attack on many of the most fundamental problems in biology and the medical sciences. For example, as Carrel states, the artificial growth of such glands as the thyroid may be the means of attacking the problems concerned with the various internal secretions; and the extension of such work as Ruth has inaugurated may lead to the possibility of artificially hastening the repair of surgical wounds. The importance of the work from the standpoint of the cancer problem is obvious.

THE ADVERTISERS' PROTECTIVE ASSOCIATION

Probably every newspaper and magazine in the United States has received, within the last week or ten days, a circular letter from an organization calling itself the "Advertisers' Protective Association" or, more briefly, the "A. P. A." No office address is given, but merely a post-office box number in New York City. The secretary of this association is Frederick W. Hooper, who asserts that this organization "is composed of manufacturers of foods, beverages and drugs, representing an investment of $400,000,000.00, whose advertising expenses are annually over $100,000,000.00." The circular letter is addressed "Dear Mr. Editor," and the opening paragraph reads:

> "During the past five years, the Bureau of Chemistry of the Department of Agriculture, has made a number of very vicious and uncalled-for assaults on foods, beverages and drugs, greatly to their injury, as well as *damaging to the Press which has been carrying the advertising contracts in these lines.* Many publications have, no doubt, felt the effect of these assaults *by a reduction in amount of advertising patronage from the manufacturers of* foods, beverages and *patent medicines.* We are, therefore, presenting the following facts, to show why the earning power of your publication has been, or will be, diminished in these lines, unless these attacks are stopped." [Italics ours.—ED.]

Then follows a scurrilous attack on Dr. Wiley, chief of the Bureau of Chemistry, because of his activity in repressing frauds in foods and drugs. The implication is made that Dr. Wiley was rewarded by the Kentucky whisky distillers because he fought the vile concoctions that are frequently sold as whisky; that he got some material benefit from Heinz, the pickle manufacturer, for his attitude against the use of sodium benzoate and, finally, that "in the fight on proprietary medicines, the American Medical Association, better known as the 'Doctors' Trust,' furnishes the sinews of war." The Advertisers' Protective Association tells the papers:

> "If this condition of affairs is not changed, *it will result in greatly cutting down the support you receive from the manufacturers of* almost numberless Foods, Beverages and *Proprietary or Patent Medicines,* and the question presents itself: Will you and your influential paper stand for such a condition? We think not!" [Italics again ours.—ED.]

The papers are then instructed: first, to bring pressure to bear on the Secretary of Agriculture and their congressmen and senators to curb the activities of the Bureau of Chemistry; second, "to take the matter up in the editorial columns" of their papers and show how Dr. Wiley is "squandering" the people's money "to advance the interests of . . . his particular friends." The letter closes by again urging the papers "to let your senators and your congressmen know your attitude in this matter," and it promises that if this is done "you will be rewarded . . . by an improvement in your [advertising?] business."

It is evident that the "Advertisers' Protective Association" is but a new alias for the "patent medicine" interests. Apparently, this circular is a final desperate attempt on the part of the nostrum-makers to retain their grip on the press of the country. It remains to be seen whether the American newspaper editor will jump at this crack of the whip or whether he has emancipated himself from the thraldom of "patent medicine" slavery.

It is significant that this wide-spread attempt to control the editorial policy of the newspapers of the United States by the promise of bribes in the form of advertising contracts should have been made at this time. In *Collier's* excellent series by Will Irwin on "The American Newspaper" the influence of the advertising department over the editorial policy of newspapers was being discussed at about the same time that the "A. P. A." sent out its circular letter.

We shall watch with interest the attitude of the press of the country in this matter. Will it maintain a "conspiracy of silence" and refuse to publish any matter that, while of vital interest to the public, may be inimical to the interests of its advertisers? Will it go further and aggressively attack the admirable work that has been and is being done by the Bureau of Chemistry? We believe that it will do neither, but that it will assert itself as a free press should and, by exposing the methods of the "patent medicine" fakers and their attempt at intimidation and bribery, retain the prestige and influence which some of our American newspapers seem to have lost.

INACCURACY IN THYROID MEDICATION

Attention has again been called to the inaccuracy which characterizes much of the thyroid medication. In a recent publication, Beebe[1] discusses especially the wide variations in the iodin content of the thyroid most frequently used for medicinal purposes (that of the sheep), and advocates the use of an extract containing a standard amount of iodin.

There can be little doubt that the therapeutic efficiency of thyroid is largely determined by the iodin content, although, as Hunt and Seidell[2] pointed out three years ago, the clinical evidence for this, while very convincing so far as it goes, is not extensive. These authors found that the iodin content of most of the commercial dry thyroids on the American market ranged between 0.1 and 0.2 per cent. and suggested that it would perhaps be desirable to fix a standard of not less than 0.12 per cent. iodin for the official preparation. Since that time one firm has adopted a standard of not less than 0.2 per cent. and it is quite probable that the standard suggested above is too low. Whether, however, a standard as high as 0.2 per cent. for sheep thyroids would be feasible in this country seems open to doubt; with one exception the normal fresh sheep thyroids, the analyses of which are reported by Beebe, fell below 0.04 per cent. (which is equivalent to about 0.2 per cent. in the dried gland). There would probably be no difficulty in maintaining a standard of 0.2 per cent., however, if manufacturers were permitted by the Pharmacopeia to use the thyroids of hogs and beeves; according to the analyses both of Hunt and Seidell, and of Beebe, the thyroids of these animals contain a higher average of iodin than do those of the sheep.

Beebe suggests that if an extract containing a definite amount of iodin were adopted the question of the source of the material would become unimportant. It is a question, however, whether it is desirable still further to complicate the present situation by the introduction of special preparations, and whether the dried gland with a more definite percentage of iodin would not meet most needs. At least one extract, apparently practically identical with that proposed by Beebe, but with a smaller percentage of iodin, has been on the European market for many years, but does not seem to have proved distinctly more satisfactory than the dried gland.

Although the varying amounts of iodin in the thyroid preparations constitute an important element in the inaccuracy of thyroid medication, a far more general source of inaccuracy is the uncritical way in which thyroid tablets are used. It may be that the tablet is the best and most convenient form of administering the drug (if the tablet is well chewed), but the use of tablets has led to great confusion and haziness as to dosage. This results in part from the fact, as pointed out by Hunt and Seidell, that different manufacturers express the weight of their tablets on different bases. Thus one firm's "5-grain tablet" means a tablet weighing 5 grains, but containing 2 grains of dried thyroid, or the equivalent of 10 to 14 grains of the fresh gland; another firm's "5-grain tablet" means a tablet containing dried thyroid equivalent to 5 grains of the fresh gland, etc. A still more confusing practice, which unfortunately has become very prevalent among physicians, is that of speaking of unspecified "tablets." A physician of some experience can frequently, although by no means always, guess at the size of the tablet meant, but the possibilities of error are obvious from the following example: One firm lists tablets of various sizes ranging from ½ to 5 grains, meaning that the tablets contain dried thyroid equivalent to from ½ to 5 grains of the fresh gland. As 1 part of the dried gland represents from 5 to 7 parts of the fresh gland, the weakest of these tablets contain but about 1/10 of a grain of the dried gland. A 2-grain "tablet" of one of the firms which base the weight on the amount of dried gland would thus contain twenty times as much of the drug. When it is further considered that the thyroid in some of these tablets contains four times as much iodin as that in other tablets, which presumably makes it four times as active, it is evident that one "tablet" may have the physiologic effect of eighty other "tablets." Although it is improbable that such extreme confusion happens often (the weakest tablets being prepared usually for special purposes), there is a distinct possibility of its occurrence.

Of course such a condition of affairs as to the dosage of a powerful drug like thyroid would ordinarily be intolerable, but the redeeming feature is that thyroid medication must of necessity be peculiarly individual; the correct dose is determined by the degree of thyroid deficiency to be met, and this can be determined only by repeated trials. But after the correct dose has been determined it is highly desirable that treatment be continued with a preparation of uniform activity; this is especially important if the treatment is to continue for months as is sometimes necessary.

These difficulties would be obviated if physicians would always base their dosage on the preparation of the Pharmacopeia; a further improvement would undoubtedly be the adoption by the latter of a standard iodin content.

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[1] Beebe: Am. Jour. Pharmacy, 1911, p. 56.

[2] Hunt and Seidell: Hyg. Lab., Bull. 47, U. S. P. H. and M.-H. S., 1908; The Journal A. M. A., Oct. 24, 1908, p. 1385.

THE EMASCULATED FOOD AND DRUGS ACT

The federal Food and Drugs Act, under the interpretation recently given it by the Supreme Court of the United States, has become practically a dead letter so far as it affords protection against the fraud and cruelty connected with the exploitation of "patent medicines." As was noted last week, the court has decided that the national pure food law does not prohibit false statements on labels or medicines so long as such statements are confined to curative effects and not to composition. To the average quack and "patent medicine" vender, such an interpretation will prove a priceless boon.

It should be borne in mind that the Food and Drugs Act does not require the composition of any "patent medicine" to be printed on the label; it does not even require the presence of any but a very few of the most powerful and dangerous drugs to be made public. A preparation may contain strychnin, prussic acid, arsenic or any one or more of a hundred equally dangerous and violent poisons and no mention need be made of the fact on the label. The "patent-medicine" faker cares little about restrictions regarding the composition of his nostrum: all he asks is permission to make any assertion that he sees fit regarding the curative effect of his preparation. The Supreme Court's decision means that that permission now exists under the federal Food and Drugs Act.

A weak solution of sugar or common table-salt in water, or for that matter a bottle of plain water, may now legally be labeled:

CANCEROID

A Positive and Never-Failing Cure for Cancer, Tuberculosis and All Other Diseases

Guaranteed by Dr. Quack Under the Food and Drugs Act.

Such a label, while a tissue of lies, is not illegal under the present pure food law. Hundreds of nostrum venders, when the Food and Drugs Act went into effect, had to discard their "sure-cure" labels because Dr. Wiley held that the law prohibited lying "in any particular." Now they can resurrect their old stock and send out their preparations labeled with the same unblushing falsehoods that were so common before the advent of the pure food law. Every "cancer-cure" faker, every "consumption-cure" swindler, every medical humbug of any kind or description can now resume his miserable trade with a feeling of perfect security, providing he is careful to make no misstatement regarding the composition of his wretched fraud. And he is not required to say a word about the composition of his nostrum unless it contains alcohol, morphin, acetanilid or one of the other eleven drugs or their derivatives that are specifically mentioned in the act!

From what has been said, it is evident that an amendment to the Food and Drugs Act is imperative. The law was passed, after years of opposition on the part of food dopers and "patent medicine" fakers, for but one object—the protection of the public health. As it now stands it fails to protect the public in a most vital particular, namely, against the cruelly fraudulent claims of the "sure-cure" school of swindlers. The law should be changed at the very earliest moment so that it shall specifically prohibit *every kind* of false statement regarding foods or medicinal preparations. The amendment, moreover, should be broad enough to prohibit lying regarding medicines and foods not only on the labels, but also in all advertising matter dealing with these special products.

SOME CONSIDERATIONS REGARDING THE USE OF DIPHTHERIA ANTITOXIN

There is no difference of opinion among unprejudiced observers as to the great life-saving value of diphtheria antitoxin. Carefully prepared and impartially analyzed statistics show that the average mortality from the disease prior to the introduction of the antitoxin as a therapeutic measure has been reduced one-half or more under the employment of this agent. In addition, the duration of the individual attack is shortened and its severity lessened. Among other things, unpleasant sequels, such as the paralysis resulting from peripheral neuritis, have become less frequent. Moreover, through the employment of prophylactic injections the spread of the disease has been checked and in numerous instances local epidemics have by the same means been brought to an end.

It was recognized even early in the history of the treatment that the procedure was not unattended with possibilities of danger. Perhaps the first death in the sequence of an injection of diphtheria antitoxin was that of the child of a German physician. The cause of the untoward result in this case, as well as in others that have since been reported, is involved in some obscurity, although it was supposed to reside in the condition of lymphatism, attended with persistence of the thymus gland and hyperplasia of lymphatic structures in various parts of the body. Less severe complications, such as articular swelling and pain, cutaneous exanthemata and other constitutional phenomena also have been observed. These have been referred to the serum in which the antitoxic principles are contained. The reactions noted are at the present time comprehended in the term "anaphylaxis," and are looked on as expressions of hypersusceptibility to specific protein substances. The phenomenon has been carefully studied by numerous investigators, and much has been learned with respect to its occurrence, but no satisfactory means of preventing it has yet been discovered.

Next in importance to the acceptance of the specific therapeutic value of diphtheria antitoxin is its early routine employment, for it has been demonstrated beyond question that the good results from its use are directly proportionate to the promptness with which it is administered. As the antitoxic principles are themselves innocuous, there is no rigid limitation as to the dosage of the serum apart from the effect to be secured. Accordingly, the practitioner has no choice in the presence of a case of actual diphtheria. When, however, the nature of the disease is doubtful or merely suspicious, or in case of exposure to infection, there may be a question as to the wisdom or the necessity of injecting antitoxin, in view of the possibility of unforeseen complications developing. An interesting discussion of this phase of the subject is presented by Dr. E. W. Goodall[1] in a recent communication based on an experience with diphtheria for eight years prior to the introduction of the antitoxin treatment and for the sixteen years that have elapsed since. As he points out, the symptoms due to the serum itself, consisting of fever and rash—urticaria or erythema—and observed as well when similar treatment is employed in cases of tetanus, streptococcus infection and typhoid fever, occur in about 35 per cent. of the cases, while in 3 or 4 per cent. there occur also articular manifestations of an inflammatory character. These phenomena set in from one to three weeks after the injection. While unpleasant, they are unattended with danger, and they constitute no contra-indication to antitoxin treatment. In other cases, however, particularly when a second injection is given, the symptoms attain a greater degree of severity, and they may set in after the interval mentioned or after a shorter interval—from twelve hours to six days—or even within a still shorter interval—from a few minutes to six hours. In addition to the rash, which may involve a large area of the cutaneous surface and probably mucous membranes also, the temperature becomes elevated, the skin cyanotic and rigors occur. There may also be collapse or convulsions and drowsiness. These phenomena develop, however, only when the second or subsequent injection is given later than ten days after the preceding one. In one instance the interval was as long as seven and one-half years. On the other hand, the reaction does not appear in every case of reinjection. In yet a small number of cases grave symptoms—intense dyspnea, with failure of respiration and collapse—appear after a primary injection of serum. Many of the patients in this group have been sufferers from asthma or some allied disorder or possess an idiosyncrasy to horses.

Therefore, great care and discrimination should be exercised in the prophylactic administration of diphtheria antitoxin. Not only may a person so treated prove hypersensitive, but he would be rendered so in the event of a subsequent injection becoming necessary for remedial purposes. In cases of doubt or suspicion antitoxin treatment should be given only when the larynx is involved. In cases of undoubted diphtheria, antitoxin should be administered without delay or hesitation except in the presence of asthma, and then a decision will have to be reached from the gravity of the symptoms. The earlier the treatment is instituted the smaller will be the dose required and the less, therefore, the danger of reaction.

VOLUNTARY CLOSING OF MEDICAL COLLEGES

Out of the ten medical colleges in Missouri, the University Medical College of Kansas City was one of four which were listed among acceptable (Class A) medical colleges by the Council on Medical Education in its classification published last year. The position of this school has been maintained under many difficulties, dependent as it was on the tuition fees received from its students supplemented by gratuitous services and personal sacrifices on the part of its faculty. And now the trustees and faculty have decided to close the doors of the college permanently at the end of the present session. According to a statement published elsewhere in this issue—a statement which should be read by all who are interested in medical education—the college was closed in recognition of the marvelous progress which has been made in medical science in the last quarter of a century; a progress that has made necessary not only higher preliminary qualifications for those who are to study medicine, but also the possession by the medical college of thoroughly equipped laboratories, of more extensive clinical facilities and of a corps of teachers—trained specialists in their various subjects—some of whom, at least, must devote their entire time to teaching and to research.

The faculty fully realized that an increase in the standards of admission would mean a reduction in the number of students and a corresponding reduction in the already seriously limited income of the medical school; nevertheless, at the beginning of this its last session, a higher entrance requirement, a year of college work, was made effective. To make other needed improvements, to obtain the additional laboratory equipment and the expert instructors, it was recognized that funds from some source aside from students' fees were absolutely essential. A larger enrolment of medical students and a greatly increased tuition fee, which might have enabled the college to make the desired improvements, were out of the question since there continued to exist many less particular medical colleges which were ready to accept students with almost any preliminary education. After a long and fruitless effort to secure the needed funds, therefore, the trustees and faculty of the University Medical College preferred to close the doors and to retain the college's good name rather than to continue it other than as a first-grade and an honorable school.

But while honor is due to the men who are willing thus to sacrifice their personal interests and ambition in order that the future physicians may be well educated, it is to be regretted that one of the medical schools of the better grade is thus closed while scores of schools much inferior to it continue to exist. The faculties of the latter schools will probably welcome the closing of this conscientious competitor, since, of course, they will gain in numbers—and dollars—thereby. These inferior schools will doubtless continue to sing their own praises and to accept the fees of unqualified students so long as inadequate or unenforced legal requirements will permit. Medical colleges of the better class may be depended on to keep abreast of the progress in medical education or voluntarily to close their doors; those that are purely commercial will continue in the old rut. It is high time, not only that medical students should be warned regarding the handicap that goes with a diploma from a low-grade medical school, but also that the public should be safeguarded against the ill-trained output of these institutions.

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[1] Goodall, E. W.: Brit. Med. Jour., Feb. 11, 1911, p. 292; abstr. in The Journal, March 11, 1911, p. 779.

Current Comment

PUBLIC PARKS AND THE PHYSICIAN

The value of public parks and playgrounds to the great mass of city dwellers is now generally recognized, but in the rapid growth of our cities timely provision for parks is usually overlooked until business and material interests have so much encroached on the available spaces that their conversion into parks is so expensive as to be almost prohibitory. As a consequence, these lungs of the cities are, too often, utterly inadequate. While it is true that the health of the workers in a city is one of its most valuable assets from a purely material point of view, as conducing to efficiency and increased output, yet it is a matter of slow and difficult progress to bring the business portion of the community to realize the direct importance of a matter, which, at first sight, seems to affect them so remotely. The movement for parks and playgrounds belongs to preventive medicine, in the modern conception of that subject. It is, therefore, the opportunity and the duty of the physician, as a public-spirited citizen, to exercise foresight in this matter, and to use his influence in securing adequate parks, playgrounds and breathing-spaces for the people. Physicians have not been entirely remiss in this matter; on the contrary, in many places they have been the leaders in this work, as they should be everywhere. Many American cities have realized the value of parks and playgrounds and have spent large sums of money in providing them. Some are splendidly equipped in this respect; so much so that in the recent meetings in Europe, concerning the town-planning and city beautification movement, some of our cities were cited as models to be imitated by the older urban centers of Europe. Berlin is one of these cities that has recently taken up the matter of providing a system of forest reserves or parks just outside the city, as well as several within the city limits, to give greater opportunity to the people for outdoor air, exercise and recreation—a *receptaculum oxygenii*, as they have been termed. The chairman of a committee having in charge this park promotion enterprise in Berlin recommends that the physicians, with the architects, should be the leading spirits in the hygiene of the masses, and says that it is a matter of reproach that millions are spent on sanatoriums for the treatment of tuberculosis, while no adequate provision is made for giving the masses the air and light and opportunity for recreation which would largely help to prevent the condition which these sanatoriums try to cure at such great expense.

THE DOMESTICATED SERPENT VERSUS THE DOMESTIC CAT

The domestic cat has been sentenced to banishment by the modern hygienist because of the alleged fact that she harbors germs in her long hair and is subject to diphtheria and, perhaps, other infectious diseases which may be communicated to human beings, chiefly the children who play with her. The faithful dog, particularly the house-dog, with his long hair and his repertoire of wheezes and distempers, due largely to too much pampering, is also under suspicion. Thus, two of our most cherished and time-honored associations are threatened by the ruthless hand of science. The faithfulness and cheerful companionship of Fido, and the purring domesticity of Tabby are to weigh as nothing against the teachings of preventive medicine. The alleged rat-killing habit of the cat, even in the face of the demonstrated fact that rats convey plague, is not to be considered as a mitigating circumstance in her favor. Professor Sambon, a London authority on tropical diseases, including the various forms of plague, is against the cat and suggests a substitute rat-catcher and vermin-exterminator in the form of a wriggling, gleaming, non-venomous snake. He cites history in support of his contention that the snake is the proper substitute for the cat. He calls attention to the ancient practice in Egypt and elsewhere of keeping domesticated snakes to rid the premises of vermin and suggests the revival of this practice for the extermination of rats. The snake has no long hair; he is, in consequence, alleged to be somewhat more hygienic. And, indeed, in some tropical and semitropical countries to-day, snakes are tolerated, if not domesticated. The value of snakes in ridding the fields of rats and mice which destroy the farmer's grain was referred to in an editorial on birds[1] last week. We are reminded that the caduceus with the twining serpents has constituted the symbol of medicine from the time of Æsculapius, or even before, and is a recognition of the sanitary significance of the snake. Can it be that in this day of the turning topsy-turvy of many traditions the despised snake is coming into his own again, and that the modern science of hygiene and sanitation will accord him his ancient and honorable place in medicine? Are we to say, *Vale* the infectious cat and dog, and *Salve* the snake?

THE WHITE RACE IN THE TROPICS

The evidence given by Dr. Gorgas of the healthfulness, under proper sanitation, of the tropics for white men is supported by that of Dr. Victor G. Heiser, chief of the health department in the Philippines. He finds the death-rate there among government employees for the past year to be at the astonishingly low figure of 5.82 per thousand. Even after allowing for the selected character of the employees and the absence of young children and very old people among them, this rate, he says, is still lower than that of the civilian population of any other tropical country. He also adds that, in his opinion, if the simple essential rules of hygienic living were more closely observed the death-rate could be still further lowered. It has been said that Americans tend to become enervated and lazy in tropical countries, but this has been contradicted. It is asserted by others that a reasonable amount of active exercise under proper conditions is as essential to health in tropical as in temperate regions. These facts and views are not in agreement with those expressed by Woodruff and others, who hold that the white race necessarily degenerates in hot regions and is at its best only in a cool and cloudy climate. However this may be, it must be admitted that the tropics have not been fairly tried by the white race. In the past this was impossible, as we have only lately acquired some of the more important data needed to guide us in our utilization of tropical regions. One point may be mentioned, however, on which there is still some difference of opinion: this is the need of alcohol as a protection against some of the dangers incurred in those regions. There has been a rather wide-spread notion, which is still somewhat supported by medical authority, that the moderate use of alcoholic drinks is a prophylactic against some tropical diseases. The best authorities, however, give this notion little support. A recent German writer (Riegel), summing up the data from the military history of operations in tropical and subtropical countries, emphatically condemns the use of alcohol in any expedition in tropical regions. Many white men carry drinking habits into warm countries or acquire them there under the impression that alcohol is a defense against the deteriorating effects of the climate. With our more recently acquired knowledge of tropical diseases many of the old arguments in favor of its use certainly fail. The idea of the general deterioration of the white race in warm countries will possibly become as obsolete as those formerly held concerning many of the tropical diseases have become. Even the so-called tropical neurasthenia may prove to be avoidable. Then, if we realize our sanitary ideals, the pressure of population, as Dr. Gorgas has pointed out, will demand the full utilization of these most productive portions of the earth.

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[1] Our Vanishing Shore-Birds, THE JOURNAL A. M. A., June 3, 1911, p. 1658.

PANAMA AN OBJECT-LESSON TO CIVILIZATION

The report of the Department of Sanitation of the Isthmian Canal Commission for the month of March, just issued, indicates that the Canal Zone, formerly swept by disease and pestilence but now policed by Colonel Gorgas and his sanitary inspectors, is as safe a place as any on earth for a white man or woman to live. During the month of March, there were only forty-three deaths from all causes among 47,935 employees. Sixteen of these deaths were from violence, and twenty-seven were from disease. Of these victims twenty-three were colored and four were Italian or Spanish. Not a single white American man died of disease. Still more striking are the figures for white employees and their families from the United States. In this class, there are, at present, 10,299 persons in the Canal Zone. Out of this number, equivalent to the entire population of an average American city, there were only ten deaths. Of these, three white employees from the United States, out of a total number of 6,017, died as the result of accident; none died as the result of disease. Out of 4,282 white women and children from the United States, there were only seven deaths. An analysis of the causes of these deaths is especially instructive. One woman, aged 81, died of chronic nephritis. One infant lived only two and a half hours, as the result of premature birth; three women, aged 22, 27 and 41, died as the result of complications due to pregnancy. All of these deaths can be regarded as, in a measure, unavoidable. Only two cases of death of white Americans from preventable disease remain; one woman, aged 32, and one child, aged three years, both of whom died of pneumonia. And this out of a total number of white women and children of over 4,000 and a total number of white Americans of over 10,000. Has any such record in the elimination of disease ever before been established or even dreamed of? The present population of the Canal Zone, is, it is true, composed of young, vigorous and carefully selected persons, and some allowance must be made for this fact. Yet as good results can be secured in any community in the United States, if the intelligent, painstaking, scientific methods followed by Colonel Gorgas and his subordinates are only adopted. If the Panama Canal should serve no other purpose than that of an object-lesson in sanitation, it will be worth to the United States and the civilized world far more than its total cost. The world has been shown that preventable disease is the result of ignorance and indifference and that in view of our present knowledge of the causes and methods of prevention of disease its continued existence is discreditable to modern civilization.

Medical News

CALIFORNIA

Medical Officers Entertained.—On May 18 the San Diego County Medical Society and the Physicians' Club of San Diego entertained the medical officers of the army and navy, on duty at and near San Diego, at an informal smoker at the University Club.

Personal.—Dr. Robert O. Moody, San Francisco, associate professor of anatomy in the University of California, has been given leave of absence for the first half year.——Dr. J. G. Fitzgerald has been appointed associate professor of bacteriology in the University of California.——Dr. Lyman H. Case, Santa Monica, who has been seriously ill with inflammatory rheumatism, is reported to be improving.——The house of Dr. Joseph K. Swindt, Pomona, was destroyed by fire, May 20, with a loss of $6,000.

COLORADO

Medical Institute Caught.—The Dr. Rhodes Institute, Denver, an advertising concern, and "Dr." Richard J. Brown, connected with the institute, are said to have been declared guilty of fraud and ordered to pay damages of $4,000 to S. A. Combs by the district court May 26. It was alleged that Combs had been treated by Dr. Brown for hernia by paraffin injections.

Mortality of 1909.—According to Bulletin 108 of the State Board of Health, there was a slight increase during the year in the death-rate which is due, probably, to the increased number of tuberculous patients who have gone to Colorado in an advanced stage of the disease. The highest mortality at all ages occurred in March, and the lowest in June. Both of these agree with the figures for the entire registration area.

Children's Pavilion at Children's Hospital.—The Children's Pavilion Association of the Denver County Hospital has abandoned the plan of having a pavilion in the grounds of the County Hospital and will unite with the Children's Hospital Association. The hospital will be enlarged and will receive, at the expense of the county, all children who would otherwise be sent to the County Hospital. The association cleared $1,300 for its Easter ball.

DISTRICT OF COLUMBIA

Tuberculosis Camp Opened.—The Red Cross Tuberculosis Day Camp was opened May 2 and four tents have been erected and fitted up for the accommodation of additional patients. The camp is being operated under the auspices of the District of Columbia Red Cross Chapter. During last year more than eighty patients were admitted to the camp.

Supervisors Sued.—The District of Columbia Medical Board of Supervisors, which has the power of granting licenses to practice medicine, has been sued for reciprocal license by Dr. Thomas V. Hammond who claims reciprocal license by reason of a license he holds from the State of Maryland. The board is said to be exceedingly careful in the matter of issuing licenses as there are at present more than 1,500 physicians registered in Washington, all of whom are supposed to be engaged in active practice.

ILLINOIS

Tag Day in Lake County.—Lake County celebrated its annual tag day, June 3. The proceeds, estimated at about $5,000, will be divided between the Lake Bluff Orphanage, the Lake County Tuberculosis Institute (which maintains a tent colony), and the Jane McAlister Hospital, Waukegan.

Personal.—Dr. Robert S. McCaughey and family, Hoopeston, have sailed for Europe.——Dr. Charles True, Kankakee, is reported to be seriously ill as the result of cerebral hemorrhage.——Dr. Harry S. Oyler, Lincoln, sustained painful injuries in a runaway accident, in which his buggy was demolished, May 27.——Dr. Lewis H. Skaggs, Ellsworth, is reported to be seriously ill.

Chicago

Personal.—Dr. Frank Edward Simpson has returned from abroad.——Dr. Duncan B. McEachern has been appointed temporary superintendent of the Contagious Disease Hospital. ——Dr. Rudolph Vlach sailed for Europe, May 30.

Gradle Memorial Collection.—The extensive private medical library of about 5,000 volumes, collected by the late Dr. Henry Gradle, has been presented by Mrs. Gradle and her children to the trustees of the Crerar Library and will be known as the Henry Gradle Memorial Collection.

Hyde Memorial Services.—Services in memory of Prof. James Nevins Hyde will be held in the upper amphitheater of Rush Medical College, June 12, at 11 a. m. The medical profession is invited to participate in these services. The memorial address will be by Dr. J. B. Herrick.

Another Tuberculosis Hospital.—At a meeting of the Jewish Consumptive Relief Society, recently, it was decided to erect a tuberculosis hospital to cost $75,000. A sinking fund of $3,000 has been set aside and on June 4 a vaudeville performance is to be given at the Colonial for the benefit of this worthy charity.

Intern Examination.—The deputy warden of Cook County Hospital states that the figures as given in the news item in The Journal of May 27, regarding the result of the intern examinations were incorrect, and that, of the first fifty places on the eligible list of interns of Cook County Hospital, Northwestern University Medical School received 17, Rush Medical College 16, the College of Physicians 10, Bennett Medical College 6, and the Chicago College of Medicine and Surgery 1. ——One hundred and seventy women physicians of Chicago gave a dinner, June 1, to the three women who passed the recent examinations for interns at Cook County Hospital.

The New Health Commissioner.—Mayor Harrison has selected Dr. George Bright Young, United States Public Health and Marine-Hospital Service, as health commissioner of Chicago, succeeding Dr. William A. Evans, who has made so distinguished a record in that office. The mayor's choice meets with general approval. Dr. Young was born in New Orleans, May 12, 1860. In 1870 his family moved to Charlottesville, Va., where he received his academic education at the University of Virginia. He took the first year of his medical course at the University of Virginia and completed it at the University of Maryland, Baltimore, from which he graduated in 1887. Jan. 30, 1890, he entered the United States Marine-Hospital Service as Assistant Surgeon; in 1894 he was made Passed Assistant Surgeon, and, on Dec. 10, 1905, was promoted to Surgeon. Dr. Young has an enviable record of service. For three years he was in charge of the national quarantine at Delaware Breakwater. During the prevalence of cholera in Europe in 1893 Dr. Young was one of the officers sent by the service to take charge of the shipment of emigrants and cargoes from the various ports. He had charge of all traffic from Southern Italy and the Island of Sicily, with headquarters at Naples. This duty continued for about a year. One of its results was to demonstrate the sufficiency of the national quarantine regulations, for it so happened that while vessels were leaving for United States, other vessels of exactly the same character and carrying passengers and cargoes of identical origins were leaving for various ports in South America, and while not a case of cholera developed on any vessel from Naples after the regulations were put in force, every vessel not handled by Dr. Young had severe outbreaks of cholera and lost from 25 to 200 passengers. During the yellow fever outbreak in 1897 he had charge of interstate quarantine in portions of Tennessee, Mississippi, Alabama and Arkansas, at which time he established the first extensive system of train inspection. In 1898 he was detailed in the office of the surgeon-general for duty in connection with the supervision of the general quarantine operations of the service during the epidemic of that year. In 1905 he had charge of the operations of the service in a considerable portion of the South, including the supervision of the work done during the outbreaks in Natchez, Miss., Lake Providence, La., and Hamburg, Miss., and the interstate quarantine controlling train inspection and similar matters in a territory embracing nearly all of Mississippi, portions of Louisiana, Alabama, Tennessee and Kentucky. During the past six years Dr. Young has been stationed in Chicago where he has been active in sanitary work, in addition to his service as superintendent of the U. S. Marine Hospital. For several years he has been a member and is now president of the Lake Michigan Water Commission, he was a member of the City Milk Commission and is a member of the City Club's committee on insect pests. He has represented the United States Public Health and Marine-Hospital Service in the House of Delegates of the American Medical Association for the last four years, and in its Council on Medical Legislation and Council on Medical Education. The appointment of Dr. Young is an augury for efficient service, unhampered by political pledges or promises.

INDIANA

Hydrophobia Fund.—More than $1,200 has been accumulated by the auditor of the state for the care of indigent persons affected with hydrophobia. The last legislature passed an act providing that 5 per cent. of the surplus dog fund in every county should be turned over to the state for this purpose.

Personal.—Dr. Nelson J. Shook, Kendallville, fractured his clavicle and was painfully cut about the face and hands by the overturning of his automobile while making a professional call, May 27.——Dr. Charles L. Dreese, Goshen, was attacked by an insane patient, May 22, and seriously injured.——Dr. William H. Johnson, Indianapolis, who has been seriously ill, is convalescent and has resumed practice.

IOWA

The State Society.—Dr. Lawrence W. Littig, Davenport, was elected president of the Iowa State Medical Society at the last meeting. Dr. William B. Small, Waterloo, the treasurer, was reelected, and Dr. Granville N. Ryan, Des Moines, is the new trustee, Dr. Thomas E. Powers, Clarinda, holding over.

Woman's Hospital Planned.—The Iowa State Association of Medical Women and the City Federation of Women's Clubs of Des Moines plan the establishment of a hospital for women in Des Moines. The clinic maintained during the last year for women and children has been far more successful than was expected and the necessity of a hospital to give care exclusively to women and children not able to pay for the regular hospital care is apparent.

LOUISIANA

State Society Meeting.—The thirty-second annual meeting of the Louisiana State Medical Society was held in Shreveport, May 30-June 1, under the presidency of Dr. Edwin J. Graner, New Orleans. New Orleans was selected as the place of meeting for 1912 and the following officers were elected: president, Dr. Richard O. Simmons, Alexandria; vice-presidents, Drs. James C. Willis, Shreveport, Benjamin A. Ledbetter, New Orleans, and E. Otis Edgarton, Arcadia; secretary, Dr. Joseph Denegre Martin, New Orleans (reelected); treasurer, Dr. Charles C. Bass, New Orleans (reelected); delegates to the American Medical Association, Drs. Charles Chassaignac, New Orleans, and Oscar Dowling, Shreveport, and alternates, the secretary and Dr. Robert H. Blackman, Monroe.

MARYLAND

Hospital Changes Hands.—The sisters of charity have purchased for $26,000 and taken possession of the Allegheny Hospital, Cumberland. The capacity of the institution will be doubled.

Personal.—Dr. Jeptha E. Pitsnogle, Hagerstown, has been appointed health officer and Dr. William D. Campbell assistant health officer of Washington County.——Drs. Thomas C. Bussey, Texas, and Frank H. Ruhl, Lansdowne, who recently had cerebral hemorrhages, are reported to be improving.

Psychiatrists for Social Service Work.—The Maryland Psychiatric Society is raising a fund of $2,500 to employ a trained psychiatrist to do social service work. This will embrace efforts for the prevention of insanity and for the after-care of those discharged as cured. He will visit state hospitals and study the patients. He will also visit the homes of discharged patients and endeavor to find suitable occupations for them. The society is preparing the first issue of a publication to be known as "The Maryland Psychiatric Quarterly."

Baltimore

Addition to Institution.—A large addition is to be made to Mount Hope Retreat, a private institution for nervous and insane patients, under the care of Roman Catholic sisters. Two additional wings are to be built, two stories high, and the improvement will cost about $90,000.

Personal.—Dr. Julius W. Schlieder is reported to be seriously ill with septicemia, due to an operation wound.——Dr. John McF. Bergland is to be resident physician at Biddeford Pool, Me., this summer.——Dr. William Simon, Catonsville, is convalescent after typhoid fever.——Dr. Lewellys F. Barker has recovered from his recent operation and resumed practice.——Drs. Hugh H. Young, Emil Novak and Anton G. Rytina will spend the summer abroad.——Drs. Leo J. Goldbach and Herbert E. Laroque have sailed for Europe.

MASSACHUSETTS

Personal.—Dr. John M. Martin, Boston, has been appointed a school physician vice Dr. John L. Ames.——Dr. Albert M. Dunlap has been appointed a member of the faculty of Harvard Medical School recently established at Shanghai, China, and will sail for his new post of duty this month.

County Medical Society Meeting.—Hampshire District Medical Society held its annual meeting in Northampton, May 12. Dr. George B. Shattuck, Boston, president of the Massachusetts Medical Society, delivered an address on the work of that organization. Dr. Nelson C. Haskell, Amherst, was elected president; Dr. Maurice W. Pearson, Ware, vice-president; Dr. Albert M. Belden, Northampton, secretary; Dr. Justus G. Hanson, Northampton, treasurer, and Dr. William J. Collins, Northampton, librarian.

New Hospital.—Plans have been perfected by many physicians and business men of Boston to supply that city with a large private hospital providing the best of medical treatment to patients willing to pay for private rooms and special care. The hospital will be incorporated with a capital stock of $500,000 and the board of directors includes the following physicians: Drs. Arthur T. Cabot, William T. Councilman, Reginald H. Fitz, Joseph L. Goodale, Francis B. Harrington, Henry Jackson, Robert W. Lovett, John L. Morse, Edward Reynolds, Maurice H. Richardson, Frederick C. Shattuck, Edward W. Taylor, Paul Thorndike and John Collins Warren.

MICHIGAN

Names School for Physician.—One of the two new grade schools of Pontiac is to be known as the John P. Wilson School in honor of the practitioner of that name who was one of the prominent men of the city during and after the Civil War.

Antituberculosis Societies.—Dr. Fred R. Waldron has been elected president of the Ann Arbor Society for the Prevention of Tuberculosis, vice Rev. Carl S. Patton, resigned. It was reported that there are now three patients at Camp Lookout and it was decided to hold an annual tag day during the last week in October.——The organization of the Adrian and Lenawee Antituberculosis Society was perfected at a meeting held, May 24. Dr. Esli T. Morden was elected secretary-treasurer of the Association.

Personal.—Major John V. Frazier, Lapeer, has been detailed to the maneuver camp at San Antonio.——Dr. Elizabeth M. Hooper, Port Huron, was the guest of honor at a dinner given in Des Moines by the examiners of the Ladies of the Maccabees, April 29.——Dr. Philander B. Wright has resumed practice at Grand Rapids after an absence of three years.——Dr. David Ralston has been appointed health officer of Cadillac for the eighth consecutive term.——Dr. and Mrs. Periam B. Hardy, Tecumseh, sailed for Vienna, June 24.——Dr. Enoch M. Mather, Detroit, was painfully injured in a collision between his motor car and a trolley car, May 18.——Dr. John H. DeMay has been elected health officer and Dr. Roy W. Chivers secretary of the Board of Health of Jackson.

MISSOURI

State Tuberculosis Board Meeting.—At the annual meeting of the State Board for the Prevention of Tuberculosis, held in Jefferson City, May 31, the following officers were elected: Dr. Herman E. Pearse, Kansas City, president, and Drs. R. M. Funkhouser, George W. Heuman and James Stewart, St. Louis, Edward W. Schauffler, Kansas City, Gustave Ettmueller, Jefferson City, and William S. Allee, Olean, members of the executive committee.

New Hospital for Kansas City.—Mr. R. A. Long has endowed the Christian Church Hospital in Kansas City with $200,000 in addition to the $150,000 already pledged in popular subscriptions. Dr. William E. Minor and the architect have returned after a visit to the hospitals of the chief cities of the East and Middle West. The chief aims in the construction of this hospital are to be plenty of ground room, a building freely equipped with roof gardens, sun parlors and sleeping porches. The construction of the new hospital is to begin early in 1912.

Personal.—Dr. and Mrs. Joe Carter Weston have started for Europe.——Drs. D. R. Russell, E. A. Pond, Ralph A. Shiras, Joseph L. McDermott, Darwin De Lap and David Robinson have been appointed ambulance surgeons by the Hospital and Health Board of Kansas City.——Dr. Calvin C. Leeper, Braymer, has been reappointed president of the board of control of the State Industrial Home for Girls, Chillicothe.——Dr. Albert J. Campbell, Sedalia, has been elected a director of the Missouri Association for the Relief of Tuberculosis.——Lieut. Laurence C. Cook, M. C., N. G. Mo., Webb City, has been detailed to duty at the maneuver camp on the Texas frontier.

St. Louis

Wins Damage Suit.—Dr. George Tracewell, St. Louis, who entered suit against the United Railway Company of St. Louis for $20,000 actual and $10,000 punitive damages, on account of damages said to have been sustained by his forcible expulsion from a Wellston car in 1909, was awarded $5,000 actual damages and $1,000 punitive damages by the supreme court, May 24.

NEW HAMPSHIRE

New Head of Department.—Dr. Frederick P. Lord, Iowa City, formerly connected with the department of anatomy of the State University of Iowa, College of Medicine, has been secured as the head of the department of anatomy of Dartmouth Medical School, Hanover. Dr. Lord assumes his new duties at the beginning of the next college session.

New Hospital Dedicated.—The Bigelow Memorial Hospital, North Conway, erected for the use of the public by Mrs. Helen Bigelow in memory of her parents, was formally dedicated, May 18. The hospital is located midway between North Conway and Intervale. It is on the cottage plan, with all wards and operating departments on the first floor, and has accomodation for twenty patients.

NEW JERSEY

Bequest.—By the will of the late George A. Bertin, who died in Tunis, in December last, $100,000 is bequeathed to the Children's Seaside Home, Atlantic City.

Money for Preventorium.—Through the efforts of Mrs. J. Borden Harriman, a friend has contributed $50,000 toward the completion of the proposed additions to the buildings of the Tuberculosis Preventorium for Children, Farmingdale. It is said that $23,000 is still needed to bring up the capacity of the institution to its proposed 158 beds, and that $55,000 a year, of which $30,000 has already been pledged, will be required to support the institution.

Health Officers' Association Organized.—The Health Officers' Association of New Jersey met for organization, May 24, at Newark, thirty-three health officers, inspectors and members of local health boards being present. The objects of the association, as stated, are the advancement of knowledge relating to public health and sanitation, and the promotion of social intercourse among health officials. The active members include employees of local and state boards of health, that is to say, health officers and sanitary inspectors, while members of the State Board of Health and local boards of health are eligible to associate membership. The officers of the association are as follows: president, Chester H. Wells, Montclair; vice-president, John O'Brien, Jr., Plainfield; secretary-treasurer, J. Scott MacNutt, Orange, and chairman of executive committee, Dr. Edward Guion, Atlantic City.

NEW YORK

New Hospitals.—The necessary capital has been subscribed for a town hospital for the town of Union to be located in the Bible School building, Lestershire, which will be remodeled for the purpose. The hospital will have accommodation for at least thirty patients and is expected to be ready for occupancy by August.——Dr. Frank W. Sears, Binghamton, announces that his private hospital will be ready to receive patients June 15. The institution is to be known as the Terrace Hospital.

Objection to Hospital Clause.—The State Charities Aid Association has submitted a brief to the senate cities committee opposing those parts of the new charter for New York which would abolish the trustees of Bellevue and the allied hospitals and the board of inebriety and create a department of hospitals. The association says that the trustees of Bellevue and the allied hospitals have succeeded in establishing public confidence in Bellevue and it would be unwise to dismiss them in the midst of their work. The brief also opposes the proposed department of hospitals on the ground that it would not in reality be a department of hospitals, as much of the hospital work would fall under the department of public charities.

New York City

Personal.—The following sailed for Europe on June 3: Dr. David J. Dickson, Dr. and Mrs. Alfred J. Newman, Dr. and Mrs. Julius R. Fabricus and Dr. and Mrs. William G. Wylie. ——Dr. Ernest Sachs has been appointed associate in surgery at Washington University, St. Louis.

Brooklyn Hospital to be Rebuilt.—Plans are in preparation for the rebuilding of the Brooklyn Hospital on DeKalb Avenue and Raymond Street. Twelve new buildings will be erected at a cost of about $1,000,000. A gift of $100,000 has already been received for the construction of a dispensary in memory of the late William H. Harriman.

New Official for Bellevue.—Dr. Walter H. Connolly has been appointed first deputy medical superintendent of Bellevue and the allied hospitals. This position was vacated in February when Dr. Winford H. Smith went to Johns Hopkins and Dr. George O'Hanlon, Kings Park, was advanced to fill the vacancy. If the Municipal Civil Service Commission approves the appointment Dr. Connolly will succeed Dr. O'Hanlon.

Boy's Health League Exhibit.—The De Witt Clinton High School has an association called the De Witt Clinton High School Health League, having about 1,600 members, which is holding an exhibit to show what they have accomplished in four months. They have been so successful and the power of the coming generation in bringing about better health conditions is so generally conceded that an effort will be made during the coming summer to organize all high schools throughout the country into a national league. It is proposed to send the exhibit out to other schools as a model.

Prevention of Infant Mortality.—The Health Commission announces in the Bulletin of May 23 the outline of the plan of the department to reduce the mortality of infants with especial reference to diarrheal diseases. Since May 1 the nurses detailed to schools in the congested districts where the death and birth rates are both high have been visiting the houses where the greatest number of births have occurred since June 1. Each nurse devotes half a day to this work and is required to have under her care seventy-five babies, making visits to each at least once in ten days, and keeping and forwarding daily reports and case records. After June 15 each nurse will be required to have 150 babies under her charge. Nine infants' milk stations have been opened in the city, at each of which a nurse is in attendance, and four more stations will be opened at an early date. During May lectures were given in the public schools to all girls over 12 years of age regarding the care of infants, and, where the need seems evident, "Little Mothers" leagues have been formed. Lecture centers for conferences with mothers with instruction as to the care of well babies and medical attendance for sick babies will be established in the recreation centers, recreation piers and play-grounds.

NORTH CAROLINA

Lightning Strikes Hospital.—St. Agnes Hospital at Raleigh was struck by lightning recently setting fire to the building and resulting in a loss of more than $3,000 to the structure. Fortunately no lives were lost.

College Notes.—Work has begun on the new building authorized by the legislature for the medical department of the university at Chapel Hill, and it is expected the building will be ready in September. The legislature appropriated $37,000 for this purpose.

Hookworm Hospital.—Dr. John A. Ferrel, Kenansville, assistant secretary of the State Board of Health for Hookworm, announces that a special field hospital will be established for the reception and treatment of cases of hookworm in the southeastern section of the state.

Large Endowment for Hospital.—The "Moses H. Cone Memorial Hospital of Greensboro" was incorporated by the secretary of state last week to build a mammoth hospital in Greensboro to cost $1,000,000 as a memorial to the most wealthy citizen of that town who recently died. Work will begin shortly. An auxiliary hospital will also be built at Blowing Rock.

OHIO

Tuberculosis Educational Contests.—Prizes were recently given to the school children of Cincinnati for the best tuberculosis alphabet. Through the cooperation of the Cincinnati *Times-Star*, the Cincinnati Antituberculosis League was able to make the campaign a great success from an educational point of view. Cardinal principles about tuberculosis were emphasized in the minds of thousands of young persons, and the results will be better health. The answer considered the best of all was: "A is for Alcohol, which men should not drink. It weakens their systems and makes their lungs a prey to the consumptive germs." Another letter from the prize-winning alphabet is: "F is for Fight. The only way to get rid of tuberculosis is to fight it and fight it hard." An alliterative contribution is found in the letter D: "D is for Determined Doctors, who fight damp, dusty, dirty dwelling-houses and deadly public drinking-vessels, which destroy, diminish and detract from domestic happiness and increase the death-rate from the dreadful disease, consumption." Mayor Schwab, who acted as one of the judges in the contest, praises the plan and says that it accomplished a vast amount of good in that it helped spread among the youth information regarding one of the worst plagues of the race. The complete prize-winning alphabet is printed in the *Journal of the Outdoor Life* for May.

PENNSYLVANIA

Legislature Thanks Mrs. Dixon.—In a resolution passed by the legislature, Mrs. Samuel G. Dixon, wife of the state commissioner of health, is thanked for the donation to the commonwealth of the Union Chapel at the Pennsylvania State South Mountain Sanatorium, Mount Alto, as a place of worship for the tuberculous patients at the sanatorium and the attendants.

Testimonial to Health Commissioner.—The board of health of the city of Erie has given a strong testimonial to the efficient work done by the State Department of Health in assisting the local health authorities to put down the recent typhoid fever epidemic in that city. The board especially commends the promptness of the response for assistance, the haste with which the body of assistants was dispatched, the thorough method of their work, and the efficient and competent work of the two nurses who were sent by the commissioner. City councils of Erie also adopted resolutions of thanks and appreciation for the excellent work accomplished by the State Department of Health.

Alumnæ Meet.—The thirty-sixth annual meeting of the Alumnæ Association of the Women's Medical College of Pennsylvania was held at the college building in Philadelphia, June 1-2. The fellowship fund of $500 for six months' study abroad was completed by the alumnæ during the session and was awarded by the recommendation of the faculty and the consent of the alumnæ present to Dr. Martha Tracy, Philadelphia, 1904, associate professor of chemistry and director of the laboratory of chemistry. An endowment fund committee was appointed with Dr. Blanca H. Hillman, 1905, chairman. This committee intends to raise $500,000 to equip more fully the laboratories, to increase inadequate salaries, and to aid in research work.

Philadelphia

Southwark Medical Library.—The contract has been awarded for the erection of the Southwark Branch of the Public Library System of Philadelphia. The Committee on Medical Libraries of the Philadelphia County Medical Society hopes to have plans completed to install a medical book and magazine section when the building is finished.

College Additions.—Plans for the new five-story addition, 50 by 150 feet to be built on the south side of Cherry Street, west of Seventeenth, and for the new one-story dispensary 60 by 180 feet for the Medico-Chirurgical College have been presented by the architect.——Plans are being prepared for alterations to the University Hospital, Thirty-Fourth and Spruce Streets, and for remodeling the Nurses' Home.

College Commencements.—The fifty-ninth annual commencement of the Women's Medical College of Pennsylvania was held May 31. Dr. Harvey W. Wiley delivered the address and thirty-two women received the degree of doctor of medicine. ——The eighty-sixth annual graduation exercises of Jefferson Medical College were held June 5. The valedictory address was delivered by Surgeon-General Charles F. Stokes of the United States Navy, and 117 men graduated. The Corinna Borden Keen Research Fellowship was awarded to Dr. Warren B. Davis (Class of 1910). This carries an award of $1,000 and a year's study and research in Europe or elsewhere.

Swimming for Public School Children.—With the consent of Alfred S. Eisenhower, chief of the bureau of city property, six of the city's free bath houses will be devoted to the use of public school children on certain days of each week during ten weeks beginning June 22 and ending August 31. Men and women teachers of swimming will be engaged and free lessons given to the boys and girls of the four grades. William A. Stecher, director of physical instruction, is responsible for this movement as he pointed out to the committee that the report of the coroner showed that 143 persons were drowned last summer.

Wholesome Food and Backward Children.—The University of Pennsylvania will conduct a psychologic clinic this summer and the effect of wholesome food on backward and mentally deficient children will be one of the special studies of the course. Mrs. Louise S. Bryant, of the Russell Sage Foundation, New York, who has made a special study of dietetics, will conduct these experiments. Working with Mrs. Bryant in the school attached to the clinic will be Miss Elizabeth Farrell, in charge of the ungraded classes in the New York public schools, and two specialists in the training of backward children, Miss Walsh and Mrs. Pfeifer, of the Russell Sage Foundation. Beside the work in the clinic and school, the parents of the children will be visited and instructions as to the selection and proper preparation of food will be given.

Personal.—Dr. James C. Wilson has resigned as professor of practice of medicine in Jefferson Medical College.——Drs. W. M. Late Coplin, Edward T. Reichert and J. Nicholas Mitchell have sailed for Europe.——Dr. Michael T. Prendergast is seriously ill in Ocean City, N. J.——Dr. George J. Holtzhausser sailed for Europe May 24.——Dr. Louis Fisher of the staff of the Mount Sinai Hospital was the guest of honor at a banquet given by the members of the staff of that hospital at Mosebach's Casino on May 26. Dr. Fisher has sailed for Europe.——Dr. Edwin A. Jerecki, chief resident of the Jewish Hospital, was given a testimonial dinner at the Mercantile Club, May 20, by the hospital staff and board of officers prior to his departure for Europe, May 27.——Dr. Alfred Stengel sailed for Europe June 8.——At a meeting of the medical staff of the Jewish Hospital the nomination of Dr. Myer Solis-Cohen and Dr. Hervey L. Bates were forwarded to the board of trustees to fill the two vacancies of pediatrist in the hospital staff. Both are chiefs of the children's dispensaries at the hospital.——Dr. George W. Norris has been elected visiting physician to the Episcopal Hospital, vice Dr. David L. Edsall, resigned.——Dr. John Henry W. Rhein has been elected professor of diseases of the nervous system in the Philadelphia Polyclinic and College for Graduates in Medicine.

VIRGINIA

Elections.—At the annual meeting of the South Piedmont Medical Society, held in Lynchburg, the following officers were elected: president, Dr. James S. Haile, Chatham; vice-presidents, Drs. Adam T. Finch, Chase City; Henry W. Dew, Lynchburg, Henry C. Beckett, Scottsburg, and Wm. O. Smith, Altavista; and secretary-treasurer, Dr. George A. Stover, South Boston.——The Staunton Post-Graduate Medical School, at its meeting May 10, elected Dr. Hunter B. Spencer, dean; Dr. Walter F. Hartman, Swoope, vice-dean; Dr. Alexander J. Burkholder, recorder, and Dr. John F. Armentrout, treasurer.

Personal.—Dr. George W. Brown, Saluda, has succeeded Dr. Oliver C. Brunk, resigned, as superintendent of the Eastern Hospital, Williamsburg.——Dr. Albert S. Priddy, Keysville, has been elected superintendent of the epileptic colony, Lynchburg.——Dr. Joseph S. De Jarnette has been reelected superintendent of the Western State Hospital, Staunton, and Dr. Wm. F. Drewry, superintendent of the Central Hospital for Colored Insane, Petersburg, and Dr. John C. King, superintendent of the Southwestern State Hospital, Marion.——Dr. Schuyler B. Moon has been appointed to succeed the late Dr Adolph G. Hoen as director of the Pasteur Institute of Virginia at the University College of Medicine, Richmond.

GENERAL NEWS

National Antituberculosis Association to Meet.—The seventh annual meeting of the National Association for the Study and Prevention of Tuberculosis will be held at the Brown Palace Hotel, Denver, Colo., June 20 and 21, and on the latter day a meeting will also be held of the Southwestern Conference on Tuberculosis under the chairmanship of Dr. William M. Brumby, San Antonio, Tex. The work of the association will be under three sections; pathologic, clinical and sociologic. The subject for discussion in the advisory council is "Official Responsibility in the Tuberculosis Problem."

Ashford's Work in Porto Rico.—The astonishing record made by Major Bailey K. Ashford, Med. Corps, U. S. Army, in his fight against the hookworm in Porto Rico was testified to by Gov. George R. Colton, of that island, who arrived in New York from Washington on April 26 on his way back to San Juan. According to the *Army and Navy Journal*, he said that 300,000 cases of the hookworm had been cured in the island, and that the disease has been virtually eradicated in the towns and low country, though still prevalent in the coffee district and hill country, where about three-fourths of the population is affected, reducing the value of labor 50 per cent. Governor Colton considers the island ideal for a winter resort and expects to see it soon become a Mecca for northern tourists in the cold months. Last year the island was visited by 8,000 tourists. The exterior trade of the island has grown from $17,000,000 in 1901 to $68,000,000 in 1910. The health and sanitation service has been conducted by the municipalities, but Governor Colton has been in Washington seeking congressional authority to designate an officer of the Medical Corps, U. S. Army, as director of sanitation, expecting to appoint Major Ashford to that position.

Elections in Special Societies.—The American Dermatologica Association, at its thirty-fifth annual meeting held in Boston May 25-27, selected St. Louis as the next place of meeting and elected Dr. Grover William Wende, Buffalo, as president Dr. James Sullivan Howe, Boston, vice-president; Dr. Jame MacFarlane Winfield, Brooklyn, N. Y., secretary and treasurer and Dr. William Allen Pusey, Chicago, councilor at large.——The thirty-third annual meeting of the American Laryngological Association was held in Philadelphia, May 29-31; the following officers were elected: president, Dr. James E. Newcomb, New York City; vice-presidents, Drs. Frederick C. Cobb Boston, and Burt R. Shurly, Detroit, Mich.; secretary an treasurer, Dr. Harmon Smith, New York City, and librarian Dr. Joseph H. Bryan, Washington, D. C.——The America Gynecological Society held its annual meeting in Atlanti City, May 23-25, and elected the following officers: president Dr. Howard A. Kelly, Baltimore; vice-presidents, Drs. Richar R. Smith, Grand Rapids, Mich., and John A. Sampson, Albany N. Y.; secretary, Dr. J. Le Roy Brown, New York Cit (reelected); treasurer, Dr. J. Wesley Bovee, Washington D. C. (reelected); and councilors, Drs. Reuben Peterson, An Arbor, Mich., Franklyn S. Newell, Boston, and Walter W Chipman, Montreal. Baltimore was selected as the next plac for meeting.

Yellow Fever Bulletin.—Although yellow fever seems t have been practically eliminated from the United States, Cub and the Canal Zone by the measures adopted since the demonstrations of Reed and Carroll and their fellow workers concerning it, yet the disease is still a serious one in many part of the world. In some of the West Indies, in Central an South America, and especially in Africa, the disease is pra tically always present. In West Africa, which is being rapidl opened up to settlement and exploitation, the disease is serious handicap to the development of the country. In 191 there were extensive epidemics on the west coast. Recognizin the importance of this disease the Liverpool School of Tropical Medicine has begun the publication of a monthly bullet devoted exclusively to yellow fever. The first number ha just appeared and its forty-four pages contain an interesti review of the yellow fever situation in all parts of the worl It contains a number of papers on this disease and discussion by eminent men at the last meeting of the Society of Tropic Medicine and Hygiene; abstracts from other journals, son editorial comment and a bibliography of the publications yellow fever during 1910 and 1911. This bibliography will continued and it is hoped to form a complete library on t subject of yellow fever. The School of Tropical Medici deserves commendation and encouragement for this addition weapon in the fight against yellow fever.

Antivivisectionists' Prayers.—The following prayer has been circulated widely in England: "O God of mercy, send kind death to thy dear dumb creatures, left tortured and agonizing in the laboratories, when the vivisectors go home to dine and sleep." The petition is entitled "My Last Prayer at Night," and is signed by one C. L. Perkins, captain of the royal navy. Recently an attempt of the New England Antivivisection Society to get the clergymen of New England to offer this prayer called forth the following spirited letter from one of them, which appeared in the Boston *Herald*, May 17: "What a delicious paradox this is! Here is a man whose only business is, in time of war, to maim and slaughter his fellow-men, praying every night against those whose profession is to save human life. I think I see him at one moment urging his gunners to rake the enemy's decks fore and aft, yelling like an Ashanti, 'Give 'em h—l, boys!' and several hours later, kneeling in pink pajamas before his berth, slobbering a few maudlin tears over the cats and dogs and rabbits which he thinks the vivisectors have left in their misery. You have asked me, Captain Perkins, to adopt your daily petition as my own. I am almost willing to say yes, but on one condition. Will you offer a prayer of mine, not every day, but once in a while, at least? This is the prayer which I wish you, captain, and all others of your rank might offer: 'O God of nations, send kind death to thy poor soldiers and sailors left mangled and moaning after the battle, while the captains and the kings sit down to celebrate their victory in wine and song. Remember, we beseech Thee, the widows and little children made desolate by brutal conflicts of greed and plunder, brought on too often by an insensate thirst for glory and reward. Save us, our Father, from all who in their blindness foment jealousy between nations and hatred among races, and most of all from those who for the sake of gold would plunge their country into the hellishness of war.' But perhaps I have taken the captain and his prayer too seriously. The card is doubtless a new device in pamphleteering, and a rather clever one, were it not for the stupid blunder of giving the occupation of the writer. I cannot offer such a prayer as this. I know too well the blessings that vivisection has brought to mankind. For my part, I prefer to offer a prayer which will include both sides: for the vivisectors, that they may ever be kept from causing unnecessary pain; for the antivivisectionists, that they may be given that due sense of proportion which will turn them from misdirected sentiment and set their moral enthusiasm free for attacking the really great and sinister evils that beset society."

Permanent Commission for International Medical Congresses.—The offices of the permanent commission are at The Hague, but the first meeting of the commission was held at London in April with Dr. F. W. Pavy in the chair. Among the points considered was the request to include Spanish and Esperanto among the official languages of the international medical congresses. This request was voted down, it being considered inadvisable to add another to the official languages already adopted; in regard to Esperanto, it was stated that it is a language still too little known to be taken into consideration. The International Federation of Dentists had requested that dentists not possessing a medical degree might participate in the congress, but this was also voted down, the commission believing that it is necessary to maintain the general principle that only qualified physicians are eligible to membership in the congress. At the same time the commission calls attention to the statute in the regulations to the effect that scientists presented by national committees or by the executive board can be admitted to membership in the congress. The request of Canada and Poland to be allowed the right to be represented in the international permanent commission was denied, the commission having made it a principle that representation in the permanent commission is to be restricted to delegates from strictly national committees. The organized profession in lower Austria had petitioned for the creation of a section for medical economics, but the commission declined to consider this in view of the fact that all the congresses previously held have been of a purely scientific character and the commission desires to maintain this character.

One of the principal features of the work of the permanent commission is to keep in touch with the boards of international societies and congresses so that coincidences of time, place and subjects may be avoided, and the study of questions requiring international cooperation may be promoted and committees appointed for the purpose. It was voted that the permanent central offices for the international specialist medical congresses can be installed at the central office of the permanent commission. The president or secretary of the permanent boards of the international specialist congresses may be invited to attend the conferences of the permanent commission, and the secretary of the latter may be invited to attend the meetings of the permanent boards of the specialist congresses when subjects of mutual interest are to be discussed, but without the right to vote. The members of the permanent commission include ex officio the presidents and secretaries-general of the last and the approaching international medical congress, a secretary-general and assistant secretary, the president of the international association of the medical press, ex officio, and a delegate from each national committee, the delegate to be elected by the other members of the national committee.

The date for the next medical congress was appointed as August 6 to 12, 1913, the interval between the congresses having been lengthened to four years. The secretary-general is Dr. W. P. Herringham, 40 Wimpole Street, London, W. All suggestions and demands in regard to the international medical congresses should be made to the secretary-general of the permanent commission, Prof. H. Burger, Vondelstraat I, Amsterdam, or to the office of the permanent commission, in charge of P. M. van der Haer, assistant secretary, Hugo de Grootstraat 10, The Hague, Holland. Further particulars were given in The Journal, April 8, 1911, page 1074.

CANADA

New Sanatorium.—A new sanatorium is to be erected on the bank of the Red River in Elmwood, Winnipeg, by a company headed by Dr. A. D. Carscadden. The building will be four stories and a basement in height, 54 by 85 feet, and will cost $70,000.

Donations to Library.—Dr. Casey A. Wood, Chicago, has donated to the McGill University Medical Library a collection of rare works on diseases and surgery of the eye. Dr. Gordon W. Byers, Montreal, has added to this, 2,500 valuable reprints on ophthalmology. Dr. Wm. Osler and Sir Lauder Brunton have recently sent out a series of magnificent engravings for the new home of the library at Montreal.

Personal.—Dr. John T. Fotheringham, Toronto, is in charge of the medical services of the coronation contingent from Canada.——Dr. Roger Doyen, son of Professor Doyen of the Doyen Institute, Paris, France, is establishing a dispensary for the cure of tuberculosis cases in Montreal.——Dr. Ridley Mackenzie, Montreal, has returned from Europe.——Dr. Charles Kirk Clarke, superintendent of the Hospital for the Insane, Toronto, has been appointed superintendent of the Toronto General Hospital, vice Dr. John N. E. Brown, retired.

Dominion Anti-Tuberculosis Association.—The Canadian Association for the Prevention of Tuberculosis met in London, May 17 and 18, under the presidency of Dr. J. George Adami, Montreal. It was reported that the death rate from tuberculosis had decreased in ten years in Ontario from 11.8 per cent. to 7.6 per cent. A feature of the meeting was the report on the work of the "Hygienic Nine," bands of women of nine who conducted educational classes through the medium of hygienic lectures. Municipal health officers were criticized for their laxity in promoting campaigns with regard to tuberculosis. Dr. J. George Adami was reelected president and Dr. George D. Porter, Toronto, secretary. The next meeting will take place in Toronto.

Hospital News.—Toronto is to have a new private hospital with accommodation for sixty to one hundred patients. Dr. John N. E. Brown, late superintendent of the Toronto General Hospital, is to be in charge.——Dr. Charles K. Clarke, superintendent of the Toronto Hospital for the Insane, has been appointed superintendent of the Toronto General Hospital. Dr. Clarke is dean of the medical faculty of Toronto University. This will bring the two institutions into closer relationship.——Dr. William C. Barber, late of the Rockwood Hospital for the Insane at Kingston, is to establish a large private sanitarium at Orillia, Ont.——Dr. J. M. Forster, superintendent of the Hospital for the Insane at Brockville, has been appointed superintendent of the Toronto Hospital for the Insane.——Dr. John C. Mitchell of the Hamilton Hospital has been appointed superintendent of the Brockville institution.

Society Meetings.—Alberta Medical Association met in Edmonton the last week in April and elected Dr. Park, Edmonton, president; Dr. Frank W. Crang, Strathcona, vice-president, and Dr. George McDonald, Calgary, registrar.——The fourth annual meeting of the Toronto Academy of Medicine was held in their new quarters in Queen's Park and the following fellows were elected as officers and council: president, Dr. Newton A. Powel; vice-president, Dr. Richard A. Reeve; past president, Dr. Harley Smith; honorary treasurer, Dr.

William A. Young; chairmen of sections—medicine, Dr. Graham Chambers; surgery, Dr. Herbert A. Bruce; pediatrics, Dr. John T. Fotheringham; pathology, Dr. John J. McKenzie; ophthalmology, Dr. Chas. Trow; state medicine, Dr. John S. McCullough, and elective members, Drs. John Ferguson, William J. Malloch, Herbert J. Hamilton, James F. W. Ross, Patrick W. H. McKeown, Alexander McPhedran, Fred N. G. Starr, and Edmund E. King.

Meeting of Ontario Medical Association.—The thirtieth annual meeting of the Ontario Medical Association was held in Niagara Falls, Ontario, May 30 to June 1, under the presidency of Dr. Henry R. Casgrain, Windsor, Ont., Dr. F. Arnold Clarkson, Toronto, acting as general secretary. The address in medicine was delivered by Dr. Thomas B. Futcher, Baltimore, who took for his subject "The Relationship Between the Ductless Glands and Carbohydrate Metabolism," and the address in surgery, by Dr. Alexander E. Garrow, Montreal. A resolution was adopted calling for provision to be made at each general hospital in the province for the care of tuberculosis cases. It also recommended that any general hospital refusing to provide wards for such cases should be reported to the provincial government and have their annual grant withdrawn. Another discussion receiving considerable attention was that of infant mortality, the chief health officer for the province recommending that mothers should be recompensed with a small sum when each of their children reached five years of age. The report of the special committee on the revision of the constitution was adopted whereby the Ontario Medical Association would become a branch of the Canadian Medical Association. The following officers were elected: President, Dr. Herbert A. Bruce, Toronto; vice-presidents, Drs. Frank E. Wilson, Niagara Falls, William Hall, Brampton, Frederick P. Drake, London, George H. Field, Coburg; treasurer, Dr. James H. Mullin, Hamilton; and general secretary, Dr. F. Arnold Clarkson, Toronto.

LONDON LETTER

(From Our Regular Correspondent)

London, May 27, 1911.

The National Insurance Bill

The medical profession, which is notoriously difficult to move in political matters, has been thoroughly roused by the national insurance bill, which threatens it with an economic revolution unprecedented in its history. Meetings to consider the bill are being held all over the country and a special representative meeting of the British Medical Association will be held in a few days. Both the medical and the lay press are deluged with letters from doctors protesting against the bill. The total conversion of practice among men with incomes below $800 into contract practice is viewed with dismay. The contract practice of the friendly societies is tolerated by the profession as a necessary evil because many of the members are not in a position to pay the regular fees and it has always been considered a grievance that patients who can afford to pay fees should be admitted into such societies. Under the present bill this would occur on a large scale, as many men with incomes from $500 to $800 can afford to pay, and do pay, fees. Moreover a large disadvantage, the magnitude of which is difficult to gauge, will be introduced by the admission of all persons, however weak or subject to disease. Under the friendly societies a medical examination has to be passed before admission. A strong feeling exists in the profession that payment should be made for work done and not by capitation fee. But this is open to the grave objection that it would encourage malingering, as the shortening of illness would be in the interest of neither doctor nor patient. It is also felt that no person with an income of $400 should be eligible for medical benefits. If payment is to be made by capitation fee, the one proposed, $1.25, is considered inadequate and a fee of $2 is suggested. The appearance of the bill has already affected doctors injuriously as practices are becoming unsalable. Many men are bitterly complaining that a practice for which a few years ago they paid $5,000 is quite unmarketable. It also seems that the bill will have a most injurious effect on the funds of the voluntary hospitals. At present much money is derived from contributions by employers and workmen. It is thought that when the bill becomes law the employers will not be so willing to contribute to the hospitals as they will already be compelled to contribute toward the sickness benefit of the men. The latter will also be less willing or less able to pay, as a compulsory deduction will be made from their wages under the bill.

The Census

A preliminary report has been made on the census which was taken at the beginning of this year. The population of England and Wales is found to be in round numbers 36,000,000—an increase of 3,500,000 over the last census in 1901. The percentage rate of increase is 10.91, which shows a diminution of the rate of the previous decade. In 1881 the percentage was 14.36, in 1891 11.65, and in 1901 12.87. The population of London is now 7,250,000, but this increase has taken place entirely in the "outer ring," where it amounts to 33 per cent. The development of tube railways, motor bus services, and electric transit generally has offered great facilities for getting out of the crowded centers. Hence there has been a great movement of population not only from the centers, but also from the inner to the outer suburbs. The population of Ireland, as in the past, shows a decrease. In the ten years this amounts to 76,824, or 1.7 per cent. The population now is 4,381,951. There are only three towns with a population over 50,000—Belfast, 385,492; Dublin, 309,272, and Cork, 102,274.

Is a Doctor a Workman?

An interesting legal point under the Workmen's Compensation Act has arisen in consequence of a doctor who had been house-surgeon at the Kidderminster Infirmary claiming compensation for injuries arising out of his employment. His salary was $500 a year with board and lodging. When he first took office there was no *x*-ray apparatus but after a time one was installed which it was decided to use in some cases of ringworm. Before doing so, after consultation with one of the honorary surgeons, it was decided to try the apparatus on the house-surgeon's arm to test the effect of the treatment. Though the application lasted only fifteen minutes the results were so serious that he had to submit to an operation on the arm and the wound took six weeks to heal. The applicant stated that the experiment was carried out for the benefit of the patients. Medical witnesses said that it was his duty to submit to experiment, although they admitted that his duties were prescribed by the rules of the institution which had not been altered since the apparatus was introduced. In giving judgment the judge said that it did not follow because a new knife was introduced a house surgeon should allow the knife to be tried on his body. According to the terms of the applicant's contract with the infirmary it was clear that the question of a dangerous experiment did not arise on his appointment. He accordingly dismissed the application but gave leave to appeal. The question whether the doctor was a "workman" within the meaning of the Workmen's Compensation Act was not definitely decided by the judge but the point on which he gave judgment and the leave to appeal indicate that he regarded the applicant as such.

PARIS LETTER

(From Our Regular Correspondent)

Paris, May 19, 1911.

Vital Statistics in France in 1910

The *Journal Officiel* will soon publish statistics for the population of 1910. The following are the essential figures with a total population of 39,961,945.

Number of living births	774,358
Number of deaths	703,777
Number of marriages	309,289
Number of divorces	13,049

The births exceed those of 1909 by 4,389, but the advantag is very slight; the number is practically the same as tha of the three preceding years, during which it was lower tha it had previously been for more than one hundred years. I 1859, there were in France 1,018,000 births, and this figur was just about maintained up to 1868. Then it fell to 948,000 From 1868 to 1886 the figures began with a 9. After 188 it was reduced to 899,000 and continued to be written wit an initial 8 until 1906. For four years it has fallen to th figure 7, and the year 1909 also confirms this decadence.

The death-rate was extraordinarily low in 1910, but o close inspection not much reason for congratulation is found If there are few deaths that is due, in great part, to th fact that there are few births. In fact, there were in 191 only 90,000 deaths of children of 1 year of age and under This figure, when compared with that of the births (774,358) represents a mortality of 12 per cent. In 1906 the mortalit was about the same (14 per cent.), but as there were mor births (807,000) this mortality produces 116,000 deaths o 26,000 more than to-day. Consequently, the diminishing o the number of infantile deaths is due, not to improvement, for the chances of death remain about the same, but to the constant decline of the birth-rate.

Can this lamentable situation be improved? Dr. Jacques Bertillon, head of the municipal statistics of the city of Paris, believes that it can. In support of his view he cites the increased number of marriages which he attributes to the influence exercised by the law of 1907, which has simplified the formalities of marriage. The following are the number of marriages in France:

Before the law of June 21, 1907:

	First Semester	Second Semester
1902	152.890	141,896
1903	152,386	143.610
1904	152.454	146,267
1905	153,812	148,811
1906	154,800	151.687
1907	154.081	....

After the law of June 21, 1907:

	First Semester	Second Semester
1907	....	160.822
1908	162.495	153,433
1909	156.294	151,657
1910	156.761	152.728

In Belgium a similar law has exercised an analogous influence; marriages have become more numerous and earlier, while illegitimate births have become rarer and legitimate births have increased. Likewise, in Bavaria, a similar law has had important consequences on the birth-rate and the increase of the population. Dr. Bertillon believes, therefore, that there is no reason to say that the legislator is impotent against a moral evil. There is, he believes, no adequate physiologic or economic reason why France should not increase like all other countries.

Memorial to Dr. Mesny

The commission charged with the administration of the Carnegie Foundation for recompensing acts of heroism, has just awarded the golden medal with a gift of $5,000 (25,000 francs) to Mme. Gérald Mesny as a memorial of her husband, whose heroic death in Manchuria has been mentioned (THE JOURNAL, March 18, 1911, p. 826). Moreover, the members of the international conference on the plague assembled at Mukden, visited the tomb of Dr. Mesny at Harbin in a body and Dr. Broquet, delegate of the French government, made a touching speech.

New Director-General of the Vaccine Institute

On May 16, the Académie de médecine nominated a new director-general of the Institut supérieur de vaccine to succeed Professor Kelsch, who died last February. Dr. Robert Wurtz, agrégé professor at the Faculté de médecine de Paris and physician of the hospitals, was unanimously chosen. He is a son of the illustrious chemist who was one of the most distinguished professors of the Faculté de médecine de Paris. Dr. Robert Wurtz is known especially for his works on bacteriology, hygiene and epidemiology. He was, for a long time, in charge of the mission at Abyssinia, where he was on various occasions, called to give attention to Emperor Menelik. Some weeks ago, he visited Guinea and the Congo to study sleeping-sickness and other exotic diseases.

A New Procedure in Radiotherapy

At the same session, Dr. Béclère read before the Académie de médecine a report on the work of Dr. Haret, assistant in radiotherapy at the Hôpital Saint-Antoine, the introduction of the radium ion into pathologic tissues without breaking the skin. The procedure consists in employing electrolysis to make the radium, under the form of ions, penetrate through the skin into the cellular elements of the neoplasms. The technic is as follows: application on the diseased region of the positive electrode composed of a compress saturated with a solution of 10 micrograms of radium bromid; passage of a current of 10 milliamperes for thirty minutes; three sittings a week. Dr. Haret's therapeutic attempts along this line have as a scientific base a whole series of experimental researches on rabbits and young cattle. These researches have shown that electrolysis causes the radium ions to penetrate through the unbroken skin into the subjacent tissues, aponeurosis, muscle, periosteum and bone, and that it reaches the depth of at least 9 cm. (about 3½ inches), accumulates there in heavy doses and remains for more than fifteen days without injury to the healthy cellular elements or to the general condition of the experimental animal. These experiments have shown the harmlessness and the legitimacy of this new method of radiotherapy. The application of these experimental data to the treatment of neoplasms has already furnished Dr. Haret about ten observations, of which the most important concerned a large sarcoma of the shoulder-blade in a young woman of 27. This sarcoma, after having diminished considerably in volume under the influence of Roentgen rays, remained stationary with persistent pains, but after several treatments with radium introduced by electrolysis, the pain ceased, the tumor diminished and finally disappeared completely. Although this new method of radiotherapy has not always been followed with such favorable results, Dr. Béclère believes that it justifies serious hopes. Up to the present, it has been employed alone, but it may be predicted that it will often be combined advantageously with radium irradiations and that the domain of the application will be extensive like that of the Roentgen rays.

Diet in Typhoid Fever

At the same session, Dr. H. Vaquez, physician of the hospitals of Paris, called the attention of the academy to recent changes in the ideas with regard to the diet of typhoid patients. Some Russian and German physicians have not hesitated to depart from the strict milk diet, and Dr. Vaquez has followed their example by instituting various régimes of which milk still constitutes a part, but in which porridges, eggs, purées, creams and raw and rare meat are also used.

Some have considered this diet imprudent at least. It has been accused of causing grave complications, such as intestinal perforation and hemorrhage, and of augmenting the chances of relapse. To these altogether theoretical criticisms, Vaquez opposes facts. Varied diet in connection with systematic balneotherapy in 160 cases has resulted in fifteen deaths, of which three were caused by intestinal perforation. He has had only eight cases of intestinal hemorrhage, of which only two were serious. There were twenty-two relapses. These results are not materially different from those of the best statistics obtained with treatment by other methods. It should be added that the duration of typhoid fever was much shortened, and that, in particular, the period of descending oscillations was remarkably shorter. The fall of temperature often occurred, not as lysis, but abruptly, as in pneumonia. Complications connected with secondary infections were very exceptional. They were confined to four cases of phlebitis, three of pyelonephritis, one of cholecystitis, one of otitis and one of subcutaneous abscess.

Dr. Vaquez concludes, therefore, that varied diet in typhoid fever does not produce the ill effects which have been attributed to it, but that, on the contrary, it is capable of facilitating the favorable outcome of the disease and of protecting the patient from the secondary complications which so often make the prognosis unfavorable.

Personal

On May 9, the Académie de médecine elected a member in the section of pathologic anatomy to replace Dr. Lancereaux, who died last October. Dr. Achard, who was elected, was born in 1860. He was formerly a pupil of Professor Lannelongue and collaborated with Professor Debove in editing several manuals of medicine. He was physician at the Hôpital Necker, and last year was appointed to the chair of general pathology at the Faculté de médecine de Paris, where he succeeded Professor Bouchard.

BERLIN LETTER

(From Our Regular Correspondent)

BERLIN, May 18, 1911.

Personal

Surgeon-General Dr. Villaret, a military surgeon of high rank, died May 9, aged 64. Villaret rendered a not inconsiderable service to the development of military sanitation and also showed a manifold literary activity, being especially widely known as the editor of the dictionary of universal medicine (*Handwörterbuch der gesamten Medizin*).

Increased Municipal Hospital Facilities

The deputation for municipal hospitals determined at a recent session to rebuild and extend the municipal hospitals to the extent that seems necessary as soon as possible. A hospital is to be erected for prostitutes and one for infectious diseases at the Urban Hospital and also a hospital for children in the south part of Berlin, in which nurslings and children affected with whooping-cough shall be admitted. The erection of another large general hospital is considered not necessary in the immediate future on the assumption that mild cases, convalescents, contagious and tuberculous cases will be removed from the present municipal hospitals and provided for in homes, forest stations, pest houses, etc.

Campaign Against Tuberculosis in Rural Districts

Robert Koch assigned the spread of the disease in country districts and the lack of suitable efforts against it as one of the reasons for the fact that the reduction of the average mortality from tuberculosis in Germany and in many other European countries has come to a standstill during recent years. With his characteristic thoroughness he endeavored to discover the reason for this situation, and he gave the impetus to exact researches in those country districts of Prussia in which the tuberculosis mortality was the highest and the conditions for investigation were the most favorable. These studies were undertaken by Professor Jacob, a former assistant of von Leyden and on account of the recommendation of Koch himself were carried out with the assistance of the Prussian minister of education first in the Osnabrück district in the province of Hanover. The results of these studies have just been published by Professor Jacob. As his conclusions are of value, not only for the affected district but also generally for Germany and other countries as well, I give a summary of them here: According to Professor Jacob the tuberculosis dispensaries in the cities do not afford data for a clear idea of the conditions in regard to tuberculosis in the country. The inquiry would better be made in the homes of the peasants themselves by means of a question-blank filled out by especially trained visiting nurses. Medical examinations of children should be extended to all children attending school and as far as possible, to those who are not yet required to attend. For establishing the diagnosis of tuberculosis von Pirquet's test should be applied as far as possible. Medical examination of adults should be made in all cases of tuberculosis and all cases that are suspected to be tuberculous. For the purpose of more exact determination of the mortality from tuberculosis, an obligatory medical examination of dead bodies should be required for at least one or two years, with a corresponding remuneration for the physicians. All results obtained should be transmitted to a central aid station for the district and should be further elaborated by the chief. An important reason for the origin and spread of tuberculosis is to be found in the unhygienic character of the dwellings. In the country, particularly, tuberculosis for this reason may be put in the first place as a house disease. In addition, insufficient hygiene of schools with reference to the school houses and also the nutrition and care of school children in other matters, must be taken into consideration. The nutrition of children in the country by cow's milk is, almost without exception, completely inadequate. The same is true with reference to the supply of meat, eggs, fresh vegetables, etc. Alcoholism is very wide-spread in the country districts. All these elements diminish the physical resistance of the people and increase the predisposition to tuberculosis. Cleanliness, especially care of the skin and of the teeth and clothing, is quite inadequate. Glandular tuberculosis is about as widely spread as among the children of the city population. Infection within the dwelling must be considered as the most important factor in the tuberculous infection of children.

No grounds for assuming a hereditary transmission were found. In a not inconsiderable number of children, transmission by flies plays a rôle. The origin of tuberculosis that is so widespread in adults must, for the most part, be referred to tuberculous infection in the home during childhood. The evils complained of ought to be opposed with the greatest energy. Dwellings must be improved and greater care must be taken for the schools to secure rational nutrition and care of the school children. The installation of school physicians in the country is to be generally recommended. The country population should be instructed with reference to the cause and cure of tuberculosis. Tubercle bacilli in the dwellings of tuberculous patients must be rendered harmless and disinfection should be made obligatory and gratuitously provided for all patients suffering with open tuberculosis and regularly after a death from tuberculosis. For disinfection the process of Lockemann and Kroner by means of paraformaldehyd and permanganate is to be recommended. Curable tuberculous patients should, as far as possible, be sent to sanatoria at the beginning of their illness. Healthy children must be removed from homes infected with tuberculosis and placed in others. Isolation of phthisical patients who are disseminating the bacilli is the most important of all measures in the campaign against tuberculosis

The Law Against Quackery

The same favorable testimonial cannot be given the Reichstag for its action in the matter of the law to regulate th unqualified practice of medicine as was given for the actio on the vaccination question. The proceedings of the committe in which the bill is at present under discussion show constantly more plainly, as I have already indicated in my forme report, that the parties intend to bury the bill in the committee and give it no chance to reach the Reichstag in full session.

Flower Days for German Charity

As in Germany we have no multimillionaires to rely on the private philanthropy which assists the government in th field of charity is compelled to adopt the most various mean and methods to raise the necessary money. The means hitherto employed in the most various forms, such as festiva arrangements, bazaars, raffles and the like with which t induce well-to-do citizens to open their purses under more o less friendly compulsion, have exhausted their efficacy according to the general opinion, and therefore a new method ha been determined on. This year in the various cities on definite days a number of young girls and children will sel flowers on the streets and in the houses and there is reaso to hope from some examples that these flowers will be sol at an unusually high price to the advantage of the cause t which the money is to be devoted. June 24 and 25 in Berli are to be flower days for mothers and children, the proceed of which are to go to the institutions for the care of infant and the like. These arrangements will be supplemented b evening lectures, at which instruction on important question in the field of social hygiene and the care of children will b given free to the public by physicians by means of lecture moving pictures, etc. Previous to this on June 16 the centra committee of the Prussian National Red Cross will hold cornflower day (*Kornblumentag*) to raise funds to provid spa treatment for needy war veterans and for the buildin of the Red Cross home for veterans and for similar purpose

VIENNA LETTER

(From Our Regular Correspondent)

Vienna, May 18, 1911.

First Austrian Congress on Tuberculosis

A few days ago, the first Austrian congress on tuberculosi was held in Vienna. At present, in our country there is n public general institution or central board dealing with thi question, which has been left entirely to private—and therefore often commercial enterprise. The government, at las aroused to its duty, has called together this congress t organize and centralize the whole subject.

Hitherto, all efforts have been directed to the care of curabl patients. Prophylaxis in the sense of making the incurabl ones harmless—and these are the most dangerous ones—ha been neglected. This congress has impressed on the lay publi the importance of secluding the patients in the later stag of phthisis. Thus, there are only 400 beds open in the whol country for advanced tuberculosis patients; and only si tuberculosis sanatoriums are open in Austria, five of whic are private commercial concerns. In seven public hospital there are special tuberculosis wards, but these also try t keep away the hopeless cases; only one surgical pavilion i devoted to that disease, as well as one institute in Vienna In eight seaside places there are convalescent homes for tube culous children, and in twenty-one towns and hamlets the are small local committees, which give advice and help i cases of tuberculosis. These are all. Dr. Larisch, who read paper on this subject, also pointed out that the governme has lately turned its attention toward the occurrence of th disease amongst its servants and officers, chiefly in its indu tries, the prisons and the post-office service. Much more ha been done by the workmen's and the merchant clerks' si clubs (Krankenkassen). The head physician of the firs named institute, Dr. Docent Schiff, who supervises 320,0 wage-earners in Vienna, showed that the occurrence of tube culosis among members of this Krankenkasse entails an e penditure of 1,250,000 kronen ($300,000) sick pay per annu or about 20 per cent. of the total sick pay. The number cases is 11 per cent. of all, while the number of sick days f tuberculosis is 23 per cent. of the total number. The patien of the Krankenkasse are paid full sick pay for twenty- weeks, half pay for another twenty-six weeks. After o year of continued disease they are discharged! Thus, ju those who most need help are left without it. In the me chant clerks' sick club a strict supervision of all suspect cases is organized. At the special hospital owned by the cl the diagnosis is reached or attempted by all modern mean

Sixty district doctors are informed from there and each tuberculous patient is put on a list and reported on regularly by the doctor. Attention is paid to the social and other conditions of the patient. This club has also made arrangements to have its members cared for in open-air institutes and is the only club which receives incurable patients in its special ward. In another paper by Dr. Reisinger, the outlines of the proposed general organization were illustrated. The whole country is to be divided into small health districts. In the center of each a local committee, consisting of the district doctor, the head of the administrative board, the vicar and other prominent men, will have the power to supervise patients and their surroundings, to give advice in health matters, to inspect the sanitary conditions of stables and of human dwellings, to control the supply of milk, and to deliver lectures and give demonstrations pertaining to the subject. Two new measures, however, are indispensable if the desired effect is to be obtained: the compulsory notification of tuberculosis—at least to the local committee—and the appointment of "tuberculosis inspectors," equivalent to the existing malaria inspectors and pellagra inspectors. One of the results of the congress may be seen in the fact that the government has already found it suitable to grant a sum of 2,000,000 kronen ($500,000) for the preparatory arrangements of the above scheme.

Demonstrations Against a Severe Examiner

Professor Schauta, the well-known gynecologist and obstetric surgeon, was exposed to unpleasant demonstrations by students a short time ago on the ground that he had been too severe at the examination, having reprimanded more than 30 per cent. of the candidates during the last few months. The professor explained his attitude to the students in general by stating that his conscience did not allow him to accept from his students insufficient knowledge. The most precious good we have, the life of mothers and children, depended on the knowledge of the doctor. He could not believe that any but the very best qualifications were admissible. He concluded by saying that the best demonstration against him was sufficient knowledge. In the senate of the university and among the students generally, Schauta's attitude was approved, for just now when the increase of medical science is so very marked, a lessening of the requirements for passing would mean a deterioration of the quality of the young physicians.

Introductory Lecture by Ortner

Professor Ortner, who has taken over his clinic, has introduced himself to the students by a most lucid lecture entitled "Occult Diseases," in which he explained the correlations of organs generally not thought of. The lecture threw a vivid light on the methods of teaching of the new professor, and it must be stated that the impression was an excellent one. Among the large number of guests present the entire senate of the Vienna University and numerous officials were seen. The university has gained a really first-class man for its teaching duties.

Marriages

Alexander Brown Dancy, M.D., Jackson, Tenn., to Miss Mary Happel of Trenton, Tenn., a daughter of the late Dr. Thomas J. Happel, June 6.

Ross Edwin Pridgen, M.D., Oakland, Tex., to Miss Edith Lane Fox of Van Vleck, Tex., at Thomaston, Tex., March 14.

J. Oscar Brown, M.D., Big Cabin, Okla., to Miss Corrinne Arnold of Louisville, Ky., at Jeffersonville, Ind., May 21.

Malcolm Sumner Woodbury, M.D., Clifton Springs, N. Y., to Miss Stella Baker of Kansas City, Mo., June 7.

Clarence Leon Fessenden, M.D., Sioux Falls, S. Dak., to Miss Ethel Millen of Syracuse, N. Y., June 6.

Martin Hagen, M.D., Soldier's Grove, Wis., to Miss Edna May Johnson of Cashton, Wis., May 30.

John L. Laird, M.D., Philadelphia, to Mrs. Gertrude Sturtevant of Wilkes-Barre, Pa., May 20.

Frank Lawrence Baker, M.D., Weston, Neb., to Miss Frances Jaffe of Lincoln, Neb., May 21.

J. Frank Dennis, M.D., Waterloo, Ia., to Miss Hilda A. Tracy of Spickard, Mo., May 2.

Walter Harold Scheel, Utica, N. Y., to Miss Gladys M. Head of Chicago, May 23.

Deaths

Isaiah F. Everhart, M.D. University of Pennsylvania, Philadelphia, 1863; a member of the Medical Society of the State of Pennsylvania; philanthropist and naturalist of Scranton; who endowed the Everhart Museum of Natural History in Scranton; a medical cadet and later assistant surgeon of the Eighth Pennsylvania Volunteer Cavalry, and surgeon of the Sixteenth Pennsylvania Volunteer Cavalry during the Civil War; surgeon of the Ninth Pennsylvania State Guards during the strike of 1871; for seven years a member of the medical staff of the Lackawanna Hospital; died at his home in Scranton, May 26, from cerebral hemorrhage, aged 71. A bronze statute of Dr. Everhart, presented to Scranton by Dr. B. Harry Warren, West Chester, is to be dedicated this month.

Francis Marion Prince, M.D. Jefferson Medical College, 1849; one of the oldest and most esteemed practitioners of Jefferson County, Ala., and a resident of Jonesboro and later of Bessemer; died at the home of his daughter in Glen Iris, Birmingham, May 17, from cerebral hemorrhage, aged 83. Dr. Prince was a member and once vice-president of the Medical Association of the State of Alabama; a charter member of the Southern Surgical and Gynecological Society; a member of the Tri-State Medical Association of Alabama, Georgia and Tennessee; for several years president of the Jefferson County Medical Society, and first president of the Bessemer Medical Society. He served throughout the Civil War as surgeon and medical inspector in the Confederate service.

Augustine S. Mason, M.D. Medical College of Virginia, Richmond, 1855; a member of the American Medical Association; surgeon in the Confederate service and chief surgeon of the military department of Richmond throughout the Civil War; for nearly fifty years a practitioner of Hagerstown, Md.; died at his home, May 26, from arteriosclerosis, aged 77. Washington County Medical Society, at a special meeting, adopted resolutions setting forth the brilliant qualities of Dr. Mason and deploring his death.

Benton M. Hall, M.D. Tulane University, New Orleans, 1900; a member of the Medical Association of the State of Alabama; a hospital steward during the Spanish American War; formerly a practitioner of Texas and Colorado, where he was obliged to go on account of his health; died at his home in Huntsville, Ala., May 16, from tuberculosis, aged 35.

Mark D. Ethridge, Memphis (Tenn.) Hospital Medical College, 1902; a member of the American Medical Association, and for several years a practitioner of Sandersville, Miss.; who lived for a time in Silver City, N. M., where he was obliged to go on account of his health; died in Meridian, Miss., May 14, from tuberculosis, aged 32.

Robert Lee O'Brien, M.D. Baltimore University, 1904; a member of the American Medical Association; secretary of the Eastern Colorado Medical Association and local surgeon of the Burlington System at Akron, Colo.; was found crushed to death under his automobile near that place, May 30, aged 34.

Edward Arthur Dakin, M.D. Hahnemann Medical College, Philadelphia, 1881; of Boston and Magnolia, Mass.; a member of the Boston Gynecological and Surgical Society; died in the Addison Gilbert Hospital, Gloucester, Mass., May 22, from septicemia, due to an abrasion of the instep, aged 58.

Augustus Greely Eliot, M.D. College of Physicians and Surgeons, New York City, 1843; a former practitioner of New York City; one of the founders of the New York Academy of Medicine, visiting physician to New York and Bellevue Hospitals, died in Rostock, Germany, May 10, aged 90.

John B. Cook, M.D. University of Southern California, Los Angeles, 1890; a member of the medical staff of the California Hospital, Los Angeles; for five years physician to the State Reform School, Whittier; died at his home in Los Angeles, May 20, from cerebral hemorrhage, aged 43.

Bertha Hastings Campbell, M.D. Woman's Medical College of Pennsylvania, Philadelphia, 1891; of Anadarko, Okla.; a member of the Oklahoma State Medical Association and a pioneer practitioner of Logan County; died in the El Reno Sanitarium, May 12, aged 46.

Cyrus C. Paxson (license, Kansas, 1901); for twenty years a practitioner of Bolton, Kan., and for the last six years a resident of Independence; died in the Montgomery County Hospital, May 18, from cerebral hemorrhage, following a fracture of the hip, aged 74.

Joseph T. Pindell, M.D. University of Maryland, Baltimore, 1865; a medical cadet in 1864 and then for two years surgeon in the army; at one time a member of the council and mayor of Wellsville, Kan.; died at his home in that city, May 22, from nephritis, aged 81.

John H. Dennard, M.D. Atlanta (Ga.) Medical College, 1893; a member of the Medical Association of Georgia and at one time mayor of East Point; local surgeon of the Seaboard Air Line; died at his home in East Point, May 21, from hemorrhage, aged 38.

John H. Whitenack, M.D. Medical College of Indiana, Indianapolis, 1874; superintendent of the pharmaceutical department of a wholesale drug house of Indianapolis; was stricken with apoplexy, May 23, and died in an ambulance while being taken to his home.

Andrew Guffin Cooper, M.D. Indiana University School of Medicine, Indianapolis; of Scircleville, Ind., intern in the Indianapolis City Hospital; aged 29; was almost instantly killed in a collision between the hospital ambulance and a street car, May 14.

John D. McGirk, M.D. University of Pennsylvania, Philadelphia, 1871; founder of McGirk's Sanitarium at Philipsburg, Pa., and a member of the borough council from 1865 to 1868; died at his home in Philipsburg, May 25, from senile debility, aged 76.

Clarissa Van Yeomans, M.D. Hahnemann Medical College, Chicago, 1870; for more than twenty years a practitioner of Clinton, Ia.; died at the home of her daughter in Grand Crossing, Chicago, May 6, from senile debility, aged 89.

Dalton Stewart McCarthy, M.D. Trinity Medical College, Toronto, 1893; of Hemet, Cal.; a member of the American Medical Association; died at the home of his parents in Orangeville, Ont., May 14, from nephritis, aged 41.

Robert Atkinson, M.D. University of Maryland, Baltimore, 1854; founder and for thirty years president of the Atkinson Private School for Boys, Baltimore; died at his home in Baltimore, May 21, from pneumonia, aged 79.

Peter Follman, M.D. Ecole de Médecine, Paris, France, 1860; a practitioner of the United States since 1863, and a resident of Mankato, Minn., since 1869; died at his home in that city, May 17, from cerebral hemorrhage, aged 84.

Elbert C. Macy, M.D. Hahnemann Medical College, Chicago, 1885; a veteran of the Civil War; for forty-five years a practitioner of Pleasanton, Ia.; died recently at his home, and was buried, May 13, aged 66.

Alpheus Prince, M.D. University of Buffalo, N. Y., 1883; a member of the pension examining board of Byron, N. Y.; died at the home of his son in Ithaca, N. Y., May 18, from nephritis, aged 55.

John Francis Baker, M.D. Long Island College Hospital, Brooklyn, N. Y., 1890; of New Haven, Conn.; died at St. Raphael's Hospital in that city, May 21, after a surgical operation, aged 50.

Albert Hamilton Hayes (license, Massachusetts, years of practice, 1894); of Boston; was overcome by heat in a subway station in Boston, May 22, and died a few moments later, aged 71.

Pierre M. Fourguette, M.D. Faculté de Médecine, Paris, France, 1882; for several years physician of the French Society of New Orleans; died at his home in that city, May 21, aged 53.

William Burgess Brengle, M.D. Rush Medical College, 1879; a member of the Oklahoma State Medical Association; physician of Noble County; died at his home in Perry, May 18, aged 58.

William Robert Anthony Wilson, M.D. College of Physicians and Surgeons, New York City, 1895; formerly of Peoria, Ill.; died at his home in Pittsfield, Mass., May 13, aged 41.

William Protzman, M.D. Cincinnati College of Medicine and Surgery, 1882; one of the oldest practitioners of Lincoln, Neb.; died at his home, May 23, from senile debility, aged 82.

William McKee Eldon, M.D. Jefferson Medical College, 1888; formerly a member of the American Medical Association; died at his home in Roaring Spring, Pa., May 18, aged 51.

G. E. Milton Smith, M.D. University of Maryland, Baltimore, 1888; of Baltimore; died at the Church Home and Infirmary in that city, May 22, aged 43.

John Bugbee Hartwell, M.D. Albany (N. Y.) Medical College, 1856; died at his home in Lockport, N. Y., May 2, from arteriosclerosis, aged 82.

George P. Shoemaker, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1882; died at his home in Hendley, Neb., May 4, aged 58.

Charles Henry Hamilton, M.D. Rush Medical College, 1873; died at his home in Dubuque, Ia., May 28, from erysipelas, aged 68.

Daniel H. Whitford, M.D. Bennett Medical College, Chicago, 1878; died at his home in Elgin, May 17, aged 58.

William H. Pickford, M.D. Jefferson Medical College, 1881; died at his home in Philadelphia, May 15.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

[CONTRIBUTION FROM THE CHEMICAL LABORATORY OF THE AMERICAN MEDICAL ASSOCIATION]

PIX CRESOL

W. A. Puckner and W. S. Hilpert

In a paper on "The Abuse of Chemical Formulas"[1] several examples were given of the various methods employed by "patent medicine" concerns to give standing to their products by assigning to them a chemical formula. In some cases the formulas given are impossible, in other cases they may represent the chemical composition of only one constituent or it may be an attempt at both. To a chemist such formulas are absurd and on seeing a formula which he knows to be wrong he naturally thinks "Fake," "Ignorance," or both. Just such a formula ($C_5H_6N.SO$) applied to a product called Pix Cresol, manufactured by the "Pix Cresol Chemical Co., Kansas City, Mo.," attracted our attention. No mention of such a formula can be found in such works as Richter's most complete Index of Carbon Compounds, nor the three supplemental volumes published, 1901-1905, by the German Chemical Society and Beilstein's Organic Chemistry (3rd Edit.). This fact, supplemented by inquiries from correspondents as to the composition of the substance made it seem worth while to make a chemical examination of it.

The examination was made and showed that the essential constituent was oxyquinolin sulphate. As potassium sulphate was also found it was concluded that Pix Cresol was a preparation containing a mixture of oxyquinolin sulphate and potassium sulphate, which has also been known in the past under the proprietary name, "Chinosol." At this time a letter was referred to the laboratory containing the report of an analysis of Pix Cresol, which showed the presence of oxyquinolin sulphate but no potassium sulphate. As this indicated that Pix Cresol contained as its essential constituent the substance now sold as Chinosol, the laboratory purchased a new specimen of Pix Cresol from the Chicago representatives of the Pix Cresol Co. The examination[2] of this specimen showed that it consisted of approximately 21 per cent. oxyquinolin sulphate, about 8.3 per cent. potassium sulphate and the remainder almost entirely milk sugar.

It is evident, then, that both the specimen of Pix Cresol obtained directly from the manufacturers and also the one purchased more recently from the Chicago agent, contain as an essential constituent Chinosol of the composition sold formerly. The substance now sold under the name Chinosol and described in New and Nonofficial Remedies is pure oxyquinolin sulphate, and as the exploiters of Pix Cresol probably obtain their supply of oxyquinolin sulphate from the Chinosol Company, the sole American agents for Chinosol, it is to be expected that Pix Cresol should change in composition. It is probable that the analysis referred to the laboratory deals with a more recent specimen than the two examined in the Association laboratory.

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[1] Puckner, W. A.: Report of the Chemical Laboratory of the American Medical Association, iii, 7.

[2] The analytical details will be published in the annual report of the laboratory.

Editorial Note: In view of the Council on Pharmacy and Chemistry's findings,[3] viz., that chinosol is a powerful antiseptic but a feeble germicide and considering that Pix Cresol contains but 21 per cent. oxyquinolin sulphate, the absurdity of the following claims made for Pix Cresol require no further comment:

"Pix Cresol is an Absolutely Sure and Yet Perfectly Safe, Never Failing Destroyer of Pus (*Staph. Pyogenes Aureus.*)"

"It is germicidal, bactericidal, bacillicidal. It is certain as a microorganism destroyer. It destroys absolutely."

"Ridding the blood of germs, it aids in rendering it repiete with oxygen———."

"It kills the germs."

"No organism that is causative of morbid processes can withstand it."

"It destroys microorganisms of all kinds. It destroys them absolutely."

"The germ's tenacity of life does not avail against its action as germicide."

"It destroys the spores and toxins utterly."

A further estimate of the pseudo-chemical company, bearing the name of this "strongest, safest, least expensive medical antiseptic, disinfectant and deodorizer known" may be gained by a cursory glance at some of its "specialties":

"Maizinin compound, Positive Chill and Malaria Specific" the firm says, "prepares the parasites for execution by the leukocytes." It is said to contain arsenic, while the name implies the presence of some plant drug.

"Psora, the Syphilis Specific," is a shot-gun mixture said to be "the scientific combination of the soluble Triple Iodids with the active principles of Echinacea, Cascara amagra, Berberis aquif., and Phytolacca rad.," and is claimed to make "the syphilitic lesions disappear and fail to return."

"Rectoids—Cones for the treatment of all rectal trouble," are said to be "a combination of Rectin (Pix) compounded from Buckeye, Collinsonia, Hammamelis, Belladona, Pix Cresol."

"Tablets for the Female—Pix Cresol Uterettes," it is said, "for sanitary purposes may be continued forever . . . "

When one realizes that this sort of pseudo-scientific twaddle is accepted by many physicians at its face value, the outlook for therapeutics seems dark, indeed. So long as the existence of such concerns is tolerated by the medical profession, so long will there be a crying need for a "Propaganda for Reform in Proprietary Medicines."

Correspondence

Long Beach and the Los Angeles Session

To the Editor:—I was sorry not to see more in the Los Angeles Number of The Journal about Long Beach, the largest (17,500 people) and most popular beach suburb of the convention city. The trolley service between here and the city is a twenty-minute one and the journey, 22 miles, is covered in forty-five minutes. It is a city of easterners almost entirely, nearly every state being represented. We have good schools, including a $150,000.00 polytechnic high school.

While we have a "Pike," and an 1,800-foot pier stretching out into the ocean, large hotels and apartments, amply able to accommodate enormous crowds, we have one distinction (our greatest asset, and that for which we are best known as a pleasant place for a man to send his family); we have no saloons.

Many physicians will be glad to know that they can bring their families to such a place and be with them at night without missing a single session and, further, that the family will be in good surroundings and on the beach for their recreation time instead of in the crowded city.

We have Dr. Evans in our auditorium (seating 6,000, and on the pier), on June 23, on the subject of "The Great White Plague."

Thomas L. Rogers, Long Beach, Cal.
Secretary-Treasurer, Long Beach Medical Society.

Pilocarpin in Pruritus

To the Editor:—In your article on pruritus in The Journal (April 8, 1911, p. 1034), you omitted reference to the internal use of pilocarpin in pruritus. It will be found of exceptional value in the pruritus so often accompanying influenza, the pruritus of jaundice and pruritus vulvæ. Atropin combined with pilocarpin checks the sweating and salivation, which otherwise are liable to occur.

Dose:
Pilocarpin ....gr. 1/4
Atropin ....gr. 1/100
Give only when the pruritus commences.

John J. Reid, M.D., New York.

The Physician's Opportunities in the Foreign Field

To the Editor:—In recent copies of The Journal I noticed something in regard to medical missions. A beautiful picture in the life of our Lord Jesus Christ while on earth is given by Luke the beloved physician in the fourth chapter of the Gospel according to Luke, verses 33 to 44 inclusive. I quote from it:

> "And Simon's wife's mother was taken with a great fever; and they besought Him for her. And He stood over her, and rebuked the fever; and it left her; and immediately she arose and ministered unto them. Now when the sun was setting, all they that had any sick with divers diseases brought them unto Him, and He laid his hands on every one of them, and healed them.
>
> "And devils also came out of many . . . And the people sought . . . that He should not depart from them. And He said unto them, I must preach the Kingdom of God to other cities also; for therefore am I sent. . . . "

China, Arabia, Burmah, Laos, India, China, the great unoccupied fields of central Asia, Mongolia, Afghanistan, Turkestan, Manchuria, the Philippines and many other islands of the sea, are all crying out to-day for the ministry of healing, and offer to the Christian physician a glorious field of service. Men like Livingston, Parker and Morrison have given luster to the medical profession.

The mission boards are calling for medical men now, some for my field, Korea. The first resident Protestant missionary to Korea was Dr. Horace M. Allen, who by ministering to the severely wounded prince in the early days, received the royal favor of the emperor of Korea, whose favorable attitude toward missionaries and mission work did much to open that land to the gospel. The needs of the people in these lands for intelligent medical service is indescribably great. They gladly avail themselves of the physician's ministry. Medical supplies, instruments, the dispensary and eventually a hospital are usually supplied the physician by the board he represents. Sometimes these hospitals are the gifts of the people on the field in appreciation of the doctor's services as in the case of Dr. Allen's fine hospital in Madras, India.

Diseases met in these lands cover a wide field; diseases of the eyes, skin diseases of children, difficult obstetric cases (the normal cases usually being seen by midwives), a wide field of surgicel cases, tuberculosis, and the diseases peculiar to those lands, leprosy, beriberi and many others, offer a field for special investigation and study for those who so desire. Above it all there is a terrible heart-rending cry of suffering going up from these non-Christian lands which should reach the heart of the Christian physician and cause him prayerfully to consider his own relation to this call and the willingness to meet it, remembering the words of our Lord Jesus Christ, the great physician: "Inasmuch as ye have done it unto one of the least of these my brethren ye have done it unto Me."

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[3] Council on Pharmacy and Chemistry Reports, 1910, p. 47.

In addition to the actual work of the medical missionary there is a great field for medical teaching. The object of the medical mission work is primarily to win the people to Jesus Christ using healing as a means to this end and in answer to our Saviour's command: "Go ye into all the world and preach the gospel to every creature."

In our own field in southern Korea there is a call now for two medical missionaries. Information as to this call may be obtained by writing to Dr. S. H. Chester, Secretary Executive Committee on Foreign Missions, Southern Presbyterian Church, First National Bank Building, Nashville Tenn.

To those who are interested in further information concerning medical missions, most helpful and interesting information may be obtained from the following sources:

Medical Missions, by Waniess, price 25 cents.
Murdered Millions, by Dowkont, price 15 cents.
The Supreme Decision, by George Sherwood Eddy, price 10 cents.
The Work of the Medical Missionary, price 15 cents.

These and others can be obtained from Mr. W. B. Smith, Candidate Secretary, Student Volunteer Movement, 125 East Twenty-Seventh Street, New York City.

W. H. Forsythe, M.D., Mokpo, Korea.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

SPOROTRICHOSIS

To the Editor:—I have recently noticed articles in The Journal on sporotrichosis. I can find nothing in the text-books on the disease and am anxious to know where I can find something on the subject, fully setting forth just what it means.

S. C. Broadstreet, Mt. Pleasant, Texas.

Answer:—Sporotrichosis is described in recent books on skin diseases (Stelwagon, Hyde, Pusey, etc.). In his paper "A Case of Sporotrichosis in Man" (The Journal, May 6, 1911, p. 1312), Dr. H. J. Harker gives a bibliography which includes the principal contributions on this subject in English literature. Reference may also be made to the article by Dr. R. L. Sutton ("Sporotrichosis," The Journal, Sept. 17, 1910, p. 1000) which gives a rather full bibliography.

BACTERICIDAL EFFECTS OF ALCOHOL AND CHLOROFORM

To the Editor:—1. How long will it take 94 per cent. commercial alcohol to kill the ordinary pus-producers?

2. Which will kill a germ most quickly, 60 per cent. or 94 per cent. alcohol? (a) on the skin and (b) in glass bottles.

3. How long will it take an anesthetic, such as ether or chloroform, to kill pus-producers?

L. T. S. Hottendorf, M.D., Randolph, Utah.

Answer.—1. Several hours. Ten per cent. alcohol restrains the growth of bacteria, but an alcohol of nearly absolute strength is required to *kill* bacteria, and even this is not efficient against spores.

2. The stronger alcohol is more efficient, both on the skin and in glass bottles.

3. We find no statement with regard to the bactericidal activity of ether. Chloroform is active in 1 per cent. solution. A considerable period of contact would be required.

RED CLOTHING AND ACTINIC RAYS

To the Editor:—With great interest I read your editorial on "The Use of Orange-Red Underclothing in the Tropics" in your issue of May 20. This editorial contains the following sentence: "Orange-red underclothing and hat-linings were chosen on account of the known resistance of this color to the actinic rays of the sun." Can you tell me where I can find some scientific data regarding this fact?

E. E. Blaauw, Buffalo, N. Y.

Answer.—The use of red underclothing and hat-linings is simply an adaptation of the well-known principles governing the proper construction of a "dark room" for the development of negatives. The "Century Dictionary" says that such a room is one "from which all actinic rays have been excluded. . . . This dark room is not without light, but its light is of a quality which in no way affects the plate." As red objects owe their color to the fact that they transmit only that part of the light whose combined effect on the eye is red, it follows that the ultraviolet or actinic rays, which lie at the other end of the spectrum, will not easily pass through the orange-red material. For a full discussion of the principles of light and heat absorption and radiation see "Elementary Treatise on Physics," by Ganot, translated from the French by E. Atkinson. Wm. Wood & Co., New York, 1906. For further elaboration and application of these physical laws to the point in question see "Effects of Tropical Light on White Men," by Major Charles E. Woodruff, U. S. Army, Rebman Publishing Co., New York, 1905.

The Public Service

Medical Department, U. S. Army

Changes for the week ended June 3, 1911.

Wolfe, Edwin P., major, granted one month's leave of absence, to take effect about July 1, 1911.

Wolven, F. Homer, D.S., reported for temporary duty at Fort William H. Seward, Alaska.

Lowe, Thomas S., M.R.C., left from temporary duty at Fort Apache en route to Douglas, Ariz., for field duty.

Clark, John A., captain, leave of absence extended twenty days.

Carter, Charles S., C.S., reported for duty at Fort Morgan, Ala.

Kunckel, George I., D.S., ordered to temporary duty at several posts in the Department of the Gulf.

Phillips, Hiram A., lieut., reported on ten days' leave of absence.

Lynch, Charles, major, ordered to Boston on special business pertaining to the American Red Cross.

Ballard, James C., M.R.C., reported for temporary duty at Fort Miley, Cal.

Wales, Philip G., major, ordered to Washington, D. C., for examination for promotion.

Ashford, Mahlon, lieut., granted leave of absence for two months with permission to apply for extension of one month.

Kinard, Kerwin W., M.R.C., recently appointed, ordered to active duty and assigned to station at Fort Ethan Allen, Vt.

Hughes, Leonard S., 1st-lieut., relieved from duty with maneuver division and ordered to Fort Clark, Texas, for duty.

Boyer, Perry L., captain, relieved from duty at Fort Clark, Texas, and ordered to Chicago, Ill., for duty as attending surgeon, headquarters, Department of the Lakes.

Hall, James F., captain, relieved from duty as attending surgeon, headquarters, Department of the Lakes, Chicago, and ordered to Fort Strong, Mass., for duty.

Lombard, Marion S., M.R.C., recently appointed, ordered to active duty and assigned to duty with troops at target range, Ashland, Neb.; on completion of this duty assigned to him will stand relieved from active duty in M. R. C.

Heflebower, R. C., lieut., left Fort Bayard, N. M., on twenty days' leave.

Hoff, John Van R., colonel, ordered to make inspection of medical departments at several posts in the Department of the East.

Medical Corps, U. S. Navy

Changes during the week ended June 3, 1911:

Berryhill, T. A., medical inspector, detached from the marine recruiting station, New York, and ordered to the naval medical supply depot, Brooklyn.

Brownell, C. D., surgeon, detached from the naval hospital, Las Animas, Colo., and ordered to the Naval Medical School Hospital, Washington, D. C., for treatment..

Stepp, J., surgeon, ordered to the *Missouri*.

Moran, C. L., P. A. surgeon, commissioned passed assistant surgeon from Feb. 10, 1911.

Hough, F. P. W., and Rhoades, G. C., P. A. surgeons, commissioned passed assistant surgeons from April 11, 1911.

Smith, W. B., P. A. surgeon, detached from the naval hospital, Annapolis, Md., and ordered to the Naval Academy.

Hayden, R., P. A. surgeon, detached from the Naval Medical School Hospital, Washington, D. C., and ordered to the Naval Academy.

Smith, C. W., asst.-surgeon, detached from the *Dubuque* and ordered to the *Nashville*.

Mackenzie, E. G., P. A. surgeon, commissioned passed assistant surgeon from Dec. 28, 1910.

Woodland, E. E., and Ledbetter, P. B., asst.-surgeons, commissioned assistant surgeons from May 4, 1911.

Malkin, G. M., acting asst.-surgeon, ordered to the navy recruiting station, Baltimore.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended May 31, 1911.

Lumsden, L. L., P. A. surgeon, granted fifteen days' leave of absence from May 29, 1911.

Bahrenburg, L. P. H., P. A. surgeon, granted one month's leave of absence from June 1, 1911.

Edwards, George P., A. A. surgeon, granted thirty days' leave of absence from June 1, 1911.

Naulty, C. W., Jr., A. A. surgeon, granted eighteen days' leave of absence from May 31, 1911.

Thompson, W. R. P., A. A. surgeon, granted ten days' leave of absence from May 24, 1911.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

THE LEAGUE FOR MEDICAL FREEDOM

Collier's Weekly, June 3, prints the following editorial under the caption: "Liberty":

> Protests from readers have greeted our criticism of the League for Medical Freedom. Also a protest is telegraphed from the California branch of the league. In the minds of most of those who protest, the principal objections are to the following positions taken by us: 1. That the league contains the kind of men who opposed the pure food act. 2. That the activities of the league are against public welfare and frequently surreptitious. Our answer follows:
>
> 1. B. O. Flower, one of the nine founders of the league, and now in his second term as president of it, was President of "the R. C. Flower Medicine Company" from 1885 to 1899. R. C. Flower is the notorious quack and general humbug whose latest arrest was as late as 1908. B. O. Flower wrote the league's pamphlets on "Bubonic Plague" and "The Compulsory Medical Inspection of School Children." His views on patent medicine are often expressed. For instance:
>
> > I believe that a great majority of the proprietary medicines are infinitely less dangerous to the public than the majority of regular doctors' prescriptions.
>
> 2. C. W. Miller, second vice-president of the league, was also one of the founders. In his newspaper, which publishes patent medicine advertising, he has constantly fought the medical profession. Last year one of his addresses against what he calls a "doctors' trust" was delivered to the Dairy Association in Baltimore. We may say in passing that *Collier's* does not believe in freedom to sell tuberculous milk any more than it does in freedom to sell tuberculous meat.
>
> 3. Mrs. Diana Belais, a director and also a founder, has appeared before in this paper as president of an anti-experiment society, a well-meaning, ignorant, reckless, and muddleheaded agitator. We are officially informed by the chairman of the "committee on publicity and education" of the league that Mrs. Belais was made a director "because of her courageous efforts to secure a higher law in New York State than the doctors' cruel theories and professional arrogance." Here's to anti-experiment, meningitis, diphtheria, and freedom!
>
> 4. Dr. C. S. Carr, who is on the advisory board, edits a pseudomedical sheet. *Collier's* long ago printed a letter signed "The Peruna Drug Company, per Carr." As editor of "Medical Talk for the Home," he carried advertisements of many of the medicines exposed in *Collier's* in our series on "The Great American Fraud." He is now editor of the *Columbus Medical Journal*, which he at once turned from an ethical sheet into a sheer fraud. Look at the issue of May, 1909. On the front cover is a picture of Carr himself writing: "All drugs are poison. All druggists are poisoners." On the reverse side is an advertisement beginning: "Prescribe Antikamnia and Codein tablets in la grippe, headaches, etc." Hurrah for freedom and Peruna!
>
> 5. George P. Englehard, who is on the advisory board, has for a long time in his journals [*Medical Standard* and *Western Druggist*] defended the patent-medicine interests.
>
> 6. Charles Huhn, also a member of the board, is a prominent officer in a cooperative patent-medicine concern.
>
> 7. Another founder was a member of the advertising agency which is now spending for the league the money which it puts into its advertising campaigns.
>
> The league says it did not oppose any "sanitary or quarantine laws." This statement requires some hardihood, as the hearings of the Senate Committee on Health, and more especially of the House Committee on Foreign and Interstate Commerce, show. It would interest us to know whether the league can point out a single health bill introduced in Congress which it has not opposed. When the leaders wish to oppose a sanitary or quarantine law they do it on the ground that such a law would *indirectly* "lead to compulsory and discriminatory legislation."
>
> The league was nominally born recently, but those who make it up had already as individuals, and even as organizations (such as the Colorado League for Medical Liberty) opposed State and National legislation. A pamphlet published by the Colorado branch singles out *Collier's* for attack, and was written by a notorious quack doctor. In California, which was the special theme of our former editorial, if the league should prevail, the next threat of bubonic plague would be carried out, instead of being suppressed like the last; small-pox might again become a serious epidemic; school children would bear their ills as best they might. A bill was introduced ordering that the Board of Health be composed of two "allopaths" (a school which does not exist but is a hostile term for regular physicians), two homeopaths, two "eclectics," two osteopaths. It did not pass!
>
> Some leading homeopathists and osteopathists, be it said, are in favor of a national health bureau and strongly against the agitations of the league. Dr. Francis B. Kellogg, president of the California State Homeopathic Society, in an address recently said: . . . "In my opinion there is an effort being made to exploit the homeopathic profession by influences and interests which are indirectly but radically opposed to the welfare not only of practitioners of medicine in general, but to that of humanity itself. I refer to the effort to enlist homeopathic support for the so-called National League for Medical Freedom."
>
> Plato complained that in his day doctors made too sharp a distinction between the body and the mind. In our day the best class of physicians frequently recommend faith cure and Christian Science, and the Emmanuel movement is an indication that it is possible for science and religion to work together in healing. Few mere observers rate the benefits that Christian Science has brought to the community more highly than we do. A belief which so frequently brings about an actual improvement in character, disposition, bodily health, and mental atmosphere, deserves the most serious recognition, even by those who regret its hostility to the progressive science of medicine. It is possible at times, for clever designers to use members of any faith for disastrous purposes. When R. C. Flower was at the height of his career, in 1907, as manufacturer of diamonds, vender of fake mining stock, wearer of most ingenious disguises, traveler under assumed names, and general artist in gold bricks, he conceived the idea of playing for profit upon the earnest beliefs of the followers of Mrs. Eddy. One of his accomplices, a woman, who also used an assumed name, worked the game with him, and when Dr. Flower, alias Mr. Cortland, took up the cudgels in defense of Christian Science, without being requested to do so, he said:
>
> > Not that I am one of its disciples, but I like to see every one free to practice medicine as he wishes.
>
> Here we have the very words themselves from old Doc Flower. Up with freedom!
>
> Everybody who believes in "freedom" in medicine is within his natural and political rights in supporting this league. *Collier's*, not believing in this species of "freedom," is also within its rights in treating the league as a menace, the make-up, bias, and purpose of which ought to be fully understood.

THE TUBERCULOSIS BILL IN COLORADO

The Denver (Colo.) *News* for May 18 says, regarding the bill passed by the legislature requiring the registration of patients suffering from tuberculosis:

> The bill for the registration of tuberculosis is a bill to recognize facts, and deal with them as facts. It is a fact that tuberculosis is an infectious disease. It is a fact that every case of tuberculosis is caught, directly or indirectly, from some other case. It is a fact that the careless consumptive is a source of serious danger to the community. It is a fact that this danger to the community can be almost absolutely abolished by attention to a few simple rules of conduct; rules which make for the patient's comfort as well as for the community's health.
>
> The bill recognizes these facts. The bill seeks to safeguard the public health from the greatest and deadliest disease in the world. . .
>
> The opponents of the bill act as if it were a new thing in American legislation, and predict all manner of dire results which will flow from it, if it becomes a law. As a matter of fact, the bill is not new. . . . [It] is practically identical with the laws now in force in eighteen states; and some of these the most progressive states. California, Connecticut, Iowa, Illinois, Kansas, Maine, Massachusetts, Michigan, Minnesota, Missouri, New York, New Jersey, New Hampshire, Pennsylvania, Rhode Island, Vermont, Washington and Wisconsin have this law now. So has the District of Columbia. All told, 49,784,000 persons, or 54 per cent. of the entire population of our country, are living now under this law—and finding no inconvenience from it whatsoever. Talk about

the oppression the law will cause is idle in face of the fact that a majority of the American people have already tested the law, and found no oppression in it.

And wherever it has been in force for any considerable time, tuberculosis is beginning to retreat.

The liberty to transmit a wasting and destructive plague is hardly one of the sacred and inalienable rights of mankind.

MEDICAL LEGISLATION IN ILLINOIS

Since proposed medical legislation was reviewed in this department of The Journal, May 13, the Illinois State Legislature has adjourned, after passing the following bills:

S. B. 174, to create a sanitary inspection board to be appointed by the state food commissioner, to regulate sanitary conditions of creameries and food factories.

S. B. 235, to enable the State Board of Health to issue temporary licenses to senior students in colleges having a course extending over five years.

S. B. 263, to appropriate $20,000 per year to the State Water Survey for the purpose of investigating the public water-supply.

S. B. 264, to increase the number of state factory inspectors, and to provide for an additional physician on occupational diseases.

S. B. 422, to abolish the common drinking cup.

S. B. 475, to prevent goods, wares and merchandise delivered to any house in which contagious disease exists from being returned at any time to the seller of such goods, wares and merchandise.

H. B. 53, to provide compensation for municipal officers who furnish burial permits on certificates of death.

H. B. 55, to prohibit city councils from enforcing the tuberculin test on dairy herds.

H. B. 140, to provide for the equipment of a state surgical institution for children under 14 years of age.

H. B. 250, to provide for the protection of the public health by minimizing the causes of occupational diseases.

H. B. 434, to allow counties to erect and operate branch county hospitals.

H. B. 460-61, to empower the Chicago Board of Education to establish and maintain schools for deaf, dumb, crippled, blind, subnormal, dependent and delinquent children.

H. B. 642, to make an appropriation of $60,000 per year for the equipment, maintenance and extension of the College of Medicine of the University of Illinois.

The bill to establish a state sanatorium for consumptives failed to become a law; although a bill passed the senate carrying an appropriation of $100,000, and one passed the house, with an appropriation of $25,000.

H. B. 493, to provide for adequate registration of births and deaths, died in the house. Three attempts were made to pass this bill without success. Further consideration was postponed to a later day.

H. B. 608, which authorizes boards of education to appoint one or more school nurses "to have general oversight and supervision of the health of pupils in the public schools, to visit the public schools for the purpose of examining into the condition of health of pupils and to consult with teachers and parents regarding means of improving the health of pupils and the sanitary conditions of the public schools and to make recommendations to the board of education or the board of school directors concerning the result of such investigations," passed both houses but Governor Deneen has been asked by the State Board of Health to veto it.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Delaware: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

Illinois: Coliseum Annex, Chicago, June 13-15. Sec., Dr. James A. Egan, Springfield.

Kansas: Hotel Grund, Kansas City, June 13. Sec., Dr. H. A. Dykes, Lebanon.

Maryland: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

Michigan: University Bldg., Ann Arbor, June 13. Sec., Dr. B. D. Harison, 504 Washington Arcade, Detroit.

Minnesota: State University, Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

Missouri: Gymnasium of St. Louis University, St. Louis, June 12-14. Sec., Dr. Frank B. Hiller, State House, Jefferson City.

New Jersey: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

New York: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

North Carolina: Charlotte, June 14. Sec., Dr. Benjamin K. Hays, Oxford.

Pennsylvania: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

South Carolina: State House, Columbia, June 13. Sec., Dr. A. Earle Boozer.

Texas: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

Virginia: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

Medical College Voluntarily Closed

The following letter has been received from Dr. J. M. Frankenburger, dean of the University Medical College of Kansas City: "At the last meeting of the Board of Trustees of the University Medical College, the following resolution was adopted. We dislike very much to close our doors but think it best to do so at this time, while we are in good standing in every respect." The following is the resolution:

"The University Medical College, during the thirty years of its existence has endeavored to teach medicine according to the most approved methods and has always kept in the forefront of all advances therein. It has therefore been favored to a remarkable degree with the confidence of the medical profession, and points with much pride to the general character of excellence of its graduates and to the marked success and standing which they have held.

"Medicine in the past generation has probably made greater advancement toward the goal of scientific exactitude than any other of the learned professions, and to it has been added a greater wealth of increased knowledge than has been achieved in centuries before. With these great achievements has arisen the necessity for much more highly educated men capable of mastering these enlarged fields of knowledge, and corresponding revolutionary advances in the standards and demands of medical education. Great laboratories with trained specialists in research lines who devote their exclusive time to research work and teaching have become an essential in the equipment of institutions which expect to remain in the forefront of future progress. These laboratories require vast sums of money for their equipment and maintenance to say nothing of the necessary salaries of expert teachers who in this work are shut off from the emoluments of private practice. In consequence the expense of educating a modern physician has in many of our leading institutions been found to run as high as $1,000 per year for each student. The tuition fees however are in few schools more than $250 a year, and in the University Medical College are only $100. To maintain its position in advanced medical education therefore it is evident that no school can be self-maintaining on the basis of its tuition fees as its only source of income. Such education is only possible where endowments are available. Such endowments are lacking in the University Medical College. Up to the present time our work has been equal to the best and to-day we are recognized by the Association of American Medical Colleges and by the Council on Medical Education of the American Medical Association, as one of the four standard schools of the State of Missouri.

"Such a rank and standing however can obviously not be maintained long in the future progress of medical education without endowment. Therefore be it resolved: That the trustees of the University Medical College of Kansas City, Mo., proud of its past, loyal to its many high-class graduates, and devoted to the highest interests of a grand profession, rather than suffer a lost prestige or accept any lesser position among the medical schools of America, do now in view of future necessities, and in the assurance of its present high rank, and for the good of future progress in medical education in Kansas City, and the State of Missouri, announce that with the end of the present teaching year it shall surrender its dearly loved privilege to those institutions financially able to meet the demands of future education in medicine."

The Anesthetist.—The anesthetist should be thoroughly skilled in local, venous, spinal, rectal and general anesthesia. He should be conversant with the minutest details in connection with all its branches, and be competent to carry them out. A special study should be made of the different drugs employed, more especially of the newer preparations. He will then be in a position to teach the student a subject which is of the utmost importance to the public at large.—E. C. Ryall, in the *Practitioner.*

Book Notices

THE SOCIAL EVIL IN CHICAGO. A Study of Existing Conditions with Recommendations by the Vice Commission of Chicago (a Municipal Body Appointed by the Mayor and the City Council of the City of Chicago) and Submitted as Its Report. Chairman, Dean Walter T. Sumner, 117 North Peoria Street, Chicago. Paper. Pp. 368.

It is largely owing to the efforts of the medical profession that a new interest has been aroused regarding questions relating to sexual vice and a new sense of danger to the public welfare from the institution of prostitution has been excited. The problem is seen not only to involve a relaxation of public morals, but to threaten even the existence of the race. As a consequence of this increased interest, the so-called vice commission was appointed by the mayor of Chicago to investigate conditions in that city. In this investigation the medical aspects of the question were given due consideration and the commission contained in its membership five physicians whose advice and special knowledge were of great value. The general as well as the medical public naturally await with great interest the conclusions of this body which after long deliberation has now presented its report. This report is a book of 358 pages containing the conclusions of the commission with detailed statements of the facts on which these conclusions are based.

The commission availed itself to some extent of the work of previous investigators, but also gathered information as to local conditions at first hand by statistical and detective work, carefully verified, so that the conclusions are believed to be reliable. While the exact figures are chiefly of local interest, the estimates and conclusions which have been very conservatively drawn, cannot fail to be of value to other students of the problem. The vice conditions are essentially similar in all cities, but the vice of the large city draws so extensively on smaller cities and villages for support and patronage that it becomes, to a large extent, the vice of the country as well, and the disease engendered by this disgrace of civilization is spread throughout the land. Especially to the country physician who must often meet and care for the results of city vice, this distribution of the evil must be of special interest.

The practical conclusions of the Chicago investigation are summed up in a program which is expressed as follows: constant and persistent repression of prostitution as the immediate method, absolute annihilation as the ultimate ideal. For carrying out this program two agencies are proposed: the appointment of a morals commission and the establishment of a morals court.

The report deals in detail with the present conditions in Chicago. The exploitation of vice is shown to be a vast commercial enterprise involving about 5,000 regular prostitutes with a larger but unknown number of semiprofessional and clandestine prostitutes. The profits of this business are estimated at at least $15,000,000, annually of which a large share goes to the disorderly saloons, a considerable part to men who control and live on the unfortunate women, and a portion at least is used to secure protection from the law and influence political action. The relations of the evil with saloons, the police, economic conditions, especially the influence of poor wages, long working hours, and fatigue on the moral stamina of women, and the manner in which various places of amusement are made accessory to vice and contribute to the downfall of girls, are the topics of detailed discussion.

Among the remedial measures the commission includes the treatment of venereal diseases, the better supervision of homes, a revision of the criminal law, more skilful treatment of semidelinquent women, more rational treatment of the cases of arrested women, of the occasional prostitutes, of unmarried mothers, and more adequate provision for professional prostitutes.

In the report of the commission the medical aspects of the social evil are appreciated at their true value. It is not to be expected that such a work should afford any comprehensive treatment of this subject. The pathologic effects of the evil are plainly, but conservatively stated. The chief interest, however, centers in the medical methods of control proposed. These are:

1. Registration of venereal disease.
2. Segregation of the infectious.
3. Supervision of candidates for marriage.
4. Registration of births.
5. Compulsory treatment of the eyes of new-born babes.
6. Hospitalization of infected prostitutes.
7. Hospitalization of those innocently infected.
8. A study of eugenics.

In reference to venereal disease the discussion develops nothing new except the proposed extension of the powers of the health department and the apparent sanction of the commission to methods of individual prophylaxis. The report states:

"Under the police powers now granted by the state, except where specifically limited by statute, the department of health could quarantine persons when notified of venereal disease in them by physicians. To secure proper enforcement of this right, it should be specifically guaranteed by statute." "The health department should have the right to inspect prostitutes by a legal extension of the right granted to it to inspect other persons exposed to contagious disease. This will require an amendment of the statute which interferes with the logical right of the health department in this particular." The report evidently intends that these large powers shall be conscientiously and thoroughly exercised. The following is the program of examination:

"The examination of infected persons by the department of health should include: (a) physical; (b) laboratory; (c) gonorrhea by microscope; (d) syphilis, by microscope and Wassermann blood-test; (e) quarantine in hospital; (1) in homes when under age; (f) notifying of venereal disease to department of health; (g) names of all infected persons supplied to department of health."

That this is a large program cannot be denied. Logically it would apply to the infected male as well as to the female and it would be unjust and probably inefficacious to make a discrimination. At any rate such a program needs thorough education of the people to the dangers of these diseases before such measures for their suppression can find sufficient support to render them effective.

The apparent attitude toward medical examination of prostitutes and personal prophylaxis after intercourse is striking. It might have been expected that the timidity or prejudices of the lay members of the commission would have prevented the discussion of this somewhat tabooed subject or secured some condemnatory statement. We are glad to see that this is not the case. No thorough discussion of the subject is undertaken and *réglementation* is by no means officially approved. But there is evidently a fair recognition of the fact that prophylactic examinations may under proper regulations effect a diminution in the amount of venereal disease and the usefulness of certain methods of prophylaxis after intercourse is recognized. This is not to say that there is any minimizing of the value of moral and educational measures of prophylaxis.

The great importance of this report is hardly to be overestimated. It should form the subject of careful study and it is to be hoped that by the early institution of some of the measures recommended, the extent of the social evil may be considerably reduced.

THE ANATOMIC HISTOLOGIC PROCESSES OF BRIGHT'S DISEASE AND THEIR RELATION TO THE FUNCTIONAL CHANGES. Lectures Delivered in the Russell Sage Institute of Pathology, City Hospital, New York, during the Winter of 1909. By Horst Oertel, Director of the Russell Sage Institute of Pathology, New York. Cloth. Price, $5 net. Pp. 227, with 45 illustrations. Philadelphia: W. B. Saunders Co., 1910.

This is an unusually well-illustrated and well-printed book. The illustrations are partly colored pictures of pathologic kidneys and partly reproductions of microphotographs.

The book contains lectures delivered in the Russell Sage Institute of Pathology during the winter of 1909. They are interesting and give the results of extensive experience, and careful thinking; they are purely pathologic or as the author puts it, have to do with the "morphology of nephritis."

The author deprecates the use of the terms "parenchymatous," "interstitial" and "diffuse." He also regards as equally objectionable "the terms 'acute' and 'chronic,' for they not only do not describe with any degree of precision the time limit of nephritis or the rapidity of its formation and its progress but they have lost in the course of pathologic investigations any definite significance with regard to a particular process or group of processes." His classification of kidneys changed by Bright's disease may be summarized as follows: nephritis simplex is represented mainly by varying combinations of parenchymatous degenerations and inflammatory edema but require no descriptive term such as "degenerativa" "exudativa," "hemorrhagica" and "prolifera," which describe varieties. "When in such kidneys, loss of parenchyma occurs with connective-tissue growth and vascular changes the term 'nephritis degenerativa et productiva' is used." The term "nephritis productiva" is used as synonymous with "interstitial nephritis." These forms of nephritis are described in detail and illustrated fully and well.

This book is interesting not so much for its descriptions as for its excursions into general pathology and physiology, as applied to renal diseases. For instance, the second lecture is largely devoted to a discussion of the different views of the functions and their relations to pathologic changes.

The excursions into the field of general pathology consider such subjects as degenerations, edema, inflammation, cardiac hypertrophy and other heart changes; arteriosclerosis and their relation to nephritis. The history of our knowledge of these subjects and the varied views held by pathologists are fully given and judiciously considered.

The author believes that many chronic cases of nephritis in middle and late life are due to degenerative changes in kidneys which were effected in early life by some infection and from which it was supposed that there had been perfect recovery. The possibility of the latter he doubts.

He also believes that tube casts are not of definite uniform character and derivation. "Epithelial cells, by granular disintegration and subsequent hyaline transformation can furnish material for their formation." "A colloid secretion is furnished by the epithelium and may produce casts or such a substance may be formed by degeneration and transformation of the cells and lastly both of these substances may fuse with an inflammatory albuminous exudate." He does not believe that cylindroids have the same origin or significance as casts.

Pathologists will enjoy this book, though they may not agree with its author in all things. Others who wish to inform themselves about pathology as applied to Bright's disease can find nothing better or more up to date.

Cholera and Its Treatment. By Leonard Rogers, M.D., F.R.C.P., F.R.C.S., Physician, Cholera Wards, Medical College Hospital, Calcutta. Oxford Medical Publications. Cloth. Price, $4. Pp. 236. New York: Oxford University Press, 1911.

This work reviews the history of cholera epidemics, including the recent prevalence of the disease in Russia. The causation, pathology and clinical description, including diagnosis and prognosis, are discussed in separate chapters, but the chief interest of the work centers in the final chapter on treatment. The author shows that the mortality has maintained a high figure, approximating 60 per cent. under all previous forms of treatment. This mortality has been reduced, according to Rogers, to 23.3 per cent. by the use of intravenous injections of hypertonic saline solutions and the administration of permanganates by mouth. The book, while not of immediate practical value to the majority of physicians, will be read with interest by those who desire special information on this subject.

A Manual of Gynecology. By Thomas Watts Eden, M.D., C.M., Edin., F.R.C.P., Lond., Obstetric Physician with Charge of Out-Patients, and Lecturer on Midwifery and Gynecology, Charing Cross Hospital. Cloth. Price, $5 net. Pp. 632, with 272 illustrations. Philadelphia: P. Blakiston's Son & Co., 1911.

This book, while not complete, is a valuable contribution to diagnosis and treatment in general gynecologic disorders. The author has outlined the pathologic teachings on endometritis up to the present and has indicated the significance of the blood-count in inflammatory conditions of the pelvis. In cases in which the etiologic factor is positively determined, he recommends the employment of bacterins, especially in gonorrheal infections. In the treatment of procidentia he clings to the questionable procedure of ventral fixation, although under the vaginal technic he describes the vaginal operation and its limitations. Eden gives the old Emmet technic for complete lacerations in detail but omits to mention the advantages which are gained by the Tait operation. The description of the operation for retroflexion is extremely valuable. The indications are given for conservative operative procedure, and the symptomatology of uncomplicated retrodeviations of the uterus are recognized. The limitations for the Alexander-Adams operation are definitely stated, and the advanced views on this subject are given.

Die Akute Poliomyelitis bzw. Heine-Medinsche Krankheit Von Dr. Ivar Wickman, Privatdozent am Karolinischen Institut zu Stockholm. Paper. Price, 5 marks. Pp. 108, with illustrations. Berlin: Julius Springer, 1911.

This monograph of 108 pages is an unchanged reprint of the section with the same title from the "Handbuch der Neurologie," edited by M. Lewandowsky and published by Springer. The various phases of the disease are considered carefully and fully, especially the symptomatology and the epidemiology and full notice is taken of the recent work on the etiology. This is probably the best discussion of the epidemiology that we have; the rôle of abortive cases and healthy carriers in spreading the disease is clearly shown in the author's study of Swedish epidemics. At the end is a good bibliography. The name *Heine-Medinsche Krankheit* was suggested by Wickman some years since in order to include under one term all the forms of clinical disease caused by the virus of acute poliomyelitis: the spinal, the bulbar, the encephalitic, etc. It does not seem at all necessary to introduce this name into English literature. Indeed, it may be doubted whether its introduction will ever serve any real useful purpose.

Landmarks and Surface Markings of the Human Body. By L. Bathe Rawling, M.B., B.C., F.R.C.S., Surgeon with Charge of Out-Patients, Demonstrator of Practical and Operative Surgery, Late Senior Demonstrator of Anatomy at St. Bartholomew's Hospital. Fourth Edition. Cloth. Price, $2 net. Pp. 96, with 29 illustrations. New York: Paul B. Hoeber, 1911.

This is a very neat and comprehensive little volume of about 90 pages. Most of the illustrations are from the justly popular retouched photographs, while certain necessary outline diagrams are added where they can better elucidate the subject. The text is strictly limited to the scope expressed in the title, and the author has shown considerable restraint in carefully avoiding any suggestion of surgical application of the abundant material furnished, contenting himself with adhering to the original special purpose and maintaining the handy size of his volume. It is a very convenient book for the student and the busy practitioner.

Manual of Cystoscopy. By J. Bentley Squler, M.D., Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital, and Henry G. Bugbee, M.D., Instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital. Morocco. Price, $3 net. Pp. 117, with illustrations. New York: Paul B. Hoeber, 1911.

This is an admirable primer of cystoscopy, worthy of recommendation as a truthworthy guide to beginners in the inspection of the vesical walls. Both text and illustrations are instructive.

Medicolegal

Circumstances Under Which a Patient Cannot be Charged for Services Rendered at Another's Request

The First Appellate Division of the Supreme Court of New York in Edson vs. Hammond (127 N. Y. S. 359) reverses a judgment for services recovered by the plaintiff and orders a new trial. It says that a brother of the defendant sought to have him adjudged a lunatic. To take charge of the medical side of the case he employed an alienist, who employed other alienists. The defendant, after a hearing, was committed to Bellevue Hospital, and was then transferred to a private sanitarium. At the latter, he became ill, and, although he had his own physician, the latter was not notified to attend him, but the alienist above mentioned called on the plaintiff to attend him professionally, he being informed that his new patient was accused of being a lunatic. The plaintiff found the defendant unconscious when he called on him, and, having made his diagnosis, was told by the alienist to continue his treatment of the case, which he did. The defendant remained unconscious about two days, and the plaintiff visited him professionally for about two months, making two blood and four urinary examinations.

It was conceded that the defendant never made any request that the plaintiff attend him, either to the plaintiff or to any other person, nor did the defendant promise to pay the plaintiff for his services, nor make any payment on account of his bill. Liability was sought to be predicated on the theory that, when a physician is called by a third person to attend a patient in a serious condition, he can recover from the patient when his services are accepted without objection, and that this is so even when the patient is unconscious and therefore not able to acquiesce. This proposition was sought to be sustained by two cases: Sceva vs. True, 53 N. H. 627, and Cotnam vs. Wisdom, 83 Ark. 601. The general rule deducible from these cases is thus stated: "Where a physician renders services to a patient, either under an express employment or with his consent, the law raises an implied promise on the part of the patient to pay him what the services are reasonably worth. So, also, where in a proper case a physician renders services to a person without his request or consent, or where one is injured by an accident rendering him unconscious, the law will imply a promise from him who received the benefit of the services to pay for them." 30 Cyc. 1596. The last sentence quoted rests on the authority of the Arkansas case, and of Pray vs. Stinson, 21 Me. 402.

But in the case before the court even the doctrine of the Arkansas and Maine cases would not warrant a recovery beyond the services rendered on the two days when the defendant was unconscious; nor would it seem to justify a recovery for physician's services rendered to one accidentally injured, even if rendered unconscious, where immediate attention is not required, and particularly in a city where a free ambulance service exists, and where free hospital treatment is furnished by the municipality. The natural course there to pursue is to call on the gratuitous service thus provided, and the rule founded on the necessity and humanity of other cases does not apply.

As to the other visits, liability was sought to be attached on the ground that the defendant did not protest against, or object to, the attendance of the plaintiff. To establish this liability, three things should have concurred: (1) The defendant should have known that the plaintiff was attending him professionally. (2) He should have been in such a condition, mentally and physically, that he was free to object or protest. (3) He should have either expressed his assent to the plaintiff's attendance or failed to object thereto.

As to the first requirement, it appeared that the defendant was constantly being visited at the sanitarium by physicians in the employ of his brother, engaged as alienists to examine into his mental condition. The names of nearly twenty such alienists appeared as having then visited and examined him, and the defendant said they all felt his pulse, looked at his tongue, examined the nurse's record and talked with him, many of them leaving medicine for him, and most of them wanting him to take medicines. He could not protest against their presence, for he was in restraint and under observation, even though he was allowed to drive out with his own attendants. There was no proof that he ever regarded the plaintiff as anything else than one of these alienists, whose visits he was required to receive. There was no proof that the samples of blood and urine submitted for examination were obtained with his knowledge, or that he knew of the use to which they were to be put. On this record, it cannot be said that the defendant ever knew that the plaintiff was attending him professionally.

As to the second requirement, the fact that the defendant was under restraint and that he was required to permit the visits of all these physicians, as well as his then mental condition, might furnish reason for his failure to protest. He was not told that his own physician was trying to visit him, nor did it appear that he had any knowledge that he was physically ailing. As to the third requirement, it was conceded that he never verbally ratified the plaintiff's employment, nor did he protest against the same, which is explained by the discussion of the two preceding requirements.

The court is not now concerned with the question of who may be responsible for payment for the plaintiff's services, save in so far as it is called on to determine that, on the record, the defendant is not responsible. Nor is the situation changed by cases holding that the professional privilege existed to a sufficient extent to prevent the divulgence of information acquired by a physician called in by a third party to attend a person in a comatose state.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

American Academy of Medicine, Los Angeles, June 23-26.
American Climatological Association, Montreal, Canada, June 13-14.
American Medico-Psychological Association, Denver, June 19-20.
American Ophthalmological Society, New London, Conn., July 11.
American Otological Society, Atlantic City, June 26-27.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Arizona Medical Association, Los Angeles, June 26.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Maine Medical Association, Augusta, June 28-29.
Massachusetts Medical Society, Boston, June 13-14.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21.
National Association for Study of Epilepsy, St. Louis, June 16.
New Jersey, Medical Society of, Spring Lake, June 13-15.
North Carolina, Medical Society of State of, Charlotte, June 20.
Oregon State Medical Association, Los Angeles, Cal., July 10.
South Dakota State Medical Association, Pierre, S. D., June 14-16.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-Sixth Annual Meeting, held at Atlantic City, N. J., May 23-25, 1911

The President, Dr. Reuben Peterson, Ann Arbor, Mich., in the Chair

The Treatment of Placenta Prævia at the Sloane Hospital for Women

Dr. Edwin B. Cragin, New York: In the first 20,000 deliveries, cases of placenta prævia were treated by different methods: by Braxton Hick's version and using the half breech as a uterine tampon, or by gauze tamponade of the cervical canal and vagina, or by dilatation of the cervical canal by the Voorhees bags. In the later cases the method consisted of dilatation of the cervix and control of the hemorrhage with the largest Voorhees bag which could be introduced, i. e., No. 3 or 4, and, after good dilatation was obtained, either a version was done and the child delivered by the breech, or if the placenta prævia was lateral, or even marginal, with slight hemorrhage, and the vertex was presenting, the membranes were ruptured and the head allowed to come down and exert pressure on the lower uterine segment and the edge of the placenta, the delivery being expedited by the forceps, if necessary. This use of the elastic bag is extra-ovular, the membranes being kept intact until the bag passed the cervix and good dilatation was obtained. In the 5,000 later deliveries there were forty-nine cases of placenta prævia, fourteen complete, and thirty-five of the incomplete variety. There were two deaths among those of the complete variety, or 14.2 per cent., and two deaths in the thirty-five of the incomplete variety, or 5.7 per cent. In the 20,000 cases there were thirty-nine cases of complete placenta prævia with nine deaths, or 23 per cent., and 135 cases of incomplete placenta prævia with eleven deaths, or 8.1 per cent. The total fetal mortality was 51 per cent. in the second and 60.3 per cent. in the first series. Regarding the question of placenta prævia being an indication for Cesarean section, I have never met a case in which I considered it indicated.

Placenta Prævia

Dr. Edward P. Davis, Philadelphia: Of late our attention has been drawn to the value of intra-ovular pressure in placenta prævia by inserting, with suitable forceps, a good-sized bag through the membranes or placental substance, and by dilating this bag fully, thus controlling hemorrhage through pressure and hastening delivery. In partial placenta prævia treated with or without intra-ovular pressure by a dilating bag, the maternal mortality is not high. The high fetal mortality of placenta prævia, treated by vaginal methods, and the considerable maternal mortality, naturally suggest the possibility of delivery by abdominal section. The advocates of suprasymphyseal section urge its adaptability in these cases. In three cases of central placenta prævia in which I operated as soon as the diagnosis could be made out, the mothers recovered without incident; one normal child at term did well; the second child was a monstrosity, the third child, which was premature, did not long survive. There is, I believe, a close analogy between ectopic gestation and central placenta prævia. In both the cardinal dangers are those of hemorrhage and infection; in both palliative measures are insecure and unsatisfactory; in both operative treatment is our only reliable resource. In the present stage of our knowledge no method of treatment compares with abdominal Cesarean section in central placenta prævia, if the lives of both mother and child are to be considered. The mortality of abdominal Cesarean section in uninfected cases is now less than 2 per cent. in a large number of cases, and the fetal mortality in a considerable number is often nothing. A considerable amount of bright vaginal hemorrhage in a pregnant patient is always a dangerous symptom; and during the latter months of pregnancy, mother and child being previously in good condition, such hemorrhage should be considered as indicating a condition fully as critical as ectopic gestation. Such cases should be seen immediately by a competent obstetrician and a very careful examination made. Under favorable conditions delivery by abdominal Cesarean section should greatly improve the chances of both mother and child.

Analysis of Forty Consecutive Cases of Placenta Prævia

Dr. J. Clifton Edgar, New York: Ten of these cases were central, nine partial, twenty-one marginal. Seventeen were emergency ones. Seventeen were first seen at the onset of the bleeding; in twenty-three, the hemorrhage had lasted from a few hours to several days. Twenty-three cases only were exclusively treated by the hospital, the remaining seventeen had received various treatments before entering this hospital service. In twenty-nine cases the cervical dilatation was two fingers, or less when first seen. Treatment embraced cervical and vaginal gauze packing in thirty-two cases; de Ribes bags in three cases; Pomeroy bag in seven cases; bimanual dilatation as a primary measure in two, and following gauze packing in ten cases. Induction of labor in nine cases. The methods of delivery were: version and breech extraction in twenty cases; forceps in six cases; simple breech extraction in five cases; spontaneous delivery in eight cases; making, with one case undelivered, forty cases. Post-partum uterine tamponade in forty cases. Maternal mortality, 7.5 per cent.; infant mortality, 32.25 per cent.

The Best and Worst Methods of Treating Placenta Prævia

Dr. Henry D. Fry, Washington, D. C.: The best and the safest method to deliver a woman suffering from placenta prævia is purely an obstetric problem and its decision should rest with the expert obstetrician. Experience clearly demonstrates that maternal interests are guarded best by evacuation of the uterus as soon as the diagnosis of placenta prævia is made. Rapid dilatation of the cervix has no place in the treatment of placenta prævia, whether performed manually, by the Bossi dilator, or by vaginal Cesarean section. Version by the podalic method is never advisable unless uterine action has softened and dilated the cervix sufficiently to insert the hand. Slow delivery of the infant should be substituted for extraction. The artificial dilatation sufficient to perform bipolar version is comparatively safe, while that necessary for the insertion of the hand and podalic version is dangerous. After version has been accomplished, the leg, breech and body of the infant successfully plug the cervical opening and by pressure against the area of uteroplacental detachment prevents the further loss of blood. Bleeding being absolutely under control, every effort should be made by slow delivery to secure dilatation and thereby prevent laceration of the lower uterine segment. My rule is to discontinue anesthesia after having performed version and to hasten uterine action by rubbing the fundus of the uterus, and by encouraging the patient to make use of her auxiliary muscles to supplement the uterine force. The danger is not over with the successful termination of labor. The mother has yet to run the gauntlet of post-partum hemorrhage and sepsis. The proper application of the intra-uterine tampon of sterile gauze is a most valuable agent in preventing further loss of blood. Laceration of the lower segment of the uterus is a frequent cause of fatality in placenta prævia. The complication favors both hemorrhage and sepsis. The least dangerous obstetric interference is that necessary to perform bipolar version. The fingers do not come in contact with the danger zone but are passed through the internal os and directly within the ovular sac. Abdominal Cesarean section in placenta prævia is advisable in central placenta prævia complicated by an undilated cervical canal. Not only must the cervix be undilated, but the tissue must be hard and unprepared for artificial dilatation. This condition exists only in about 5 per cent. of all cases of placenta prævia, and is almost never met with in multipara. Contra-indications for abdominal Cesarean section are (1) excessive loss of blood before the opportunity arises for performing the operation, (2) a soft and dilatable cervix, and (3) a partial or marginal placenta prævia. Previous attempts to dilate and deliver the case by the natural passages; the use of gauze tampons and rubber bags to control hemorrhage, place such cases on the undesirable list, and if subjected to surgical skill, a Porro operation should be substituted for Cesarean section.

DISCUSSION

Dr. Richard C. Norris, Philadelphia: There are cases in which placenta prævia is best treated by abdominal Cesarean section, but the number will always be limited, probably about 5 per cent. of all cases of primiparæ. The ideal conditions for Cesarean section are a rigid cervix, a viable child, a mother who is a good surgical risk, and the diagnosis made at an early period. We must not, in order to save the child's life, which is problematical, sacrifice the life of the mother. The intra-uterine tampon to prevent post-partum hemorrhage must not only be intra-uterine but it must be placed firmly in the vagina so that the cul-de-sac is filled and upward pressure made to control bleeding.

Dr. J. Whitridge Williams, Baltimore: In cases requiring nothing more than rupture of the membranes I have used exclusively the Champetier de Ribes balloon. I have had no maternal deaths. A dangerous method of treating placenta prævia is by rapid dilatation, either with the fingers or with some instrument. In a number of cases I have been obliged to remove the uterus by abdominal section to overcome the damage done by this treatment. As to abdominal Cesarean section, the indications for it are so extremely infrequent that one can do without it, and I have not been able to see the justice of the mode of reasoning of the Germans who have been extremely enthusiastic over it.

Dr. Walter P. Manton, Detroit, Mich.: I have used all the methods advocated, except Cesarean section, and I do not recall having seen a case where I thought this operation would be applicable. In the last 1,989 cases of confinement at the Women's Hospital in Detroit we had nineteen cases of placenta prævia, and in only one was the placenta centrally implanted. In my own experience, I have never lost a mother with the methods that have been advocated. The infant mortality has been between 50 and 60 per cent. I have not had great success with the Braxton Hicks method of bipolar version, but by the use of the de Ribes bag and Voorhees bag my patients have come through safely, although the infant mortality has been high.

Dr. William S. Stone, New York City: I wish to mention a case of accidental hemorrhage in which I decided to do the vaginal operation after the patient was on the table, as the conditions were such that it was the easiest and quickest way o remove the contents of the uterus, and it proved to be such. have never done vaginal Cesarean section for true placenta praevia.

Dr. J. M. Munro Kerr, Glasgow, Scotland: In domestic practice we can do no better than to do version by the Brax-on Hicks method. That is the problem for the general prac-itioner. In the Glasgow maternity hospital we have tried chiefly two treatments—bipolar version and the treatment by bags, and so far our results have differed very little by the use of the two methods. We have, if anything, a little lower fetal mortality, and if anything, a slightly lower maternal mortality, but it has been very slight indeed, and consequently I can understand very clearly the attitude of those who support the use of the bag and bipolar version. But the real point of importance at the present time is the position of Cesarean section. This operation in domestic practice has a place in skilled hands, but I believe we have given it rather half-hearted support. There are certain cases in which Cesarean section is called for. They are: (1) The child must have reached nearly a full term; (2) the child must be viable and n good condition; (3) there must be probably a defect in lelivery, either in regard to the pelvis, slightly small, or as egards rigidity of the soft parts; (4) it should be employed n women late in life who must possibly have another chance o bear a child; (5) the operation should only be employed where there has been danger of infection. If we give it out is decidedly our opinion that in cases of that sort Cesarean section is indicated, we would put the position of this operation on a proper basis, and in the future we might possibly be able to extend it or make its application less limited.

The Use of Iodin in Skin Sterilization for Surgical Purposes

Dr. J. Wesley Bovée, Washington, D. C.: So far as can be ascertained by culturing epidermic scrapings, weak dilutions of iodin, even to 5 per cent. of the official tincture, thoroughly sterilize the surface of the skin for a period of time lasting from two to fifteen minutes after its application. This inhibitive action of absolute alcohol is greatly enhanced by the addition of iodin to an equivalent of 5 per cent. of the U. S. P. tincture. Pubic hair placed in iodin dilutions of 5, 10, 20, 30 and 40 per cent. strength (of the official tincture), respectively, for 2, 3, 5, 8, 10, 12 and 15 minutes, respectively, all showed growths after three days' incubation, while using 50 per cent. dilutions under the same conditions practically always prevented growths. Control scrapings of skin taken from the abdomen above the umbilicus, over periods of time varying from two minutes to two hours when 40 per cent. dilutions were used, always showed negative results as to colonies. Cultures from hair and skin that had been subjected to 50 per cent. dilution of tincture of iodin never produced growths. Tincture of iodin diluted with an equal amount of absolute alcohol may be considered reliable as a local application in preparation of the skin or mucosa in any part of the body. Dilutions of less strength are unreliable, if hairs or large hair follicles are in the field of operation. The 50 per cent. dilution of tincture of iodin, if not carelessly applied, is not liable to injure the skin.

(To be continued)

ILLINOIS STATE MEDICAL SOCIETY

Sixty-First Annual Meeting, held at Aurora, May 16-18, 1911

The President, **Dr. A. C. Cotton**, Chicago, in the Chair

Medical Service of the State Hospitals

Dr. Charles F. Read, Watertown: The physical examination of patients extends from the crown of the head to the sole of the feet, may include pulse tracings, blood-pressure estimations, examinations of the ocular fundi, body fluids, etc., and is completed by a painstaking neurologic investigation. Spinal puncture has become a matter of routine in two or three of our hospitals, and is carried out at times in nearly all institutions. With the aid of this procedure we are accomplishing some surprising results in the matter of diagnosis. The report of a positive Noguchi together with an increased lymphocyte-count at once assures us that we are dealing at least with an organic case if not paresis. The mental examination begins not with the patient but with his progenitors, tracing back as many generations as possible, and not only taking into account the existence of actual insanity, epilepsy, alcoholism and imbecility, but also of neuralgias, tics, tramp life, fears, chorea, oddities, etc. After this, so far as possible, the patient's life history from early childhood on is obtained with a view of determining what manner of man has become involved in difficulties arising out of a lack of proper reaction to stress and strain. Turning to the patient himself, a study is first made of his reaction to the hospital environment, the value of which observations often depends on the proper interpretation of a single act or a half dozen words.

DISCUSSION

Dr. L. C. Taylor, Springfield: A great deal has been done in the last few years since the adoption of the civil service law in regard to the state institutions. A few years ago the institutions of Illinois were looked on as custodial, and the treatment of mental conditions was hardly entered on at all. The establishment of the psychopathic hospital at Kankakee, a short time ago, gave a great impetus to those connected with state institutions. The establishment of this psychopathic hospital has given interns and physicians throughout the state the opportunity of going to that institution and studying under experienced teachers, not only psychiatry but also pathologic conditions. The mere fact that men working in the state hospitals can be promoted by competitive examinations has led to improvement in the service.

Dr. Hugh T. Patrick, Chicago: It is for the profession and the public at large to keep on sowing the seed and keep on upholding the hands of men who improved the public service in the insane hospitals. If people are not afraid to entrust members of their families to physicians outside of these institutions, why should they mistrust those who are at the head of these institutions—men who have the same conscience and the same earnest endeavor to do what is right and that which is best for these patients? It devolves largely on the profession to instruct the public that we have good state institutions, and that we have good men at the head of them.

Dr. J. W. Pettit, Ottawa: We must not lose sight of the fact that an organized profession of the state inaugurated the movement that made these things possible.

Dr. Carl E. Black, Jacksonville: A new class of men sent to the state institutions are identified with the medical profession as they never were before, and they bring to us information we never received before. They are interested in their work. They are seeking these promotions. They are taking up the work with new enthusiasm, and with a new incentive. In that way the care of the insane, the study of insanity, is brought to the profession by these men by identifying themselves with our local and state medical societies.

Dr. Julius Grinker, Chicago: We must realize that the insane patient is a sick patient. Some physicians discourage the sending away of patients who need institutional care. The institutional man must come in contact with the medical profession in order to stimulate him to do good work, and the more closely we come in contact with them the more we appreciate their work and that of others, the better work we will get out of them. This movement is progressing not only throughout this country but everywhere. Psychiatry should be brought in touch with everything that medicine can bring to bear on it from all sides.

Experimental Transplantation of Legs

Dr. V. D. Lespinasse, Chicago: Blood-vessel anastomosis will not save every crushed limb, but it will save a great many that are now amputated. The crushed and contused portion of the blood-vessels must be removed. If one cannot bring the vessel-ends together after this has been done, the extremity must be shortened until approximation is possible. If the nerves are intact, the probability of success is increased as section of the nerves tends to vasodilatation, and hence stagnation of the blood-stream, thus predisposing to thrombosis.

A crushed limb should not be amputated without a careful examination as to the possibilities of resecting the crushed portion and replacing the hand or foot back on the stump.

Prevention of Blindness

Dr. Thomas A. Woodruff, Chicago: Preventable blindness is due to numerous and varied causes. The first steps have been taken toward suppressing one cause of blindness, namely, ophthalmia neonatorum, which for years resulted in more blindness, with the exception of optic nerve atrophy, than any other local affection. The public must be educated not only to the existence of ophthalmia neonatorum, and the terrible consequences that may result from its presence, but to the fact that it is preventable, and that their aid is necessary in securing such legislation as will make compulsory the use of such measures as will prevent this disease. Education in the movement may be carried on by means of a wide distribution of literature, leaflets and various forms of propaganda, photographic exhibits, lantern slides, press notices, magazine articles and public speaking before all kinds and grades of audiences. The statute books of many states contain laws relating to the prevention of ophthalmia neonatorum, but unfortunately these laws have become more or less of a dead letter, and an effort should be made requiring their enforcement. If this were done and a few prosecutions obtained for failure to adhere to the law, much benefit would be reaped in the fight for the prevention of blindness from ophthalmia of the new-born. Laws should be passed which would require state control of the blind. All cases of inflammation of the eyes in new-born babies should be reported by physicians and midwives. One of the most important factors in the suppression of the disease is the registering and licensing of midwives, for many of these women are hopelessly ignorant, dirty and careless, and that they play no small part in the effort to check this disease must be admitted.

DISCUSSION

Dr. J. W. Smith, Bloomington: These cases do not come to the specialist first-hand, but usually go to the general practitioner first, and for this reason this subject should interest the general practitioner the same as it does the specialist. We should emphasize the importance of antiseptic precautions at and during the time of parturition or labor.

Dr. A. L. Adams, Jacksonville: The solution of the problem appears to be one of education. People should know the facts, and I believe when they learn the possibility of prevention of blindness by a campaign of education, as has been done with tuberculosis, then these cases will receive early treatment which will result in the prevention of blindness in a large number of cases.

Dr. William H. Wilder, Chicago: It is a lamentable fact that many practitioners to whom such cases are referred either become rusty in their knowledge of the treatment of such cases, or they have never acquired it, because I personally know of many cases coming from practitioners who have not treated them correctly, and the result has been that a destructive ulcer of the cornea has occurred.

(To be continued)

OHIO STATE MEDICAL ASSOCIATION

Annual Meeting, held at Cleveland, May 9-11, 1911

(Concluded from page 1602)

Mucous Colitis

Dr. C. C. Fihe, Cincinnati: This is not a disease entity; it is the symptom and sign of a disease, the nature of which is not always identical. There may be all grades of pathologic changes within the mucous membrane of the colon. There is a great group of mucous colitis in which the cause lies in the pathologic conditions in and about the colon itself. Angulation of the colon has been the cause of many of my cases of mucous colitis, and the correction of the malposition by bandage or operation has been followed by a cessation of both constipation and mucous colitis.

Occasionally surgery must be resorted to. Adhesions ar usually found at or near the site of angulation and again th end is accomplished.

DISCUSSION

Dr. A. M. Crane, Marion: Judging from my persona experience, most of the cases are sigmoiditis and proctiti Most patients are neurasthenics. The treatment is varied Cathartics should be avoided. Castor oil does well; olive oi gives good result, but the most relief is obtained from hig colonic flushing with the rectal tube high in the bowel, wit three quarts to a gallon of saline solution, to be followed b a 10 per cent. solution of argyrol, which is permitted t remain.

Dr. J. M. Rector, Columbus: Practically all my patient come as a result of constipation. In many there is a histor of typhoid preceding the constipation. The cause of this constipation is the relaxation of the musculature of the colo with a lack of sufficient residue to make a stool. The fece become dry and stick in the folds of the bowel and little particles of stool are retained, and when they do come awa the mucous membrane comes with them, and from tha denuded place comes mucus. This also allows auto-intoxication and absorption, and in the secondary symptoms the constipation, which is the cause, is overlooked. I would criticiz the application of the bandage, favoring rather exercise fo the muscle. I do not think angulation has anything to d with the disease.

Dr. J. E. Griewe, Cincinnati: The causes in these case are both mechanical and chemical. First, there is the resul of absorption of chemical material, and later on the tremendous pressure from the accumulation of material. Mer regulation of the diet will not cure it. While angulation may be overestimated, they must not be neglected when the are found to any extent.

The Value of Drugs in Circulatory Diseases

Dr. H. B. Blakey, Columbus: I believe that the heart i pneumonia is injuriously affected by digitalis. Where there i a toxemia to combat digitalis merely increases the toxic condition against which the heart must work. In these cases th solution of the difficulty will be an antitoxin. Cardia therapy in most cases is a fight against odds, and the utmos care and judgment must be used to avoid increasing the odd by too much drugging or drugging without an exact knowledge of how the result will be reached. Drugs should neve be used to restore compensation when rest in bed alone wil do it, except in those cases in middle or later life in which to long resting in bed may prove injurious. Attempts to hurr compensation in a badly decompensated heart only undul weakens the heart, and a slow recovery is really more to b desired than a too rapid one. There is no therapy in hear disease as good as physical and mental rest, which shoul have as its object the giving of the greatest possible relie to the heart and the least possible disturbance to th patient. Digitalis should never be given, except where ther is a dilated heart with a weakened systole. It should neve be given in those cases in which the heart is combating toxemia, except when the heart is dilated, and even then w must be sure there is no degeneration of the muscle fibers o the heart. Strychnin should be limited to those cases i which it is desired to slow the heart and increase blood pressure. Alcohol has merit as a cardiac stimulant, but i should be given over a long period of supportive treatment except in cases of those accustomed to taking the drug regularly. Caffein should only be given in those cases in whic the desire is to increase the heart-rate as well as to increas the blood-pressure. The nitrates can in no way be considere as heart tonics or stimulants. Morphin can be used withou fear of any deleterious action in any form of heart disease.

DISCUSSION

Dr. C. G. Hoover, Cleveland: I cannot agree that digitali should never be used in pneumonia. Patients with pneumonia, as well as other infectious diseases, may have my cardial insufficiency, and one must rely on the size and transverse diameter of the right heart. When it is very rapid and shows a definite dulness on the right side, then is the ime to use digitalis. Of course, not every patient should have digitalis, but the trouble is that it has not been given n sufficiently large doses. One milligram of strophanthin is he equivalent of 3 drams of digitalis, and yet one would not give it in 3 dram doses. Strophanthin is not indicated in all kinds of circulatory disease, but the single indication is myocardial insufficiency.

Dr. M. J. Lichty, Cleveland: The use of cardiac stimu-ants or cardiac tonics is not to be compared to the value of est. It is hard to tell what remedy will do the work, and none can be depended on absolutely. Rest alone will not do everything, nor will drugs. The preparations of digitalis are many times disappointing, but they often help, in spite of he fact that the patient is going about.

Dr. N. R. Coleman, Columbus: While there can be no doubt that digitalis is one of the most valuable remedies in many cases of cardiac or cardiovascular diseases, it is not pplicable in all cases. The conditions, circumstances and omplications have all to be taken into consideration.

Nitrous-Oxid-Oxygen Anesthesia

Dr. Elmer I. McKesson, Toledo: As a routine anesthetic his surpasses any agent known when the proper technic is arried out. It may be successfully used in any operation hat can be done under ether with few limitations.

Vaccine Therapy from the Standpoint of the General Practitioner

Dr. Louis W. Ladd, Cleveland: The indiscriminate use of accines by those ignorant of their power for good and evil is to be strongly condemned, as there are no more powerful poisons than bacterial proteids, and much harm may result rom their injudicious use. Each case treated is a study in tself. Personal idiosyncrasies, variations in virulence in different strains of the same microorganism, etc., are conditions hat cannot be predetermined, and must be worked out by areful experimentation in each case.

As a rule the best results with vaccine therapy have been btained in the treatment of chronic local infections, though ot infrequently brilliant results have been obtained in the reatment of acute local infections. Less satisfactory by far is the treatment of acute general infections. Vaccine therapy hould not be used to the exclusion of other measures.

Rectal Feeding in Diseases of the Stomach

Dr. John D. Dunham, Columbus: A good nutrient enema is. Yolk of two eggs—300 calories; 30 gm. pure dextrose—200 calories; 5 gm. common salt; pancreated milk to 300 c.c. Rectal feeding cannot take the place of mouth feeding for ny period of time, as subnutrition is the result. Therefore, ectal feeding has a limited field of usefulness and is not dvantageous in esophageal or pyloric strictures. High nemata of normal salt solution are probably as beneficial as he usual nutrient enema. When used in uncomplicated gastric ulcer, nutrient enemata do not increase the acidity. On he other hand, when combined with total abstinence of food nd liquids by mouth, the hydrochloric acidity is probably educed. In gastric ulcer with relative stenosis at the ylorus, lavage and careful mouth feeding are better than ectal nutrients as method of treatment.

DISCUSSION

Dr. John P. Sawyer, Cleveland: The psychic influence of aking food has to be taken into account. The use of a large uantity of albumin, even in the form of peptone, is apt to cause bacterial decomposition in the rectum, and there is the nd of usefulness of rectal feeding. The cleansing enemata and washing the bowel are often of use. The clinical benefit f giving a small food enema is not to be denied. It is of great help in carrying over a crisis but not of benefit in continued use. Rectal feeding sometimes proves a detriment in that it sets up a nervous excitement and bowel irritation.

Dr. M. Rosenwasser, Cleveland: In addition to the egg, I use malted milk, which contains sugar, and also have used dextrose and pancreatin. Rest and that will do the work.

The Surgical Aspects of Painful Indigestion

Dr. G. W. Crile, Cleveland: I have come to depend on certain phenomena and certain methods for the diagnosis. One of the most potent causes for confusion is the fact that whatever the disturbance of the body—whether the beginning of an acute infection, a physical injury of any part, a nervous strain, worry or fear, appendicitis, salpingitis, gall-stones, brain tumors—indeed, almost any disturbance of the body, it is at once reflected on the stomach as nausea, vomiting, anorexia, indigestion, etc. In the differential diagnosis of chronic appendicitis, one must consider ureteral calculi, neurasthenia, gall-stones, diverticulitis, and gastric and duodenal ulcers. Given a case of chronic painful indigestion, while the temperature and pulse may be normal, there is usually constipation, and an impairment of the general health. If in addition to the routine symptoms, there is a history of night attacks of pain at irregular intervals, gall-stones must be considered. If there is no hyperacidity, if the pain is referred rather to the chest and back, and there is a tender point between the tenth and eleventh ribs in the back, and pressure under the costal border when relaxed in a warm bath produces local tenderness and referred pain; if the kidney is negative to *x*-ray, a diagnosis of gall-stones or chronic cholecystitis may be made.

If the pains are distributed over the whole abdomen, constipation quite marked, frequently a single darting pain; if the ureters are negative for stone, and there is local tenderness when there is pressure on the appendicular region, and production of referred pain identical with that complained of; and if one makes deep palpation over the appendix at intervals of about four hours and there is an increasing tenderness, one may diagnose appendicitis. The latter method will often unmask a chronic appendicitis in ambush. Treating the left iliac fossa in precisely the same manner as a control, if there is chronic appendicitis there will usually develop after several vigorous examinations a definite and high degree of tenderness in the right fossa, while the left remains negative. The importance of this method cannot be overestimated. In chronic appendicitis there may be a certain amount of hyperacidity, especially if there is associated nervous strain. Gastric ulcer usually frankly announces itself, as by immediate distress on taking food, hyperacidity, free blood and, of course, hematemesis.

It is duodenal ulcer that gives the greatest interest. The frequency of this lesion has only recently been appreciated. There is no lesion that can with such confidence be diagnosed on the clinical history alone. There will be rhythmic periods of daily pain at certain intervals after meals. When the stomach is well emptied this burning, stinging or heavy pain appears, with scalding eructations and much gurgling of gas in the intestines. It wears away after an hour or two, but is almost immediately relieved by food. Lying on the left side sometimes gives relief. There is no vomiting unless obstruction has developed. A test meal shows the digestion to be good, food passing out of the stomach promptly, but the acidity is high. Local tenderness appears when the ulcer has penetrated the wall. The fact that there is pain in the region of the appendix, of the gall-bladder, of gastric and duodenal ulcer and no pain in lesions of the mucous membranes of the intestines is explained on the law of phylogenetic association. Pain is associated with the excitation of nociceptors, and these may take precedence over and dispossess the routine functions, such as peristalsis, secretion and absorption and their occupancy of their respective nervous mechanisms, just as fear does. This hypothesis readily explains the extraordinary improvement in the digestive functions and the general health following the removal of an appendix so slightly altered physically that only the clinical results in many cases could persuade one that this change could be an adequate cause for such far-reaching and important symptoms. It would also explain certain gall-bladder phenomena—indigestion, loss of weight, disturbed functions, etc.

The Renal Function in Surgery

Dr. Louis E. Schmidt, Chicago: Renal function tests are decried by those individuals who are not in a position to meet the exacting conditions or are not competent to carry on this work. In kidney surgery at the present time, collection of the urine from each kidney separately is absolutely essential. It is a well-known fact that operations carried out in any part of the urinary tract are attended by a mortality which is directly referable to diseased kidney function. For this reason, the necessity for testing the total renal function, or as it is often called, the combined renal function in these cases whenever considering operative interference, will become a recognized requirement. The differential diagnosis in cases of obscure abdominal disease can often be made and certainly assisted by the functional tests; also in cases of questions between renal and splenic tumors, or renal and hepatic enlargements, and cases of retroperitoneal inflammatory masses from appendiceal inflammations.

ASSOCIATION OF AMERICAN PHYSICIANS

Twenty-Sixth Annual Meeting, held at Atlantic City, N. J., May 9-10, 1911

(Continued from page 1681)

The Control of Epidemic Poliomyelitis

Dr. Simon Flexner and **Dr. Paul F. Clark**, New York: At present the chief reliance must be placed on preventive methods, and these are to be based on accurate knowledge. It should be accepted as a fact that epidemic poliomyelitis is a contagious, infectious disease, the cause of which can enter the brain and spinal cord by way of the nasopharyngeal mucosa, and can, also, be eliminated from the nervous system by this membrane. Attention should be directed toward proper isolation of cases of epidemic poliomyelitis, to the disinfection of the nasal and buccal secretions, to the proper supervision of nurses and other healthy persons coming in contact with the ill, since such persons have been shown to be carriers of the infection, and to the recognition and control of the slight and abortive cases of the malady from which further extension may be feared. That insects may be passive carriers of the infectious agent we have recently proved in respect to contaminated flies. That an antiserum for the virus of poliomyelitis can be secured is now established, but thus far no antiserum has been prepared that is suitable for therapeutic use. We have ascertained that hexamethylene tetramin possesses a certain power of neutralization of the virus of poliomyelitis in monkeys, and we have further discovered that this power can be enhanced by chemical modification of this drug. Whether the problem of the treatment of the disease is to be solved along this line of investigation cannot, of course, be predicted, but the outlook is distinctly hopeful.

DISCUSSION

Dr L. A. Conner, New York: Have you any suggestions to make as to the preventive management of the nasopharyngeal mucous membrane?

Dr. S. Flexner: I have assumed that the disease ought to be dealt with now in the manner with which we deal with epidemic cerebrospinal meningitis. We know a number of simple substances which are aseptic disinfectants for the virus. A very good one is menthol and hydrogen peroxid. I think it is a virus which is sufficiently readily injured by means of disinfectants which are mild enough to be employed, that, if you consider it a proper and safe measure to use disinfectant solutions in atomizers you could carry it out. We have great faith in cleanliness of the nose, of the hands and of the clothes. I mean by that to keep them free from the secretion. The virus has never been found in the secretions of the nose of human beings, but the number of observations is very small. It is extremely difficult to get secretions from the human nose. We have had the best specialist in New York help us to get the secretion from the nose and failed.

Dr. F. P. Kinnicutt, New York: I would like to know the probability of the disease being contagious. Has Dr. Flexner any particular method of disinfection of clothing? Is it po sible for any information to be given us in regard to the mo of using hexamethylene tetramin?

Dr. S. Flexner: The problem of disinfection is n peculiar. I should deal with it as with any of the rath highly contagious diseases. The reason I have suppressed t precise information about these compounds is that we ha probably thirty of them now under comparison and we a going to choose the best one and it would not be fair to s now which it is likely to be because we do not know, but t point is that it is a possible line of advance.

A Case of So-Called Leukanemia

Dr. W. F. Hamilton, Montreal: The patient, a farm aged 43, previously healthy, noticed a mass below the le costal border, which increased in size; he lost appetite, weig and strength and grew pale. Examination showed a sple which reached down to Poupart's ligament; the liver was 2 inches below the costal margin in the nipple line. There w no ascites nor glandular enlargement. The leukocytes nu bered 5,600 and myelocytes were present. The polymorphon clear cells were diminished, while the lymphocytes and lar mononuclear cells were greatly increased in number. T hemoglobin was 65 per cent. and the red cells 3,150,00 Death occurred about 2½ years after onset. No autopsy w made. This case was really one of atypical leukemia. T term leukanemia might well be discarded.

DISCUSSION

Dr. R. C. Cabot, Boston: What were the clinical featur of the case aside from the blood?

Dr. W. B. James, New York: I wonder how many membe feel perfectly satisfied with the recognition of such cases this and those described as acute lymphatic leukemia as distinct morbid entity? The term leukanemia implies t ordinary lymphatic leukemia.

Dr. W. F. Hamilton, Montreal: The clinical features we those of weakness, a slight pallor, no fever, moderate increased pulse-rate, no edema, an enormously large abdom and a very greatly enlarged spleen over which one could f to-and-fro movements. There was ascites, no pain or tend ness over the long bones. The peripheral lymph glands we not enlarged. The patient was in the hospital for four wee and subject to *x*-rays and made little or no improvement.

The Possible Prevention of Pneumccoccus Empyema by Hexamethylenamin

Dr. Frederick C. Shattuck, Boston: The lethal action hexamethylenamin on the typhoid bacillus in urine, the ge eral permeation of the body by this drug and the gener delicacy of the pneumococcus, suggested that possib empyema might be wholly or partly prevented as a sequel pneumonia by the routine administration of the drug. Th it has been used for the past year in nearly all the cases pneumonia in my service in the Massachusetts General Ho pital and in some of those of my colleague, Dr. Gannett. T drug was given as soon as the diagnosis was established, doses of 10 grains, three times a day and continued into co valescence. In only three out of fifty-nine of these cas empyema developed. During the same period forty- patients were treated without hexamethylenamin, only o developing empyema. In the preceding year, of one hundr and forty-two cases of pneumonia without hexamethylenam in three empyema developed. Of thirty-four patients treated the Johns Hopkins Hospital six developed empyema. thirty-five patients in the previous year without hexamet ylenamin one developed empyema. At the Presbyterian Hos tal in New York, of nineteen pneumonia patients taking he methylenamin, one had empyema. Of one hundred and ninet three without the drug, five had empyema. These figures se to show that this remedy is in no sense a preventive of em ema following pneumonia. Neither in the Massachusetts Gene nor the Presbyterian Hospitals did pericarditis develop in a case taking the drug, although it was noted in 4 to 5 cent. at the Massachusetts and in 1.5 per cent. at the Pres terian in those not taking the drug. Furthermore, the M husetts' records show that otitis media occurred in about)er cent. of the non-hexamethylenamin cases, in no instance the hexamethylenamin series.

Renal Decapsulation in Chronic Bright's Disease

R. **JAMES TYSON**, Philadelphia: A study of the four cases nephritis treated by decapsulation shows that in no case s complete cure effected, notwithstanding the healthy earance of the patients at certain times after operation. wever, the operation is so serviceable in certain instances it it ought to be done more frequently. The conditions ich demand it are stubborn persistence of symptoms sing great inconvenience or danger to life, such as per- nent dropsy, uremia shown by convulsions or intense head- le, anuria and large albuminuria. Operation should not be sidered until medical treatment proves unavailing. It is o indicated in perinephritis. Contra-indications are an age over 50, valvular heart disease with irregularity of action, ensive cardiovascular changes, or albuminuric retinitis.

(To be continued)

MERICAN GASTRO-ENTEROLOGICAL ASSOCIATION

Fourteenth Annual Meeting held in Philadelphia,
April 19-20, 1911

(Concluded from page 1608)

The Treatment of Gastric Disturbances

DR. **J. KAUFMANN**, New York: Treatment requires correct gnosis. The progress made in the reading of gastric an- ses assists in directing treatment along the right lines. ide from properly interpreting disorders of gastric function, have to consider their pathologic meaning. There must be differentiation of primary and secondary gastric disturb- ces. Among the latter, those caused by chronic appendicitis, olelithiasis, etc., are much emphasized at present. While doubtedly occurring, their frequency is greatly over-rated: d too much importance is given to this special etiologic fac- r, at the cost of others that are known as provokers of gas- c disturbances. Every etiologic factor should be taken into count. At the same time, the condition of the stomach oper requires consideration, even in cases of secondary gas- ic disturbances.

DR. **JOHN A. LICHTY**, Pittsburg, Pa.: Medical treatment is ten instituted in cases of hyperchlorhydria and carried on r a long time, yet the patients still over-secrete, though they ay improve so far as general health is concerned. Quite a mber of these patients are improved or cured by surgical tervention, but there are still many that remain non-surgical d difficult to treat.

e Gastric Weak Line in Wounds of the Abdominal Wall

DR. **ROBERT T. MORRIS**, New York City: Failure of union the abdominal-wall wound apparently means a trophic dis- rbance, and this incidentally corresponds to the area of perficial sensory disturbance described by Head for the gas- ic zone. It is probable that irritation of the nerves of the omach, referred to their respective segments of the spinal rd, is continued as an impulse to the superficial gastric area, nich is commonly irritated coincidently with irritative proc- ses of the stomach. (This article will be published in THE URNAL.)

DISCUSSION

DR. **J. C. HEMMETER**, Baltimore: There are a great many sumptions in the hypothesis of Dr. Morris. We must first ove that the stimulus goes from the gastric zone to a seg- ent of the cord from which this trophic nerve comes out.

DR. **L. W. KAST**, New York City: I consider the idea of Dr. orris a very happy one. It does not prove anything, but it tracts attention again to the viscerocutaneous reflex, as well to the mutual reflex association between internal organs and rtain areas of the skin.

DR. **S. J. MELTZER**, New York City: I am surprised that e idea should not have suggested itself to Dr. Morris that e stimulus might not be a nervous but a chemical one. Sur- ons experience that the stitches give way readily after operations on the bile-ducts, and it is possible that this may be not only due to bile, but also to pancreatic secretion.

DR. **A. G. GERSTER**, New York City: We face this problem, not only in the region of the epigastrium, but also in every other region of the body. I think that Dr. Meltzer's explanation has a great deal in it. Anesthesia alone is sufficient to disturb the pancreatic and gastric secretions so much that the entire chemical processes in the body are profoundly changed.

DR. **R. T. MORRIS**, New York City: The fact that repair did not take place in a case in which there was irritation of the pylorus led me to the conclusion that there was a trophic disturbance of that particular group of nerves running from a certain definite segment of the cord.

A Case of Banti's Disease

DR. **J. FUHS**, Brooklyn: This patient was successfully treated by splenectomy, afterward passing through an attack of typhoid and an operation for appendicitis. She had a typical, characteristic attack of typhoid, differing in no way from such attacks in patients not operated on, with the exception of the blood-findings, which showed a rather high leukocyte count for a case of typhoid, and a relatively high polymorphonuclear leukocytosis. The reaction to the surgical interference during the course of the typhoid did not present anything characteristic, and her recovery was as rapid as could be expected in a patient not splenectomized.

DISCUSSION

DR. **J. C. HEMMETER**, Baltimore: I, too, have a case of Banti's disease that has some very peculiar landmarks. This patient had profuse hemorrhage from the bowels, an ascites, a huge spleen, and cirrhosis of the liver. He has been operated on for appendicitis, and has had typhoid. The blood-picture in this case is typical of Banti's disease. Mallory has found in the portal veins of the liver typical splenic cells, which proliferate there almost like cancer cells. This is very striking evidence pointing to the fact that the spleen is really the starting point of the trouble, and not the liver.

DR. **J. KAUFMANN**, New York City: In a patient of mine some clinical facts pointed to the origin of the disease in the spleen. In all cases in which we can make out that the spleen is the primary seat of the disease, we should remove it. The blood-picture does not show anything typical. In our case, for instance, it was that of pernicious anemia.

DR. **J. C. BLOODGOOD**, Baltimore: I have had six cases of Banti's disease. In three of these, splenectomy was done. Two of those operated on are living, and all three of those not operated on. If we had removed the spleen in the latter cases, the operation would have been regarded as showing perfect results. The treatment given those not operated on was rest, with arsenic and iron.

DR. **L. W. KAST**, New York City: I believe it to be only a symptom-complex. The fact that it may be a syphilitic or a postsyphilitic condition should be borne in mind in making the diagnosis.

DR. **J. FUHS**, Brooklyn: Clinically, it is impossible to differentiate the symptom-complex of Banti's disease from cases in which, on examination of the spleen, tuberculosis or granulomata are found. I think that the hemorrhages and the blood-findings speak in favor of its being a toxemia. The Wassermann reaction was positive in two cases recently published.

The Relation of Symptoms to Pathologic Findings in Cancer and Ulcer of the Stomach

DR. **J. C. BLOODGOOD**, Baltimore: In a case of ptosis of the stomach and colon, the first case in which I resected for ptosis, medical treatment did not decrease the residuum in the stomach, which amounted to 200 c.c. I resected a little beyond the pylorus to a point that would make a straight line of the greater curvature and of the duodenum, suturing the duodenum to the stomach according to the method of Kocher, and then turning in the end. Resection of the stomach for ptosis is the simplest resection, because there are no adhesions. Things are so relaxed that there is very little shock. This patient had no postoperative complications after thirty-six hours. He has been relieved of the stasis of material in his stomach and colon, causing constipation, and the diarrhea is also over. The operation has been done ten weeks, and the man has gone back to his work.

Another case was one in which we suspected cancer of the pancreas. On exploring the abdomen, we found a small nodule on the head of the pancreas. There was a large gall-bladder; and in the common duct I could feel this nodule. It was not a stone. The operation performed was one that I had advocated two years before. I made the point that you should also resect the duodenum, because it is impossible to imagine a cancer of the diverticulum of Vater that would not infiltrate the duodenum. Local resections of the tumor itself have been done without any success, owing to the fact that the cancer has been cut through. In this case, in which there were clay-colored stools before operation, bile appeared with the first stool, and the patient is gaining in weight, showing that the loss of the pancreatic secretion is not incompatible with a gain in weight.

DISCUSSION

DR. J. KAUFMANN, New York City: If the operation in the first case was performed merely on account of the location and size of the stomach, I do not believe that these are sufficient indications for any operative procedure. Tonus is very important in cases of the neurasthenic type, the inborn weakness of the nervous system giving rise to atonic conditions. In such cases, stagnation may occur periodically, but disappear again. So long as there is no obstruction of the outlet, this condition does not require operative procedure.

DR. M. EINHORN, New York City: Gastroptosis, as such, is not at all important, and retention is almost never associated with it when it exists without any other condition at the pylorus.

DR. J. C. HEMMETER, Baltimore: S. A. Matthews has shown that removal of the duodenum is almost as fatal as removal of both kidneys.

DR. A. L. BENEDICT, Buffalo: The term gastroptosis does not mean a ptosis as the word is applied otherwise in pathology. It means that there is an atony or dropping down of the greater curvature. The word ptosis should be limited to the distinct dropping of a whole organ. A dilated stomach can be shrunk by methods of medical treatment.

DR. HENRY D. BEYEA, Philadelphia: In 1898 I devised an operation for gastroptosis. The procedure consists in simply shortening the normal ligaments. It is unassociated with danger, and is not mutilating.

DR. J. C. BLOODGOOD, Baltimore: The indication in this case was the fact that the patient had residuum. Extreme degrees of ptosis may be present without producing symptoms, and considerable symptoms may occur with but slight ptosis. My case was not one in which I should wish to try suture of the ligament alone.

Neuromuscular and Secretory Coordination Between Stomach and Duodenum

DR. J. C. HEMMETER, Baltimore: Secretion in the duodenum is not augmented by the presence of hydrochloric acid on the stomach side of the sphincter pylori. The hydrochloric acid or its derivatives must enter the duodenum. There is a periodic undulatory secretion of the intestinal juices in the fasting condition. Psychic secretion of pancreatic juice occurs in man. Jejune or fasting peristalsis (Pawlow and Boldyreff) occurs in the human being, probably as a means of evacuating products of excretion. This cannot be observed by the bismuth and *x*-ray method, because the digestive tract is not empty when bismuth is given. Observations on duodenal and ileocecal fistulas show it, however. There is a relation between the presence of bile and pancreatic juice in the fasting stomach to (a) disturbance of reciprocal intervention between the sphincter of Vater and the gall-bladder in enteroptosis, and (b) the normal jejune or fasting peristalsis of Pawlow and Boldyreff.

The Function of the Duodenum

DR. L. KAST, New York City: The bulbus duodeni frequently shows food retention, which can be seen on the fluoroscope, if bismuth is mixed with the food. The food-retention is often associated with altered peristalsis of the pyloric portion of the stomach. and is the explanation for a variety subjective gastric symptoms. The duodenal food-retention h a diagnostic significance.

The Cause and Relief of Pain in Duodenal Ulcer

DR. JAMES T. PILCHER, Brooklyn: As the result of obs vations in 100 cases of ulcer of the duodenum that were dia nosed and the diagnosis confirmed by operation, and also some experiments on dogs, I have reached the conclusion th ulcer of the duodenum reflexly excites a hyperacidity of t gastric juice; the maximum amount of secretion of hyd chloric acid in the stomach is due to a direct chemical acti (hormones), and is at its height from one to four hours aft meals; it passes into the duodenum as hydrochloric acid, the being no food four hours after meals for it to work on; a it does not excite a flow of the duodenal juice directly, and not neutralized by the small amount present. The relief pain in duodenal ulcer follows the ingestion of any substan into the stomach, which neutralizes the acid gastric jui Food taken into the stomach excites at once a reflex secreti in the duodenum; the duodenal secretion is alkaline in appro mately the same degree as the gastric juice is acid; and tl secretion is of sufficient quantity and concentration to ne tralize the hydrochloric acid of the gastric juice.

Six Cases of So-Called Larval Hyperacidity

DR. JULIUS FRIEDENWALD, Baltimore: In the larval hyp acidity, there is an actual hyperacidity, which is often n revealed; inasmuch as the gastric contents are not extract early enough, for the secretion, which at an earlier peri would present a hyperacidity, is gradually neutralized bef the end of an hour when taking an Ewald test-breakfa Observations over a series of six cases have been made. Te meals were given, and removed at varying intervals; a while the percentage of free hydrochloric acid was normal a subnormal at the end of an hour, after an Ewald test-bre fast, yet it was found that there was a period in which hyperchlorhydria was manifested.

Gastric Hypersecretion

DR. ARTHUR F. CHASE, New York: The results obtai from more than 200 tests throw light on the extent to wh secretion is influenced by motility, and suggest that in ca of disordered motility the dry test-meal is a more accur index of the secretory function of the stomach than is t wet. The rôle of fatigue in gastric function is important.

A New Test Breakfast

DR. DUDLEY ROBERTS, Brooklyn: This meal consists of l tose added to weak tea to the strength of 10 per cent. Af the lapse of one hour, a portion of chyme is extracted, a water in known amount is added; and a second extraction performed. By the Mathieu-Raymond formula, the total r due is calculated; and by the estimation of the lactose pr ent, the amount of test-meal remaining is accurately det mined. The estimation of the lactose in such a solution simple. It would seem that the method, because of its si plicity and accuracy, might be worth general adoption.

The Benzidin Test for Occult Blood in Diseases of the Digestive Organs

DR. F. W. WHITE, Boston: The Schlesinger and Holst mo fications of the benzidin test have been used in several h dred cases. I do not consider this test over-delicate, a la majority of negative results having been obtained. In fe positive results were obtained only with ulcerative lesions the gastro-intestinal tract and in hepatic cirrhosis. The ben din test has many advantages over the guaiac test.

DISCUSSION

DR. ALBERT BERNHEIM, Philadelphia: Within the last weeks, I have tried a new test with fluorescin, which acts the same way as phenolphthalein, and is more delicate th the latter in some cases.

DR. DUDLEY ROBERTS, Brooklyn: I have come to the con sion that positive findings are of great value in the benzi st, though negative findings indicate comparatively little. everal times I have been much confused because patients have ken hemoglobin preparations, and I now guard against that urce of error with great care.

Dr. J. Fuhs, Brooklyn: In testing for blood in the stomach ntents, I always test the saliva also for blood. If one adds nzidin to stomach-contents, it seems to have the property of quefying mucus.

Dr. A. S. Benedict, Buffalo: I have found several cases in hich the occult blood in the feces came from a spot but 10 ches above the anus.

Dr. F. W. White: I think that both the positive and the gative findings have a good deal of value. If, in patients ho have suspicious symptoms, I find no occult blood after ey have had time to develop cancer, I consider this good idence against the existence of malignant disease. Positive sults in the feces mean a good deal more than the same sults in stomach-contents.

Lymphocytosis in Certain Gastro-Intestinal Cases

Dr. John P. Sawyer, Cleveland, Ohio: In practically all y cases, for several years, a differential count has been made, nd in the course of these observations I have often found the ifferential count of clinical advantage. A slight variation om the average lymphocyte-count is not of considerable oment; but when the count rises to 40 or 50 per cent. this probably indicative of a considerable departure from the sual blood formation. These large lymphocyte counts are ound without leukocytosis in a considerable number of dis- ases; among them, cases of gastro-intestinal disease. It curs in cases in which gastro-intestinal catarrh is not dis- verable by the test-meal or the stool; and in which the his- ry shows no record of the existence of such catarrh recently. he condition of the gastric secretion seems to have no deter- ining influence on this lymphocytosis. It is usually found persons whose resistance is low. In such cases it is pos- ble, by treatment of the patient, to bring about a very pid and decisive change in this lymphocytosis. This treat- ent consists in the administration of iodid of iron for a w weeks and the exhibition of arsenic. This treatment rings about a prompt reduction in the lymphocyte-count, and e patients gain rapidly in weight and strength.

DISCUSSION

Dr. S. T. Meltzer, New York City: I have come to the nclusion that there is a difference in the ferment between e leukocytes and the lymphocytes. One acts in alkaline, nd the other in acid media; and I thought that there might e some sort of definite relation between certain conditions of cidity and lymphocytosis.

s Pellagra a Disease Primarily of the Alimentary Tract?

Dr. J. C. Johnson, Atlanta, Ga.: Gastro-intestinal symp- oms are usually the first to appear in pellagra, and are in roportion to the gravity of the attack. There is an absence f hydrochloric acid in advanced cases; and in many, a lack f ferments. The patients were treated successfully with hlorid of potassium, tincture of iron, and essence of pepsin.

DISCUSSION

Dr. S. J. Meltzer, New York City: The fact that the seri- us cases of pellagra had no hydrochloric acid, and that the ses that had hydrochloric acid had no serious symptoms, ould indicate that the cause of the disease is of a kind that as to pass the stomach and that if hydrochloric acid is pres- nt in the stomach, it does not develop.

Dr. A. S. Benedict, Buffalo: There is absolutely nothing pecific or in the nature of an entity about pellagra. Cases f it are nothing but ordinary senility, insanity, skin-eruptions f various kinds, and all sorts of toxemias.

A Case of Voluntary and Intentional Regurgitation

Dr. Albert Bernheim, Philadelphia: The patient can re- urgitate food voluntarily and intentionally, whenever he de- ires to relieve symptoms of gastric distress. He usually takes glass of water, to liquefy the contents of his stomach, so that they may come up easily; and also takes some bicarbonate of soda, so that the acidity of the regurgitated material may not injure the mucous membrane of the throat and mouth. He then bends over, so that the abdominal muscles compress the stomach. The esophageal opening of the stomach then dilates, and the food comes out.

DISCUSSION

Dr. L. M. Gompertz, New Haven, Conn.: I had a patient who was able to regurgitate his food. On one occasion, he had a complete case of reversed peristalsis, vomiting turpentine five minutes after it had been given by enema. He recovered from this attack without treatment.

Mitral Murmurs in Gall-Stone Disease

Dr. David Riesman, Philadelphia: In a number of cases of gall-stone disease, a mitral systolic murmur is audible during and shortly after an attack of colic. These murmurs are perplexing when the advisability of operative treatment is to be weighed. In all the cases seen, the murmur had not existed prior to the attack of colic. It is not due to endocarditis, for it disappears soon after the attack. It is not due to anemia, nor is it due to jaundice, for it can be heard in cases that do not have icterus. It probably depends on temporary dilatation of the heart. I believe that the chronic disease of the biliary tract, with its accompanying infection, causes a myocardial degeneration, somewhat analogous to that found in connection with fibroid tumors of the uterus. The degeneration predisposes the heart to dilatation when, during attacks of colic, the blood-pressure rises. The murmur is loud and unmistakable; the heart is enlarged, but not to any great degree. The murmur is no contraindication to surgical intervention. Indeed, if the pathogenesis is as stated, it constitutes a point in favor of operation. Care should, however, be taken with the anesthesia.

DISCUSSION

Dr. S. J. Meltzer, New York City: It sometimes happens that there is a murmur in association with pain so excruciating as to lead one to believe it due to some trouble with the gall-bladder; while actually this pain is a symptom of angina pectoris. I have no doubt, however, that in Dr. Riesman's cases there was definite evidence of gall-stones.

Dr. J. Fuhs, Brooklyn: I have seen two cases of distinct biliary colic with asthmatic attacks in patients who had never had any asthmatic attacks before the attack of cholelithiasis, and never had one afterward. There was no functional or or organic disturbance of the circulatory organs either before or after the attack of gall-stones.

MEDICAL ASSOCIATION OF GEORGIA

Sixty-Second Annual Meeting, held at Rome, April 19-21, 1911

(Concluded from page 1604)

What Has Been Done in Georgia Against Hookworm Disease

Dr. A. G. Fort, Lumpkin: The disease has been demonstrated as heavy in fifty counties, light in twenty-five counties and as only demonstrated in fifty-two counties. To ascertain what percentage of suspects really had the disease we watched quite a number of specimens and found that an average of 74.1 per cent. of the suspects were really infected. We believe that hookworm exists in every county in Georgia and expect to demonstrate it in a short time. In the eradication of this disease the enlistment of the physicians in the various sections of the state is indispensable, next is the cooperation of the people so that they will present themselves for treatment, and finally finding means for the treatment of the indigent. We depend on the physicians of the state to treat the hookworm disease. We have sent to each physician bulletins on hookworm disease and we have also sent letters to each physician in the state. We have appeared wherever it was practical before the district and county societies, and our inspectors have visited hundreds of physicians personally making an effort wherever possible to enter into the technic of the examination by means of the microscope. We have endeavored to get the cooperation of the people by giving lectures, by talking to parents whose children present evidence of infection, by giving talks to school children and by notifying each parent whose child is suspected of being infected and by sending to the parent bulletins stating the cause, nature and prevention of the disease, and the methods to be followed in securing a cure. In every section we have endeavored to see that a few typical cases have been treated in order that they might be an object lesson. As another means of getting the cooperation of the people we have used the press, having visited 102 editors and secured for publication 169 articles. The matter of providing treatment for the indigent is a perplexing question. The final task in the work of eradication is the stopping of soil pollution. This is a work of education and will require a great length of time. About 83 per cent. of the people in the state of Georgia live in the country and soil pollution is generally practiced, with no thought of the serious consequences. Outside of the cities and towns a large percentage of the people have no privies at all. The farmers are beginning to realize their importance and are asking for plans and specifications.

We have during the last twelve months visited seventy-five counties, examined 419 schools with an attendance of about 40,000 and found about 10,000 suspects. We have made 4,472 microscopic examinations and found 2,205 positive. We have reported as treated about 10,898 persons. We have delivered 400 lectures, many of them illustrated.

A Simple Technic in Gynecologic and Obstetric Perineal Repair

Dr. R. R. Kime, Atlanta: By the buried suture the principles of the Emmet operation can be carried out equally as well if not better than in the denuding process and by a far simpler and quicker technic. I have been advocating this method of perineal repair for fifteen or twenty years. The longer I practice it the more I am convinced of its utility, efficiency and simplicity. If the flap is properly elevated, either or both vaginal sulci, anterior fibers of levator ani, pelvic fascia, sphincter ani, when lacerated, and the perineal structures proper can be approximated forming a good firm pelvic floor and as large a perineal body as is desired without destruction of tissue, which is a factor of importance in many cases. Scar tissue should be removed. It is best to conserve the vaginal tissue, especially if the patient is likely to have more children. The flap protects the sutures, lessens chances of infection and prevents the formation of pockets in vaginal sulci, lessens collection of lint from dressings; if infection does occur superficial stitches can be removed without complete separation of the parts. In obstetric work the same principles apply except that the parts are already denuded for suturing. All that is needed for the operation is a needle holder or artery forceps, scissors, No. 2 plain catgut and a small, full curved needle with a large eye. This method does not require an expert anatomist for hairsplitting dissections of the various individual muscles of the perineum.

DISCUSSION

Dr. W. W. Battey, Jr., Augusta: In all operations for the repair of the perineum we must have in view two facts, the necessity for support for the pelvic floor and for the rectocele. The operation employed by Dr. J. Riddle Goffe of New York is one of the best we can use. The repair can be accomplished in about fifteen minutes and the technic is very simple. The post-operative care of these patients is of as much importance as the operation itself.

Dr. J. R. B. Branch, Macon: With regard to the post-operative care of these patients, they are left, as a rule, in the hands of a nurse and the ultimate success of the operation remains in her hands. One question that arises is whether to use a catheter or not. If the nurse cleans the perineum, dusts it over with aristol (thymol iodid), and then catheterizes the patient, the sutures may hold well. It is better, however, in many instances not to institute catheterization until we are sure that the sutures will hold. The bowels should be thoroughly cleansed out before operation and then a low diet given. The best results are then obtained by tying up the bowel. These patients do not need much nourishment. The bowels should be moved on the eighth, ninth or tenth day by means of an olive oil suppository, which should be give through the retention catheter. This catheter should hav been introduced into the bowel, sutured there, to permit o the escape of gas.

Dr. R. R. Kime, Atlanta: I wish to emphasize the import ance of using the buried suture in these cases. I have neve been able to get successful results otherwise. The sutur should be one that is absorbable. If the knot is left in th rectum there are chances of infection from the rectum and thi can be avoided by the method that I propose.

Tuberculosis Among Insane Negro Women

Dr. N. P. Walker, Milledgeville: These 265 cases do no represent selected cases and the period of observation extend over five and one-half years. Within the past five years th sanitarium has received 4,496 patients of whom more than 9 per cent. were between the ages of fifteen and ninety. Fo the registration area it is stated that 84 per cent. of peopl dying of the disease succumb between the ages of fifteen an seventy. In a sane community only about 61 per cent. ar within these limits. One of the chief local etiologic factors i the crowded conditions of the wards. The normal capacity o the main building for negro women is 310 and the averag number accommodated is 420. Note was made of the sleepin quarters of seventy-four consecutive patients in 1906-1907 an it was found that the percentage was 130 per cent. highe among the patients from the dormitories than from regula rooms, and 170 per cent. higher among those sleeping in th day rooms. There are many difficulties in making an earl diagnosis of tuberculosis among the insane. Many do n complain at all and it is quite impossible to obtain a reliabl history, especially among the negroes. There were thirty-thr cases of acute miliary and general tuberculosis, forty-four i the third stage of pulmonary tuberculosis, 123 in the secon stage and fifty in the third stage. There was one case polyserositis, two of enteric fever, five of adenitis and seve of pleurisy with effusion. There were many forms of compl cations presented. The treatment presented many obstacle Many were indifferent to instructions and it is almost impo sible to secure systematic regulation of rest and exercise. Th open air treatment was begun in 1905. As for mortality, the thirty-three cases of miliary and general, two with enter and one of polyserositis, all died. Of five patients wit adenitis, four improved and one died of other disease. seven with pleurisy with effusion, five recovered, one improve and one died of intercurrent disease. Of those with chron tuberculosis in the third stage, thirty-seven died, six were fu loughed not improved and arrest took place in one. Of 1 in the second stage, twenty-one were cured, twenty-six arreste and forty-one died. Of fifty patients in the first stag twelve were cured, sixteen arrested. The influence of isolatio and treatment on the death rate among colored women h been gratifying. In 1905 the ratio was 9,317 per 100,000; 1906, 6,677, in 1910, 2,936 or one-third the rate of 1905.

The Colon Bacillus as the Principal Cause of Abdominal Diseases

Dr. Fenton B. Turck, Chicago: The virulency of the col bacillus is now quite generally recognized. The degree virulency can be determined by cultures taken from the ile or cecum and fed to rats. Immunity, or partial immunit can be established by the use of vaccines. Where the thyro gland is deficient, the giving of thyroid extract will reduce t virulency. The symptoms are variable in different patient The cultures taken from the lower ileum or cecum were tak from an area of the greatest bacterial activity. One-half one cubic centimeter of a bouillon culture of non-virul *B. coli* can be injected into the peritoneum of the rat witho any marked effect, but if the virulency is well marked, dea will follow. In the treatment of such diseases one shou reduce the virulency of the *B. coli;* he should restore t stomach and intestines to their normal condition; by hygie living, proper diet, etc., he should guard against recurrenc If the retention was of long standing, and the correction dietetic errors and hygienic living, drugs, etc., do not ava surgical means are required. This, however, only removes t effect and not the cause, and after-treatment is necessary remove the causal factors. Lavage of the stomach with a weak solution of silver nitrate is necessary. Heat stimulation (hot water introduced into the stomach) is very beneficial to create antibodies and restore the muscle to functional activity. Lavage of the colon with water and air will excite peristalsis and act as pneumatic gymnastic exercise of the muscle wall of the colon. Liquid petrolatum enemas are of great value in cases of constipation. Some have recommended the use of *B. bulgaricus* as antagonistic to the *B. coli*, but others maintain it has no effect when taken with a mixed diet.

The injection of vaccines is of the greatest value. The cultures should not be taken from the ileum or cecum, as there the strain is most virulent. The cultures are injected into a dead fetal pig and grown in a serum pressed out from the fetal pig. In acute cases small injections are taken from three to five days apart; in the chronic cases larger doses are given but farther apart. In many cases where the mechanical physical means and vaccine and serum treatment are all negative, the use of the thyroid substance will be beneficial. Laxatives and purgatives are valuable for expelling the accumulated material from the bowel, but are of no permanent value. Those drugs which have the least irritating effect should be used. Antiseptics of all forms have little value, as they seem to increase the virulency of the *B. coli*. A few of the oxidizing agents, such as substances containing magnesia or iodin compounds, containing free oxygen that can be liberated, will promptly excite the antibodies in the blood. The diet regulates the bacterial contents of the intestines. Frequent changing of the chemical nature of the diet will prevent the establishment of any one type of bacteria in the intestines. The frequency of meals is of great importance. In many more time is required, because of the slow movement to clear the alimentary tract and give time for rest. Meat increases intestinal intoxication and should not be eaten oftener than once a day. Rice is one of the most easily digested foods, and least toxic in effect. It may be combined with extract free meat, into an easily digested, nutritious and inviting dish. Carrots, beets, parsnips, raw cabbage, celery, raw tomatoes, apples, are all good and may be used in various combinations. Irish moss and agar agar, cooked into a jelly and flavored, will do much to reduce the viruleney of the *B. coli*. Lavage of the stomach and colon will notably have a beneficial effect but will produce changes in the chemistry of the blood. Hot baths have a like effect, but to a less degree. Exercise is an essential part of the treatment to be adopted in combating constipation.

Drinking Water with Meals

Dr. George M. Niles, Atlanta: There is a widespread idea that the habit of imbibing water or any other fluid as food is harmful. I believe it to be based on erroneous physiologic conclusions and promulgated more by tradition than by painstaking observation. Water does not to any extent permeate a mixed meal in the stomach and consequently cannot dilute or interfere with the potency of the gastric juice. Much water at meals is contra-indicated in gastroptosis, in patients with weak hearts or uncompensated valvular lesions, occasionally where there is a marked tendency to colic or spasm of the pylorus. Copious draughts of ice-water gulped down during fatigue or profuse perspiration are both unhygienic and dangerous. A large percentage of patients coming under my notice for poor nutrition, constipation, intestinal auto-intoxication and numerous other states of disordered digestion are those who drink no water with their meals, or very little. I enlisted the aid of sixteen young men of good physique and good digestion, each one accustomed to drinking one or two glasses of water with his meals. Eight of these young men were instructed to drink no water with meals, and only what was demanded to satisfy thirst between meals for a week. The other eight were instructed to drink four glasses of water with each meal and between meals to drink it as was desired. Of the eight who drank no water, all lost in weight, from eight ounces to two pounds, with one exception, and he remained at exactly the same weight as before. Each one complained of headache and more or less constipation. The eight who drank four glasses at a meal fared much better. All gained in weight from four ounces to two and one quarter pounds, except one, whose weight remained the same. Not one had headache, constipation or any digestive discomfort. The one who was constipated at the beginning found his bowels more regular.

DISCUSSION

Dr. E. C. Thrash, Atlanta: It has been my policy to curb thirst during meals, but otherwise to drink when inclined to do so. Drinking too much water is detrimental, and drinking too little water is also detrimental. It is better to drink the quantity of water that the system demands and not to go to extremes.

Dr. T. J. McArthur, Cordele: I feel sure that many people suffer from indigestion, supposedly the result of kidney trouble, when the real cause is a lack of a sufficient water supply to the system. My personal observation has been that it is not an advantage to take too much water with meals. I think the happy medium is to be found in taking two glasses of water with meals. One should insist on a definite quantity of water being taken during the twenty-four hours. We should not force the amount of fluid beyond the demand. Some people get the idea that water is unhealthful, and drink but small quantities of it. If they drank more and diluted the contents of the alimentary canal more frequently there would be less absorption of toxins.

Dr. J. R. B. Branch, Macon: It makes a difference whether liquids are taken in the beginning or at the close of a meal. The saliva plays a very important part in carbohydrate metabolism. If one chews his food thoroughly, he obtains the proper secretion of saliva; if a moderate amount of water is taken at this time no harm will result, but if large quantities are taken or the food is washed down with fluid the proper digestion of the carbohydrates is interfered with.

Dr. S. A. Visanska, Atlanta: One of the greatest arguments to my mind in favor of taking water with meals is that an infant artificially fed must have its milk diluted with water to the same degree as the mother's milk is. In infants we seldom find kidney troubles; the water seems to flush out the kidneys. So far as my experience goes, the taking of water with meals is beneficial rather than harmful.

Bacillus-Carriers and Their Relation to Public Health

Dr. K. R. Collins, Atlanta: Carriers may be divided into three classes: (1) Permanent carriers; this class is confined to such persons as have never had the disease which is produced by the organism for which they act as host. (2) Temporary carriers; those who come in close contact with a patient suffering with an infectious disease and acquire temporarily the organism related to the disease. (3) Persons convalescent from certain diseases who continue after complete recovery to maintain the organism causing the disease for varying periods of time. Among convalescents individuals have been found who carry the active bacilli anywhere from a few days to 669 days after the disappearance of the membrane in diphtheria. Convalescents from typhoid may carry the organism from a few weeks to twelve to eighteen months after their recovery. Such convalescents may be responsible for some outbreaks of typhoid in schools and colleges. We have no accurate knowledge regarding contacts in typhoid as we have in diphtheria, but it is quite possible for an individual to acquire temporarily the organism and to become a means of transmitting the disease. Several cases of permanent carriers of typhoid fever have been reported as "Typhoid Mary," reported by Dr. Soper of New York City. There are other diseases carried in the same way as has been demonstrated in a case of cerebrospinal meningitis. It would seem advisable in cases of epidemics of various infectious diseases to consider the possibility of human carriers and to give careful instructions to those recovering from these diseases as to how to protect others.

DISCUSSION

Dr. J. C. Bloomfield, Athens: The question of bacillus carriers is a very important one with health officers especially. My experience has been that people are willing to do what is right if they understand the reason. Mild cases of diphtheria, where the patient is not very ill, are the ones that make the trouble, as it is sometimes very difficult to make people understand that such cases are dangerous. In our town there is a milk district with 200 to 250 inhabitants which furnishes one-third of all the cases of typhoid in the city; this district is supplied with the same water as the other parts of the city, and I am convinced that there is a typhoid carrier in that locality. They are careless here about their hygienic surroundings and every year typhoid appears in April and continues until December. In cases of diphtheria, every child in the school-room which was occupied by the patient should have a culture taken. In the city of Athens we have an ordinance that no child who has a sore throat for twenty-four hours can return to school until a culture has been taken and declared free. Many children without membranes give positive cultures.

Dr. J. C. Bennett, Jefferson: If we suppress the carriers of disease, contagious diseases can be stamped out.

Dr. J. R. Branch, Macon: In typhoid it is well known that the patient harbors the bacilli and scatters them through the urine and feces. At the end of convalescence the urine and bile can be sterilized absolutely by the administration of hexamethylenamin, 5 grains three times a day. It would be a good idea to have the urine and feces examined before the patient is discharged.

Dr. R. R. Daly, Atlanta: It is the physicians duty to educate the people in regard to these bacillus-carriers. I know a family of five children who had diphtheria and all were carriers, and yet the father refused to understand that they were dangerous and did not isolate them.

Diseases of the Mouth

Dr. Robin Adair, Atlanta: The neglect of this subject often results in loss of masticating surface, part of a jaw or the death of the patient. Growths in the mouth are often of dental origin, and the custom of treating these cases with drugs is to be condemned. When examining a patient, extend your observations to the gums. The local surgical treatment is the work of a dentist. Fortunes are spent to attempt to cure tuberculous patients, who reinfect themselves every time food, medicine or saliva pass over their diseased cavities and gums. Many so-called throat, eye, stomach, intestinal, liver and kidney troubles are due to a diseased mouth and medical treatment cannot cure them. The mouth must have attention. Many mouths which were in good condition before an illness soon after convalescence develop disease of the gums; this is because the physician has not given proper care to this organ while the patient was under his care. The patient is apt during illness to lose the cleansing advantages and the mouth becomes a culture tube for bacteria.

DISCUSSION

Dr. George N. Niles, Atlanta: In treating cases of gastro-intestinal disease, whether in the adult or the child, one should never neglect the condition of the mouth. The alimentary canal cannot be kept clean unless the mouth is clean.

Dr. R. R. Daly, Atlanta: The antituberculosis society found some time ago that it was not getting the results that it wanted and tried to learn the cause. Dr. Adair was consulted on the subject and he pointed out one reason, the lack of proper care of the mouth. After the society had obtained the services of dentists to work on the teeth of these unfortunates, remarkable results were obtained. Mouth contamination interferes with proper digestion, and it also causes sore throat and other conditions that improve when the teeth are cleansed.

Dr. E. C. Cartledge, Atlanta: At the hospital it is the custom to always clean the teeth of the patient before giving the anesthetic. The germs of pneumonia are always present in the lungs and unless these germs are gotten rid of before the operation pneumonia is likely to occur. This point is too frequently overlooked. I never have a patient consult me unless I first examine his mouth.

Dr. S. A. Visanska, Atlanta: The time to begin oral hygiene is in infancy. It would be a good idea if the society would elaborate on the lines brought out in this paper and especially in regard to the spreading of contagious diseases because of the lack of proper oral hygiene.

A Plea for the Isolation of the Criminal Insane

Dr. W. A. Ellison, Milledgeville: It is my observation that the natural instinct of the criminal is to exercise a malicious influence over his fellow associates, creating disturbances and demoralizing the law and order of things, and if possible inciting insurrection. Worst of all, the criminal hinders the favorable prognosis of the common insane. I plead for a better court of commitment, one that should eliminate the ten days' notice and treat one with a diseased mind rather as a sick man than as a criminal. The shameless exhibition of insanity pushed as a mode of defense in crime and followed soon after commitment by the indignant efforts of the accused to be adjudged sane should make us more cautious, and the erection of colonies for the criminal insane would lessen the number of such pleas on the side of the criminal. In regard to the study of criminology as associated with insanity we may devide it into two classes; insanity as a culminative factor in the production of crime and crime as a culminative factor in the production of insanity. My idea of a colony for the criminal insane is a colony for the insane under the management of a separate board of trustees, or directly under the management of the prison commission, on an area sufficiently large, whereby the able-bodied can be put to work, to develop their bodies and possibly their minds. As physicians we should urge on the state the isolation of this class.

DISCUSSION

Dr. R. R. Daly, Atlanta: There is something peculiar about the criminal insane which differs from what is found in the ordinary case of insanity. The fear of personal harm in these institutions greatly interferes with the work of the doctor, and in Matteawan, N. Y., the doctor always has a personal attendant who does nothing but stand behind. This interferes with the work of the doctor in cases of men who are not criminally insane.

Dr. W. A. Ellison, Milledgeville: Physicians should be given an opportunity to examine the patients suspected of being criminally insane in order to determine the character of their insanity. The proper treatment of these cases should not be interfered with in the courts. While the physician should always be on guard when brought into contact with these patients, he should not be in great fear of personal injury.

A State Journal

The society voted to establish a state journal, owned and controlled by the society and edited by the secretary, Dr. W. C. Lyle, Augusta.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Archives of Internal Medicine, Chicago

May

1 Oriental Sore in Panama. S. T. Darling, Ancon, C. Z.
2 *Use of Blood Charcoal as Clearing Agent for Urine Containing Glucose. R. T. Woodyatt and H. F. Helmholz, Chicago.
3 *Chlorid and Water Tolerance in Nephritis. K. M. Vogel, New York.
4 *Studies on Water-Drinking. W. M. Hattrem and P. B. Hawk, Urbana.
5 Determination of the Catalytic Activity of the Blood as a Clinical Diagnostic Method. M. C. Winternitz, G. R. Henry and F. McPhedran, Baltimore
6 *Study of the Internal Function of the Pancreas In Carbohydrate Metabolism. J. H. Pratt and L. H. Spooner, Boston.
7 Tuberculous Retroperitoneal Adenitis Connecting by a Sinus with the Duodenum. M. Lincoln, Worcester, Mass.
8 *Case of Synchronous Cardiac and Respiratory Rate. G. W. Norris, Philadelphia.
9 *The Utilization of Fats and Oils Given Subcutaneously. L. H. Mills, New York.

2. **Blood Charcoal.**—The authors advise that, before any conclusions be drawn from measurements made by the Bang and Bohmannsson method, the individual sample of charcoal which is used shall be thoroughly tested in control experiments.

3. **Chlorid and Water Tolerance in Nephritis.**—Vogel emphasizes that the manner in which the kidney deals with known amounts of sodium chlorid and water furnishes, at least in some measure, an index of its functional capacity in general

and aids in establishing the anatomic diagnosis. It is, therefore, apparent, that whatever may be thought of the salt-poor diet as a routine mode of treatment, the indications to be gained from a study of the chlorid and water intake and output are sufficiently valuable to render it advisable to make such determinations in beginning the treatment in every case of nephritis that is at all severe.

4. **Water Drinking.**—The observations made by Hattrem and Hawk showed that the drinking of copious (1,000 c.c.) or moderate (500 c.c.) volumes of water with meals decreased intestinal putrefaction as measured by the urinary indican output. Copious water-drinking caused a more pronounced lessening of the putrefactive processes than did the moderate water-drinking. In copious water-drinking the total ethereal sulphate output was increased coincidently with the decrease in the indican output. This observation furnishes strong evidence in favor of the view that indican has an origin different from that of the other ethereal sulphates, and that they cannot correctly be considered as indexes of the same metabolic process. When Ellinger's method is employed, the authors say that the determination of indican should be made on fresh urine before any preservative has been introduced. Especially is this true when thymol is used as the preservative. The decreased intestinal putrefaction brought about through the ingestion of moderate or copious quantities of water at meal time is probably due to a diminution of the activity of indol-forming bacteria following the accelerated absorption of the products of protein digestion, and the passage of excessive amounts of strongly acid chyme into the intestine.

6. **Internal Function of Pancreas in Carbohydrate Metabolism.**—The authors found that there is a rapid decrease in the power to assimilate glucose after the onset of atrophy of the pancreas. The persistence of a low limit of assimilation for more than a year shows that the other organs of the body compensated imperfectly, if at all, for the pancreatic insufficiency. Diabetes did not develop in any animal, although in two the atrophy and sclerosis of the pancreas were extreme. It cannot be denied that the retained ability to consume sugar in animals with the pancreas almost totally sclerosed was possibly due to some compensating action elsewhere in the organism. The limit of assimilation in a dog with atrophy of the pancreas which had been under observation fourteen months was increased more than 100 per cent. by feeding fresh pancreas.

8. **Synchronous Cardiac and Respiratory Rate.**—The respirations in Norris' patient were very rapid, but the pulse-rate very slow. The pulse-rate and the respiratory rate were absolutely synchronous, 72 per minute. This condition persisted for about twenty-four hours, during which time the cardiac and respiratory rate remained absolutely synchronous.

9. **Utilization of Fats and Oils Given Subcutaneously.**—Mills' experiments have shown that olive, peanut, cocoanut, sesame, cotton-seed, lard oils, unsalted butter-fat and lard may be given hypodermically and over a considerable period without local irritation, provided aseptic care is used, and no constitutional disturbance occurs, provided precautions are used to prevent injection into the blood-stream. Emulsions of these oils made with 3 to 5 per cent. of egg lecithin and water are permanent, and cause no irritation if given subcutaneously. Oils and fats given subcutaneously are absorbed by means of the lymphatic system and eventually reach the thoracic duct. Lymphatic vessels and glands in contact with and transmitting oil for any length of time become hypertrophied and are thus better able to carry oil. The amount of absorption of plain oil from the subcutaneous tissues after injection during starvation is so small as to be negligible. Emulsified oils and fats injected during starvation are absorbed in amounts sufficient to furnish from one-half to two-thirds of the full calorific requirement of the animals injected. Oils and fats so injected and absorbed have no more influence on the destruction of protein in starvation than has fat given alone by mouth. Plain oils injected subcutaneously under conditions of low protein ingestion are little, if any, better absorbed than when similarly given during starvation. Emulsified oils injected under these conditions are absorbed quite as well as similar oils given to starving animals. Plain and emulsified oils are absorbed about equally well when the animals injected are given a plentiful supply of protein in their food. This probably furnishes the large quantity of lipolytic enzymes necessary for body action on plain oil. The injection of oils subjected to lipolysis causes death, which is due apparently to the production of oleic or other acids with the possible formation of toxic quantities of soaps. Oil absorbed from the tissues after subcutaneous injection is (a) burned in the body for the production of heat and energy, thus sparing the body fat; (b) retained as such within the organism; or (c) possibly converted into body fat by reconstruction in the liver, from which it may be sent for storage to the various fat depositories, after which it is drawn on as needed. Proof of this last proposition is lacking. It seems likely, from comparative examination of the iodin indices of the ether extracts of visceral and adipose tissue that the actively functioning viscera use oil and fat absorbed after subcutaneous injection for the direct performance of their functions, and that the storage of the foreign fat given in excess of the nutritive requirement takes place principally in the subcutaneous tissue, liver and lungs, to a small extent in the kidneys and spleen, while the pancreas and stomach and intestines are practically uninfluenced. This demonstration that after injection under suitable conditions oils can be absorbed to an amount capable of covering so large a proportion of the calorific requirement suggests the application of such injections to the treatment of wasting diseases, to the cachectic conditions associated with imperfect metabolic processes, and especially to tuberculosis, in which the intolerance to fats is almost symptomatic.

Buffalo Medical Journal

May

10 Pellagra in Buffalo. G. W. Wende, Buffalo.
11 A Plea for Hospital Delivery of Our Maternity Patients. L. Schroeter, Buffalo.
12 Fiftieth Anniversary of the Graduation of Drs. Clawson and Smith. C. G. Stockton, Buffalo.

New York State Journal of Medicine

May

13 *Medical Teaching and State Boards of Medical Examiners. C. Stover, New York.
14 Venesection and Saline Infusion in Pneumonia. J. S. Waterman, Brooklyn, N. Y.
15 *An Improved Method for the Extraction of the Immature Cataractous Lens. H. E. Smith, Norwich, N. Y.
16 Early Functional Danger Signals in Abdominal Disease. R. S. Fowler, Brooklyn, N. Y.

13. Abstracted in The Journal, May 6, 1911, p. 1351.

15. **Extraction of the Cataractous Lens.**—The operation described by Smith differs in two particulars from the usual extraction operation. Taking a firm and deep grasp with the fixation forceps on the conjunctiva just below the insertion of the internal rectus muscle, a knife with a blade the shape of a miniature scalpel is thrust through the cornea about the middle of the supero-temporal quadrant and the blade carried down to the lower edge of the dilated pupil, its edge being toward the operator. The handle is then made to describe the arc of a circle away from the surgeon, and a cut is made through the capsule up to the upper limit of the pupil, the blade, then slightly withdrawn, is carried over to the inner side of the mid-pupillary space, the same maneuver repeated and a cut made in the capsule at right angles to the first. The blade is then turned into the same plane as its entrance and is withdrawn. If for the left eye the operator stands on the left side of the patient, the fixation is just above the internal rectus and the knife entered into the infero-temporal quadrant, the cut in the capsule then begins at the upper limit of the pupil. The procedure otherwise is the same. After the capsulotomy the conjunctival sac is flushed with an antiseptic lotion, the patient given a hypodermic of ¼ grain morphin and put to bed. He is allowed to remain there from four to six hours before the extraction proper is performed. This does not differ from the ordinary method, but the corneal section should be ample, for most immature cataractous lenses are large. The period of waiting and the method of capsulotomy are the two essentials of this operation. During the waiting period the capsule, having been amply divided, curls away

from the cortex and allows the aqueous to insinuate itself between this and what remains of the enveloping capsule, causing a separation between the two. That this is true is seen by the ease with which the later delivery of the lens is always accomplished, and its clean, full and smooth outlines when it does come out.

Medical Herald, St. Joseph

May

17 *Present Status of Salvarsan. A. Schalek, Omaha, Neb.
18 *Suggestions for the Application of Lactic Ferments in Genito-Urinary Work. F. S. Mason, New York.
19 *Difficulties Encountered in Late Operations for Intestinal Obstruction. H. E. Pearse, Kansas City, Mo.

17, 18 and 19. Abstracted in The Journal, April 15, 1911, pp. 1140 and 1141.

Journal of Biologic Chemistry, Baltimore

May

20 Refractive Indices of Solutions of Certain Proteids. Gliadin. T. B. Robertson and J. E. Greaves, San Francisco.
21 Method for Quantitative Determination of Aliphatic Amino Groups. D. D. Van Slyke, New York.
22 Quantitative Determination of Prolin Obtained by the Ester Method in Protein Hydrolysis. Prolin Content of Casein. D. D. Van Slyke, New York.
23 Digestion of Protein in the Stomach and Intestine of the Dog-fish. D. D. Van Slyke and G. F. White, New York.
24 Relation Between the Digestibility and the Retention of Ingested Proteins. D. D. Van Slyke and G. F. White, New York.
25 *Increase in Metabolism Due to the Work of Typewriting. T. M. Carpenter, Boston.
26 Pentosans in Lower Fungi. A. W. Dox and R. E. Neidig, Ames, Iowa.
27 Factors Influencing the Quantitative Determination of Gliadin. J. E. Greaves, San Francisco.
28 Composition of Certain Substances Produced by the Action of Pepsin on the Products of the Complete Peptic Hydrolysis of Casein. T. B. Robertson and H. C. Biddle, San Francisco.
29 Theory of the Mode of Action of Inorganic Salts on Proteins in Solution. T. B. Robertson, San Francisco.
30 Relationship Between Urea and Ammonium Salts. A. J. Wakeman and H. D. Dakin, New York.
31 Formic Acid as an Intermediary Substance in the Catabolism of Fatty Acids and Other Substances. H. D. Dakin and A. J. Wakeman, New York.
32 Sulphur in Proteins. T. B. Johnson and G. Burnham, New Haven, Conn.
33 Hydrolysis of Casein. T. B. Osborne and H. H. Guest, Connecticut.

25. **Increase in Metabolism Due to Typewriting.**—Carpenter found that the rate of from fifty-seven to 115 words per minute resulted in an increase in the pulse-rate from 90 to 120, and in the respiration per minute from 19 to 30. There was also an increase in the body temperature, although it is evident that the total rise was not satisfactorily measured in these experiments. The work of typewriting at the rates reported in his experiments resulted in an increase of 30 to 70 per cent. in the total metabolism above the resting metabolism, or an average of about 50 per cent. The amount of increased energy above the resting metabolism per 1,000 words was on the average about 7 calories, and the increase in both the carbon dioxid and the oxygen was 2.5 grams. The increase in carbon dioxid and oxygen due to 1,000 strokes on a typewriter was 0.57 and 0.54 grams, respectively, and about 1.6 calories increase in energy output. The measure of metabolism by periods during the work of typewriting shows that there was a gradual decrease in the amount of energy required per 1,000 strokes. This was more marked in the individuals whose hands and fingers became extremely tired, which would indicate that during fatigue, work is accomplished more economically. The average equivalent amount of work calculated from the increase in metabolism in these experiments varied from 1,950 to 4,600 kilogrammeters per hour, and the calculation based on these results gave an average of 145 kilogrammeters per 1,000 strokes of typewriting. The variation in the increase in metabolism due to the work of typewriting in these different individuals is considered to be due to differences in individual facility and technic. The female subjects represented the extremes in these experiments.

Lancet-Clinic, Cincinnati

May 20

34 *Preparation Required for the Practice of General Surgery. G. W. Green, Chicago.
35 Insanity and Allied Conditions. I. O. Allen, Richmond, Ind.
36 Myositis Ossificans. S. Lange, Cincinnati.
37 Cincinnati's Tuberculosis Problem and Some Suggestions for Its Solution. W. H. Streitmann, Cincinnati.

34. Abstracted in The Journal, Sept. 24, 1910, p. 1134.

American Journal of Orthopedic Surgery, Philadelphia

May

38 *Treatment of Congenital Talipes Equinovarus in Infancy and Early Childhood. R. E. Soule, New York.
39 *Artificial Impaction in Hip Fractures. F. J. Cotton, Boston.
40 A Scheme for Determining the Correct Relative Position of the Joint of an Apparatus to the Anatomic Joint. J. J. Nutt, New York.
41 A Case of Tubercular Osteomyelitis of the Extremity of the Femur Resembling Infantile Scurvy. S. M. Cone, Baltimore.
42 *Muscular Weakness and Pain. E. H. Bradford, Boston.
43 A Case of Congenital Elevation of the Scapula. P. Le Breton, Buffalo.
44 The Plaster Swathe. R. Soutter, Boston.
45 A Rolling Bench for Use After the Reduction of Congenital Luxation of the Hips. G. G. Davis, Philadelphia.
46 Anatomic Anomaly Causing Symptoms of Broken Arch. F. J. Cotton and H. F. Day, Boston.
47 An Instrument for Shortening Tendons. A. O'Reilly, St. Louis.

38. **Congenital Talipes Equinovarus in Infancy.**—Soule emphasizes particularly that the earlier begun and the more continuous the treatment, the less likelihood of having to resort to braces at a later period. He says that the inward rotation of the tibia on its long axis is usually found in cases which have been allowed to continue into early childhood before attempting correction of the club-foot. Knock-knees is also a later development found in the walking period. It is emphasized that no case should be left to the nurse or parent to manipulate, neither should they remove or apply fixing dressings and manipulate the foot. With the continuous plaster dressings correction is more quickly attained, and the restoring of balance between the adductor and abductor muscles and the reforming of articular facets is more certain, and the maintenance of the position is absolutely under control. The treatment is kept under the control of the surgeon better with plaster-of-Paris dressings than with readily removable dressings. There is less atrophy from plaster than from the restricting bands of braces. With reasonable care cleanliness is maintained, and there should be no irritation of the skin if the plaster is not carried above the knee. Excoriations will not interrupt treatment when zinc oxid adhesive plaster is used to protect the foot. A child walks much more comfortably and easily in a well-applied plaster dressing than in any confining brace. Adhesive plaster applications can be used when the surgeon desires to test the ability of the foot to maintain itself without allowing any loss in the amount of correction attained. Restoring the foot to an apparently corrected position does not constitute a final result. Soule holds that tenotomies are seldom necessary. When the tendo achilles is tenotomized a most important resisting point toward the correction of the deformity is removed. The division of the plantar and internal ligaments removes an important element in the correction of the abnormal contour. Open division of structures produces scar tissue which furnishes an added element toward relapse.

39. **Artificial Impaction in Hip Fracture.**—Cotton regards it rather strange in view of the admittedly poor prognosis of unimpacted hip fractures that no one seems to have reached the obvious inference as to treatment. He asks: if unimpacted hip fractures fail of union and do badly while similar impacted fractures do relatively well, then why not impact? Yet such impaction seems not to have been attempted in any deliberate fashion. Cotton tried it in one case. An unimpacted was converted into an impacted fracture. Perfect position was not obtained, nor was the erosion of bone ends entirely averted; but from the time of operation there was no crepitus, no mobility, no tendency to loose eversion, and the result is comparable with the usual result of impacted fracture of the femoral neck in a patient of this age and type. A similar result was obtained in a second case.

42. Abstracted in The Journal, July 2, 1910, p. 51.

Woman's Medical Journal, Cincinnati

May

48 Clinical Observations in Feeding Dispensary Babies. E. L Coolidge, New York.
49 Factors for and Against Gynecologic Operations. M. D Rushmore, New York.
50 Alcohol in Relation to Epilepsy. S. Radcliffe, Yonkers, N. Y

Bulletin of the Lying-In Hospital of the City of New York

June

51 *Cesarean Section by the Small Median Incision Above the Umbilicus. A. B. Davis, New York.
52 *Summer Diarrhea in Infants Under Two Years. E. L. Coolidge, New York.
53 Radical Treatment of Abortion. G. W. Kosmak, New York.

September

54 Fibromyomata of the Uterus, Complicating Pregnancy, Labor and the Puerperium. R. W. Lobenstine, New York.
55 Prolapse of the Umbilical Cord. C. B. Knapp, New York.
56 *A Case of "Puerperal Bacteremia" Treated by Intravenous Injections of Magnesium Sulphate. R. W. Lobenstine, New York.
57 Pregnancy Complicated by Nephritic Abscess; Normal Delivery Followed by Nephrectomy. J. W. Markoe, New York.
58 A Case of Exstrophy of the Heart. J. E. Welch, New York.

December

59 An Outline of the History of the Society of the Lying-In Hospital of the City of New York. J. W. Markoe, New York.
60 The Beginnings of Mind in the New-Born. F. Peterson and L. H. Rainey, New York.
61 *What We Can Expect from Vaccines in Puerperal Sepsis. J. O. Polak, Brooklyn, N. Y.
62 *A Modification of Lane's Operation for Cleft Palate and Harelip. J. W. Markoe, New York.

51. **Cesarean Section.**—Davis makes a very extensive detailed report on 197 Cesarean sections performed in the service of 60,000 cases, or once in 304.56 cases (0.33 per cent.).

52. **Summer Diarrhea in Infants.**—The routine treatment pursued in this service of the Lying-In Hospital has been as follows: For bottle-fed babies under 1 year of age, as soon as the infant is seen, all milk is stopped and the baby given either barley or granum-water. These gruels are made by mixing 1 heaping teaspoonful of the flour with 1 pint of water, cooking the same for fifteen minutes, then adding a pinch of salt. This thin gruel is fed every two or three hours, according to the age of the child, the proper number of ounces for the special age being prescribed. Two ounces of boiled water are also given between meals. This feeding is kept up for twenty-four or forty-eight hours according to the severity of the attack. At the end of this time the mother is instructed to add 1 ounce of whole milk to each pint of the gruel and from this point the milk is gradually worked up in the formulæ until the correct amount for the child's age and digestive capacity is reached. The baby is not kept on gruel alone for any great length of time, and to this fact more than to anything else Coolidge attributes success in dealing with these cases. There are some babies that cannot digest the fat in cow's milk after a severe attack of diarrhea and in such instances condensed milk is substituted for the fresh milk, as the former contains such a very low percentage of fat that it is usually well borne by this class of babies. As the infant improves, fresh milk is gradually substituted for the condensed milk until the correct formula can be taken. Coolidge generally begins the condensed milk in a dilute mixture, often 1 part of the condensed milk to 30 of the gruel and gradually increases the strength until the dilution is 1 to 10 or 12 according to the age of the child. At this point one feeding of a weak fresh milk formula is substituted for one of the condensed milk, then in a day or two, two meals of the fresh milk, etc., until all fresh milk is being taken. Babies from 1 to 2 years of age are given, in addition to the above food, mutton or chicken broths free from fat, once or twice a day, also a little zwieback broken up in the broth. After two or three days, farina porridge made as thick as an ordinary breakfast cereal is given, often with a very small bit of butter added to make it palatable, until milk can be used on the same. In breast-fed babies, the mother is instructed to give barley-water for twenty-four hours and to apply the breast-pump at regular intervals during this time. Boiled water is also given to these breast-fed babies. At the end of this time 1 or 2 ounces of barley-water is given to the child just before the breast and then the nursing is allowed for five minutes at each feeding time. As the stools improve the amount of barley-water is decreased and the nursing from the breast increased until gradually the child is taking its usual amount of nourishment. The medication given these cases depends on the severity of the infection; when the stools are simply frequent, thin and yellow or green, give from 1 to 2 teaspoonfuls of castor oil and follow this up the next day by aromatic syrup of rhubarb, in doses of from 5 to 20 drops every three hours, according to the child's age. This is generally continued for two or three days. Very often this is all that is required. If at the end of this time the stools are still frequent, containing blood or much mucus, calomel, $^1/_{10}$ of a grain, every hour for ten doses is prescribed, and after several free movements follow it up by a bismuth mixture.

56. **Magnesium Sulphate in Puerperal Bacteremia.**—The uterine culture in this case showed a pure growth of streptococci at the end of twenty-four hours. The blood-culture presented no apparent growth after twenty-four hours, but a very abundant growth at the end of forty-eight hours. On the second day after admission, 30 grains of magnesium sulphate were dissolved in 8 ounces of sterile water and the mixture introduced into one median basilic vein at a temperature of 108 F. There was a slight chill after the infusion and the temperature went up temporarily from 103 to 104.2 F. The pulse continued about 120 to the minute, and on the second day following this first injection, both the pulse and temperature showed some slight improvement. The patient's general condition also appeared a trifle better. On the third day after the injection the temperature dropped to nearly the normal, while the pulse came down to between 90 and 100. That night, however, there was a sudden change for the worse; the temperature went up to 105 F., and the pulse 130-140. Strong stimulation was required and death was looked for within twenty-four hours, as the patient became weak and listless. A second injection of magnesium sulphate of the same strength was now given. This was again followed by a chill and a temperature rise to 106.4 F. Within six hours both the temperature and the pulse began to subside, so that two days later both were normal. A blood-culture taken at this time remained sterile after three day's incubation. Convalescence was rapid and uneventful thereafter.

61. **Vaccines in Puerperal Sepsis.**—Polak admits that vaccine therapy has a definite field in the treatment of puerperal septic infection in the subacute stage and after the local focus has formed, it hastens convalescence. Inoculations with autogenous vaccines will promise prompt results in staphylococcic and colon bacillic infections, but in streptococcic poisoning, vaccine treatment is unreliable, and is of value only when the virulence of the germ is attenuated, or when Nature has already developed a phagocytic defense.

62. **Modification of Lane's Operation for Cleft Palate.**—The technic of Lane is followed by Markoe, except that the mucoperiosteum covering the intermaxillary bone is separated from the subjacent bone and carefully fitted under a raised flap from the opposite alveolus, this completely closing in the arch of the alveolus and also helping to form the floor of the nose anteriorly.

Journal of the Delaware State Medical Society, Wilmington

May

63 What Is Heart-Block? A. Robin, Wilmington.

Kentucky Medical Journal, Bowling Green

May 15

64 Rheumatic Eye Disease. S. G. Dabney, Louisville.
65 Ectopic Gestation. H. A. Davidson, Louisville.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

May

66 *An Experimental Study of Camphoric Acid. G. B. Roth, Ann Arbor.
67 Influence of Various Salts on Tetany Following Parathyroidectomy. C. Voegtlin and W. G. MacCallum, New York.
68 *Rôle of the Portal Circulation of the Liver in Bile Formation and Jaundice. C. Voegtlin and B. M. Bernheim, Baltimore.
69 *Laxative Properties of the Tribasic Salts of Phenolphthalic Acid. L. G. Rowntree, Baltimore.

66. **Action of Camphoric Acid.**—Roth found that both on frogs and higher animals sodium camphorate acts as a stimulant to the central nervous system, producing in the frog, at times, a distinct increase in reflexes. It is devoid of effect

on the secretory nerve endings of the sweat glands and in addition has no influence on the salivary secretions. The drug given as the sodium salt is comparatively non-toxic for frogs, cats or rabbits. It is more toxic when given intravenously than subcutaneously. Its diuretic effects are comparable to those of an indifferent salt such as sodium chlorid. It raises the blood-pressure in mammals and has some depressing effect on the heart muscle. These circulatory changes like the effects on the kidney are due to salt action. Camphoric acid given to animals as sodium camphorate is a true respiratory stimulant.

68. **Bile Formation and Jaundice.**—The authors hold that the amount of bile formed by the liver depends on the blood-flow through this organ. The jaundice and fatal toxemia resulting from occlusion of the common bile duct can be avoided by an Eck fistula made at the time of the ligation of the duct. In cases in which, owing to occlusion of the duct, jaundice has already developed, an Eck fistula causes the symptoms to disappear. It is shown by the authors that the liver has a hemolytic function.

69. **Laxative Properties of Tribasic Salts.**—Experiments were made by Rowntree to see if potassium phenolphthalate and sodium phenolphthalate possess purgative properties. The neutral solution was injected into dogs which were kept in separate metabolism cages and whose diet and water had been carefully controlled and the condition of whose stools was known. Only such dogs whose stools were well formed, were hard, dry and friable, were used. The skin was shaved in spots and the drug injected under aseptic conditions and with antiseptic precautions. At first it appeared that no local irritant effect accompanied the subcutaneous administration of these preparations, but in about half of the experiments evidence of local irritant effects did appear, sometimes only as a slight indurated nodule appearing within a week or two after the injection, again as an infiltration involving a considerable area and appearing within two or three days. Rowntree says that undoubtedly these preparations are irritant locally. These substances are of little or no value as subcutaneous purgatives and do not compare at all favorably with phenolphthalein itself or its tetrachlor derivative.

Journal of Ophthalmology and Oto-Laryngology, Chicago

May

70 Ocular Manifestations of Arteriosclerosis and Their Diagnostic and Prognostic Significance. C. A. Veascy, Spokane, Wash.
71 Neuralgia of the Larynx. H. Kahn, Chicago.

Vermont Medical Monthly, Burlington

May

72 Indigestion as a Surgical Symptom. I. S. Haynes, New York.
73 Bacteriologic and Serodiagnosis of Syphilis. C. F. Dalton, Burlington.

Dominion Medical Monthly, Toronto

June

74 *Case of Entero-Uterine Anus. F. W. Marlow, Toronto.
75 A Case of Infection of an Indefinite Nature in Which Sodium Salicylate Appeared to Have a Beneficial Action. G. Chambers, Toronto.
76 Insanity. R. H. Robinson, Toronto.

74. **Entero-Uterine Anus.**—Following an abortion in Marlow's case there developed an entero-uterine anus. Presumably the uterus was punctured during the induction of abortion or during later manipulations, and then the intestine was either dragged in through the opening or it herniated through. At any rate a few days later the fecal matter discharged from the uterus into the vagina, in its entirety, there being none whatever passed per rectum. Meanwhile the patient presented signs of pelvic peritonitis and was very ill. Later the peritonitis subsided, but she gradually became emaciated. The discharge was of fluid consistence and so irritating that excoriation existed all over the perineum and half way down the inner sides of the thighs. The conclusion arrived at by Marlow was that the opening was between the small intestine probably low down, as the emaciation was not extreme considering the time elapsed and the lower segment of the uterine body. Marlow did an entero-anastomosis and closed the opening in the uterus. The patient made a complete recovery

Louisville Monthly Journal of Medicine and Surgery

May

77 Cancer of the Breast. L. Frank, Louisville, Ky.
78 Transfusion of Blood. D. W. Barrow, Lexington, Ky.
79 Acute Anterior Poliomyelitis. E. B. Bradley and F. H. Clarke, Lexington, Ky.
80 The Wassermann Reaction. R. H. Davis, Louisville. Ky.

Boston Medical and Surgical Journal

May 25

81 Occurrence of Infantile Paralysis in Massachusetts in 1910. R. W. Lovett and P. A. E. Sheppard, Boston.
82 *Anterior Poliomyelitis. M. J. Rosenau, P. A. E. Sheppard and H. L. Amoss, Boston.
83 *An Experimental Study of Tendon Regeneration. J. W. Sever, Boston.
84 *Tendon Suture. F. L. Richardson, Boston.

82. **Anterior Poliomyelitis.**—The fact that the virus of epidemic poliomyelitis was not demonstrated in the buccal and nasal and pharyngeal secretions of eighteen experimental cases studied by the authors is not considered by them to be proof that it may not have been there. They hold that in any event, the virus would have been greatly diluted, owing to the relatively large amount of salt solution used to wash the mucous membrane. Furthermore, under the conditions of the experiment, the virus may have been so attenuated as to be incapable of infecting monkeys. It is well known that a considerable quantity of the virus from the central nervous system of man is sometimes required to initiate the infection in monkeys. The authors do not construe their results as in any way disproving the assumption that the infection in this disease may be discharged from the mucosa of the upper respiratory passage and enter through the same channel.

83. **Tendon Regeneration.**—Thirteen operations were performed by Sever on as many cats for the purpose of studying this question. He found that: Silk or linen thread is an excellent material to use to lengthen tendons in suitable cases. The growth of new tissue will penetrate and permeate the silk only slightly, and in some cases not at all, and does not absorb it. When the peritendineum and tendon sheath have been removed, some foreign body such as silk is essential for regeneration, to serve as a director for the new growth. With the sheath and the peritendineum present and sutured, no foreign body need be inserted. In this case the new growth is true tendon tissue. Without the presence of the sheath and the peritendineum, no true tendon tissue can be regenerated. Such tissue is merely fibrous tissue, lacking elasticity and subject to stretching. The new "tendons" are apt to be larger and stronger than the resected ones, especially when silk has been used to replace the resected portion. Provided the sheath and peritendineum are preserved and function allowed early, adhesions may not occur. Without the sheath, adhesions may and do occur much more frequently.

84. **Tendon Suture.**—Richardson favors the following procedure: The first stitch is introduced in the shorter end of the tendon about a qurater of an inch from the cut end. (1) The suture is passed through the tendon transversely and (2) then back parallel to the first stitch at about the same distance from the cut end, but a little to one side of the first stitch. A half knot is tied, not too tight. (3) The same suture is then passed through the other end of the cut tendon, and while the assistant holds the cut ends together, the suture is (4) passed back parallel to the third stitch, a half knot is tied and the two free ends of the suture are securely tied together. The pull of this suture is obliquely across the fibers of the tendon. If the tendon is a large one, or if there is much strain in approximating the ends, a second and possibly a third similar suture may be introduced from other sides of the tendon. As this suture tends to displace the ends of the tendon laterally, it may be necessary to put one through-and-through suture near the cut ends to hold them in close approximation. Wherever possible, the tendon sheath should be reconstructed about the tendon to prevent the ingrowth of scar tissue from surrounding connective tissue. The important things to be borne in mind in tendon suture, stated in the order of their importance, are: (1) Asepsis, (2) preservation of peritendineum, (3) approximation of ends, (4) restoration of tendon sheath, and (5) dryness of wound.

Chicago Medical Recorder

May

85 Prognosis and Treatment of Burns. L. E. Schmidt, Chicago.
86 Caricature in Medicine. M. Frank, Chicago.
87 Treatment of Syphilis. A Retrospect and a Prospect. E. A. Fischkin, Chicago.
88 The Minor Cardiants. W. F. Waugh, Chicago.

Journal of the Minnesota State Medical Association and the Northwestern Lancet, Minneapolis

May 15

89 *Pulmonary and Circulatory Complications Following Surgical Operations. E. H. Beckman, Rochester.
90 *Autogenous Vaccines in the Treatment of Mixed Infections in Pulmonary Tuberculosis. R. T. Pettit, Ottawa, Ill.
91 *Sudden Death in Cardiovascular Disease. G. Cross, Minneapolis.
92 *Bovine Tuberculosis in Relation to Human Ills. A. Kuhlman, Melrose.
93 A Lead Shot in the Appendix. A. N. Collins, Austin.
94 A Case of Typhoid Perforation Successfully Operated On. A. C. Strachauer, Minneapolis.

89. Abstracted in THE JOURNAL, Nov. 26, 1910, page 1922.

90. An article on the same subject was published in the *Illinois Medical Journal*, April, 1911.

91. Abstracted in THE JOURNAL, Nov. 26, 1910, page 1922.

92. **Bovine Tuberculosis and Human Ills.**—In a farmer family, a girl, 16 years of age, complained of a sore throat, catarrh of the nose, foul breath and indigestion. On examination she had enlarged tonsils, swollen cervical glands, and a general congestion of the mucous membrane of the nose and throat. Lungs, negative; no tubercular history in the family. Shortly afterward her father complained of similar symptoms—catarrh, slight cough and indigestion. Three other children had enlarged tonsils, enlarged cervical glands and digestive disturbances. One boy had frequently severe pains in the stomach and abdomen, most marked over the cecum and always worse at night. The family was treated at intervals for about six months. Besides the local treatment of the nose and throat, medicine was given to relieve the indigestion, and general tonics were administered. Six months afterward the farmer applied to Kuhlman for treatment, and said that he had killed a cow which had been discharging from the nostrils, coughed and had slowly wasted away. A competent veterinary surgeon made a tuberclin test of all his cattle, thirty-eight in number. All, with the exception of six, gave the tuberculin test for tuberculosis. He sent all the cattle affected to the State Sanitary Board and they were slaughtered in South St. Paul. The farmer bought a new stock, but had every new cow tested. This was a year ago and since that time they have been practically free from ills. The catarrh is all gone and the boy has not had any more attacks of what Kuhlman once diagnosed as a slight attack of appendicitis. It is Kuhlman's opinion that there is more tuberculosis among cows than is generally believed by the average physician, and that it would be worth while in many cases to investigate the source of the milk as bearing some relation to disease.

Southern California Practitioner, Los Angeles

May

95 Puerperal Infections—Cause and Treatment. T. J. Watkins, Chicago.
96 Treatment of Disease by Spinal Concussion, Sinusoidal and Freezing, etc. H. E. Stroud, Los Angeles.
97 Physiology and Pathology of Senescence. H. E. MacDonald, Los Angeles.
98 The Dawn of Medicine, the Pre-Hippocratic Period. C. L. Allen, Los Angeles.

Archives of Pediatrics, New York

May

99 *Chronic Intestinal Indigestion in Early Life. J. P. C. Griffith, Philadelphia.
100 *Blood-Pressure in Cases of Acute Nephritis of Children. L. Gordon.
101 Certain Fractures of the Upper Extremity in Children. I. S. Haynes, New York.
102 Post-Typhoid Delirium. A. Baines, Toronto.
103 *Studies on Milk Sugar. H. F. Helmholz, Chicago.
104 Taxis and Succussion. A New Treatment of Intussusception. J. Zahorsky, St. Louis.

99. **Chronic Intestinal Indigestion.**—Griffith emphasizes that medical treatment of chronic intestinal indigestion in early life is largely of secondary consideration. The overcoming of the constipation, which is such a common symptom, is important. In addition to the hygienic measures, either small daily doses of a saline laxative or of cascara, phenolphthalein or similar drug may be required. In other cases a small amount of sulphate of magnesia or syrup of rhubarb may be added to the tonic medicines administered. In bad cases the nightly injection of olive oil or cotton-seed oil may be of service. Very often the diet may be selected to overcome the constipation, bearing in mind, however, that many of the laxative foods are more or less irritating to the bowels. As a rule, enemata are not efficient, as they operate only on the rectum. A drug is required which affects the whole intestinal tract. Where there is much secretion of mucus from the bowel, saline douching is sometimes of service, but this practice should not be continuous, as it sometimes maintains the symptoms which it is intended to cure. The administration of a good malt extract appears to aid the digestion of starch. One should be selected which is known to contain a large percentage of diastase, as there is a great difference among them in this respect. In general, as far as other medicinal treatment goes, Griffith has had the best results with the combination of an alkali with a bitter tonic. For this purpose, bicarbonate of soda may be given with tincture of nux vomica, compound tincture of gentian, and an aromatic water, administered ten to twenty minutes before meals. Cod-liver oil, although theoretically an excellent remedy to improve the general health, is often contraindicated, especially early in the disease, on account of its tendency to increase indigestion in many cases. The remark applies to the use of iron given for the anemia, since until convalescence is established this may increase the digestive trouble and the constipation. The importance of resistance in the treatment is emphasized. Griffith says that unless this is maintained, and especially unless the dietetic treatment is rigorously followed for months, an improvement which has seemed very decided, and even a cure which has seemed complete, will inevitably be followed by relapse.

100. **Blood-Pressure in Acute Nephritis in Children.**—According to Gordon, the blood-pressure in children suffering from acute nephritis is raised and this rise of pressure may be very great. In three of seven acute cases, the hypertension was very marked. This fact is of diagnostic value, as in no other disease of childhood is there to be found the same high range of blood-pressure. Those patients who had the highest pressure were those in whom only a slight trace of edema was noticeable, and also it is of interest to note that in these same patients the quantity of blood in the urine was very great, the urine indeed looking like the pure blood; the explanation of the large quantity of blood in the urine being probably, that a rupture of the renal capillaries had occurred consequent on the greatly increased blood-pressure. Gordon emphasizes the fact that in children it is only by means of the sphygmomanometer that changes in the blood-pressure can be ascertained with any degree of certainty.

103. **Milk Sugar.**—Helmholz tries to show that the commonest type of gastro-intestinal trouble is caused directly by the food; that it is brought on in its most acute form by the lowering or the overstepping of the tolerance for sugar, be that by improper feeding, by infection, by spoiled milk, by high external temperature, or by other causes. The food which under normal conditions, nourishes the child, becomes a poison as fatal as bacterial toxins. He emphasizes that the purity of the milk, though of great importance, is not the only important factor. The emphasis that is being laid on pasteurization of a city's milk supply, while it is of great value and, if properly understood, leads to much good, has, unfortunately, overshot the mark among the uneducated. Instead of feeding their infants fresh milk they avoid the bacteria entirely by giving them proprietary foods, with the dire results that one sees in dispensary work. This concentration on the bacteria of milk has left the equally important factor of the quantity and character of the food entirely out of account. How many mothers, he asks, are there in America to-day who realize the danger that lurks in the sugar which they so generously add to the milk? How many doctors are there who appreciate this fact? How many doctors are there who will tell a mother to stop nursing her child with no other indication than the fact that the first few

drops of milk expressed from the breast are blue? We see this in the dispensary only too often. This cornerstone of infant feeding is lightly set aside, not by one, but by a large percentage of physicians, who will take a child from the breast for the most trivial reasons. As regards his advice to mothers on feeding infants, it will depend largely on who sent him the last sample of proprietary food. What we need, he says, is education of the doctor primarily, and, by him, the education of the public. We need to cull the scientific and clinical facts from the mass of empiricism of infant feeding, so that they can be presented to the physicians in a form that will be useful to them, so that they may appreciate the dangers as well as the therapeutic advantages of the different elements of the milk. What we need is capable supervision of each milk station by men who can make each station a center from which the propaganda of rational feeding and therapy will spread, so that ignorance will keep no infant from the breast, so that ignorance will no longer prevent the institution of the right therapy when there is still hope to save the child.

New York Medical Journal

May 27

105 *An Operation for Progressive Spinal Deformities. R. A. Hibbs, New York.
106 Papillary Carcinoma of the Bladder with Metastasis of the Tarsus and Metatarsus. G. E. Shoemaker, Philadelphia.
107 Education in Social and Sexual Hygiene. C. E. Nammack, New York.
108 Why Are We Opposing Forms in Medical Nomenclature? T. W. Schaefer, Kansas City, Mo.
109 *Medicozoologic Nomenclature: the Correct Name of the Protozoon of Syphilis. C. A. Pfender, Washington, D .C.
110 Lactic Ferments in Genito-Urinary Works. F. S. Mason, New York.
111 Methyl Alcohol Amblyopia. T. B. Holloway, Philadelphia.
112 The Roentgen-Ray a Duty in Cancer. S. Tousey, New York.
113 A Plea for the Early Diagnosis and Early Surgical Treatment of Mammary Cancer with Special Reference to Obtaining Better Results. J. H. Gleason, Manchester, N. H.

105. **Progressive Spinal Deformities.**—Hibbs has done an operation for stiffening the knee joint (1), which consists of removing the patella from its periosteum and putting it in the joint after a space is freshened in the bones to receive it, the periosteum then being stitched to that of the tibia and femur. In these cases the patella was not absorbed, but formed a bridge between the tibia and femur, and the periosteum reproduced in every case new bone sufficient to make a large bony bridge and a perfectly safe bony ankylosis. This operation led to the conception, that if the periosteum of the spinous processes was carefully removed, and the processes were divided at their base and placed longitudinally in the interspinous space touching with either end of the base from which the processes were removed and then the periosteum brought back and sutured, a similar condition would be produced. That is, the process would become adherent to the base at either end, thus filling up the interspinous gap with solid bone, and the periosteum would reproduce more bone so that there would be secured a fusion of the posterior aspect of the vertebra by a bridge of bone which would increase in size and strength so that absolute ankylosis would be secured. Hibbs has done this operation on three patients, all with Pott's disease of the spine. A sufficient time has elapsed only in one case to give positive proof that the condition which he attempted has been produced.

109. **Medicozoologic Nomenclature.**—It is shown by Pfender that the correct generic name of the protozoon which produces syphilis is *Treponema*, with *Treponema pallidum* as type species, and not *Spirochaeta*, which has become popularized.

Medical Record, New York

May 27

114 The Medical Side of the Army Maneuvers in Texas. N. S. Jarvis, New York.
115 Dreams and Their Analysis in Reference to Psychotherapy. H. W. Frink, New York.
116 Functional Sexual Disorders Proceeding from the Genito-Urinary Tract. T. M. Townsend and J. J. Valentine, New York.
117 The Value of Doing Nothing. R. P. Francis, Montclair, N. J.
118 Herpes Zoster, Acute Poliomyelitis and Zinc Phosphide. W. F. Waugh, Chicago.
119 Treatment of Neurasthenia. F. H. Barnes, Stamford, Conn.
120 Pneumonia. C. S. Webb, Bowling Green, Va.
121 A Case of Transposition of the Heart. N. P. Brooks, Conquista, Coah, Mexico.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

May 13

1 *Functional Derangements of the Nervous System. G. E. Rennie.
2 Lead Poisoning and the Race. Sir T. Oliver.
3 Granular Kidney and Its Surprises. S. West.
4 *A Fatal Case of Secondary Syphilitic Nephritis. A. J. Hall and J. M. Beattie.
5 The Vasomotor System in Tabes. H. Matthews.
6 *Two Cases of Congenital Aphasia in Children. E. McCall.
7 *Treatment of Rheumatic Diseases by Vaccines. C. P. Ball.
8 *Deep Temperature of the Human Body at Rest and After Muscular Exertion. N. D. Bardswell and J. E. Chapman.
9 Prescription of Glasses. R. A. Morrell.
10 *Etiology of Iritis. R. A. Yeld.

1. **Functional Derangements of Nervous System.**—The point is emphasized by Rennie that the indications for treatment from a review of the pathology of neurasthenia are somewhat different from those in hysteria. While the mental symptoms are still prominent, it is not necessary to adopt the isolation treatment. A mistake is very often made, he says, in advising neurasthenic patients to start off on a sea voyage before any attempt has been made to improve their physical condition, although it is true that a change of scene and surroundings, combined with relief from work, is very beneficial in diverting the patient's thoughts from himself and restoring him to a healthier frame of mind. A neurasthenic is not only jaded in body and mind, and unable to stand the strain of traveling or to take an interest in sightseeing, but he is also suffering from digestive derangements and sleeplessness, and these latter conditions are often aggravated by traveling. Rennie has seen this so often that he is satisfied that we do best for our patients if we first of all put them to bed in the fresh air with quiet and rest, relieve their digestive disturbance by appropriate dieting, secure the free action of the bowels, favor elimination by the skin by warm baths and massage. The state of nutrition of the nervous system can also be improved by securing oral asepsis, by the use of intestinal antiseptics, and by the use of tonics, especially the glycero-phosphates and the hypophosphites. After a month or so of this treatment, the patient will be much improved physically, and will then be able to profit very considerably by a voyage or by a stay in some health resort. Rennie warns to be most guarded in prescribing sedative drugs—for example, opium, morphin or heroin—without very careful consideration, owing to the great tendency there is for patients to contract drug habits. In fact, he says, the less we depend on drugs, the more we adopt general hygienic treatment, the greater the amount of good we shall do for patients suffering from the various forms of functional derangement of the nervous system.

4. **Secondary Syphilitic Nephritis.**—In the case reported by Hall and Beattie, vomiting was almost constant, and a troublesome feature of the case. Nothing seemed to give any relief. They thought at first it was due to the milk diet, and eventually solid food was tried, but it made little or no difference. Headache was chiefly frontal and almost constant. Dropsy remained considerable at all times, and increased toward the latter part of life. The pitting over the abdomen and thorax was always great. The specific gravity of the urine varied from 1.010 to 1.019. The quantity was always considerably below normal, but the man sweated very profusely, not only in the hot-air baths, but often at other times also. The blood-pressure usually was about 160 (max. systolic). The temperature was normal throughout, and the fundi oculorum were normal. Early in June a papulo-erythematous rash appeared in the axillæ, elbow hollows and groins, the sites of mercurial inunction. This spread over the trunk and limbs, was very irritable, and peeled freely. A month later he became much worse, the dropsy increased, and the tongue and lips became more sore. The hands became tremulous, later the ears were sore and painful, conjunctivitis and inflammation of the nail-beds followed. On August 6 he became noisy and delirious, with insomnia, and he died comatose on Aug. 9, 1910. At the necropsy, the kidneys were

ound enlarged, the capsules stripped easily, leaving a smooth urface, color pale, stellate veins marked. The superficial ortex was increased, being in the proportion to medulla of to 1. Section showed a uniform yellowish color, vascular arkings obliterated; no amyloid change, no pelvic dilataion: no cysts; tissue firm and edematous; vessels slightly hickened at places.

6. **Congenital Aphasia in Children.**—These two cases illusrating the forms of mental defect known as word-blindness nd word-deafness, were met with by McCall during the ourse of medical inspection of the elementary school chilren. As they seemed to be fairly typical examples of these onditions McCall believes they are worth recording. Male, ged 12 years, was presented on account of his inability to earn to read. Except for this defect, he was of quite average ntelligence. Most painstaking efforts had been made to each him to read; for many years he had extra tuition at chool for this purpose, but with practically no result. Hearng and vision were normal. He answered questions readily, ecognized by name all objects presented to him, but failed o spell the noun denoting a given object. He recognized ingle letters, but was unable to interpret the written word. Ie wrote well from a copy, and had a good eye for form; he rew well from still life. One of his drawings represented n onion in section; below was written "Onion, cut across." Vhen shown the word "onion" he named it correctly, doubtess from association of ideas: the two following words "cut cross" he was unable to recognize. He could not write a ingle word from dictation, but could write his own name orrectly, this being obviously mechanical, due to frequent epetition.

The second patient was a male, aged 8 years, Oriental by irth. Muscular control was poor; the child jerked and twisted is arms and head continually. When spoken to he took no otice, and might easily be taken for a deaf child. A noise t once attracted his attention. He responded by head movenents to sounds made by the other children in the class. He ttempted to reproduce the spoken word by lip reading, and ucceeded to some extent. His brother, a very intelligent lad, ommunicated with him largely by signs. When shown an bject and told its name he would repeat the word, watching he speaker's lips, but did not retain the memory of the word, ven when again shown the object. His speech was markedly lefective and the intonation resembled that peculiar to cleft alate (this might be due to the very high palatal arch). As vords, however, meant nothing to such a child, he did not ttempt to imitate them unless directly made to do so; he herefore did not learn to talk.

7. **Vaccine Treatment of Rheumatic Diseases.**—While resilent medical officer to the Royal Hospital for the Incurables, Dublin, some years ago, where there are always a very large umber of chronic rheumatic cases, Ball was struck with the eculiar sapremic appearance of most of these patients, and n some of them it was possible to trace in the history the nset of the disease following on some distinct infection, or ubsequent to a chronic suppuration. From experience with large number of cases, he believes that the focus of infecion can at times be ascertained, and although a few are probably due to a specific microorganism, many cases are due to a general sapremia following from a localized seat of infecion. Many cases have come under his notice where the focus of infection has been found microscopically to contain chiefly treptococci. In some cases even, where no seat of infection—uch as bad teeth, leukorrhea, intestinal putrefaction and olitis—could be found, he has used the antistreptococcic erum with success. So many of these cases responded with uch remarkable results that he thinks their use is justified in all doubtful cases. Even in a case of acute articular rheumatism following on an attack of gonorrhea with subsequent gleet, he has had success by the employment of antistreptococcic vaccines, when the injection of gonorrheal vaccines had failed.

8. **Body Temperature in Rest and After Exertion.**—It has frequently been stated that a rise of temperature following exercise is a characteristic sign of pulmonary tuberculosis, and, in fact, that the disease can be recognized by such a rise. Bardswell and Chapman are convinced by the results of their experiments that this obviously is not the case. Again, a rise of temperature occurring in a consumptive patient after exercise is by many considered to be evidence that the patient has inoculated himself. What is termed autoinoculation may have taken place, but the fact of the temperature being raised, even to a considerable extent, is in itself no evidence of such auto-inoculation. The authors point out that it is a fact of some interest in this respect that the consumptive in good general condition, but with well-marked physical signs and with bacilli still in the sputum, will often be found to have a lower temperature after a given amount of exercise than a healthy person who has done exactly the same work. The rise of temperature in the consumptive in such a case is not due to an auto-inoculation; it is a physiologic rise as a result of the exercise. Finally, since it is the practice to regulate the exercise of consumptives in no small measure by noting the effects of given amounts of exercise on the temperature, it is clearly of great assistance to have a knowledge of the effect of such exercise on the temperature of the normal person.

10. **Etiology of Iritis.**—Of 159 cases of primary iritis referred to by Yeld, 45.28 per cent. were syphilitic; 16.35 per cent. were rheumatic; 15.09 per cent. were gonorrheal; 10.06 per cent. were toxemic; 1.25 per cent. were gouty; 1.25 per cent. were osteo-arthritic; and 10.6 per cent. were obscure in origin.

Lancet, London

May 13

11 *Heredity and Insanity. F. W. Mott.
12 Abnormal Forms of Breathing in Cases of Angina with Pulsus Alternans. J. D. Windle.
13 *Six Cases of "Utriculoplasty" for Uterine Hemorrhage. V. Bonney.
14 *Nature of Hematocolpos Fluid, and the Character of the Obstructing Membrane. W. B. Bell.
15 Hidden Dangers of Appendicitis: A Plea for Early Operation. H. J. Patterson.
16 *Unusual Effects of Perforated Gastric Ulcer. W. P. S. Branson and T. P. Legg.
17 Progress in Cancer Research. C. E. Walker.
18 Two Cases of Eosinuria. A. C. D. Firth.
19 *A Rare Case of Congenital Umbilical Hernia. J. P. Mitchell.
20 The National Insurance Scheme: The Prussian Official Tariff for Medical Attendance. G. P. Forrester.

11. **Heredity and Insanity.**—Mott summarizes his paper as follows:

1. Hereditary predisposition is the most important factor in the production of insanity, imbecility and epilepsy. It is the tendency to nervous and mental disease, generally speaking, which is inherited. This may be termed the neuropathic taint.

2. Education, sanitation and the rest, as Bateson has stated, are only the giving or withholding of opportunity for good or ill.

3. Alcohol is a powerful coefficient, but not of itself the main cause in the production of insanity, except in the rather infrequent cases of alcoholic dementia.

4. Certain types of insanity may be transmitted with greater frequency than others. This has been termed similar heredity. The types are: Periodic insanity (also termed "manic-depressive"), delusional insanity and epilepsy. The general rule, however, is for a different type to appear.

5. Mothers transmit insanity and epilepsy with much greater frequency than do fathers, and the transmission is especially to the daughters.

6. Anticipation or antedating is the rule whereby the offspring suffers at a much earlier age than the parent; more than one-half of the insane offspring of insane parents are congenital idiots or imbeciles, or have their first attack in the period of adolescence. This adolescent insanity may take an incurable form of dementia in a large number of cases; in others it is usually mania, melancholia, or periodic insanity, and not infrequently epilepsy with or without imbecility. Very rarely does the parent become insane before the offspring. This is a strong argument of hereditary transmission, possibly hereditary transmission of an acquired character.

7. Regression to the normal average may be (1) by marriage into sound stocks, or (2) by anticipation or antedating leading to congenital or adolescent mental disease terminating the perpetuation of the unsound elements of the stock.

8. High-grade imbeciles who are not at present in any way checked in procreating owing to social conditions interfering with survival of the fittest, together with chronic drunkards, neurasthenics and neuropaths, are contiually reinforcing and providing fresh tainted stocks.

9. Recurrent insanity, owing to the fact that patients are not segregated for any length of time, is probably the most potent cause of insane inheritance. Facts tend to support the opinion that the recurrent types of insanity during lucid intervals may breed a stock of potential lunatics and paupers.

10. Nature is always striving to go back to the normal average and only relatively few of a stock are insane. A stock with a streak of insanity when combined with genius is not bad, and the same may be applied to a nation; but we only want a streak of genius and insanity, the great body of the nation should be of good normal average, for Mott believes that nation will possess

the greatest potential virility in the struggle for existence that can breed from the greatest number of men and women with good bodily health, who possess a large measure of the three attributes of civic worth—viz., courage, honesty and common sense, combined with parentage, pride of family and pride of race.

13. **Utriculoplasty.**—Utriculoplasty is considered by Bonney a legitimate alternative to hysterectomy in the treatment of intractable uterine hemorrhage due to the condition variously known as "hemorrhagic metritis," "chronic fibrotic metritis," and other similar terms, and also that it is feasible to apply it to a uterus the seat of small multiple myomata. It would appear to be preferable to hysterectomy when the patient is still of child-bearing age, and the cervix is reasonably healthy, and especially if the patient herself objects to an enforced abolition of the menses. In the reverse of these conditions, removal of the uterus is the more suitable operation—by total hysterectomy if the cervix be unhealthy, by subtotal hysterectomy in all other cases. In the event of pregnancy following utriculoplasty it would, Bonney thinks, be desirable to induce the labor some weeks in advance in order to lighten the work of the uterus.

14. **Nature of Hematocolpos Fluid.**—According to Bell hematometra rarely occurs with hematocolpos, and can only be a very late complication. The non-coagulability of menstrual blood is due to the removal of fibrin ferment and fibrinogen, probably effected by the endometrium. The lactic acid present is not produced by bacteria. The calcium content of menstrual discharge is very high. The vagina is for the most part developed from the Müllerian ducts, and its lining epithelium may therefore occasionally be of a columnar type, and glands may be present.

16. **Perforated Gastric Ulcer.**—Severe pain over the left loin and lower ribs was the main symptom complained of by the authors' patient. This followed a supposed attack of pleurisy which was later shown to have been perforation of a gastric ulcer. Although gastric symptoms of note were conspicuously absent, the trouble had been gastric in origin, a cytologic examination of the contents of the fasting stomach was carried out, and demonstrated the presence of pus in considerable quantity. In spite of this positive evidence it was hard for anyone who saw the gusto with which the patient attacked an ordinary meal to believe that a serious lesion was present in the stomach. Blood examination showed a moderate grade of secondary anemia without leukocytosis. It was noted as a curious and recurrent feature of the illness that with each acute paroxysm of pain, the left arm and hand, with the left side of the chest, became covered with sweat, the right side remaining perfectly dry. At the operation, a tender epigastric swelling was found to be explained by a large area of dense fibrous adhesion by which the anterior wall of the stomach and the anterior belly wall were bound inseparably together, the cicatrix penetrating the belly wall to a considerable depth. The stomach was somewhat contracted, and exhibited a certain degree of hour-glass deformity at the site of its adhesion to the anterior parietes, while the posterior wall, in practically its whole extent, was immovably fixed to the tissues behind it. The greater omentum contained numerous enlarged and hard lymphatic glands. A certain amount of the dense fibrous material uniting the two was cut away, but it was finally decided that complete separation was impossible because so large a part of the anterior wall of the stomach was attached to the parietes. The belly was closed without the effecting of anything remedial. Contrary to expectation, the operation was a complete success. Five months later, the patient expressed himself as entirely free from pain, and had gained in weight.

The authors conclude that the pains which were the predominating feature of the malady in its later stages were neuralgic in character. It is supposed that they were excited by the involvement of branches of the intercostal nerves in the cicatrix which bound the stomach to the anterior belly wall, and that in the effort to effect a separation here the damaged nerve-endings were divided from their stems. They believe that the more or less fortuitous cure suggests that the part played by the intercostal nerves in producing the chronic pains of gastric ulcer is worthy of more attention than it has received. It is not unlikely that the unexplained relief of abdominal pain occasionally derived from an inconclusive exploratory operation may be due to section of peripheral nerves in the course of the incision, and conversely, that the failure to obtain relief from gastro-enterostomy may at times depend on the fact that the pain is not gastric in origin but neuralgic—that is to say, intercostal.

19. **Congenital Umbilical Hernia.**—Mitchell's patient was a child, 6 hours old. On examination the thoracic organs were found to be normal. The abdomen was the usual size, soft and palpable, but was everywhere resonant, no liver dulness being definable. Projecting very much into the attenuated umbilical cord was a body, which in size and shape resembled a cocoanut; it was of a deep bluish-red color, the surface was smooth and even, the consistence firm and resilient. There was no gurgling on pressure, and it was not reducible. At its attachment the base was 3 inches in diameter, circular, and surrounded by an area of very pink, hard and thick, but healthy skin. The umbilical vessels were situated on the under surface of the hernia. An incision was made on the superior surface of the hernia and a director was inserted between the parietal peritoneum and the contents of the sac. Adhesions which had formed were easily overcome, and when the sac was separated off, the whole of the left lobe and the greater portion of the right lobe of the liver were found prolapsed into the cord. It was not easy to replace it in the abdomen, for the round ligament was found to be holding it in its position; it was therefore ligatured and cut and the liver fell back into position. Three deep transverse silkworm-gut sutures were passed through the recti muscles, which were firmly approximated, the sutures being buried. The umbilical vessels being ligatured the thickened firm edges of the navel were trimmed and several superficial sutures inserted, thus obliterating the circular aperture and making a vertical wound. Healing took place by granulation and a perfect cicatrix was obtained. There is thus far no evidence of weakness in the abdominal wall.

Journal of Tropical Medicine and Hygiene, London

May 1

21 Infection by Schistosomum Japonicum. A. H. Skinner.
22 Schistosomum Japonicum Dysentery in an American Child. O. T. Logan.
23 Drugs and Drug Habits in Burmah. R. H. Castor.

Lyon Chirurgical, Lyons

May, V, No. 5, pp. 421-544

24 Fatal Complications of Cancer of the Prostate. (Comment meurent les cancéreux prostatiques.) V. Rochet and C. Ronot.
25 Access to the Pelvis by the Coccyx-Perineal Route. P. Fiolle and D. Zwirn.
26 *Precordial Thoracectomy or Cardiolysis. (L'opération de Brauer dans un cas de médiastino-péricardite tuberculeuse.) J. Curtillet and G. Pélissier.
27 Advantages of Fowler Position in Treatment of Acute Peritonitis. L. Arnaud.
28 Gangrene of Intestine from Obliteration of Mesenteric Vessels. F. Leclerc and G. Cotte.

26. **Cardiolysis.**—Curtillet and Pélissier report the first application in France of Brauer's method of precordial thoracectomy for adherent pericardium although three other operations of the kind have been done in France since. The operation has been done twenty times in Germany and three times in England, they state. In the personal case reported the patient was a tuberculous young man, and although the operation warded off the dangers on the part of the heart, yet the tuberculous polyserositis continued its implacable course. The edema disappeared by the sixth day after the operation and the patient who had previously been confined to bed was able to be up and about, his heart then responding to digitalis, previously almost entirely ineffectual. In fifteen of the total twenty-seven cases the heart trouble was of tuberculous origin, and the results in this group were by no means the poorest reported.

Obstétrique, Paris

April, IV, N. S., No. 4, pp. 345-480

29 *Tuberculin Reaction During Pregnancy and Parturition. (De la sensibilité des femmes enceintes et recemment accouchées à la tuberculine.) P. Bar and L. Devraigne.
30 Technic for Pubiotomy. R. de Bovis.
31 *Glycogen in the Placenta. (Le glycogène dans le placenta discoide.) S. Zaretzky.

29. **Sensibility to Tuberculin of Pregnant and Parturient Women.**—Bar and Devraigne have applied the intradermal tuberculin test to 28 non-pregnant women, 137 in different stages of pregnancy, 198 recently delivered, and again a second time in 42 parturients. They also injected a drop of a 1 to 10,000 solution of tuberculin in 130 new-born infants. The findings all harmonize with the assumption of antibodies as responsible for the reaction to the tuberculin, especially the constantly negative results in new-born infants, the frequent negative results in tuberculous women with rapidly progressing lesions and the intensity of the reaction in tuberculous women who are holding their own against the disease. The findings are classified and tabulated under various headings. They differ in certain particulars from those reported by Stern in similar research.

31. **Glycogen in the Placenta.**—Zaretzky discusses the important glycogenic function of the fetal membranes and placenta and its share in the carbohydrate nourishment of the fetus. His monograph fills over sixty pages and is accompanied by ten full-page colored plates and an extensive bibliography.

Presse Médicale, Paris

April 29, XIX, No. 34, pp. 341-352

32 Technic for Total Resection of Superficial Idiopathic Varices of the Leg. P. Alglave.
33 The Radioscopic Changes in the Stomach, Duodenum and Large Intestine, Standing and Lying. T. Tuffier and Aubourg.

May 3, No. 35, pp. 353-360

34 *Localized Pulmonary Edema or Tuberculosis? R. Brunon.

34. **Nephritic Pulmonary Edema or Tuberculosis?**—Brunon has sometimes encountered cases in which edema in the apex of the lung, resulting from kidney disease, simulated a tuberculous process, passing through the phases of hemoptysis, induration and cachexia with cavity formation, and yet the tubercle bacilli were not involved. Differentiation is particularly important as nephritis and tuberculosis require opposite treatment, the extranourishing food indicated for the latter doing harm in the former. He describes a case of this kind in a youth of 15 with an acute febrile affection and physical signs, including radiography, suggesting induration of the right apex and involvement of some glands in the chest, discovered after the stormy onset of an acute febrile condition lasting twenty days, with slight albuminuria. The fever subsided with copious diuresis and the signs in the apex gradually disappeared, but the slight albuminuria persisted for eight months and the glandular process for a year. Cases of this kind confirm the possibility of a local congestion at the apex which may or may not be accompanied by a bronchial adenopathy. The diagnosis must be based on study of the antecedents, the evolution of the disturbances, analysis of the urine, which always contains more or less albumin in these cases, and on the benefit from restriction to a milk or milk-vegetable diet. This dieting is not only the best treatment but it serves to clear up the diagnosis.

Semaine Médicale, Paris

May 3, XXXI, No. 18, pp. 205-216

35 The Internal Secretion of the Stomach. M. Loeper.

Berliner klinische Wochenschrift

May 1, XLVIII, No. 18, 785-828

36 *By-Effects of Salvarsan. (Bedenkliche Nebenerscheinungen bei mit Salvarsan behandelten Patienten.) E. Finger.
37 Diffuse Elephantiasic Syphiloma. (Beitrag zur Salvarsanbehandlung.) I. Bindermann.
38 Syphilitic Primary Lesion in Scalp. (Zur Kenntnis des syphilitischen Primäraffektes an der behaarten Kopfhaut.) L. Weiss.
39 *The Cerebrospinal Fluid in Tuberculous Meningitis. J. Hohn.
40 *Colon Bacilli in Cerebrospinal Fluid. (Bacterium coli im Liquor Cerebrospinalis.) W. Hartwich.
41 Operative Cure in Case of Epigastric Hernia. J. Gottschlich.
42 Senile Atrophy of Skull in Dogs. L. Pick.
43 The Urine After Salicylic Medication. (Ueber den Harn nach Salicylsäuregebrauch.) C. Neuberg.
44 *Contrast Color Test in Study of the Blood, etc. (Die Kolorimetrie mittels der Kontrastfarbe, speziell in ihrer Anwendung auf die Hämometrie.) E. Schlesinger and E. Fuld.
45 *Treatment of Incontinence and Pyelitis. M. Klotz.
46 *Prophylaxis of the Plague. (Pest und Pestbekämpfung.) A. Worster.

May 8, No. 19, pp. 828-876

47 *The Psychic Condition Immediately After an Accident. (Der psychische Zustand frisch Verletzter.) E. Meyer.
48 *Tuberculous Peritonitis in Children: Forty-Five Cases. J. Cassel.
49 Policlinic Experiences with Albumin Milk in Infant Feeding. (Erfahrungen über Ernährung mit Eiweissmilch.) L. Rollet.
50 Intermittent Dyskinesia of Arm as Symptom of Sclerosis of Arch of the Aorta. A. Bretschneider.
51 Technic for Intravenous Injection of Salvarsan. S. L. Bogrow and H. Mayer.

36. **Injurious Action of Salvarsan on Nervous System.**—Finger here gives the detailed histories of three cases of optic neuritis after salvarsan, which have already been mentioned in these columns. He states that there have been quite a number of cases with peculiar and occasionally severe nervous manifestations with which the neurologists are not familiar, among the 250 patients who have been given intravenous injections of salvarsan at his clinic. He is convinced that in some of these cases the trouble was not a neurorecurrence but the result of toxic action from arsenic, similar to the phenomena frequently observed at once after the injection, such as headache, vertigo, tinnitus, dryness in the throat, prostration, palpitations, vomiting and diarrhea which all have their analogies in acute arsenic intoxication. The inefficacy of antisyphilitic measures applied against them confirms this assumption. In other cases they seem to be manifestations of the syphilis, assuming unusual forms under the influence of the salvarsan. Rusch has suggested that salvarsan may sensitize the virus, but the spontaneous retrogression of the manifestations in many cases testifies against their being of a syphilitic nature. In conclusion, Finger remarks that while convinced that salvarsan has an undoubted neurotropic action, yet he does not think that this is often displayed and the injury to the nerve seldom impairs its function completely, and the disturbance has a tendency to spontaneous retrogression, although in his first two cases permanent damage resulted. He regards it as his task at present to learn more about the new remedy before he combines it with the old and tried ones.

39. **Cerebrospinal Fluid in Tuberculous Meningitis.**—Hohn reports the findings in four cases out of a much larger number in his experience in which the puzzling diagnosis was cleared up by the findings in the cerebrospinal fluid which he regards as characteristic for tuberculous meningitis. These findings are very little sediment and very high albumin content in the cerebrospinal fluid, with lymphocytosis either pure or accompanied with a few polynuclear leukocytes. The latter are always in degenerative forms. In the case described, one or two tubercle bacilli were also found in the fluid soon after the disease had been differentiated by the above findings.

40. **Colon Bacilli in the Cerebrospinal Fluid.**—Hartwich reports the case of a man of 42 who had suffered from melancholia for over a year and was much debilitated, but the organs seemed to be intact until symptoms suggesting acute miliary tuberculosis developed, to which the patient succumbed. Necropsy revealed tuberculous ulceration in the small intestines which possibly explained the finding of colon bacilli in the cerebrospinal fluid twice during the last week of life.

44. **Contrast Hemoglobin Color Test.**—Schlesinger and Fuld have applied a new principle to determine hemoglobin percentages. It is based on the fact that when fluid of one color is inspected through a screen of another color the thickness of the screen determines whether the color of the screen or the color of the fluid behind it is perceived by the eye. The receptacle containing the blood, diluted to 5 per cent., is inspected through a screen which is a long, hollow tapering wedge, containing green gelatin. This hollow wedge is moved along over the vessel containing the blood, which is readily seen through the thin layer of green in the tapering end of the wedge-vessel, but as the thickness of the layer of green increases, toward the broad end of the wedge, there comes a point where the blood can no longer be seen, the eye perceiving merely the green interposed. In the apparatus constructed for the purpose the screen is covered, except for two slits, and as the screen is moved along it reaches a point where through one slit the red blood is still visible, while through the other slit, 5 mm. beyond, only green can be perceived. The point between the slits is accepted as the index of hemoglobin proportion. This same principle can be applied as a test for the proportion of indican, acetone, acetic

acid, etc., but it is important to select a color for the contrast which is transparent for rays of the same wave-length but which appear to the eye as another color. This method of determining the hemoglobin percentage is proving accurate and free from the influence of the personal equation.

45. **Treatment of Enuresis.**—Klotz has noticed that children inclined to enuresis sleep unusually heavily, and even when awakened in the night the bladder is liable to empty iself spontaneously before the child is fully aroused. In institutions the person on duty in the night can systematically wake the child and thus forestall the enuresis, but in the family the better plan is to prevent such heavy sleep by having the child take a nap morning and afternoon, for two hours. This is particularly important for lively, active children, and it is this class who are so exhausted at night that their sleep is abnormally heavy. By this means, with a little training, the children soon learn to awake and attend to Nature spontaneously. He has another method for less nervous children which has been found very effectual—inducing a psychic shock which seems to cure the tendency to enuresis. The child sits naked on a stool, the seat of which is cut out and has an arrangement below by which a strong jet of cold water can be turned against the anal and genital region. A single application of this method generally sufficed. If it has to be repeated he alternates the cold with warm water. He has found this douche a valuable aid in institutional cure of enuresis. In treatment of anal incontinence he trains the child to systematic defecation by the regular use of glycerin suppositories, twice a day, soon substituting cocoa butter suppositories and omitting both at the earliest moment when defecation proceeds without them, after rhythmic functioning of the bowels has been secured. In inflammation of the bladder and kidney pelvis, with acid urine, he has long been using potassium citrate with excellent results. He gives to infants from 0.5 to 1 gm. (7.5 to 15 grains) two or three times a day, increasing the dosage if the urine has not become alkaline by the second or third day. Larger children require larger doses to bring an alkaline reaction at once. The cure is generally complete in three or four weeks. This vegetable alkali, he says, is non-toxic and more effectual than sodium bicarbonate.

46. **The Plague.**—Worster refers to the experiences at Java in effectual warding off of cholera last year, and urges the adoption of similar measures in China. These are the establishment of a central bacteriologic station, where natives are trained in disinfection and vaccination and are then sent out to do the work among their compatriots, others taking their places in the training stations. The native assistants can do far more effectual work among the people than foreigners.

47. **The Psychic Condition After Accidents.**—Meyer has been devoting special attention to investigation of the psychic conditions immediately after severe accidents. In twenty-five of the thirty-seven patients examined, abnormal psychic conditions were evident and in five they were quite severe, prolonged or permanent. The psychic disturbances had no special features, but resembled closely those observed in infectious diseases, etc., including a slight tendency to delirium by the first or second day after the injury. It was a surprise to find on close examination so much disturbance, of which the patient himself was not aware, and which would have escaped superficial examination.

48. **Tuberculous Peritonitis in Children.**—Cassel reviews his experiences with fifty-two cases; in seven the tuberculous origin of the ascites was not certain but in the others there was no doubt of this. Eight of the children were under 2 years old, thirty between 2 and 6, and six between 7 and 11. Of the thirty-one without operative treatment eight of the children are cured, nine have died and the fate of the others is unknown. Only six of the fourteen given operative treatment are in good health to date, six others dying in a few weeks after the operation. The better the environment the greater the chances for recovery after the operation for tuberculous peritonitis, and he advocates an operation when the condition is still febrile after several weeks of medical measures. At the same time, when change of climate is possible and conditions are favorable, he clings to expectant treatment a little longer.

Centralblatt für die Grenzgebiete der Med. und Chir., Jena

April 28, XIV, No. 6, p. 209-240

52 *Deep-Lying Goiter. (Struma intrathoracica.) S. Kreuzfuchs. Commenced in No. 3.

52. **Intrathoracic Goiter.**—Kreuzfuchs reviews 116 articles bearing on this subject, grouping the findings and discussing the history, the relations between intrathoracic goiter and neighboring organs, its prevalence, the symptoms it induces, especially those on the part of the lungs, heart or mediastinum in general, and the differential diagnosis. The prognosis of the affection has much improved with the possibility of early diagnosis and perfected operative technic, but still the inaccessibility of the intrathoracic goiter renders its removal frequently difficult, pneumonia or mediastinitis having followed in Simon and Bouilly's two cases. Kocher has not lost any of his twenty-two patients of this class. The prognosis is graver if the operation on the goiter has been preceded by tracheotomy. Kolaczek has reported a cure after removal of a goiter protruding into the thorax and showing signs of malignant degeneration. The radical operation is preferable to all other measures of treatment, but an attack of suffocation might be combated by an appropriate position of the head and application of ice to the neck if the goiter has suddenly increased in size, giving morphin or codein, in case of spasm of the glottis, or a general anesthetic if the goiter has become incarcerated as occurred in Wölfler's case. Internal or external iodin treatment has given good results in some cases but Kocher warns that this is liable to be of service only for parenchymatous goiters, acute swelling of the thyroid in pregnant women or new-born infants while it is useless with old fibrous goiters and is directly dangerous with exophthalmic goiter.

Correspondenz-Blatt für Schweizer Aerzte, Basel

May 1, XLI, No. 13, pp. 449-496

53 *The Exudative Diathesis and Mountain Climate. A. v. Planta.
54 Increasing Prevalence of Urinary Calculi in Switzerland. E. Lardy.
55 Wassermann Reaction in Diagnosis of Syphilis. E. Sonntag. Commenced in No. 12.

53. **The Exudative Diathesis and Mountain Climate.**—Planta practices at St. Moritz in Switzerland and he states that the climate there has a remarkable action on the exudative diathesis and especially on one of its principal manifestations, bronchial asthma. The general health improves, the blood-picture shows marked benefit and the nervous system gains tone. It is a familiar fact, he says, that the constitutional diseases are much rarer among the inhabitants of mountain districts than elsewhere, and when they occur they are of a milder type. His sixteen child patients with bronchial asthma, brought up into the mountains as the last resort after failure of all other measures, had no further attacks. Only two of them had a mild recurrence in the first two weeks after an intercurrent severe "cold." But on return to the lowland the asthma returned, and it did not yield so readily during a second sojourn in the mountains. His experience confirms the necessity for making the most of the first stay, lengthening it out to a year if possible. The task is to transform the exudative diathesis, and this cannot be accomplished in two or three weeks. It requires a year at least. Arrangements should be made for the schooling of children, and for this and other reasons a children's sanatorium in the mountains offers the best chances for the children's outgrowing the tendency. Eight of his sixteen asthma children had obstinate eczema and four of these frequently had fleeting urticaria. All were extremely nervous children; three had convulsions and spasms—all this confirms the assumption of the underlying diathesis.

Deutsche medizinische Wochenschrift, Berlin

May 4, XXXVII, No. 18, pp. 817-864

56 Treatment of Wandering Kidney. (Wanderniere.) P. Fürbringer.
57 *Weil's Disease. A. Hecker and R. W. Otto.
58 *Percussion of One Apex when the Other is Muffled. (Neue Methode zur Perkussion der Lungenspitzen.) J. Plesch.

59 Serodiagnosis of Syphilis. (Syphilisdiagnostik und das Syphilisdiagnosticum nach v. Dungern.) J. Schereschewsky.
60 The High Frequency Electric Current in Medicine. (Hochfrequenzströme in der Medizin.) W. Telemann.
61 *Psychogenic Vulvar Pruritus. M. Walthard.
62 *Operative Treatment of Cerebral Apoplexy. (Hirnschlag.) H. Iselin.
63 Disturbances in the Circulation After Muscular Effort in Incipient Tuberculosis and Their Diagnostic Importance. (Frühtuberkulöser Kreislaufstörungen unter dem Einfluss von Muskelarbeit.) V. Hufnagel.
64 *Acute Syphilitic Nephritis and Salvarsan. (Akute luetische Nephritis im Zusammenhang mit einem durch Salvarsan geheilten Fall.) H. Nador.
65 Nitrite Poisoning from Fertilizer. (Ueber die Chilisalpetervergiftung und den spektroskopischen Nachweis des Nitrits im Blute.) K. Wind.

57. **Weil's Disease.**—Hecker and Otto describe the acute infectious disease characterized by jaundice. muscular pain, fever and enlargement of the liver and spleen, as they have observed it in army circles. Their data include 200 cases and show that the disease occurs almost exclusively during the heated term and that it is not contagious. Very mild and atypical forms of the disease are observed especially at the beginning and end of epidemics. The typical complete syndrome was encountered only at the height of the epidemic, and only in those who during the period of incubation were subjected to unusual physical stress, such as swimming.

58. **Percussion of the Sternum for Apex Findings.**—Plesch states that as the apices lie close to the first ribs, percussion is especially instructive when it is applied to the manubrium, with one hand laid over one apex of the lung, thus muffling the resonance here. This enables the resonance from the other lung to be perceived with unusual clearness.

61. **Psychic Pruritus.**—Walthard refers especially to vulvar pruritus and gives the particulars of two severe cases typical of the psychogenic pruritus. As soon as examination has shown that the parts are anatomically normal, notwithstanding the intense pruritus or neuralgia, he refrains from all local measures and merely by moral suasion convinces the patient of the harmlessness and baselessness of the pruritus. When he has brought the patient to the "Well, what of it?" point of view, the battle is won, and the patients are cured not only of their pruritus, but their whole mode of thought is transformed. This psychotherapy is efficient in all forms of psychogenic algias, hypersecretion of the genital glands and functional disturbances of the musculature of the genital organs.

62. **Operative Treatment of Apoplexy.**—Iselin comments on Franke's suggestion for operative treatment of apoplexy (mentioned in THE JOURNAL, Sept. 3, 1910, page 895), and states that he recently performed an operation of the kind, but on a mistaken assumption. The patient was a man of 62 who had fallen on a stone step and a subdural hematoma had developed. Iselin trephined three hours later. The immediate result was good. but after the brain had begun to pulsate again and consciousness had returned there was renewed hemorrhage, and necropsy showed that the trouble had been an apoplectic hemorrhage into the internal capsule. He reviews the literature on the subject, urging further discussion of Franke's suggestion.

64. **Salvarsan in Syphilitic Nephritis.**—Nador reports a case of acute syphilitic nephritis in a woman of 26 in which differentiation was long difficult. By the third week the entire body was swollen, vision reduced and there was much headache, with nausea and dyspnea. The Wassermann reaction cleared up the diagnosis, and after a single dose of salvarsan all the symptoms subsided within a month, without leaving a trace. The case teaches the importance of suspecting syphilis in every acute nephritis not otherwise explained. Except for a week of violent intestinal catarrh, there were no by-effects that could be attributed to the salvarsan; it was injected into the gluteal muscle in the dose of 0.5 gm.

Medizinische Klinik, Berlin

May 7, VII, No. 19, pp. 721-760

66 Phagocytosis and Virulence. T. J. Bürgers.
67 Successful Removal of Intradural Spinal Tubercle. (Intraduraler Konglomerattuberkel des Rückenmarks; Operation; erhebliche Besserung.) M. Bönniger and S. Adler. Commenced in No. 18.
68 Metabolism in Myxedema. A. Gigon.
69 Favorable Influence of Injection of Blood from Patient with Polycythemia in Case of Pernicious Anemia. E. Walter.
70 Relations Between Myoma and Diabetes Mellitus. E. Neisser and H. Koenigsfeld.
71 Advantages of Combined Mercury-Salvarsan Treatment of Syphilis. M. Loewenberg.
72 *Salicylates in Prevention and Treatment of Chronic Disease, and Especially of Nephritis. (Bemerkungen über Krankheiten und Krankheitsbehandlung und Besonderes über Nierenentzündung.) F. Weitlaner.
73 Importance of Dietetic Treatment in Disease of Upper Air Passages. M. Senator.
74 Relations Between Artificial and Natural Means of Cure at Health Resorts. (Verhältnis der künstlichen Kurmittel zu den natürlichen des Kurortes.) J. G. Siebelt.
75 Lipoid Droplets in Urine Sediment. F. Falk and L. v. Siebenrock.

72. **Salicylates and Long Life.**—Weitlaner comments on the importance and frequency of infection in affections hitherto considered as purely functional, and in the flaring up of old chronic processes. He thinks that death in the elderly is almost invariably due to some acute infection, generally with the pneumococcus. Without infection he thinks that men might live to be 150 years old. He even suggests that the old saying should be modified to "A man is as old as he is sensitive to pneumococcus infection." To attain a ripe old age infection must be avoided, and as this is practically impossible, the next best is to fight infection. He declares that after reaching the age of 50 or 60 years, the systematic ingestion of salicylates, combating besides every fresh infection at once energetically with sodium salicylate, will unquestionably prolong life materially, barring accidents. He advises for this to take a powder twice a day, the prescription being 30 gm. (463 grains) sodium salicylate and 3.6 gm. (57 grains), powder of ipecac and opium; to make xx powders. This internal disinfection strikes at the root of the infection which is responsible for the neurasthenia. nephritis, appendicitis or other morbid conditions. Among the arguments presented to sustain this advocacy of a systematic chronic course of salicylic medication, is that membranous enteritis. a pre-eminently chronic affection, flares up afresh with every febrile sore throat. He regards nephritis as a pneumococcus or staphylococcus infection reaching the kidneys from the throat, and bases treatment thereon, giving salicylates and scrupulously avoiding new infection. His prescription with nephritis is the same, with addition of 6 gm. (90 grains) of hexamethylenamin and having from three to five pills taken each day. The treatment has to be chronic, the same as for appendicitis. but his success in this line, he says. speaks for the logical basis for making the salicylates the panacea for warding off the evil effects of infection in the elderly. The efficacy of many of the new drugs is due to their salicylic content, and strive as we may after new directions for therapeutics, we always come back to the drugs which act as internal disinfectants. Progress will be realized, he thinks, when instead of drugs to act on certain diseases, we classify drugs according to their action on pneumococci, streptococci and other microparasites.

Münchener medizinische Wochenschrift

May 2, LVIII, No. 18, pp. 937-992

76 *Oxygen-Poor Air in Therapeutics. (Therapeutische Verwendung sauerstoffarmer Luft beim Menschen.) A. Schmidt and O. David.
77 Cholera a Nitrite Poisoning. (Neue Beweise für die Verursachung der Cholera durch salpetrige Säure.) R. Emmerich.
78 Fascia Flap to Close Defect in Trachea. (Neues Verfahren zur Deckung von Trachealdefekten.) Hofmeier.
79 Improved Technic for Proctoclysis. (Die rektale kontinuierliche Kochsalzinfusion; der "Tröpfcheneinlauf" unter Kontrolle des Auges.) E. Martin.
80 High Irrigation of the Intestine. (Die hohe Darmspülung und ein Mastdarmrohr für Sphinkterschwäche—Doppelballonsonde.) W. Kausch.
81 *Experiences with Salvarsan. M. Neuhaus.
82 An Immediate Plus a Tardy Reaction to Vaccination. (Die Doppelreaktion bei der Kuhpockenimpfung.) C. v. Pirquet.
83 Post-Mortem Cesarean Section. (Kaiserschnitt an der Toten.) R. Stern.
84 Multiple Mercury Poisoning During Shooting-Match Indoors. (Eine seltene Enstehungsart von Quecksilberintoxikation.) C. Boesl.
85 Infant Dispensaries and Infant Mortality. (Wirksamste Bekämpfung der Säuglingssterblichkeit.) A. Vidal.

76. **Oxygen-Poor Air in Therapeutics.**—Schmidt presents evidence to prove that all the bad effects of high altitudes are due to the lessened atmospheric pressure, while the favorable effects on the blood-producing apparatus and on the respira-

tion are due to the lessened oxygen partial pressure in the lungs. Reduction of the oxygen pressure permits its better absorption by the epithelium of the alveoles. He has consequently constructed an apparatus in which the person breathes. While the atmospheric pressure is maintained at the ordinary level, the air within has only about 12 per cent. of the ordinary proportion of oxygen. In the twenty cases in which he has systematically applied this method of treatment, anemic conditions have shown remarkable improvement, even pernicious anemia, and asthma and chronic bronchitis have also benefited to a notable degree. Chlorosis and bronchitis with emphysema have also responded well to the treatment, he adds.

81. **Salvarsan in Syphilis.**—No unfavorable experiences were encountered in the seventeen cases of syphilitic and parasyphilitic affections of the nervous system in which salvarsan was given by Neuhaus. In another case a patient was admitted to the hospital in an unconscious condition with exophthalmos and choked disk. As a syphilitic factor was surmised, the Wassermann test was applied, but before the finding was learned the patient suddenly died. The reaction was positive; if this had been known in time salvarsan would certainly have been given, but the trouble proved to be a tumor in the hypophysis cerebri, with not a trace of syphilis apparent in any organ. The case teaches that a positive Wassermann reaction alone is not sufficient basis for indicating salvarsan treatment. Neuhaus made five injections in one case, at intervals of about a month, the doses ranging from 0.3 to 0.5 gm. of salvarsan, injected into the gluteal muscles or high in the back.

Therapeutische Monatshefte, Berlin

May, XXV, No. 5, pp. 269-340

86 *Treatment of Acute and Chronic Intestinal Catarrh in Children. L. F. Meyer.
87 *Treatment with Anions. (Ueber Anionen-Behandlung.) P. Steffens.
88 *Foreign Bodies in Bronchi. (Zwei bronchoskopische Fälle von Fremdkörperextraktion.) W. Uffenorde.
89 Hemostyptic Action of Heart Tonics. (Hämostyptische Wirkung von Kreislaufmitteln.) R. von den Velden.
90 Influence of Salvarsan on Intensity of Antibody Production in the Rabbit. E. Friedberger and N. Masuda.
91 Connection Between Ductless Glands and Lymph Spaces. (Beziehungen der Blutdrüsen zu den Lymphräumen, mit bes. Berücksichtigung der Hypophysis und der Gehirnventrikel als Teile des Wärmeregulationsapparates.) C. Jacobi.

86. **Acute and Chronic Intestinal Catarrh in Children.**—Meyer remarks that the diarrheas of children are the daily bread of the general practitioner, and declares that the practice of restricting the children to "flour soup" (browned flour with butter and water to make a soup) after a day of restriction to tea alone, is what often transforms a harmless acute enteritis into a chronic catarrh. He is convinced that excessive carbohydrate fermentation is the primary cause of severe dyspeptic disturbances, both in infants and older children. The physiologically weak intestine of the infant and the intestine of the older child, after it has been weakened by severe disease, behave alike in respect to carbohydrates. Schmidt says that at all ages disturbances in the digestion of carbohydrates entail most readily intestinal catarrh, as the starch waste in the bowel putrefies so easily. Meyer also strikes milk from the diet in the diarrheas of children for at least a week after the stools are normal once more. The albuminous type of foods, with fat, but very little carbohydrates, should be the main reliance. The food should all be put through a hair sieve for infants and through an ordinary sieve for older children. He allows by the second day two tablespoonfuls of white cheese with a slice of white bread, mixed with a little warm saccharin water and put through a sieve; the third day bouillon with one or two tablespoonfuls of boiled or raw meat, all sieved. By the fourth day he permits addition of two tablespoonfuls of spinach or turnip with a banana. The above is the diet for a child of 4 or 5; it represents about 1,204 calories, which is not much below the normal ration of 1,380 calories for a child of this age, but the proportion of carbohydrates is scarcely a tenth of that in the ordinary ration. In his extensive experience this albuminous type of diet has proved its usefulness in acute cases and is far superior to the "flour-soup" diet in the subacute and chronic cases. He has never known it to fail to date.

87. **Anion Treatment of Rheumatism and Neuralgia.**—Steffens applies treatment with the negative pole of an electric current with high tension and reports successful clinical experience with it. He believes that the efficiency is due to the same elements as in the radio-active mineral waters, as he describes in detail.

88. **Foreign Bodies in the Bronchi.**—Uffenorde reports two instructive cases to impress on general practitioners the importance of suspecting a foreign body as the cause of the disturbances in puzzling cases and the importance of immediate visual inspection of the region; every moment's delay is dangerous. Everything should always be prepared for tracheotomy at once when the attempt to extract the foreign body has not proved successful. In one of the cases reported the presence of the foreign body was not suspected for three months. The mother had mentioned at one time that the child might have "swallowed" part of a hook-and-eye fastening, but this had been disregarded. The foreign body changed its position occasionally, sometimes causing suffocation, and then would follow a period free from symptoms. The diagnosis had been tracheobronchitis or diphtheria. When the foreign body was finally recognized it was planned to extract it with the use of the big magnet used for the eye, but an emergency tracheotomy had to be done before this was practicable. The other child had aspirated a bean into the bronchus and it had swelled so that the vocal cords did not permit its extraction and tracheotomy had to be done. The healing of the wound was delayed by a phlegmonous complication, and during the fourth week fatal convulsions developed. In future, Uffenorde says, he will not attempt the removal by the mouth of a foreign body that can swell if it has been in the air passages over twenty-four hours.

Therapie der Gegenwart, Berlin

May, LII, No. 5, pp. 193-240

92 Medical Education: President's Address at Internists' Annual Meeting. (Eröffnungsrede des 28. Kongresses für innere Medizin.) L. Krehl.
93 *Hemorrhagic Purpura After Injections of Fibrolysin. K. Friedmann.
94 Epidemic Poliomyelitis. (Akute epidemische Kinderlähmung.) P. Krause. Commenced in No. 4.
95 *Salvarsan in Recent Syphilis. (Was leistet das Salvarsan bei der Behandlung der frischen Syphilis?) A. Blaschko.

93. **Hemorrhagic Purpura After Injections of Fibrolysin.**—Friedmann's patient was a woman of 67, healthy until a rheumatic affection developed in the shoulders and hip joints, which proved rebellious to the salicylates. In the course of the third month she was given a course of baths, superheated air and massage, supplemented by injections of fibrolysin, according to directions, every second day. After 10 ampoules of fibrolysin had been injected, the patient was much improved and left the institution. She returned in less than a month with recurrence of the chronic rheumatism, and after a course of 10 ampoules of radiogen, with scarcely any benefit, the fibrolysin was resumed. Each injection was followed by headache and some malaise, and this became quite severe by the tenth injection of the second course, and severe hemorrhagic purpura developed the next day with the general condition much impaired, and blood perceptible in the urine and stool, but the rheumatic trouble had permanently disappeared. The purpuric symptoms kept up severely for nearly two weeks, but then all subsided. A total of nineteen injections of fibrolysin had been made, the last one four months after the first.

95. **Present Status of Salvarsan in Treatment of Recent Syphilis.**—Blaschko declares that the time is still too short to determine whether the syphilis apparently cured by the salvarsan has been actually conquered by the abortive treatment, but it certainly in many cases puts an end to all the visible symptoms of early syphilis. Its disadvantages are the rapid letting up of its action, as evidenced in the early development of secondary symptoms, and the injury of the nervous system, especially of the optic and auditory nerves, observed in some cases. He advocates a combination of salvarsan and mercury as early as possible after infection, but states that there is no compelling reason for giving salvarsan at all except where mercury is not applicable.

Wiener klinische Wochenschrift, Vienna

May 4, XXIV, No. 18, pp. 619-654

06 Physiologic Action of Mountain Climate. A. Durig.
07 Pathogenesis of Crêtinism. A. Fluker.
08 Case of Tetany After Injection of Adrenalin (Epinephrin) in Osteomalacia. R. Marek.
09 Pigmented Blood-Cells in Urine; the "Heart Defect Cells." (Vorkommen von "Herzfehlerzellen" im Harn.) E. Koller.
00 The Meiostagmin Reaction in White Rats After Removal of Both Suprarenals. F. Cattoretti.

Zentralblatt für Chirurgie, Leipsic

May 6, XXXVIII, No. 18, pp. 629-660

01 *Cause of Inguinal Hernia. (Zur Aetiologie des Leistenbruches.) A. Hagentorn.

101. **Etiology of Inguinal Hernia.**—Hagentorn has made a ractice of examining the other side in operating for inguinal ernia of late, and states that in four out of ten cases he has ound a pouch of peritoneum on the sound side exactly like e hernial sac, only much smaller and of course empty. He gards this as a congenital peritoneal process which merely waits favoring conditions to develop into a typical hernia. he size and shape of the pouch exclude a mechanical origin r it.

Zentralblatt für Gynäkologie, Leipsic

May 6, XXXV, No. 18, pp. 673-696

02 Treatment of Eclampsia by Excising the Breasts. (Die Heilung der Eklampsie durch die Entfernung der Brüste.) A. Herrenschneider.
03 Raising the Pelvis or Knee-Elbow Position for Delivery in the Home. (Beckenhochlagerung oder Knie-Ellbogenlage bei Entbindungen im Privathaus.) W. Liepmann.

Gazzetta degli Ospedali e delle Cliniche, Milan

April 27, XXXII, No. 51, pp. 539-546

04 Traumatic Tuberculosis. A. Salomoni.

April 30, No. 52, pp. 547-562

05 Etiology of Pellagra. (Le critiche di L. W. Sambon alle teorie maidiche.) M. V. Carletti.
06 Familial Hemoglobinuria from Quinin in Malaria. M. Angelo.

May 2, No. 53, pp. 563-570

07 Asthenia of Connective Tissue in Origin of Hernia. (Sulla astenia connettivale con speciale riguardo alla patogenesi dell'ernia.) P. Leonardo.

Policlinico, Rome

April 30, XVIII, No. 18, pp. 553-584

08 Case of Brocq's Parapsoriasis. E. Toscani.
09 Two Cases of Oriental Sore. (Due casi di Bottone di Oriente.) F. Miceli-Capurbano.

April, Surgical Section No. 4, pp. 145-192

10 Experimental Research on Changes in Kidney Functioning with Disease of One Kidney. (Variazioni della funzionalita renale, nelle nefropatie unilaterali.) S. Marinacci.
11 *Origin of Neoplasms. (Sui recenti contributi alla dottrina del neoplasmi.) G. Fichera. Commenced in No. 3.

111. **Origin of Neoplasms.**—Fichera has continued his esearch on this subject, especially with embryonal and fetal issue grafts. He thinks it is significant that spontaneous alignant tumors are extremely rare in young rats, and that receding ingrafting of embryonal or neoplastic tissue freuently protects susceptible rats against inoculation of cancer issue; also that subcutaneous or local injection of autolyzed omogeneous cancer or fetal tissue determines the involution f ingrafted cancer tissue which, under other circumstances, ives 100 per cent. of positive results. His experiences in hese various lines have convinced him that the cancer-producng property can be corrected, at least temporarily, by supplyng the cellular products of secretion and histolysis, the lack f which is the cause of the cancerous growth, and he decribes his work in this line.

Riforma Medica, Naples

April 24, XXVII, No. 17, pp. 449-476

12 *The Tourniquet Sign of Hemorrhagic Disease. (Sul valore clinico e sulla patogenesi di un nuovo segno del prof. Grocco—segno del laccio.) C. Frugoni and Giugni.
13 Action of Chloroform on the Glycogen of the Muscles. (Azione della cloroformizzazione sul glicogeno muscolare.) P. Colace
14 *Two Cases of Primary Tuberculosis of the Striated Muscles. G. Spelta.

May 1, No. 18, pp. 477-504

15 Experimental Research on Influence of Quinin on Regeneration of the Blood in Anemia from Venesection. (Influenza della chinina sulla rigenerazione del sangue nelle anemie da sottrazioni sanguigne.) D. De Sandro.
16 *Cardioptosis. (Morbo del Rummo.) G. Fiorito.

12. **The Tourniquet Sign of Disease with Hemorrhagic Manfestations.**—Frugoni and Giugni discuss the mechanism and ignificance of the local phenomena which develop in an affection with a tendency to hemorrhagic manifestations when a slightly constricting band, a lacet, is applied to the limb above, as described in The Journal, Feb. 18, 1911, page 545.

114. **Primary Tuberculous Lesion in Muscle Tissue.**—In the first of the two cases reported the lesion developed in the abdominal wall of a boy of 8, in the rectus, and was excised about a month after it had been first noticed. It contained numerous tubercle bacilli. The other patient was a man of 40, and the lump was below the left axilla, about the size of a hen's egg, in the serratus magnus. There did not seem to be any other manifestations of tuberculosis in either case, and both patients were apparently cured by excision of the lesion.

116. **Cardioptosis.**—Fiorito analyzes a typical case of downward dislocation of the heart, the anomaly to which Rummo called attention in 1900. The patient was a man of 22 with pronounced neurasthenia and symptoms on the part of the heart after exercise, pulsation in the epigastrium and discomfort when the food passed from the esophagus into the stomach. He found that this discomfort could be avoided by bending forward as he swallowed the food; this evidently removed the pressure of the sagging heart from the lower part of the esophagus. There were also signs of gastro-intestinal atony. The apex beat was in the sixth interspace and very weak.

Hospitalstidende, Copenhagen

April 19, LIV, No. 16, pp. 417-440

117 Care After Radical Operation on the Middle Ear. (Efterbehandlingen af Radikaloperationen af Mellemøret.) J. Boysen.
118 *The Wassermann Reaction with Serum from Patients Under Influence of Chloroform or Ether. H. Boas and T. Petersen.

April 26, No. 17, pp. 441-472

119 *Return Cases of Diphtheria. J. Sørensen.
120 The Cerebrospinal Fluid in Syphilitics. (Undersøgelser af Spinalvæsken ved Syfilis uden Nervesymptomer.) H. Boas and H. Lind.

118. **Wassermann Reaction in General Anesthesia.**—Boas and Petersen obtained a positive reaction in three out of sixty patients tested while under the influence of general anesthesia. In all the cases chloroform had been used, and a week later the reaction was negative again. All the patients tested were free from any history or signs of syphilis.

119. Summarized in The Journal, May 6, 1911, page 1370.

Hygiea, Stockholm

April, LXXIII, No. 4, pp. 385-512

121 Treatment of Dislocation of the Lens. (Linsluxation uti främre kammaren.) K. Stålberg.

Norsk Magazin for Lægevidenskaben, Christiania

May, LXXII, No. 5, pp. 529-624

122 Treatment of Fractured Radius. H. Schilling.
123 Technic of Sclerotomy for Glaucoma. (Om min teknik i Sclerectomia limbalis for glaukom.) S. Holth.
124 Rupture of Small Intestine from Contusion. (Ruptura intestini tenuis, frembragt ved ytre stump vold.) C. Johannessen.

Ugeskrift for Læger, Copenhagen

April 20, LXXIII, No. 16, pp. 545-580

125 *Rheumatic Symptoms in Muscles and Fibrous Tissue and Massage. (Om reumatiske Lidelser i Muskler og fibrøst Væv og deres Behandling med Massage.) C. Heyerdahl.

April 27, No. 17, pp. 581-630

126 *Trauma in Origin of Cancer from Standpoint of Insurance. (Den forsikringsmæssige Bedømmelse af Traume som Aarsag til ondartede Svulster.) E. A. Tscherning.
127 Motor Gastric Disturbances with Intestinal Disease. (Retention i Ventriklen ved Tarmlidelser.) R. W. Kiær.
128 Treatment of an Inoperable Lymphosarcoma with Coley's Fluid. P. H. Perch.

125. **Massage in Treatment of Muscular Rheumatism.**—Heyerdahl reviews the Danish literature on this subject in the last five years, and reports excellent results from moderate massage. The rheumatic affection is localized both in muscle and fibrous tissue, the main symptoms being pains, tenderness and functional disturbances. They differ from nervous disturbances in the hindrance to the movements of the part, and in the fact that the rheumatic pains are most severe in the morning or after rest and are improved by work, contrary to what is observed in neuritis. The rheumatic pain in the head radiates from the back of the neck upward, while the neurasthenic headache spreads sideways over to the forehead, back of the eyes and thence upward to the top of the head. The

rheumatic pains also occur only with certain movements, while the nervous accompany any movement. The lumps and nodules felt by some in the muscles, the seat of the rheumatism, he thinks are merely the natural contraction of the muscle under the influence of the palpation. Local tenderness is not a reliable means of differentiating between nervous and rheumatic affections, he declares, as there are so many points which are sensitive in every one. Rest is useful in nervous and periosteal affections, while the muscular profit by a certain amount of exercise.

126. **Trauma in Origin of Cancer.**—Tscherning reviews ten cases in which cancer developed at the point of a trauma, and a claim was made for industrial insurance money. In only a few of the cases was a causal connection probable. In one case the trauma caused a fracture of the femur at a point which proved to be already the site of a sarcoma and the limb was exarticulated—the trauma in this case revealed the malignant disease long before it would otherwise have been detected. In the case of a man of 36, previously healthy until a block of ice fell against the lumbar region, a sarcoma gradually developed in the right kidney and the kidney was removed the fourth month, but the patient succumbed to metastasis nine months after the accident. An insurance indemnity was awarded in this case, the death being regarded as the result of the injury, but this was accepted in only one of the other cases.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

A Practical Medical Dictionary of Words Used in Medicine, with Their Derivation and Pronunciation, Including Dental, Veterinary, Chemical, Botanic, Electric, Life Insurance and Other Special Terms; Anatomic Tables of the Titles in General Use and Those Sanctioned by the Basel Anatomic Convention; Pharmaceutical Preparations, Official in the U. S. and British Pharmaeopeias and Contained in the National Formulary; Chemical and Therapeutic Information as to Mineral Springs of America and Europe, and Comprehensive Lists and Synonyms. By T. L. Stedman, A.M., M.D., Editor of "Twentieth Century Practice of Medicine" and the *Medical Record*. Leather. Price, $5. Pp. 1,000. New York: William Wood & Co., 1911.

Golden Rules of Pediatrics. Aphorisms, Observations and Precepts on the Science and Art of Pediatrics. Giving Practical Rules for Diagnosis and Prognosis, the Essentials of Infant-Feeding and the Principles of Scientific Treatment. By J. Zahorsky, A.B., M.D., Clinical Professor of Pediatrics, Medical Department Washington University, St. Louis. With an Introduction by E. W. Saunders, M.D., Emeritus Professor of Diseases of Children and Clinical Midwifery, Medical Department Washington University. St. Louis. Cloth. Price, $2.50. Second Edition. St. Louis: C. V. Mosby Co., 1911.

A Tuberculosis Directory. Containing a List of Institutions, Associations and Other Agencies Dealing with Tuberculosis in the United States and Canada. Compiled for the National Association for the Study and Prevention of Tuberculosis. By Philip P. Jacobs, Ph.D., Assistant Secretary. Cloth. Price, 50 cents. Pp. 331. New York: National Association for the Study and Prevention of Tuberculosis,105 East Twenty-Second St., 1911.

Year-Book (1911) Maimonides Hospital. History, Achievement, Prospects. Published by the Maimonides Hospital Association for the Information of its Members and to Enlist the Cooperation of the General Public. Paper. S. Neveleff, Managing Director, 1145 Blue Island Ave., Chicago.

Yellow Fever and Its Prevention. A Manual for Medical Students and Practitioners. By Sir Rubert W. Boyce, M.B., F.R.S., Holt Professor of Pathology, University of Liverpool. Cloth. Price, $3.50 net. Pp. 380, with 61 illustrations. New York: E. P. Dutton & Co., 1911.

Le Secret de l'Univers devant la Science Officielle. La Mécanique Universelle Dévoilée d'après Clémence Royer et Mise à la Portée de Tous. Par Emile Hureau. Paper. Price, 3 francs 50. Pp. 200. Paris: Jules Rousset, 1 rue Casimir-Delavigne, 1911.

Precis d' Auto-Suggestion Volontaire. Education Pratique de la Volonté. Par le Dr. Géraud Bonnet, d'Oran, Officier de l'Instruction publique. Second Edition. Paper. Price, 3 francs 50. Pp. 302. Paris: Jules Rousset, 1 Rue Casimir-Delavigne, 1911.

Fourteenth Annual Report of the Boston Infirmary Department of the City of Boston. For the Year Ending Jan. 31, 1911. Cloth. Pp. 52, with illustrations. Charles E. Donlan, Superintendent.

Twenty-Fourth Annual Report of the State Board of Health of the State of Ohio. For the Year Ending Dec. 31, 1909. Cloth. Pp. 479. C. O. Probst, Secretary, Columbus, Ohio.

Sanitary Survey for Schools and Diagnostic Table. Paper. Pp. 15. Price, $1 per dozen. San Francisco; Whittaker & Ray-Wiggin Co., 1911

New Patents

Recent Patents of Interest to Physicians

970781. Appliance for treatment of spinal affections. Joseph W. Battershall, Attleboro, Mass.
970877. Stretcher for hospital and other purposes. William F. Bernstein, Philadelphia.
970883. Obtaining ammonia. Nikodem Caro, Berlin, Germany.
970612. Knockdown tent. Michael H. Cummings, Minneapolis.
970480. Sputum cup. George D. Eddy, Burlington, Vt.
970898. Chemical compound. August Eklund, Spokane, Wash.
970907. Hot water bandage. James E. Forbes, Kopple, and B. A. Darr, McKees Rocks, Pa.
970909. Making ammonium chlorid. Francis A. Freeth, Great Crosby, and H. E. Cocksedge, London, England.
970497. Attachment for crutches. Kathryn D. Harding, Evanston, Ill.
970623. Producing pure or mixed aeriform environment. Henry J. R. Hemming, Washington, D. C.
970825. Making formates and formic acid. Henry Howard, Brookline, Mass.
970961. Abdominal and pelvic supporter. Edward F. Small, Atlanta, Ga.
970662. Oleic-acid derivatives containing a phenyl group. Nathan Sulzberger, New York.
970767. Water bottle. Angeline L. Swingle, Putney, S. D.
970576. Atomizer. Martha von Trautmann, New York.
971244. Apparatus for ozonifying. Charles S. Bradley, New York.
971359. Eucalyptus oil solution and manufacture thereof. Amos M. Cox, Los Angeles.
971259. Apparatus for distributing liquids in measured quantities. Stanislas Effantin, St. Cloud, France.
971499. Optometer. Ivan Fox, Media, Pa.
971368. Treating dolomite. Jean J. Gathy, Mons, Belgium.
971501. Production of ammonia. Fritz Haber and R. Le Rossignol, Karlsruhe, Germany.
971373. Device for removing facial lines and defects. Estelle Hanning, San Mateo, Cal.
971198. Manufacture of metallic sodium. Paul L. Hulin, Grenoble, France.
971381. Invalid bed. John M. Keller, Youngstown, Ohio.
971206. Producing hydrogen. Anton Messerschmitt, Frankfort-on-the-Main, Germany.
971144. Preparing caustic soda. Heinrich Reitz, Griesheim-on-the-Main, Germany.
971145. Preparing caustic potash. Heinrich Reitz, Griesheim-on-the-Main, Germany.
971149. Catalytic body and making same. Karl Schick, Griesheim-on-the-Main, Germany.
971227. Device for dampening the air in closed rooms. Karl Ulrich, Zweibrusken, Germany.
971516. Nozzle. Isaac K. Beaver, Wilburton, Pa.
972100. Bed for invalids. Arthur F. Crandall, Beresford, S. D.
971099. Bed. Arthur F. Crandall, Beresford, S. D.
971681. Making artificial ointment bases. Samuel Knopf, Vienna, Austria-Hungary.
971916. Non-refillable bottle. John Missall and A. Sommer, New York.
971783. Surgical appliance. Adolph J. Petter, Los Angeles.
971798. Optical instrument. Truis A. Somdal, Springfield, Ill.
972137. Cooler and soda fountain. George W. and H. A. Wise, Cleveland, Ohio.
972318. Inhaler. Edward S. Balthrop, Jackson, Tenn.
972746. Combined rinser and sterilizer. Benjamin W. Beach, Georgetown Station, N. Y.
972337. Vibrating propeller. Barton H. Coffeyl, Boston.
972755. Mortuary refrigerator. Victor A. De Canio, Union Hill, N. J.
972345. Preparation of a fat-like substance from the bodies of bacteria. Georg Deycke, Constantinople, Turkey.
972523. Iron albumin-glycerophosphate and making same. Ernst Fischer, Gronau, near Hanover, Germany.
972686. Applicator. Albert D. Foster, Chicago.
972201. Syringe. Jacob Kussart, Greeley, Colo.
972207. Ventilating canopy. James Moody, South Boston, Va.
972464. Cellulose ester and treating same. Harry S. Mork, Boston.
972711. Adjustable couch-hammock. Isaac E. Palmer, Middletown, Conn.
972712. Head and shoulder rest or support for couch and other hammocks. Isaac E. Palmer, Middletown, Conn.
972713. Head and shoulder support for couch hammocks. Isaac E. Palmer, Middletown, Conn.
972269. Detachable sanitary covering for toilet seats. Max R. Slough, Covina, Cal.
972289. Hand cultivator. Robert I. Teter, Ellis, Minn.
972414. Operating table for the use of physicians and surgeons. Bernard D. Thorner, New York.
972983. Dilator. Richard S. Arthur, Newark, N. J.
973099. Non-refillable bottle. Arnest B. Barner, Elkhorn, Ore.
973336. Producing metal salts and metals. John W. Beckman, Niagara Falls, Ontario, Canada.
973157. Incandescent lamp. Delo H. Bering, Pittsburg, Pa.
973158. Ear bandage. Katherine Berthel, New York.
973164. Obtaining ammonium salts from gas. Karl Burkheiser, Aix-La-Chapelle, Germany.
973270. Apparatus for heating water, milk and other liquids for sterilizing or other purposes. John S. Forbes, Philadelphia.
973427. Combined pencil holder and inhaler. Jesse W. Hayes, Baltimore.
972878. Embalmer's injecting and aspirating apparatus. Bert Leon, Toledo, Ohio.
973283. Adjustable crutch. William H. Loftin, Jacksonville, Fla.
973445. Breast douche apparatus. Alexis Mantelet, Paris, France.
973062. Optical instrument. Benjamin F. Mayo, Salem, Mass.
973375. Moistener. Joseph M. Molloy, Lewiston, Idaho.
973456. Vaginal syringe. Frank A. Neveu, Salt Lake City, Utah.
973296. Surgeon's scissors. George H. Peddler, Parry, N. Y.
973307. Thermometer case. Francis Ruddy, Watertown, N. Y.
972954. Making hypochlorous acid. Henry V. Walker, Brooklyn.
973328. Emulsifier. Joseph Willmann, Derby, Conn.

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DIET IN ACUTE INFECTIOUS DISEASES

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Feeding the sick is both a science and an art; a cience in so far as it takes cognizance of the great laws of supply and demand in a physiologic sense; an art in o far as it affects the application of these laws to the ndividual.

All matter is endowed with a certain amount of nergy, which manifests itself differently, under differ-nt conditions. Certain chemical substances, by virtue of the nature of the elements that compose them and heir relationship to each other, that is, their structure, have the power to produce one or more manifestations of energy. They are said then to have potential energy.

To give rise to the manifestations of energy, these ubstances must have a certain degree of instability or ability; that is, must be capable under definite conditions of undergoing changes in structure, disruptions, etc., all of which give rise to motion.

The substances of which our bodies are composed and ood on which they continue to exist are chemical subtances of a highly labile character, possessing potential nergy, which in the process of catabolism or breaking down, give rise to motion, which conveyed to other bodies is manifested as work or is expressed as heat, to neglect the lesser forms of energy in the human body, uch as the electrical.

Energy is as indestructible as matter itself. It can be transformed from one kind into another, but it cannot be destroyed nor yet created anew. Different manifestations of energy have definite quantitative relationhips to each other, as Joule's great experiments on the mechanical equivalent of heat showed. He demonstrated hat the amount of work necessary to raise 1 gm. of water through 1° C. was that required to raise 42.55 gm. hrough 1 cm. of distance.

I have said that the conversion of the potential nergy of the body or of the food into one or the other manifest forms of energy occurs under definite conditions. The definite condition in the body which gives haracter to its manifest energy is the "vitality" of the ell. Moore[1] calls the living cell an "energy transormer," and without entering into the controversy bout the significance of "vitalistic phenomena," I shall quote his idea, which is as follows:

> The living cell is not a peculiarly constructed membrane beying, even where it seems most directly not to obey, the physical laws of diffusion and osmosis; but is an energy machine or transformer by virtue of the operation of which a form of energy appears, peculiar in its manifestations and phenomena to living matter.

The kind of energy that this transformer, the living cell, produces out of the potential energy of the body and its foodstuffs is almost entirely thermokinetic, that of work and heat, and as we can express work in terms of heat, we may reduce the total activities of the body to terms of heat and express them as equal to so many "calories" or heat units.

The "calorie" is a term used to express that amount of heat which is required to raise 1 c.c. or gm. of water through 1° C. More properly, this is termed a "small calorie," while the term "large calorie" is used for the amount required to raise 1 kilogram or 1 liter of water through 1° C., i. e., 1 large calorie equals 1,000 small calories.

THE CALORIC BALANCE OF THE HUMAN BODY

As has just been said, the human body (the cells collectively) is an energy transformer; or to put it in other terms, the human body is like a steam-engine, consuming fuel for the purpose of doing work and producing heat; but the human body differs from a steam-engine in this, that, lacking fuel, it will consume its own structure up to the point of a complete collapse of the mechanism; so that, to maintain the integrity of the transformer or engine, it is necessary that the output by it of work and heat shall be exactly met by the fuel afforded it. To know the amount of food the human body requires, then, we must know the amount of work it does and the amount of heat it elaborates in a given time.

Now Nature has given to the individual a most amazing regulator to adapt the supply to the demand on which no device of man can ever improve; that is, appetite. When one thinks that day after day and year after year, the body retains a fixed or approximate weight, under the most varying demands of work, and consequently of food, under the guidance of this monitor, one is lost in admiration; but as there are times, in the stress of disease, that this regulator fails or by the dictates of false theories, is disregarded, we need to know what the demands actually are, in order that we may guarantee that they may be met.

The determination of the caloric output in man has been made possible by the use of the calorimeter chamber of Pettenkofer and Voit, elaborated and perfected by Atwater and Benedict, whose work in this field has been the most extensive and accurate ever done, and whose studies of food-values have been accepted by the government as standards; and by the study of the respiratory quotient determined by the simpler apparatus of Zuntz.

Still another way to determine the caloric needs of man is to determine the heat values of the foods habitually taken by normal individuals in different callings.

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[1] Recent Advances in Physiology and Biochemistry, edited by eonard Hill, London, 1908.

These analyses of the average intake and output agree wonderfully well. For men doing light or sedentary work, clerks, professional men, literary men, the requirements are between 2,400 and 2,600 calories; for those whose work is a little more arduous, as machinists, shoemakers and the like, 2,900 to 3,100 calories; for those doing hard muscular work, smiths, masons, etc., 3,300 to 3,600 calories, while those doing very hard work run up much higher, the Maine woodsmen demanding some 7,000 to 8,000 calories. Football players require nearly as much.

What concerns us most is the requirement of a man at rest, for this is the condition in which we find our patients. Rest, too, is a relative term, and as used here means that degree of activity which obtains when a patient is put to bed, which is a very different state from complete muscular relaxation or that prevailing in sleep. At rest the demands are about 2,300 calories or 33 calories per kilo of body weight, the average man weighing 70 kilos or 150 pounds.

A fact of prime importance to us as practitioners is that educed from the work of Magnus-Levy,[2] namely, that the total metabolism is the same in the sick man as in health, so far as the demands of muscular effort and heat production go; but, as we shall see, fever and toxemia increase these demands.

The caloric requirement of an individual depends not only on the amount of work he does, but also on the size or bulk of his body; and while we have spoken of the requirements of a man at rest as 2,300 calories, it is meant for a man of average weight, while such wide variations as a man of 200 pounds and a woman of 100 pounds are common in our every-day experience. The requirements are best thought of in units of weight, as so many calories per kilo—for a man at rest 33 calories per kilo.

Here, too, certain modifications have to be made, as in the excessively obese, whose fat is hardly to be considered in the same light as the more actively metabolizing tissues.

The figures "33 calories per kilo" obtain only for adults. In the young the growth has to be taken into consideration, which in certain periods is more intensive than in others; e. g., in the first three months of life the demands are about 110 calories per kilo; in the second three months, 100; in the last half of the first year 90; at the end of the second year, 75 to 80; at 10 years, 60, and at 14 years, 52. Indeed, as Cohnheim observes, the boy of 10 requires as much food as the adult who does not do muscular work, while the youth of 14 to 16 must eat 3,000 calories, about one-fourth more than his father who leads an intellectual life.

In consideration of the fact that in all warm-blooded animals the production of heat is the most imperative function of metabolism, and further that the dissipation of it is largely a function of the skin, there stands a relationship between these two, closer than that between metabolism and weight. In a small sphere the surface is greater, proportionally to the contents, than in a large one, for the contents increase as the cube of the radii, while the surfaces increase as the squares, so that in the smaller bodies the radiation is relatively greater and the heat production must be relatively more intense.

So it is that we find in the infant a requirement of 100 calories against 33 in the adult, but when the surfaces are compared, it is found that reckoned in calories per square decimeter, it is about the same from 10 weeks to adult life, 13 to 14 calories per square decimeter (Pfaundler and Schlossmann). The unit of weight, is, however, so much more readily obtained that we use it in preference.

Metabolism experiments carried on during rest have shown that whether reckoned on the one unit or the other they are always the same for all individuals, men or women, sick or well. It must be remembered, however, that the conditions of the experiment produce more nearly real rest than obtains in the sick-room. Differences of temperament determine very different degrees of muscular activity, while certain phases of an acute infection, like delirium, become a matter of serious import in the consideration of rest.

As has been said, all this energy manifested as work and heat by the body, resides potentially in and is derived from the food. The food, then, must furnish periodically just what the body has expended in order to keep the latter intact, for if the food is deficient, the deficit will be made up out of the body itself, as long as it can stand the drain. Our patient at rest, then, must have 2,300 calories of food a day.

CALORIC VALUE OF FOODSTUFFS

The foodstuffs are divided into three classes, fats, carbohydrates and proteins. Strictly speaking, salts and water are foodstuffs, but they have no caloric value.

Rubner's figures for the caloric value of foodstuffs still stand to-day, such slight modifications as have been made having but little practical significance. They are as follows:

1 gm. of fat furnishes 9.3 calories.
1 gm. of carbohydrate furnishes 4.1 calories.
1 gm. of protein furnishes 4.1 calories.

With these figures and a table of the average composition of the common foods, like those of Atwater, published by the U. S. Department of Agriculture, it is no difficult task to arrange a dietary.

The first step, then, in arranging a diet in acute infectious diseases, is to provide, as a minimum, as many calories as are demanded by the individual when at rest in health, 33 calories per kilo, or 2,300 in the average man.

A diet must not only contain sufficient heat units, it must also be properly balanced with reference to the three foodstuffs, and of these three, the most important is protein.

PROTEIN NEEDS

Two facts of great importance are to be kept in mind which differentiate protein from the other foodstuffs: first, in the adult, under normal circumstances, the daily demand for protein is fixed and does not vary with the amount of work done, as is the case with the other two foodstuffs; and second, there is no provision for a storage of an excess of protein, as is the case with fats and carbohydrates. Therefore, any excess must be catabolized and eliminated.

This daily amount of protein amounts to about 10 gm., or 16 gm. of nitrogen. Voit's figures are 118 gm of protein as ingested, which, allowing for the amount found in the stools, gives about 100 gm. net. The analysis of dietaries the world over has given a remarkable unanimity of results, which have confirmed Voit's figures.

That a man may perform hard work for months and remain in excellent condition on an amount of protein far less than this, one-half and even less, has been demonstrated by Chittenden in the most elaborate and extensive set of experiments ever carried out on this subject. Physiologists, however, though they must accept the possibility of this low protein need as a fact, are not yet inclined to argue from this demonstration that such an intake would subserve the interests of the organism in the long run to the best advantage.

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[2] Quoted from Otto Cohnheim: Die Physiologie der Verdauung und Ernährung

FUNCTIONS OF PROTEIN

Protein subserves three important functions. First, it furnishes substance, building material, to the body. This is spoken of as the "storage" of nitrogen. Second, it repairs the daily waste of the body, the wear and tear of the machine. Third, it furnishes heat in its combustion, that is, is a fuel.

It is only in early life that the first of these functions, storage, is of prime importance. At that time it is one of the most imperative of physiologic functions. The continuance of growth in length, when weight may be stationary or regressive, is a familiar phenomenon to the pediatrist, expressive of the fact that the protein is seized on with avidity even when the fuel-value of the food is insufficient for body needs. It is a curious fact that the actual amount of protein ingested in infancy is about the same month after month, but the amount devoted to storage decreases, while that used for wear and tear increases. In the first two weeks over 75 per cent. is stored; at two months 40 per cent.; at five months 23 per cent. When an individual has attained his growth, storage ceases, except on special occasions; these are during pregnancy and lactation, in the establishment of hypertrophy of groups of muscles, as in the training of an athlete, and during convalescence from wasting disease or after a long fast.

The second function, repair of wear and tear, is the important one in adult life. This has to do with maintaining the integrity of the machine as a whole and has nothing to do with the amount of muscular work, so it is a daily constant, regardless of the amount of exertion the body has been put to. It is for this purpose that the food should contain 100 gm. of protein a day in the adult diet.

The third function is incidental. Protein does furnish heat, but it is not an economical source of supply. In the infant the proper amount of protein furnishes about 7 per cent. of the calories; in the adult about 14 per cent.

The reason that protein is not an economical fuel lies in that peculiar property known as its "specific dynamic action." When food is ingested, the physiologic processes sequential to it produce heat. The amount of such heat induced by fat and sugar is slight and negligible, but not so protein. The ingestion of this substance gives rise to a production of heat equal to a trifle more than 30 per cent. of its caloric value.

The source of this heat is a matter of dispute, but it would seem to be due to the work of the glands of secretion and to cell activities with which we are less acquainted. Lusk has intimated that in the case of protein it may be in part due to the denitrogenization of the amidobodies. This heat is lost to the body, is waste heat, under the conditions of temperature and physical regulation of heat in which man lives. He cannot utilize this heat for purposes of cell-life.

This loss of heat by the specific dynamic action of protein may be expressed in this way: that to get the caloric value of 100 gm. of protein one must ingest 140 gm. of the food. It is this increased heat that must be dissipated that has led naturally to a limitation of meat diet in hot weather and to its general elimination from the diet of fever.

The second step, then, in arranging a diet in the acute infectious diseases, is to provide enough protein to replace the wear and tear, an amount which hardly differs from the general demand in health. It may be placed at 65 to 80 gm.

Fat and carbohydrates differ from protein in two very striking ways as articles of diet; first, when utilized by the body the oxidation is complete and they are eliminated as carbon dioxid or water, while the nitrogenous moiety of the protein is not completely oxidized and entails work on the part of the kidney to eliminate it, which the other foodstuffs do not require; second, an excess of fat and sugar beyond immediate needs is stored in the body as fat and does not demand prompt elimination like the excess of protein.

The proportions of the three foodstuffs in an average dietary is protein 100 gm., fat 50 gm., and carbohydrates 400 to 500 gm., giving in the neighborhood of 3,000 calories.

MILK

No food in infectious diseases has been used so much as milk, and frequently to the exclusion of all others.

An excellent milk will show on analysis about 4 per cent. of fat, 4.5 per cent. of sugar and 3.5 per cent. of protein, or, to the liter, 40 gm. of fat, 45 gm. of sugar and 35 gm. of protein. Using Rubner's caloric values as given above, we see that the caloric value of a liter of milk is 700; reduced to quarts, there are about 640 calories to the quart or 20 to the ounce—a convenient figure as a mnemonic.

A liter contains 35 gm. of protein.

It will be seen presently that a low estimate of the caloric needs in fever of an average individual is 3,000. To meet this one would have to administer over a gallon of milk, which would contain over 140 gm. of protein.

These figures sufficiently demonstrate how ill adapted an exclusive milk diet is to meet the needs of an individual suffering from an acute infection.

STANDARD PORTIONS

When one comes to study the tables of composition of foodstuffs, it is plain that the establishment of a dietary to respect the caloric requirements and the protein needs of a patient is a task outside the time and patience of an active practitioner. It was with an appreciation of this fact that Professor Irving Fisher,[3] of Yale, published his tables of standard portions.

It will be seen from the table representing a few of these articles selected how remarkably the ordinary servings of common articles of food, or at least multiples or simple fractions of them, amount to just 100 calories.

In some of our hospitals the nurses are now instructed to bring food to the patient in these portions, so that the estimate of the daily intake can be easily made with a degree of accuracy that answers all practical purposes, and because the daily exhibition of these portions is an education to both the medical and nursing staffs. It soon becomes an easy matter to think of the ordinary articles of diet in terms of units of 100 calories.

The object of our consideration is a patient suffering from an acute infectious disease. So far I have discussed only the food requirements of a man in health at rest. Such a discussion is relevant to this subject, however, because the requirements of the patient are the same plus a certain additional need determined by the infection itself.

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[3] Fisher, I.: The Journal A. M. A., April 20, 1907, p. 1316.

TABLE OF FOOD-VALUES IN UNITS OF 100 CALORIES	Protein in Gm.
Milk, 5 oz.	5.
Cream, 16 per cent. (2 oz.)	1.5
Buttermilk, one and one-half glasses (9.5 oz.)	8.
Koumis, one glass (7 oz.)	5.
Whey, two glasses (13 oz.)	3.5
Eggs, one and one-half	10.
Whites of eggs, 6	24.
Yolks of eggs, 2	4.5
Oatmeal, one and one-half serving (5.5 oz.)	4.25
Boiled rice, ordinary cereal dish (3 oz.)	2.5
Hominy, large serving (4.2 oz.)	2.5
White bread, home made, one thick slice (1.25 oz.)	3.2
One small Vienna roll (1.25 oz.)	3.2
Butter, one pat (1.5 oz.)	0.0
Sugar, three teaspoonfuls, one and one-half lumps (0.8 oz.)	0.0
Oil, one-third ounce	0.0
Codfish, two servings (5 oz.)	23.
Halibut steaks, one serving (2.8 oz.)	15.
Mackerel, Spanish, one serving (2 oz.)	12.2
Shad, one serving (2.1 oz.)	11.2
Salmon, small serving (1.5 oz.)	7.3
Oysters, 12	12.
Roast beef, ordinary serving (1.8 oz.)	10.
Small sirloin steak (1.4 oz.)	7.5
Leg of lamb or mutton, ordinary serving (1.8 oz.)	10.
Lamb chop, one, small (1 oz.)	6.
Bacon, small serving, medium fat (0.5 oz.)	1.5
Chicken, broiler, edible portion, large serving (3.2 oz.)	19.
Turkey, large serving (1.2 oz.)	7.
Potato, baked, one, good size (3 oz.)	3.75
Potato, sweet, baked, one-half average potato (1.7 oz.)	1.5
String beans, five servings (16.66 oz.)	3.75
Spinach, two ordinary servings (6.1 oz.)	3.7
Peas, green, one serving (3 oz.)	5.7
American or Swiss cheese, 1.5 cubic inches (0.75 oz.)	6.
One baked apple, 3.3 ounces	0.5

There are four factors that enter into the problem of feeding in acute infectious diseases that render it distinct. They are (1) gastro-intestinal disorders; (2) pyrexia; (3) toxemia; (4) starvation. The last of these it is the plea of this paper to prevent.

Starvation in fever has been a tradition in medicine that has lost but little authority with the passage of time and finds wide acceptance to-day. The legitimacy of such practice I wish to examine.

DISTURBANCE OF GASTRO-INTESTINAL FUNCTION

It cannot be denied that the gastro-intestinal tract is not indifferent to the effects of the infection. We are all familiar with the dry mouth, the coated tongue, the anorexia and the tympanites of many of the patients. One feels little inclined to urge food on so unwilling a receptacle and this feeling has plead potently with many practitioners to establish insufficient, often starvation dietaries.

Investigation has shown that the salivary secretion is lessened, that the output of hydrochloric acid is diminished and the motility of the distal portion of the intestine is impaired. It has been claimed that the motility of the stomach, too, is prejudiced (von Leyden and Klemperer), but von Noorden maintains that that has not been the case in the patients he has studied.

More important still, assimilation seems to be good, and von Leyden and Klemperer[4] found that in different patients with high fever 89 per cent. to 94 per cent. of easily digestible fat was absorbed and 91 per cent. of protein. Moreover, they found no carbohydrate in the stools unless excessive amounts had been ingested or diarrhea prevailed.

Taking these data and what I have seen of liberal feeding in febrile conditions, I am convinced that the ability of the alimentary tract to perform its normal functions in fevers has not been duly appreciated and the withholding of food on the supposition that this organ is crippled is unjustifiable.

I do believe that in the incipiency of an acute infection these functions are more in abeyance than later, but that they quickly become competent. I also believe that the state of the mouth and digestion is due in no small measure to an insufficiency of water and is greatly aggravated, not by the giving of food, but by the withholding of food, which entails a destruction of body tissue and sets on foot abnormal metabolic processes.

FEVER

The term "fever," as ordinarily used, connotes the sum of two distinct factors: (1) pyrexia and (2) toxemia. I wish to discuss them separately, and when, under pyrexia the word "fever" is used, it is to be taken in the sense of an elevated temperature alone, i. e., pyrexia.

PYREXIA

There has been an endless controversy from remote times as to the significance of fever, it being contended on the one hand that it was a deleterious factor in the disease, on the other, that it was beneficial and had a meaning that was to be respected; purposeful, the teleologist would say.

This is not the place to discuss at length fever and its relation to disease, but I am in agreement with the conclusions of careful students of the subject that "fever is a specific reaction against injurious materials which affect the tissues"; that it "is in its essentials a protective reaction," to quote from the excellent article on fever by Dr. W. G. MacCallum.[5]

There has been a wealth of work done to prove this statement, which one will find set forth in detail in the article just referred to and in a critical review of the subject by Hermann Ludke.[6]

Pyrexia below 104 F. is to be let alone; it is useful; above that figure it adds an element of harm and then antipyretic measures are indicated, but not till then. It must be remembered that many so-called antipyretic measures, such as the cold baths, are directed not toward the temperature, but to the circulatory and nervous system, and are of the highest value when these systems are in distress. The phenomena of fever lead rapidly to the assumption that there is a great increase in heat production and a marked retardation of heat dissipation, in other words, a great accumulation of heat in the body. This is not so. The actual increase in the oxidative processes is relatively small, while the relation between heat production and heat dissipation is but little interfered with. What seems actually to take place is the regulation of these processes on a higher level, so to speak; what level, that is, at what temperature, depending on the effects of the toxins on the heat-regulating mechanism. This mechanism, however, under such conditions, does not display the same degree of stability as in the normal individual, but a lability that characterizes the temperature curve in infections, and, indeed, gives their individual stamp to them.

I have said that the increase of heat production in fever is relatively small. The figures vary; sometimes there is no increase, but on the average it amounts to about 25 per cent. This might seem considerable did we not pause to consider that in strenuous muscular exercise the increase of heat amounts to several hundred per cent.; for example, the 8,000 calories of the Maine woodsman to the 2,300 at rest.

The fact that such great increase in heat in the normal man causes no rise of temperature shows that the elevated temperature of fever has quite another origin than that of heat production; that it is the result of the toxins and not the heat. However, as our patient is at rest, this 25 per cent. increase has to be added to the 2,300 calories allowed him, in order to make good his daily losses, *so that it may be said that the requirement of the febrile patient is 40 calories per kilo or 2,800 calories, near enough to 3,000 to make that our guide.*

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[4] von Leyden and Klemperer: Handbuch d. Ernährungs-Therap., 1904, ii, 332.

[5] MacCallum, W. G.: Arch. Int. Med., 1909, ii, 569, and the Harvey Lectures, 1908-1909.

[6] Ludke, H.: Ergebn. d. Inn. Med. u. Kinderh., iv, 493.

One other effect of pyrexia I wish to mention; that is, its destructive action on protein. As Lusk says "Infectious fevers are characterized by a toxic destruction of body protein"; but there are three factors concerned in the loss of nitrogen during an acute infectious process; (1) pyrexia, (2) toxins, (3) starvation.

The study of non-toxic fevers, such as are induced by exposure to heat or by puncture of certain parts of the brain, show that the pyrexia can induce protein catabolism, but it seems to demand a temperature of 102 F. or over to bring about this protein loss, and experimentation has shown that a sufficient feeding can control this loss.

TOXEMIA

It was recognized that apart from the effect of pyrexia and apart from starvation, or at least in the presence of food sufficient to meet all the theoretical considerations we have so far set forth, there still continued to be a considerable loss of protein in the acute infectious diseases. This loss came to be accepted as inevitable by the ablest investigators in the field and was attributed to the effects of the toxins and was called the "toxic destruction" of protein. Just how the toxins brought about this protein loss was and is a matter of conjecture. It has been attributed by Krehl to actual cell destruction; by others to an exciting effect on metabolism by the toxins; by others to an expression of the production of antibodies and other protective substances. Certain it is that is it dissociated from the pyrexia, as such; for it is often intense when there is no rise of temperature. Taken with this destruction it has been suggested that a weakened power of regeneration exaggerates the difference between catabolism and anabolism.

STARVATION

This does not belong to the acute infections as a rule, except as it is inflicted on the patient by an insufficient dietary. Energy must be supplied to the body each day and when the food does not do it, the body substance does and the protein is called on to do its share at the sacrifice of cell integrity.

At the present moment one of the most intensely interesting fields of medical research is that devoted to metabolism, the building up and breaking down, anabolism and catabolism, the storage of energy and its dispersion; what one writer has called the "most fundamental characteristic of life, energy-traffic." The intimate processes of protoplasm yield their secrets stubbornly, but we know what they have to work on and we know what they yield back; we know the fuel and the ash, the intake and the output, and from the knowledge of these two, we deduce much that has occurred in the process of the change.

Nitrogen is the basic substance on which the body structure is erected. It is ingested with the food and it is expelled in the urine, the stools and in lesser measure by the skin. In health the intake and output balance each other, and the nitrogen eliminated is divided among a number of combinations which maintain a pretty constant relationship to each other. These nitrogen combinations are spoken of as the "nitrogen partition."

In disease the balance of intake and output is disturbed and the relationship of the combination undergoes a change, so that the study of the nitrogen partition in disease is a tree that bears much fruit.

I have said that the nitrogen elimination is divided among three organs, the kidneys, the intestine and the skin. As for the skin, its output is negligible except when made to functionate in an unusual manner, as in very profuse perspiration. Under such circumstances it has been known to yield as much as 0.75 to 1 gm. of nitrogen.

The stools, however, contain an appreciable amount of nitrogen. Some very curious ideas prevail even among physicians about the feces; e. g., that they represent the residue of the food; that the amount depends entirely on the amount of food ingested; that if there be no food taken there should be no feces. The stools do not represent the residue of food so long as the food is free from indigestible matter. Stools occur in fasting people and a comparison of these stools with those ordinarily passed shows that there is no difference in their composition or relation of constituents, no matter whether there be much or little food taken, and no matter whether that food be protein, carbohydrate or fat. The amount increases but little with the food and in no sense in proportion to the amount ingested. If excesses of food are eaten, a minimum residue may appear and, of course, cellulose or other indigestible substance is found.

The stools are made up of the residues of the digestive juices, mucus, desquamated epithelium, bacteria, the products of bacterial action, salts and water. Of the salts, it must be remembered that the intestine is the excretory organ for iron and calcium and for the most part of phosphorus and magnesium.

The nitrogen content varies from 1 to 2 gm., but on the whole is so constant that it has been considered as furnishing a definite per cent. of the nitrogen ingested (15 per cent.) without prejudice to the accuracy of the metabolism study.

It is to the urine that we turn, however, to derive important information; for 80 per cent. to 90 per cent. of the nitrogen is excreted by the kidney as urea, uric acid, ammonia, xanthin bases, creatinin and amido-bodies.

The study of the total excretion and of its individual constituents is of importance.

TOTAL NITROGEN

It has been invariably found that the amount of nitrogen excreted far exceeds the amount ingested, and so much the more, the more severe the process.

It is common enough to find losses of 8 gm., 12 gm., 16 gm., and more of nitrogen a day; that is, in excess of the intake; and, that, too, when on a diet usually considered satisfactory. This latter figure is the amount of nitrogen demanded in Voit's standard dietary, and if it were interpreted in terms of muscle tissue would mean a loss of a pound of such tissue.

Such figures will be found repeatedly in the tables of Shaffer and Coleman's studies on metabolism in typhoid fever,[7] and those of Wolf and Lambert[8] on pneumonia, to mention some of the most elaborate of the recent investigations.

The study of the total nitrogen and the determination of the "negative nitrogen balance," as it is called, tells us that there has been loss of substance to the body, but it does not tell us what tissues are suffering this loss, nor yet whether the metabolic processes are carried out in a qualitatively normal manner. Such scant information as we have along these lines is derived from the study of the parts that go to make up the total; that is, the nitrogen partition.

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[7] Shaffer and Coleman: Arch. Int. Med., 1909, iv, 538.

[8] Wolf and Lambert: Arch. Int. Med., 1910, v, 406.

It is the small portions that in the past excited but little interest that are now yielding us the most information. One of these portions is the substance creatinin. When Folin[9] published his classical analyses of thirty normal urines, he called attention to the fact that this substance creatinin remained practically constant, no matter what the amount of protein ingested. On this fact he elaborated the theory that this substance was an indicator of "tissue" or "endogenous" metabolism in contradistinction to "intermediate" or "exogenous" metabolism, of which urea is the chief representative. Another representative of this "constant" or "endogenous" metabolism is neutral sulphur,[10] and to a lesser extent, uric acid and ethereal sulphates.

Folin showed that this substance was constant in the individual, but varied in different individuals according to body weight. He spoke of it as an "index to the amount of a certain kind of protein metabolism occurring daily in any given individual,[9] but defined that kind of "protein metabolism" no further.

Shaffer,[11] however, added to our information a little further, by showing that not only was the output of creatinin in an individual constant from day to day, but also from hour to hour, amounting from 7 to 11 mg. of creatinin nitrogen for every kilogram of body weight per twenty-four hours; this he called the "creatinin coefficient." He, moreover, gave reason to believe that the substance was an index, not of total tissue metabolism, as Folin thought, but of one tissue metabolism, that of the muscle, as its output seemed to show a parallelism to the muscular efficiency or strength of the individual. It has nothing to do with the muscular work, but rather with the machine, the muscle itself. He suggests that it is an index of muscle tone. If one may use an analogy without too close adherence to details, one might consider the creatinin to represent the friction, the daily wear of the muscle machine, not at all the product of its work.

Here was an important clue to follow up. Any substance that showed the ravages of disease in so important a tissue as muscle was worth looking after. Already studies on the substance in pathologic conditions had assisted to suggest the above view of its significance and further work confirmed it.

It was found that creatinin was diminished in conditions of muscular inefficiency, such as amyotonia congenita, myasthenia gravis, muscular dystrophy,[12] exophthalmic goiter, and in the as yet undeveloped muscles of the infant.[13]

How is it affected by acute infectious fevers?

There is a pretty constant agreement among the investigators that it is increased during the height of the fever and is most marked when the nitrogen loss is the greatest, but there is no numerical relationship between the two. During convalescence and even before, there is a diminution in the excretion which may be attributed to muscular weakness. It must be interpreted in the sense that the febrile condition increases the wear and tear of the muscle tissue. This increase in creatinin was determined for typhoid fever,[14] for pneumonias, for erysipelas—to call attention to some of the most recent work.

So much for increased wear and tear of the protein constituents of the body during the acute infectious process; but is there anything that bespeaks by its presence actual destruction of a definite tissue? There is a substance in the tissue closely allied to creatinin, which differs from it only by the presence of one molecule of H_2O in its structure (creatinin is a dehydration product of creatin), which does not appear normally in the urine, or appears only in traces. This is called creatin.

Creatin is to be found in the urine only in abnormal conditions. It is found in wasting diseases, such as the cachexia of carcinoma, in starvation, and in fevers. It is derived from the muscle and its presence in the urine means destruction of the substance of that structure. It is very striking during the involution of the uterus after childbirth. It was found in all the studies on fevers referred to, and sometimes ran over into convalescence. Its disappearance from the urine is looked on as a good omen, and what interests us as dietitians is that when made to appear in starving animals it has disappeared under a pure carbohydrate diet.

Besides the creatinin, neutral sulphur and uric acid are both increased and may be looked on as further expressions of increased endogenous metabolism.

So far we have considered quantitative changes rather than qualitative in the nitrogen metabolism. Qualitative changes might be taken as evidence of metabolic inefficiency.

Evidence of this is to be looked for in the so-called "rest nitrogen." This "rest nitrogen" or "undetermined nitrogen" is that nitrogen which is left of the total nitrogen when the nitrogen of urea, ammonia, uric acid and creatinin have been subtracted. If the "rest nitrogen" increases it may be considered as being at the expense of the urea, the most important nitrogenous substance, and so indicate a defective desamidation. The amido-bodies are, indeed, the most important of the substances included in the "undetermined nitrogen." There are, besides leucin and tyrosin, indol, skatol, glycocol, proteic acids and albumoses, as well as xanthin bases.

Shaffer and Coleman found but little increase in the "rest nitrogen" in typhoid fever and the same was true of pneumonia investigated by Wolf and Lambert (there was absolute increase, but not in disproportion to total nitrogen). It may be said, then, that as a rule the urea-forming function is but little impaired, an important conclusion in considering the ability of the liver to handle the products of protein digestion.

In grave cases, such as were observed in the study of typhoid metabolism by Ewing and Wolf, the "rest nitrogen" did become high and the urea low.

These authors looked on the phenomenon as indicative of inefficiency of the liver urea formation, recalling the high "rest nitrogen" found in acute yellow atrophy.

Such patients probably suffer from an auto-intoxication in addition to the toxemia of the disease.

A high "rest nitrogen" may occur in the period of convalescence and it is believed by the investigators mentioned that the disturbances arising at times from the administration of meat early in convalescence called "febris carnis," may be due to the inability of the metabolic functions at this time to carry on their work efficiently.

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[9] Folin: Approximately Complete Analysis of Thirty Normal Urines; Laws Governing the Chemical Composition of Urine; A Theory and Protein Metabolism, Am. Jour. Physiol., 1905, xiii, 45, 66, 117.

[10] The importance attributed by Folin to neutral sulphur as an expression of "endogenous" metabolism has more lately been called into question.

[11] Am. Jour. Physiol., 1908, xxiii, 1.

[12] Spriggs: The Excretion of Creatinin and Uric Acid in Some Diseases Involving the Muscles, Quart. Jour. Med., 1907-1908, i, 63.

[13] Amberg and Rowntree: The Excretion of Creatinin in the Infant, Bull. Johns Hopkins Hosp., February, 1910.

[14] Klercher: Ueber Ausscheidung von Kreatin und Kreatinin in fieberhaften Krankheiten, Ztschr. f. klin. Med., 1909, lxviii, 22.

Patients may be profoundly toxic, however, without any evidence of hepatic inefficiency as determined by a high "rest nitrogen." It would seem, then, as Ewing and Wolf suggest, that the amount of "rest nitrogen" has prognostic significance.

All this shows that in acute infectious diseases there is a loss to the intrinsic structure of the body and that while such loss is entirely compatible with a perfect urea-forming function—and, indeed, the latter is but rarely impaired even in severe cases—there are yet a certain number of grave cases in which the liver has apparently through grave changes in its structure found itself incapable of desamidation and abnormal metabolic processes are in evidence.

With this knowledge it should be the effort of the therapeutist to prevent this loss and perversion of function, or at least to mitigate them. Can the administration of food accomplish this, and, if so, how shall it be ordered?

It would seem natural to conjecture that if the body was losing 10 gm., 15 gm., or 20 gm. of nitrogen a day over the intake, such a loss could be made good or prevented by increasing the intake of nitrogen to that amount. The truth of the matter is that neither the amount of the loss nor any other amount, without the help of the other foodstuffs, can bring about a nitrogenous equilibrium in man.

The recent work of Folin and Chittenden, showing the small amount of nitrogen which is really needed to establish an equilibrium, would lead us rather to use the smallest amount of protein necessary and avoid the breaking down and elimination of the superflous nitrogen radicles, by organs burdened with disease, and increasing the heat to the fevered organism by the "specific dynamic action" of the protein.

Shaffer and Coleman were able to establish nitrogen equilibrium in typhoid fever on from 10 gm. to 15 gm. of nitrogen, when sufficient carbohydrate was used. This amount will be seen to be less than the Voit standard demands, by a considerable margin.

Fat and carbohydrate both spare protein; not, of course, replacing it, for they are both nitrogen-free. Fat spares the combustion of protein to furnish heat; and weight for weight furnishes, as has been shown, over twice as many calories as carbohydrates. The fat of the body is utilized in this manner as a protein-sparer. Emaciation, which bespeaks its disappearance, makes the sufficiency of food intake all the more imperative to prevent destruction of the body protein.

Carbohydrate is a very much more efficient sparer of body protein than fat. Probably much of the demand on protein in the underfed body is for the carbohydrate moiety of its structure. Carbohydrate is imperative to life and must be had at any cost. This the ingested carbohydrate furnishes, so that it both furnishes heat as does the fat, but also subserves other functions which the fat cannot do.

Nitrogen equilibrium has been struck and the subjects kept at from 5 gm. to 8 gm. days and weeks with comfort and apparent health, when enough carbohydrate and fat are taken.

The above statements hold for the protein-sparers in health. In acute infections their influence is not so marked quantitatively. Von Noorden says that in experimentally induced pyrexia the protein metabolism is not limited to the same amount in the presence of carbohydrates as when the temperature is normal.

It would seem possible, then, by covering the caloric needs of a resting patient and adding the 25 per cent. increase induced by pyrexia, to keep a patient in nitrogenous equilibrium. In an average man this would mean, as before stated, about 3,000 calories. In practice, however, it is not true; and it was for this very reason that protein loss still continued in acute infections, when the theoretical food-needs had been liberally met, that investigators in general were convinced that this loss was due to destruction of the cell substance by the poisons of the disease—"toxic destruction"—and that no diet could prevent it.

That this loss can be prevented and that such a fact impairs the theory of "toxic destruction," the elaborate observations of Shaffer and Coleman show. They prevented nitrogenous loss and the elimination of creatin and increase of neutral sulphur, which are taken as the expression of cell destruction. They found that from sixty to ninety calories per kilo were needed to effect such a result in typhoid fever. Of this amount forty to fifty or even more calories per kilo must be furnished by carbohydrates. They point out that a loss of 10 gm. of nitrogen or 62.50 gm. of protein can furnish but 250 calories, and have no explanation to offer for the fact that 2,000 calories of carbohydrate are needed to prevent this loss.

It has been proved, then, that in some men suffering from severe acute infectious disease, the usual protein loss can be stayed by the administration of a large quantity of foods; but whether this fact could be wisely used as a basis of procedure in practice is a debatable question.

In this paper I have dealt only with those laws that constitute the science of dietetics; the application of these laws to the individual; the appreciation of those factors that make every individual deviate from the type; the adjustment of theory with conditions, constitute the art of dietetics.

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GASTRIC AND DUODENAL ADHESIONS IN THE GALL-BLADDER REGION, AND THEIR DIAGNOSIS BY THE ROENTGEN RAYS *

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Until recent years the Roentgen rays have proved of little or no value in the demonstration of pathologic conditions in the region of the gall-bladder. Even at present the demonstration of gall-stones will depend first on the presence of more or less lime salts in the stones and second on a very careful technic,[1] so that only the positive diagnosis of gall-stones is of value. However, when a cholecystitis is associated with a pericystitis leading to adhesions of the stomach, duodenum or bowel, the effects of such adhesions can be demonstrated. Isolated observations have been made from time to time, but this subject has received careful attention chiefly during the past year. In January, 1910, Schürmayer gave a demonstration of diapositives in Berlin,[2] showing the effects of adhesions of the stomach. During February, 1911, Cole demonstrated the effects of such adhe-

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* Read and illustrated with lantern-slides before the Medical Section of the College of Physicians, Philadelphia, March 27, 1911.

[1] Pfahler: Proc. Am. Roentgen Ray Soc., 1910.

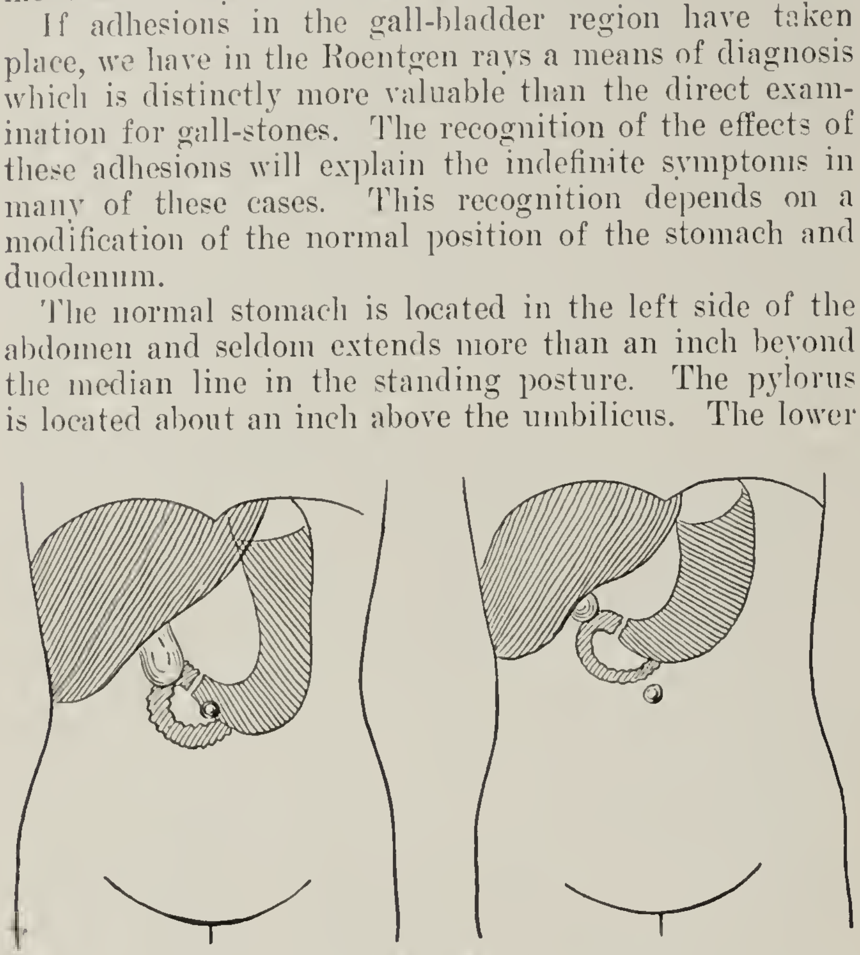
[2] Fortschr. aus dem Gebiet d. Roentgenstrahlen, xv, 6.

sions on the peristaltic waves of the stomach, cinematographically, but paid little or no attention to the displacement, which I think is far more constant and more important.[3]

Schürmayer based his report on a study of hundreds of cases. He quotes Riedel as saying that the symptoms known as biliary colic in general are due not to gall-stones, but to the pulling of adhesions incident to an inflamed and attached gall-bladder, with which statement Schürmayer is in full accord.

If adhesions in the gall-bladder region have taken place, we have in the Roentgen rays a means of diagnosis which is distinctly more valuable than the direct examination for gall-stones. The recognition of the effects of these adhesions will explain the indefinite symptoms in many of these cases. This recognition depends on a modification of the normal position of the stomach and duodenum.

The normal stomach is located in the left side of the abdomen and seldom extends more than an inch beyond the median line in the standing posture. The pylorus is located about an inch above the umbilicus. The lower pole of the ideally normal stomach is on a level with the lower border of the pylorus, but the lower pole of the average healthy adult is distinctly lower, and in gastroptosis may extend to the crest of the pubes.



Figures 1 and 2

Fig. 1.—Stomach in normal position, but the liver and gall-bladder swollen and thereby approaching more closely the stomach and duodenum, and more easily permitting the formation of adhesions to these organs.

Fig. 2.—Liver and gall-bladder returned to their normal position, the stomach and duodenum drawn upward and to the right by adhesions.

In chronic cholelithiasis and cholecystitis the associated swelling of the liver and gall-bladder brings them nearer to the duodenum and stomach. The pericystitis permits and leads to adhesions to these organs. Then when the swelling is reduced spontaneously, or as a result of medicinal treatment, these adhesions pull the stomach and duodenum upward and to the right. It is the recognition of this change of position of these organs which can be made visible, and enables us to definitely make a diagnosis.

In these cases the clinical symptoms appear during that period of digestion when the motor function of the stomach and duodenum are at their height, and especially when these adhesions interfere with the emptying of the gall-bladder, either directly or because the gall-duct has been drawn abnormally high. If the effects of these adhesions are kept clearly in mind it can be understood why symptoms develop in these patients after they have eaten an abnormally large meal, which at least will produce a dragging.

During active peristalsis these adhesions are being pulled on each time that a wave passes, and if there is associated inflammation a constant aching pain is the result. If the inflammation has subsided, then of course, the pain is less, and an increase in the inflammation as a result of errors of diet or other cause will be associated with an exacerbation of the pain.

THE EXAMINATION

In these cases, I first make an examination directly of the gall-bladder region to detect, if possible, the presence of stones, since such an examination is valueless after the stomach examination has been begun.

I then give the usual bismuth mixture (bismuth subcarbonate 1 ounce to a glass of buttermilk). This is carefully observed as it enters the stomach and is carried to the pylorus. Instead of dropping quickly to the lower pole as it does normally and in gastroptosis, it is carried more slowly to the right of the median line and distinctly above the umbilicus. This is observed on the fluoroscopic screen in the standing posture.

Great care must be taken to avoid error. The stomach is ordinarily a very movable organ, therefore, pressure will influence its position very much. On this account the position of the stomach must be studied with varying degrees of pressure, and with all pressure removed. This study is possible only under fluoroscopic examination, which I regret very much, since all who know recognize it as a dangerous procedure. It may be dangerous even under the best protection, but should be entirely avoided if the operator is exposed to any appreciable amount of rays.

The plates are, I believe, equally important, and I always make one or more after I have completed my fluoroscopic work. The plate gives more detail, and permits of less hasty study. On it one can often trace the course of the duodenum when it cannot be followed fluoroscopically. While a plate alone may give a certain amount of information, I believe that it can seldom be depended on alone to determine the position of the stomach. This is especially true when the plate is made with the patient lying on the abdomen, in which the effect of pressure and position almost certainly will lead to error.

The position of the stomach and the duodenum will, of course, vary with the location and the extent of the adhesions. In some cases the pyloric end can be traced directly to the gall-bladder, and makes a picture very similar to that shown in the older text-books as the normal position of the stomach. In this connection, it must be borne in mind that while these old illustrations are accurate, in that they represent the position of the stomach as studied in the anatomic and surgical rooms, in which the subject is lying on the back, they are entirely inaccurate as representing the living subject in his normal upright position.

In some cases the duodenum only is involved by these adhesions and the position of the stomach itself is influenced only secondarily and slightly. The duodenum, however, is drawn out of place, is irregular in shape and there may be some interference with the passage of food.

Schürmayer recommends that in order to eliminate error the knuckles of the index and middle fingers of the left hand be pressed strongly against the duodenum and pylorus and an effort made to hold these parts down while the liver moves upward during expiration. This is a dangerous procedure to the Röntgenologist, and, while it can be done with carefully planned protection, in my experience there has nearly always been too much tenderness to permit of sufficient pressure. Of course when this can be done, it gives valuable confirmatory evidence.

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[3] Address before the Academy of Medicine, New York, Feb. 16, 1911, at which I demonstrated by lantern-slides the effects of adhesions in twenty-six cases.

Conclusions as to the position of the stomach are of no value unless they are based on a full knowledge of the normal position of the stomach and the conditions which influence it, such as pressure, varying degrees of filling, the tonicity of the stomach wall, etc.

In addition to the study of position one should observe carefully the effects of the adhesions on the peristaltic waves. This is best done by a careful fluoroscopic examination. If adhesions involve the stomach wall they are likely to interrupt or modify the peristaltic wave. This interference is most often seen in the wave on the lesser curvature.

At times it is extremely difficult to differentiate between simple adhesions and those due to carcinoma. Usually a more or less characteristic encroachment on the lumen of the stomach will serve to diagnose carcinoma, but at times this is impossible. We should bear in mind the general history and other clinical evidence, and finally we may have to resort to an exploratory operation in order to make the diagnosis.

The material on which this paper is based consists of about thirty cases, most of which show the effects of adhesions incident to gall-bladder disease, others due to tuberculosis, and finally a group due to carcinoma. Most of the patients have been operated on and the diagnosis confirmed. The others I hope to see operated on since this is the only treatment.

CONCLUSIONS

1. Gall-bladder disease is liable to give rise to adhesions.
2. These adhesions cause a definite displacement of the stomach and duodenum which is recognizable by the Roentgen rays.
3. The evidence of adhesions is best obtained fluoroscopically in the upright position, in which the errors of pressure must be eliminated, but plates should also be made in every case for record and for more detailed study.

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A NEW AND APPARENTLY SUCCESSFUL METHOD OF TREATING METABOLIC OSTEO-ARTHRITIS

SO-CALLED ARTHRITIS DEFORMANS

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In the last[1] of a series of papers on the so-called rheumatoid diseases, I briefly outlined a method of treatment for one, the most serious, condition usually included in this group. This method of treatment I have now used for four years, and as it has proved efficacious in nearly all cases, and especially so in those usually considered hopeless, I consider it worthy of detailed description.

The greatest difficulty in judging the results of a given form of treatment in the so-called rheumatoid diseases is due to our extremely indefinite and faulty nomenclature; the majority of the reports of the treatment give only a vague idea of the nature of the disease under treatment; and in by far the majority of instances a number of evidently diverse conditions are treated in exactly the same way. For this reason, as the condition to be discussed here is a distinct pathologic and clinical entity, I must, in order to avoid confusion, briefly recapitulate what was said in the previous papers on the classification of the so-called rheumatoid diseases in general and the diagnosis of metabolic osteoarthritis (so-called arthritis deformans) in particular.

Chronic rheumatism, rheumatoid arthritis, arthritis deformans, osteo-arthritis, and various other less familiar appellations, are used to designate a group of dissimilar diseases, variations of the same disease, entirely distinct conditions, or something involving a joint with which the observer is entirely unfamiliar. No two investigators seem to be able to agree exactly on a clinical or pathologic entity for which one or more of these terms shall be definitely applicable. Under these circumstances, an attempt to acquire a definite understanding of these joint conditions must fail if these names are retained. It is much simpler, and we are much more likely to attain definite results if we ignore all the previous attempts at classification entirely, begin afresh, and consider the joint diseases just as we would those of other organs under similar circumstances, i. e., according to the principles of pathology.

Pathologists divide the diseases of the organs generally into two classes, viz., the inflammations and the degenerations. As there is no reason to believe that the mesenchymal tissues of the joints are fundamentally different from those in other organs, there should be no necessity to prove that these mesenchymal tissues react similarly to pathogenic influences. As a matter of fact, the conscientious and enlightened pathologist will find that the pathologic changes are exactly analogous. Hence a discussion of the pathology, which would lead us too far, is omitted.

What is true of the pathology is also true of the clinical phenomena. Indeed, as the joints are superficial and their functions purely mechanical, the local symptoms—pain, loss of motion, muscular atrophy, deformity, etc.—are rarely characteristic of a particular disease. The presence of some or all of these joint symptoms simply indicates that there is joint abnormality, but gives absolutely no clue to the nature of the condition. For this reason, it is quite impossible to formulate a practical or scientific classification of the joint disease with the deformity, the character of the effusion, or any of the other intrinsic joint symptoms as the starting-point. In fact, all the previous attempts to classify the joint diseases have failed just because these symptoms have been used as the basis of differentiation.

In the joint diseases, therefore, even more than in those of the other organs, the fundamental differentiation must depend not on the specific reaction of the affected organ but on the clinical phenomena, induced by the fundamental pathologic condition. As soon as this is appreciated, all the difficulties of classifying the polyarticular joint diseases are practically overcome.

Thus the characteristic symptoms of the inflammations are abrupt onset, more or less constitutional reaction, a definite course with a marked tendency to resolution; those of the degenerations, insidious onset, a gradually progressive course without tendency to a definite termination. And, leaving other considerations aside, it will be found that joint diseases naturally divide themselves into two great classes according to these clinical characteristics. Thus we have, (1) a class of joint diseases which begin more or less acutely, with, usually, a definite onset (rise in temperature, general constitutional disturbance), local signs of inflammation, followed by remissions or intermissions, and a definite termination in complete recovery or permanent but never progressive joint disability; and (2) a group in which the disease comes on insidiously, without acute constitutional reaction, running a gradually progressive course, leading gradually and progressively to joint disability.

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[1] Am. Jour. Med. Sc., June, 1909.

The first are the inflammations; the second are the degenerations.

Just as in the other organs, the inflammations are due to infection or trauma. In the polyarticular infections, the causative microorganism is demonstrable in some cases; so, for instance, in so-called sepsis, gonococcal or pneumococcal infections, etc. In a large number of cases, isolation of the offending microorganism is not attempted, because it is impractical, or fails. But these cases present the same clinical and pathologic phenomena, as those in which the microorganism is demonstrable. The fact that the organism is not demonstrable should therefore be no reason for grouping these cases under a separate head.

As a matter of fact, the majority of the advanced clinicians recognize and so classify the polyarticular infections. The misinterpretation of these conditions does not occur so frequently during the acute stage. The confusion arises when such patients are seen after the acute stage has subsided. As has been said, one of the cardinal signs of an inflammatory or infectious process is its tendency to run a definite course. This is as true of infections involving joints as it is when other organs are affected. Though the tendency to recover is always present, however, it does not necessarily follow that resolution is perfect. In a great many cases, though the active disease subsides, the patient is left with a varying number of weak or deformed joints. When he attempts to use these weak or deformed joints, he finds it impossible because of the pain or deformity, or both. It is then that he begins his wandering as a subject of chronic rheumatism, rheumatoid arthritis, arthritis deformans, etc. He is sent to springs, massaged, baked, or subjected to various forms of mechanical treatment. If he has only weak joints, he may recover in spite of the treatment. If he has bony ankylosis or limitation of motion from tendon or cicatricial contraction, he does not improve, and he frequently grows worse.

What the majority of investigators and clinicians have failed to appreciate is that such an individual is not suffering from an active disease at all. He has simply the results of a disease. It is therefore useless to attempt to study the pathologic changes or to seek the etiology of the disease in such cases; not only useless but actually harmful to subject these patients to treatment for constitutional disease by internal medication and diet. What these patients need is surgery, intelligently applied. In those cases in which nothing can be done, the recognition of the condition will at least save the patient the additional suffering of the treatment usually proposed.

It is not my object to speak of the treatment of the polyarticular infections in this paper. However, this may be said: in a great many cases much can be done to alleviate suffering, and remedy the disability which results from these conditions. To help such patients, we must, however, be conversant with the joint physiology, mechanics and pathology. One must at least be able to make a diagnosis, i. e., must first of all differentiate active disease from disability, and polyarticular infection or its results from degeneration. Few indeed seem able to do this. Dissimilar as are the infections and the degenerations, the treatment they receive, from the average practitioner and the orthopedic surgeon alike, is the same in either case; this in spite of the fact that in many cases the failure to differentiate one from the other is disastrous to the patient, and that such differentiation is nearly always a very easy matter.

Though there are other characteristic differences, the most definite differential feature between the degenerative and the inflammatory joint diseases is the course of the disease. In the inflammations, the onset and the course are definite, terminating in recovery or more or less permanent damage. In the degenerations, the onset is insidious, and the course is gradually progressive. The joints gradually become deformed and the deformity and disability gradually increase. In the infections, after the subsidence of the acute attack, whether one or more joints are affected, the disability remains the same, and no more joints are involved unless there is an actual recrudescence of the original infectious process. In the degenerations, not only are the onset and course insidious, but new joints, in which the disease runs the same course, are gradually and progressively involved.

If only these few fundamental differences are appreciated, it seems to me almost impossible to confuse the inflammatory or infectious diseases with the degenerations. And this accomplished, all the difficulty of classifying the polyarticular joint diseases disappears. For, with the recognition of the difference between the two fundamental conditions, instead of the unscientific and misleading classification of the joint diseases into several groups, one of which, having a single name or two or three meaningless names, comprises all forms of the infections, degenerations and deformity, we have the natural and scientific division of the joint diseases into two definite classes, with names which at least suggest the clinical and pathologic phenomena.

Moreover, if these two fundamental classes are each subdivided, according to the location of the disease in the joint—arthritis when the soft parts are involved, osteo-arthritis when the articular ends of the bones are involved—we can suggest the clinical and pathologic condition and the location of the disease by a single name. Thus:

1. Inflammation or infections:
   A. Infectious arthritis.
   B. Infectious osteo-arthritis.
2. Degenerations, i. e., trophic diseases:
   A. Trophic arthritis.
   B. Trophic osteo-arthritis.

Within the subgroups we can still more definitely classify the conditions when the etiology is known. With the infections, this is often possible, for the offending organism can often be isolated or recognized by the special clinical phenomena it produces.

When we come to etiologic grouping of the degenerations, however, the task is somewhat more difficult because it is often impossible to determine the underlying cause. We know, for instance, that degenerative joint changes appear as the result of senility (senile arthritis, senile osteo-arthritis) and in the course of certain organic nervous diseases (neurotic osteo-arthritis, tabes, syringomyelia, etc.). These are usually monarticular conditions, and are easily recognized and classified.

In the generalized or polyarticular degenerations, on the other hand, the etiology is unknown in the majority of instances and therefore cannot be specified. In my previous paper I suggested that these be termed "metabolic," which in this instance is intended to designate not a known chemical abnormality but the pronounced general disturbance of the nutrition so characteristic of these conditions; and which, as shown in my last paper[1] is the direct cause of the joint abnormality. By far the majority of cases of the polyarticular degenerations are osteo-arthritides. Metabolic arthritis is a comparatively rare condition. Thus the joint degenerations are grouped as follows:

Degenerative joint diseases:
- A. Trophic arthritis.
  - (1) Metabolic arthritis.
- B. Trophic osteo-arthritis.
  - (1) Senile osteo-arthritis.
  - (2) Neurotic osteo-arthritis.
  - (3) Metabolic osteo-arthritis.

It is with the treatment of metabolic osteo-arthritis that the present communication deals. I briefly describe its principal features. For a complete exposition of the pathology and etiology I must refer the reader to my previous paper.[1]

This is the disease generally called arthritis deformans, or rheumatoid arthritis. Only a few writers, however, have described it as a distinct disease. Bäumler reserved the name "arthritis deformans" for it alone, and Schuchardt described the clinical phenomena more or less accurately and called it "arthritis nodosa." With the exception of a few of the older writers, Adams, Charcot, and Virchow, who at least more or less completely differentiated it, these are the only writers who do not to some extent affiliate the condition with the polyarticular infections or their sequelæ.

Metabolic osteo-arthritis, as the name suggests, is a polyarticular joint degeneration, which involves the articular ends of the bones primarily, and which is due to a disturbance of the nutrition. The condition, being due to a general anomaly, is invariably polyarticular and the joint involvement is nearly always symmetrical. It attacks the peripheral joints first, and a number of joints are usually affected simultaneously. The onset is invariably insidious. Not only is the onset insidious, but in cases uncomplicated by mechanical irritation the course is gradually progressive. In some cases, it is true, the disease advances more rapidly than in others, but even in the most malignant forms the disease advances gradually, and there is never an abrupt onset with acute local and general reaction. In the majority of cases the disease progresses slowly and gradually. Gradually increasing weakness (called stiffness by patients), and passive motion limited only by the muscular contraction are the more characteristic joint symptoms. Joint swelling may be entirely absent throughout the course of the disease. As far as my experience goes, the swelling from effusion, when present, is nearly always due to a mechanical irritation (i. e., the use of the affected parts); and the nodular swelling, said to be characteristic, is purely suggestive, being most often due to the atrophy of the periarticular structures which make the articular ends of the bones appear more prominent. Pain is also most variable, though in some it is very severe, in others it is slight or entirely absent.

Preceded by more or less decided subjective symptoms —pain, formication, feeling of weakness, etc.—a number of peripheral joints (fingers, toes, wrists, ankles) gradually become weak, or, as the patient says, stiff. This weakness or stiffness gradually increases and, with or without pain or swelling, is followed by deformation. The deformity, which, as I showed in my previous paper,[1] is due to muscular contraction during the early stages and bone absorption in the later stages, gradually increases; and though passive motion is not entirely limited, the deformity gradually and progressively leads to crippling. In the meantime, other joints become involved in the same insidious and progressive manner, and in the severer cases, beginning in the periphery and proceeding toward the trunk, all the joints, including those of the spine, may become involved. Though there are never true intermissions, even in the severer forms of the disease, there are times when the disease progresses less rapidly or apparently remains stationary for a variable length of time. The periods of quiescence may even continue for a number of months, or, in rare cases, a year or more; but in the severer forms the disease ultimately resumes its relentless course and the individual finally becomes a helpless cripple. In the milder cases, the disease advances very slowly, and though ultimately a number of joints becomes involved, years may elapse before there is marked disability.

The differential diagnosis should occasion no difficulty. With one exception (polyarticular form of senile osteo-arthritis—Heberden's nodes), there is no other form of polyarticular osteo-arthritis in which the joints are symmetrically or progressively involved. As has been said, metabolic osteo-arthritis is usually confused with the polyarticular infections or the deformity resulting therefrom. The history of the case—acute onset, a definite course, the irregularity of the joint involvement, and the inertia after the general condition has subsided—as compared with the insidious onset, symmetrical joint-involvement, and progressive character of metabolic osteo-arthritis, should make the diagnosis easy.

In many of the cases, moreover, the character of the joint changes is significant. In the infections, the condition being inflammatory, there are, when there is not complete recovery, adhesions in arthritis, and bone ankylosis or bony outgrowths, limiting both active and passive motion in osteo-arthritis; in metabolic osteo-arthritis, passive motion is limited only by tendon contraction. But, as has been said, one should never make the diagnosis from the intrinsic joint symptoms alone, for though complete ankylosis or marked limitation of motion is a fairly sure sign that we are *not* dealing with metabolic osteo-arthritis, the fact that there is deformity and free joint motion does not absolutely signify that we are dealing with it. Though this is rather unusual, the polyarticular infections sometimes leave nothing behind but short tendons or a certain amount of capsular thickening or bony outgrowth, which may not limit the motion to any great extent. When, however, we have passive motion limited by tendon contraction or deformity alone, and a history of an insidious onset, more or less symmetrical involvement, and a gradual progressive course, the diagnosis is unmistakable. Even when there is a more or less continuous fever, say 100 to 101 F. (rectal), or occasional signs of joint irritation (i. e., effusion and pain), these signs are absolutely pathognomonic.

Besides these definite clinical phenomena, we have still another aid to diagnosis in the radiograph. Good radiographs, particularly of the smaller joints of the extremities, show very characteristic pictures. Even before there is deformity, they show a characteristic rarefaction of the anterior ends of the bones. At this time, the rarefaction is confined to small circumscribed areas in the epiphyses, just beneath the bone cartilage. As the disease advances, the areas become gradually larger and larger, and in the smaller joints of the very severe cases the articular ends of the bones may finally become completely absorbed. The rarefaction of metabolic osteo-arthritis, as shown by radiography, differs radically from that of infectious osteo-arthritis. In the latter, the rarefaction is extreme and diffuse, often extending to the shaft in the smaller bones at the very beginning; and when recovery is not complete there is nearly always bony outgrowth and at times complete bony ankylosis. The differentiation of the monarticular forms need not concern us here.

With such definite clinical signs, and the radiograph as an adjunct, it seems almost impossible to mistake metabolic osteo-arthritis, or to confuse or affiliate it with any other condition. It is with treatment of this condition, and this condition only, that the present communication is concerned.

In my paper on metabolic osteo-arthritis[1] it was shown that while metabolic osteo-arthritis is a definite and perfectly characteristic joint condition, both clinically and pathologically, the general conditions with which it is associated vary within wide limits. In some cases there are absolutely no definite general symptoms at all; in others, they are sometimes characteristic of one general anomaly, and sometimes of another. Moreover, it was shown that the perfectly typical symptom-complex appears in the course of diseases of an evidently dissimilar character—for instance, Basedow's disease, chronic pulmonary tuberculosis, congenital syphilis, etc. At first sight, such a condition of affairs would lead us to doubt the propriety of considering the joint diseases as a definite clinical entity; but it was further shown that these diseases and conditions, no matter how exceedingly they may differ otherwise, have at least one thing in common, i. e., a gradually (varying from an apparently insignificant to a very definite) deterioration of the general nutrition. And, as it was found that the peculiar form of degeneration which is characteristic of metabolic osteo-arthritis is exactly what, theoretically, we would expect such a nutritive anomaly to induce, it was concluded that metabolic osteo-arthritis is not due directly to the organic or constitutional conditions with which it is associated, but to the disturbance of the nutrition caused by them.

After reaching this conclusion some years ago, I decided that the only way to attack the problem of the treatment of this condition was either to find some means of removing the cause of the nutritional disturbance, or, as the cause of it in the majority of cases, being unknown, cannot be removed, to find some way of improving the general nutrition empirically.

In order to succeed in this, however, it was first necessary to discard all the previous methods of treatment in their entirety. If the joint condition is due to a deterioration of the nutrition, the usual diet and the internal administration of iodids and so-called antirheumatic remedies, by disturbing digestion, etc., are harmful. I, therefore, discarded all these procedures, all medicines, and permitted the patients who were still able to be about to use a nutritious mixed diet—as much to eat as they could digest, and even a moderate amount of alcohol to those accustomed to it.

I then, in order still further to improve the nutrition, experimented with various forms of special foods—olive oil, fatty foods, excess of starch, etc.—without apparently making any impression on the joint disease. The nutritious diet led to some improvement of the general condition, and the pain, when present, was somewhat relieved by rest, but the condition remained otherwise the same, or in many cases continued to progress.

About four years ago, led by Basch's experiments, demonstrating the influence of the removal of the thymus on the growth of the skeleton, I began the use of the dried thymus gland in metabolic osteo-arthritis. My first attempts in this direction were not encouraging. I found no immediate benefit from small doses, and had it not been for some conscientious patients who lived at a distance and continued to take the gland for a long time I should probably have discontinued its use. But thanks to these, I found that the continuous administration of thymus extract sooner or later led to definite and, in some cases, striking improvement. The pain and joint disability do not immediately disappear as soon as it is administered; on the contrary, the intense pain which is characteristic of some of these cases may persist for weeks, unabated, while thymus is being taken. It is only when the thymus is continued for months, despite the discouraging outlook, that the general nutrition begins to improve, and only with this improvement does the joint disability gradually disappear. That this improvement in the condition is due to the thymus I have been able to demonstrate in some of my patients, for in them the symptoms reappeared after the thymus was discontinued.

Nor must it be expected that thymus alone will bring about complete recovery. In the early stages, and in the mild slowly progressive cases, before muscular contraction and deformity have appeared, the disease will be arrested if all other treatment and joint irritation of other kinds are discontinued.

In the severer cases, the use of the diseased joints or the methods of treatment—massage or other mechanical measures—have usually already led to joint irritation when the patient comes under treatment. It must be remembered that the cardinal principle of putting all diseased joints at rest is equally important in metabolic osteo-arthritis as in other joint diseases. The doctrine advanced by many writers, namely, that rest is dangerous in so-called arthritis deformans because it leads to stiff joints, has done almost as much harm as has the disease itself. Indeed, I am convinced that a large proportion of the individuals suffering from this condition would never have been so completely disabled had they been left to themselves rather than submitted to the mechanical procedures ordinarily employed.

It is true, however, that as the disease advances slowly and is never nearly so active as in the inflammations, it is rarely necessary to immobilize the joints completely. Splinting is rarely necessary, but patients with active disease should not engage in manual work, and they should not be about when the disease is active in the lower extremities.

A short period of rest in conjunction with thymus and a nutritive diet will nearly always relieve the more active symptoms in the milder cases. The period of rest must, however, be prolonged in the severer ones. In the severer forms, particularly those of patients who have had the more active treatment, it requires months, or as long as a year, to bring the condition to quiescence.

When all signs of active disease have disappeared for some time, and no more joints have become involved, i. e., when the disease has become quiescent, and only then, more active treatment should begin. This more active treatment consists, at first, solely in the very gradual return to function. The patient is allowed on his feet, or to use his hands for a short time, and gradually, when there is no return of the signs of the active disease, the periods are increased. Those who have not had the disease in a severe form must, as a rule, be restrained from overtaxing themselves. On the other hand, in the severe cases, that is, in those of the patients who have been bedridden for a long time, it is usually no easy task to bring about locomotion. The patients are nervous and timid, and only after much encouragement and the reiterated assurance that they can walk if they try, can they be induced to make the effort. Here tact in handling chronic invalids plays an important rôle. I am quite certain, and the results I have obtained bear me out, that even in those bedridden for a long time (several years) persistence and intelligent effort will ultimately lead to surprisingly good results.

Moreover, in the long-standing cases and in those of the very severe forms of the disease, there is always more or less muscular and tendon contraction, which, in the majority of the cases, remains after the disease has become quiescent. In the upper extremities, these contractures, with the exception of those affecting the fingers, which are difficult to remove or overcome, do not interfere with function to any great extent. But in the lower extremities, deformities, when they exist, must be corrected, if locomotion is to be perfectly reestablished. It is difficult to say exactly when this should be done, but if the patient is able to get around fairly well in spite of the deformity, I consider it better to wait until it is quite certain that the disease is quiescent before I proceed to corrective measures.

In the lower extremity, flexion and adduction of the hip, flexion of the knee and equinovalgus of the foot are the more common deformities. These are easily corrected. But it must be remembered that epiphyseal ends of the bones are soft and friable, and any attempt to correct the deformity by force will not only be unsuccessful, but will often increase instead of diminish the disability. I have, indeed, seen two cases in which attempts at forcible correction of flexion of the knee resulted in fracture above and below the knee-joint—an irreparable injury.

If under profound anesthesia the deformity resists gentle manipulation, tenotomy, which is harmless and in skilful hands is always successful, should be resorted to. Cutting the adductors is all that is necessary to correct the adduction and flexion of the hip in the majority of cases. Only in the very severe cases of long-standing disease will there be coxa vara, which prevents correction of the adduction deformity, and which can only be obviated by osteotomy.

Flexion at the knee is a very common deformity. In a few cases I have seen it disappear without operation. In a large number of cases, gentle manipulation, at either one or two sittings, will correct it. In the long-standing cases, tenotomy of the hamstrings will be necessary. In some cases the valgus deformity is difficult to correct without tenotomy of the heel-cord.

As soon as the joint irritation which, to some extent, always follows these operative procedures has subsided, the patient, with the limb held in the corrected position by plaster of Paris or other means, is encouraged to be about. Some require only a few days, and only a few require more than two weeks of rest in bed. The bandages are retained for about a month, with variations either way to suit the individual case. As soon as they are removed, active and passive motion is begun, very gently at first, and very gradually increased. There is some pain at first, and the extent to which the efforts to regain active and passive motion should be pushed is a matter of judgment. Any attempt to increase the arc of motion should immediately cease on the advent of joint irritation (effusion and severe pain). Rest and renewed attempts, repeated time and again, will finally result in practically complete return of both active and passive motion.

It must be apparent that the treatment here advocated not only takes considerable time but requires good judgment and the most careful attention to detail if it is to be successful. Patience, tact and a careful study of each individual case are absolutely necessary.

There is absolutely no necessity for restricting the diet. Patients in bed must of course receive more easily digested food than those about; but all that is required, in the vast majority of cases, is a nutritious mixed diet. I allow a small quantity of alcohol in suitable cases, and I have never yet seen harm come of it. Digestion is unimpaired in the majority of these patients, and in many of them the bowels move naturally. In the bedridden and sedentary patients there is, of course, a tendency to constipation, but this is usually relieved by mild laxatives. I have seen absolutely no indication for drastic eliminative treatment, and I have seen no case of true metabolic osteo-arthritis in which such measures were not harmful.

It must again be emphasized that the cause of metabolic osteo-arthritis is not uniform, and that the treatment must always be adapted to the general conditions which may exist. He who is the most careful observer and possessed of the rare talent for taking pains will be most successful.

That the treatment, when properly carried out, is successful, is proved by records of my own cases which here follow:

I have records of 186 cases which were under observation for three months or longer. I have not considered the hospital and dispensary patients, or the cases in which the results could not be verified. Of these 186, 103 cases were seen early, and though the diagnosis was made to my own satisfaction and the results excellent in the majority of them, for fear that there should be any question as to the large percentage of good results, I leave these out of consideration. We then have left eighty-three severe cases; all of the patients were in good circumstances and had been unsuccessfully treated by the usual methods, and all of them, under ordinary circumstances, were doomed to hopeless crippledom.

Of these eighty-three patients, eighteen were bedridden and were considered hopeless by the numerous medical men who had seen and treated them. Fourteen were more or less helpless, and were for the most part being wheeled in chairs, etc., and almost all were entirely incapacitated from walking. The remaining fifty-one showed decided deformation but could walk with more or less difficulty and pain.

Of the eighteen bedridden patients, eight are now walking without cane or crutch, and have no pain. Three are walking with a cane and are gradually discarding it; two are walking with crutches, and will gradually discard these when the deformities of the lower extremity are corrected; two, though still in bed, are beginning active and passive motion. Three died of an intercurrent or the underlying pathologic conditions. Of the fourteen wheel-chair patients: the results unknown in four; three are walking without assistance of any kind; two are walking with a cane; two, joints quiescent; three died.

Of the remaining fifty-one, practically all improved under treatment. As many of these patients live at a long distance from the city, they were very difficult to trace. Thus, eleven of these, all doing well while still under observation, could not be traced and the final result is therefore unknown. Of the remainder, thirty-three patients, all of whom had decided signs of metabolic osteo-arthritis—deformation, pain, difficulty in walking and using the hands, with frequent periods of more or less complete disability—are and have been for a year or more practically well. Of these, fourteen are men who, for periods varying from six months to two years, were unable to attend business, but are now actively engaged at their former occupations. In only seven patients, three of whom did not properly carry out the treatment, has the treatment proved unsuccessful.

These results in a disease which was considered hopeless, speak for themselves. Moreover, it must be remembered that these results were obtained in patients who had been treated by the usual methods and continued to grow worse up to the time they came under observation.

I have always used a certain brand of thymus extract, giving from two to four tabloids of 5 grains each three times a day, either before or after meals. I suppose that put up by any reliable therapeutical house would be suitable; but that put up by beef-packers is practically inert.

How the thymus acts on the joints I do not pretend to know, nor do I believe it a specific. What is certain—and I think that my results prove this—is that when the thymus is conscientiously taken for a long time and the patient is otherwise judiciously handled, marked improvement, if not perfect cure, can always be expected.

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ABDOMINAL PAIN AND TENDERNESS, MUSCULAR RIGIDITY AND PSEUDOPERFORATIVE OR PSEUDOPERITONITIC SYMPTOMS IN THORACIC DISEASE—PNEUMONIA AND PERICARDITIS

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For a long time we have known that in thoracic affections such as pneumonia and pleurisy, pain may be reflected from the chest to the abdomen, thereby simulating abdominal disease. (Andral, 1836; Watson, 1871; Fagge and others.) In discussions of this not infrequent occurrence, attention has been directed chiefly to the pain alone, and it has been stated that such abdominal reference of pain of thoracic origin may be differentiated directly by the absence, in thoracic disease, of abdominal tenderness and other intrinsically abdominal findings.

The object of this paper is to establish clearly the existence of deep abdominal tenderness, muscular rigidity, collapse and the Hippocratic abdominal symptoms of rupture and peritonitis in purely thoracic affections.

CASE REPORTS

Case 1.—Case of right lower lobe pneumonia, in which abdominal pain, tenderness, rigidity and retraction, in association with collapse, precisely simulated perforative peritonitis; in which operation disclosed no abdominal abnormality, and in which the appropriate findings of fibrinous pneumonia appeared.

History.—In June, 1907, a man aged 32, entered the hospital in partial collapse, having been taken ill some four hours earlier with severe pain in the lower abdomen. The temperature was 101 F., the pulse 106 and small, and the respirations 22. The skin was grayish, particularly about the mouth, and the expression indicated intense anxiety and suffering. The thoracic examination was negative. The abdomen was considerably retracted on both sides and above, as well as below. Palpation elicited marked tenderness, more on deep than on superficial pressure, particularly below the umbilicus. The least movement, as turning the patient on his side to test for free fluid and to explore the posterior chest, gravely accentuated the abdominal distress. The rectal and urinary examinations were negative and the white count was 17,000. In the entire absence of any previous abdominal or other history, the shock and abdominal picture was interpreted as perforation and peritonitis and the only speculation concerned the origin of the perforation. The examining surgeons and physicians coincided in the indication for immediate laparotomy, which was performed by Dr. E. Wyllis Andrews. The peritoneum, appendix, stomach, bowel and gall-bladder were explored carefully, but with completely negative results. In just twenty-four hours after admission the fever rose to 103 F. and the breathing to 26 to 28; the pulse remained stationary, a catching but unproductive cough appeared and crepitant râles were determined over the right lower lobe, and in twelve hours more, dulness and bronchial breathing. In five days from the onset, a typical crisis ensued.

Case 2.—Case of pericarditis with effusion, pain and tenderness over the entire abdomen, muscular defense, abdominal retraction and later left upper-lobe pneumonia.

History.—In June, 1907, a boy, aged 14, of robust appearance and high color entered the hospital, complaining of languor, headache and anorexia. His previous history was negative, save for measles, whooping-cough and varicella, early in life. Abdominal distress appeared after two days of low fever (99.8 to 101.2 F.), a pulse-rate of 100 to 115 and normal breathing rate (18 to 20). The abdomen was equally sensitive to superficial and deep palpation, its walls were generally retracted, it did not participate in the respiratory movements and the patient lay quiet because movement increased his abdominal pain, as by the efforts of urination, defecation, etc.

The tongue, chest, glands, urine, etc., were negative and the white count showed 15,400 leukocytes. It seemed perfectly clear that there was peritonitis from some cause. This patient immediately followed the one first described; four other patients admitted to the surgical service and operated on under the erroneous diagnosis of peritonitis or appendicitis developed pneumonia and these experiences excited an unusual reserve, both among the surgical and medical staffs. Another day later a typical to-and-fro pericarditic friction was noted and effusion gradually gave the typical pyriform precordial dulness, buried the heart tones and masked the apical and cardiac pulsations. As the effusion appeared, all abdominal symptoms remitted. The fever rose to 101 to 103 F., the pulse to 120 and the breathing to 30 to 36. One week after admission crepitant râles, dulness, bronchial breathing, increased vocal fremitus and bronchophony developed over the left upper apex, chiefly behind, which findings seemed pneumonic rather than from pressure by the pericardial exudate, although the latter interpretation was considered. In ten days after admission, convalescence was established by a slow crisis

SYMPTOMS

To me the particular interest of these cases consists in the initial severe and diffuse abdominal symptoms. This pseudoperitonitic or pseudoperforative symptom-complex is remarkable in two ways: (1) that no thoracic symptoms of any kind coexisted with the symptoms of onset; and (2) that the abdominal symptoms in their completeness left no doubt, in the opinion of all observers, as to the existence of peritonitis or perforation.

Systematic treatises on pneumonia and pleurisy, particularly in pediatrics, give due mention of pain referred to the abdomen, thereby simulating acute abdominal inflammation, and many special articles have considered these conditions. It is usually and properly stated that differentiation is possible, by noting that tenderness is absent over the subjectively painful abdominal area and that thoracic examination or respiratory symptoms give some clue to the nature of the affection. Indeed, the clinician customarily, in instances of abdominal pain, halts till he can exclude the triad of confusions—tabetic crises, respiratory infections and vertebral disease.

The *pain* is variously depicted. Some, as Henoch, speak of it as superficial only, yet Raillet describes the pain as deep and over McBurney's point. Dieulafoy has found that pain in appendicitis does not begin with full intensity, as it does in perforation, e. g., of a gastric ulcer, but this dictum certainly does not always hold. Melchior[1] places special differential reliance on the contrast between the slight local findings and the severe general symptoms, as the sharp pain, the high fever, the involvement of the sensorium, involuntary evacuations, etc.; he cites the analogous early appendix symptoms of typhoid as an example. It is held that pain and other abdominal symptoms of this pseudoperitonitic group cease suddenly and characteristically, which is considered differential from appendicitis. Against this statement, a strong protest must be made, inasmuch as every clinician has learned to dread the sudden treacherous improvement witnessed in appendicitis, when gangrene or rupture relieves the tension of the part involved.

Tenderness and *rigidity* are frequently described. It may be local or general. Richardson[2] speaks of rigidity and universal tenderness. Arron finds that the muscular defense is less than in perityphlitis. Mignon found generalized abdominal rigidity, and Barnard's[3] patient exhibited almost spasmodically hard abdominal muscles. Melchior's patient exhibited tension of the abdominal walls. In my experience moderate abdominal tension is common in pneumonia.

Immobility in bed is also described by Mirande. In Griffith's[4] and Richardson's[2] reports the knees were drawn up.

Collapse is seldom described. In Martens'[5] three pneumonias, the symptoms at first resembled perforation, but operation was suspended till the pneumonic signs cleared the diagnosis. In Barnard's[6] report, the patient collapsed on the street; epigastric rigidity, pain and tenderness, the rapid thready pulse, and a history of gastric ulcer led to operation which revealed neither ulcer nor peritonitis; the autopsy disclosed bilateral lower-lobe pneumonia. Barnard comments on the relaxation of the abdominal walls between respirations, which was lacking in our cases.

The general symptoms generally in some way suggest a general infection or respiratory localization. The significance of fever, higher than is usual in appendicitis, is emphasized by Griffith, Barnard, Richardson and Sprengel. The gray color (*teint plombé*) of the skin in appendicitis is important, in Kirmisson's opinion. Anxiety is especially remarked in one of Griffith's patients and in my first one. Headache, severe cerebral toxemia, chills, cough, rate and character of the breathing are important. Obstinate constipation is not uncommon, and initial vomiting, especially in children, or even renewed emesis, may be confusing.

Confusions arise not merely in pleurisy, empyema and lower-lobe pneumonias, but also in bronchopneumonia, upper-lobe hepatization (Bennecke[7] and Herrick[8]) and, as in my second case, pericarditis with effusion.

In conclusion, it is not my object to canvass the entire literature of this subject or to claim that the clinical picture described is wholly unique, since doubtless many have experienced the same situation. It is proper, however, to insist on the following points:

1. Pneumonia, pleurisy and pericarditis, at their very onset, may present absolutely no symptoms other than the abdominal findings.
2. These phenomena of invasion may completely resemble appendicitis, peritonitis of other etiology, or even the collapse of perforation.
3. Diagnostic errors and unnecessary operations may be unavoidable. Immediate operation is imperative and the small percentage of error is negligible in comparison with the benefits of early operation in genuine indications (particularly as 80 per cent. of patients operated on under a mistaken diagnosis, recover).
4. The tenderness does not always remit with deep, flat pressure, and that relaxation of the abdominal parietes, between respirations, is not invariable.
5. The general symptoms do not invariably overshadow the local, the latter at times being the more salient.[9]

THE HISTORICAL COLLECTION OF MEDICAL CLASSICS IN THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE *

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In any library of size the problem of what to do with its rarer and costlier books is usually solved by stowing them either in or out of sight, in show-cases, drawers, cupboards and coffers, and in the Surgeon-General's Library at Washington this policy has been in force for some years so far as its incunabula, elephantines, erotica and curiosa are concerned.

The recent plan of the librarian, Col. Walter D. McCaw, to put the more important medical classics under glass, for purposes of safe keeping, has resulted in a collection of unique interest and value, for the nation's medical library is singularly rich in these literary treasures, the accumulation of which is mainly due to the untiring zeal and vigilance of Dr. Billings and Dr. Fletcher in the past. The fact that nearly every volume in this exhibit is a first edition should interest the medical bibliophile, and at the same time an arrangement of the classics in strictly chronological order affords a bird's eye view of the textual history of medicine to the student and casual visitor, while giving the specialist chapter and verse, as it were, by enabling him to put his finger on the particular *locus classicus* in each case. Then, many of these old medical classics are fine specimens of typography in themselves, bearing on title-page or colophon the stately names of the great printers of the past.

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1. Melchior, Edward: Mitt. a. d. Grenzgeb. d. Med. u. Chir., xxi, part 3, article xxiii, p. 469.
2. Richardson: Boston Med. and Surg. Jour., 1902.
3. Barnard: Lancet, London, Aug. 2, 1902, p. 280.
4. Griffith, J. P. Crozier: Reports of Interesting Cases, Containing an Article on Peritonitic Pneumonia, Arch. Pediat., June, 1899, p. 418; Pneumonia and Pleurisy in Early Life Simulating Appendicitis, THE JOURNAL A. M. A., Aug. 29, 1903, p. 531.
5. Martens: Med. Clin., 1908, No. 49, p. 1857.
6. Lancet, Aug. 2, 1902, p. 280.
7. Bennecke: Med. Klin., 1909, No. 7.
8. Herrick: THE JOURNAL A. M. A., Aug. 29, 1903.
9. Aside from the references mentioned in the text, the following may be referred to:
Hampeln: Ztsch. f. klin. Med., xlv, 1902.
Kuttner: Beitr. z. Chem. Phys. u. Path., 1906, ii.
Lowett-Morse: Ann. Gynec. and Pediat., November, 1899.
Morris: New York Med. Jour., lxix, 1899.
Palier: New York Med. Jour., lxix, 1899.

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In preparing this chronological exhibit, which will, when completed, be provided with a suitable *catalogue raisonné*, it was thought best that the historical collection proper should begin with Greek medicine, for the reason that, apart from the works of the Jewish and Arabian physicians in the Middle Ages, Oriental medicine has mainly an anthropologic or esoteric interest. The leading monuments of pre-Hippocratic medicine, including the Ebers Papyrus, the Code Hamurabi, the Charaka Sanhita and the Suruta, are, of course, on exhibition in the library hall, and no one will challenge the importance of these documents. From the hieratic writings of the papyri we get a clear idea of the priest-like dignity of the ancient physician's calling, the various diseases and the extensive materia medica known to the ancient Egyptians. From the Code Hamurabi we sense the importance attached to physicians' fees even 2,200 years before Christ. From the Suruta, the great storehouse of Aryan surgery, we learn that to their lofty Brahminical code of ethics the ancient Hindu physicians united a highly specialized knowledge of operative procedure and of surgical instrumentation that was not improved on by the Greeks and Romans who came after them. Aryan skill in surgery has been an unbroken tradition, even through the Dark Ages, when surgery was most under a ban. But with this single exception and in the face of the researches of savants like Ebers, Joachim, von Oefele, Jolly, Preuss and Bartels, it is doubtful whether the records of Egyptian, Indian, Chinese, Mesopotamian and Babylonian medicine can be ranked with the classic texts. Cuneiform, hieroglyphic, runic and palm-leaf inscriptions all point to one fact, that ancient medicine and the medicine of primitive peoples, whether Accadian or Scandinavian, Slavic or Celtic, Roman or Polynesian, has been the same throughout space and time—in each case an affair of charms and spells, plant lore and psychotherapy, to stave off the effect of supernatural agencies. It may interest us vastly to know that the āaā disease of the Egyptian papyri was identical with hookworm infection; that the Chinese had a pulse-lore and practiced acupuncture; that Finsen's red-light treatment of small-pox was known to ancient Japanese physicians as it was to John of Gaddesden; that an early Persian manuscript pictures a permanent gastric fistula like Alexis St. Martin's; that Machaon and Podalirius were the first naval surgeons, and so forth. Yet these are after all only waifs and estrays of information, and as information is not knowledge, so disconnected facts do not make a scientific record. Such a record implies not only the isolation and collation of facts, but their interpretation and the induction of the general laws behind them, and, in this sense, pre-Hippocratic medicine has not the slightest claim to be called scientific. Few will dissent, therefore, from the wise (if somewhat Olympian) view of Goethe that Eastern antiquities have only a casual interest: "Chinesische, indische, ägyptische Alterthümer sind immer nur Curiositäten."

I. THE GREEK AND GRÆCO-ROMAN PERIOD (460 B. C.-476 A. D.)

European medicine began in the age of Pericles and its scientific advancement centers in the figure of Hippocrates (460 to 370 B. C.), who crystallized the loose knowledge of the Coan and Cnidian schools into systematic science, dissociated medicine from theurgy and philosophy, and developed the art of grouping and coordinating symptoms so that the clinical picture of a disease began to emerge of itself as a definite entity.

The Surgeon-General's Library possesses an unusually rich collection of some 900 volumes relating to the Hippocratic Canon, including fifty-two different editions of the *Opera Omnia*, 441 separate treatises, and 408 commentaries and critical compendiums. Of these, the following are on exhibition:

1. The folio Latin text of the *Opera Omnia*, translated and edited by Fabius Calvus, the friend and patron of Raphael, and published at Rome under the auspices of Pope Clement VII in 1525. This was the first complete edition of Hippocrates to be printed.
2. The folio *editio princeps* of the Greek text, published the following year (1526) by Aldus at Venice.
3. The Basel *Opera Omnia* edited by Janus Cornarius and printed by Froben (1538), highly prized on account of its textual and critical accuracy.
4. The Greek text and Latin translation of Hieronymus Mercurialis, printed by the house of Giunta at Venice in 1588.
5. The Frankfort edition of 1595, containing the valuable translation and commentary of Anutius Foesius, the most learned, industrious and able of the Hippocratic commentators before the time of Littré.
6. The first Latin text of the aphorisms, edited by François Rabelais (Lyons, 1532).
7. The tiny Leyden editions of the aphorisms (1607 and 1628), the first a Plantin imprint, the second a vest-pocket Elzevir.

The greatest scientific name after Hippocrates is that of "the master of those who know," the Asclepiad Aristotle (384 to 322 B. C.), who gave to medicine the beginnings of zoölogy, comparative anatomy and embryology and the use of formal logic as an instrument of precision. A worthy successor of the Stagirite was his friend and pupil Theophrastus of Eresos (370 to 286 B. C.), also a physician and called the "protobotanist," because he did for the vegetable kingdom what Hippocrates had previously done for surgery and clinical medicine, by collating the loose plant-lore of the woodmen and "rhizotomi" into a systematic treatise. The "De Historia Plantarum" of Theophrastus, the foundation-stone of European botany, is represented by the Aldine Greek text of 1497 and the Greek and Latin text of Stapel (Amsterdam, 1644).

The colonization of Greek medicine in Egypt led to brilliant developments in anatomy and surgery, but our knowledge of the two great Alexandrian anatomists, Herophilus and Erasistratus, the originators of dissecting, is not based on any textual record of their writings, but was pieced together by the scholarship of Marx and Hieronymus. The principal relics of the empirical poison-lore of the second century B. C. are the two hexameter poems of Nikander on poisonous animals ("Theriaca") and plants ("Alexipharmaca") which have been preserved in the two Aldines of 1499 and 1523, and the French versification of these poems by Jacques Grevin (Plantin imprint, Antwerp, 1568).

After the destruction of Corinth (146 B. C.), Greek medicine may be said to have migrated to Rome. Before the Greek invasion, the Romans, as the younger Pliny tells us, "got on for 600 years without doctors," relying mainly on medicinal herbs and domestic simples, superstitious rites and religious observances. The proud Roman citizen, who had a household god for nearly every physiologic function, looked askance on the itinerant Greek physician, despising him as a mercenary for accepting compensation for his services and otherwise distrusting him as a possible poisoner or assassin. Apart from the writings of a private litterateur like Celsus, the principal Roman contribution to medicine was the splendid sanitary engineering of the architect

Vitruvius. Greek medicine was finally established on a respectable footing in Rome through the personality, tact and superior ability of Asclepiades of Bithyna (124 B. C.) whose fragments are presented in Gumpert's Greek text (Weimar, 1794).

Although Roman medicine was almost entirely in Greek hands, the best account of it that we have was the work of Aurelius Cornelius Celsus, a private gentleman who lived during the reign of Augustus Cæsar, and wrote encyclopedic treatises on medicine and other subjects for the benefit of the Admirable Crichtons of his day. To moderns, Celsus is the leading authority on Græco-Roman medicine and Alexandrian surgery. Under the Romans military and gladiatorial surgery attained a degree of perfection which the general art was not to reach again before the time of Ambroise Paré. Celsus is also the standard authority for the weights and measures used by the Romans, and the *Proœmium* of his "De Re Medica" contains the first history of medicine. Of the 105 different editions of Celsus, the Surgeon-General's Library possesses sixty-five. The show-case exhibit includes the Florentine *editio princeps* of 1478, the Milan imprint of 1481, the rare Giunta of 1524, the Aldine of 1525 and the handsome Elzevir of 1657.

Pedacius Dioscorides, a Cicilian Greek, was an army surgeon during the reign of Nero (*circa* 64 A.D.) and utilized his opportunities of travel in the study of plants. His work is the authoritative source on the materia medica of antiquity, of which he describes about 600 plants and plant-principles, over a hundred more than Theophrastus. Up to the beginning of the seventeenth century, the best books on medical botany were still simply commentaries on the treatise of Dioscorides, which is preserved as the Aldine of 1499 (Greek text), the Stephanus of 1516 (Latin text), the rare bilingual text of Cologne, 1529, and the Italian commentary of Mattioli (Venice, 1544), also excessively rare.

Aretæus the Cappadocian, who also lived in the reign of Nero, comes nearer than any other Greek to the spirit and method of Hippocrates and is on this account more readily appreciated by modern men. As a clinician, he ranks next to the Father of Medicine for the graphic accuracy and fidelity of his pictures of disease, of which he has given the classical, first-hand accounts of pneumonia, asthma, diabetes, leprosy, diphtheria (ulcera Syriaca) and the first clear differentiation between cerebral and spinal paralysis. His work is preserved in the faulty Greek text of 1554 and in Wigan's valued Clarendon Press edition (Oxford, 1723).

Another great eclectic was Rufus of Ephesus, who lived in the reign of Trajan (98 to 117 A. D.), and whose literary remains and fragments have been preserved in the Paris text of 1554.

Soranus of Ephesus, a methodist of the second century, A. D., is our leading authority on the gynecology, obstetrics and pediatrics of antiquity. His treatise on midwifery and diseases of women, represented by Dietz's Greek text (Königsberg, 1838), was the original of such famous books a Röslin's "Rosegarten" (1513) and Raynalde's "Byrthe of Mankynde" (1545), and most of the supposed innovations in these books, such as the obstetric chair or podalic version, have been traced back to Soranus. After Soranus, there were no real additions to obstetrics before the time of Paré, some 1,500 years later.

The ancient period closes with the name of the greatest Greek physician after Hippocrates—Galen (131 to 201), the founder of experimental medicine. Galen's youth and old age were those of a peripatetic. His life was one long *Wanderjahr*. This roving disposition undoubtedly did much to develop that cocksure attitude of mind which made his writings the fountain-head of ready-made theory, or what the Germans call "polypragmatism." He had an answer ready for every problem, a reason to assign for every phenomenon. How the followers of Galen imposed his authority on European medicine for ages is one of the commonplaces of medical history. Up to the time of Vesalius, European medicine was one vast *argumentum ad hominem* in which everything relating to disease and its treatment was referred back to Galen as a final authority, from whom there could be no appeal. After his death European medicine remained at a dead level for nearly fourteen centuries. Galen's true greatness lies in the simple fact that he gave to medicine that method of putting questions to Nature and arranging matters so that Nature may answer them which we call experiment. His experiments on the physiology of the nervous and respiratory systems are truly classical and the only thing of the kind before Harvey. Of Galen's *Opera Omnia,* the Surgeon-General's Library possesses the ten different Giunta editions, selected volumes of which are on exhibition, together with the Aldine of 1526, Linacre's translations of the "De Sanitate Tuenda" (Paris, 1517), and "De Temperamentis" (1527); and the Simon Colinaeus imprint of the "De Usu Partium" (Paris, 1528), the prototype of all subsequent "Bridgewater treatises."

II. THE BYZANTINE PERIOD (476 TO 732 A. D.)

The solitary thing the Eastern Empire did for European medicine was to preserve something of the language, culture and literary texts of Greece. Although the Byzantine power lasted over a thousand years (395 to 1453 A. D.), medical history is concerned only with the names of four remarkable men who were prominent physicians in the first three centuries of its existence. Of these the courtier Oribasius (326 to 403 A. D.), a friend and physician-in-ordinary to Julian the Apostate and sometime quæstor of Constantinople, is chiefly remarkable as a torch-bearer of knowledge rather than as an original writer, but his compilations are highly valued by scholars in that he always gives his authorities and, so far as is known, quotes them exactly. Medicine is indebted to him for a remarkable anthology of the works of his predecessors, many of whom (the great surgeon Antyllus, for instance) might otherwise have been lost to posterity. A representative work of Oribasius is the epitome of medicine which he made for the use of his son ("Synopseos ad Eusthasium Filium"), of which a rare large paper Aldine (Venice, 1554) is exhibited; but the student of medical history will read Oribasius to best advantage in Daremberg's splendid six-volume edition, with the French translation (Paris, 1851-1876).

Aetius of Amida, who lived in the sixth century A. D., was also a royal physician and *comes obsequii* at the court of Byzantium. His work, represented in the Aldine of 1534, is principally remarkable for the introduction of such far-Eastern drugs as cloves and camphor into the pharmacopeia.

Alexander of Tralles (525-605), who is regarded by many historians as the most remarkable of the Byzantine compilers on account of the originality of his therapeutic procedure, is represented by the Lyons *editio princeps* of his "Practica" (1504).

Paul of Ægina (625-690), the last of the Greek eclectics and compilers, is represented by the Aldine Greek text of 1528. We may judge how low medicine had sunk at this time by his apologetic statements in regard to any lack of originality on his part. He frankly admits that the ancients have said all that could be said about medicine and that he is only a humble scribe. Paul was, however, a very capable surgeon and the seventh book of his "Epitome" was the standard work on the subject up to the time of Albucasis.

III. THE MOHAMMEDAN AND JEWISH PERIODS (732-1096 A. D.)

By the swords of Mohammed and his emirs the wild outlaw clans of the Asian and African deserts were converted into nations capable of acting as military and social units, but it was not until long after his death when the mighty empire which he founded was subdivided into caliphates, that the sciences and arts were permitted to develop. We call the medical authors of the Mohammedan period "Arabic" on account of the language in which they wrote, but in reality most of them were Persian- or Spanish-born, and many of them were Jewish. The leading physicians of the Eastern (or Bagdad) Caliphate were the three Persians, Rhazes, Haly Abbas and Avicenna.

Rhazes (860-932), a great clinician, ranks with Hippocrates, Aretæus and Sydenham as one of the original portrayers of disease. His descriptions of small-pox and measles is the first authentic account in literature, a classic text. It is preserved in the original Arabic, with parallel Latin translation, in Channing's edition (London, 1766). Rhazes' great encyclopedia, the "El Hawi" or "Continens," which Haller preferred to any other Arabic treatise, is shown in the Latin translation of Feragus (Brescia, 1486).

Haly ben Abbas, a Persian mage, who died in 994, was the author of the "Almaleki" or "Liber Regius," a text-book which was the canonical treatise on medicine for a hundred years, when it was superseded by the "Canon" of Avicenna. It has never been printed in the original Arabic, but is preserved in the Latin translations of 1492 and 1523.

Avicenna (980-1036), called "the Prince of Physicians," a convivial Omarian spirit, eminently successful in practice as court physician and vizier to different caliphs, was one who trod the primrose path at ease and died in the prime of life from the effect of its pleasures. The "Canon" of Avicenna, a huge, unwieldy storehouse of knowledge, which Haller styled a *methodica inanitas*, but which was none the less a great medical text in its day, is preserved in the original Arabic text (Rome, 1593) and in the Latin texts of 1479, 1483 and 1486. The Giunta edition of 1608 contains some striking plates which show that Avicenna knew and practiced the method of treating spinal deformities by forcible reduction which was reintroduced by Calot in 1896. The collection of pharmacologic treatises by the eponymous or pseudonymous Mesue junior is of interest as one of the earliest known incunabula (Venice, 1471).

The leading medical authors of the Western or Cordovan Caliphate were the surgeon Albucasis and the Jewish physicians Avenzoar and Moses Maimonides. Albucasis, a native of Cordova, who died there in 1106, was the author of a great medico-chirurgical treatise called the "Altasrif" (or "Collection"), of which the surgical part is exhibited in Channing's Arabic text (Oxford, Clarendon Press, 1778). It is remarkable as containing the first pictorial representations of surgical instruments and was the leading text-book on surgery in the Middle Ages up to the time of Saliceto. The greatest of the Jewish physicians during the Arabic period was the Cordovan Avenzoar, who died in 1161. He was one of the few men of his time who had courage enough to tilt against Galenism and by his description of the itch-mite (*Acarus scabia*) he may be accounted the first parasitologist. His "Teisir," or "Rectification of Health" is preserved in the Latin translation of 1490. The Rabbi Moses ben Maimon, called Moses Maimonides (1139-1208), was court-physician to Saladin, and his "Tractatus de Regimine Sanitatis" was written for that Sultan's personal use. The copy on exhibition, the Florentine imprint of 1478, is one of the rarest of books.

IV. THE MEDIEVAL PERIOD (1096-1438)

Medieval medicine began in the School of Salernum, which was founded by the Benedictine Monks in the ninth century, and survives in its principal document, the "Regimen Sanitatis," written in hexameter verse (1840), and in the "Antidotarium" of Nicolaus Præpositus, the first formulary and one of the first medical books to be printed (Venice, 1741). The principal outcome of the School of Salernum was the work of two surgeons, Roger and Roland of Parma, who, as Allbutt says, "stand like twin brethren in the dawn of modern medicine, bearing the very names of romance." Roger's "Practica," written in 1180 and reedited by Roland, is preserved in the library collection as a rare and interesting manuscript of the fourteenth century, together with Daremberg's classical edition of the "Glossulæ Quatri Magistrorum," vilely printed, "on gray paper with blunt type" (Naples, 1854). Roger, Roland and the Four Masters were succeeded by Hugh of Lucca, who left no record of his work behind him, and his disciple Teodorico Borgognini (1205-96), whose treatise is preserved in the surgical anthology of Articella (*editio princeps,* Venice, 1490). Hugh and Theodoric contradicted the pseudo-Galenist dogma of "coction" or "laudable pus" and stand out in their day as pioneers of a rational asepsis. The ablest Italian surgeon of the thirteenth century was Guglielmo Salicetti, called Saliceto, a man well educated in hospital and on the battlefield, as well as in respect of university training. His "Cyrurgia," exhibited in the *editio princeps* of 1476, stands out as a great landmark or seamark in the history of the craft, to be followed by the "Chirurgia magna" of his pupil Lanfranchi of Milan (*editio princeps,* Venice, 1490). Lanfranc, also a university man, was driven by banishment to Paris, where he became the founder of French surgery and made a resolute and valiant stand against the medieval schism between surgery and medicine. The effect of the work of these great surgeons, coincident with the development of the medieval universities—Bologna (1110), Montpellier (1137), Paris (1176), Oxford (1200), Padua (1222)—and the brilliant false dawn of culture and liberalism in the thirteenth century, did much to further the growth of surgical talent in France, England and Flanders. The "Cirurgia" of Pietro Argelata (Venice, 1480), the reproductions of the text of Henri de Mondeville by Pagel (Berlin, 1892) and Nicaise (Paris, 1893), the "Cirogia" of Guy de Chauliac, written in the *lingua franca* (Venice, 1480), a rare and curiously illustrated fourteenth century manuscript of John of Arderne, and the facsimile of the "Chirurgie" of Jean Yperman (1295-1351) by Carolus (Ghent, 1854), are the principal landmarks of the period.

Hand in hand with the medieval development of surgery, there necessarily went some effort to improve the status of human anatomy. Dissecting, at first rigorously proscribed by law and sentiment, became more and more a matter of course, following the decree of Emperor Frederick II in 1240. Payne had divided medieval anatomic teaching into three periods: First, the Salernitan (from the ninth to the twelfth century), in which instruction was based on the dissection of animals as set forth in the "Anatomia Porci" of Copho, one of the Jewish instructors at Salerno. Second, the Arabist period (thirteenth century), in which such dissections were superseded by books and lectures. The leading authorities of this time were Richard, canon of Wendover, called Richardus Anglicus (1252), whose work is preserved in Töply's text (Vienna, 1902); and Henri de Mondeville, who, long before Ambroise Paré, prefixed an anatomic treatise to his surgery, and who improved on Wendover's teaching by the use of pictures, diagrams and a model of the skeleton. The interest of the third period centers in the revival of human dissecting by Mondino de' Luzzi, called Mundinus (1250-1325), whose "Anathomia" is exhibited in the Leipsic edition of Dr. Melerstat (1493). This little horn-book of Mundinus, although full of Galenical errors in regard to the structure of the human frame, was yet the sole text-book on anatomy for over a hundred years.

Internal medicine during the Middle Ages was essentially scholastic and monastic; that is, its votaries were either monks or schoolmen of the type of the great intellectual leaders of the thirteenth century—Roger Bacon, Thomas Aquinas, Duns Scotus and Albertus Magnus. The medieval logicians did good service in sharpening men's minds and teaching them how to use dialectics as an instrument or weapon, but science itself could not advance so long as the pitfalls of syllogism were preferred to inductive demonstration of fact. The medieval writers on practice of medicine are commonly described as Arabists on account of their unswerving fidelity to Galenical dogma as transmuted through Mohammedan sources. Characteristic Arabist texts are the "Liber Aggregationis" of Jacopo de Dondis (1298-1358), the earliest known of medical incunabula, printed at Strasburg, *circa* 1470 by Adolf Rusch (the "R" printer); the "Conciliator Differentiarum" (Venice, 1476) of the heretic Peter of Abano (1250-1315), the "Breviary of Practice" (Pavia, 1488) of Arnold of Villanova (1235-1312), and the "Lilium Medicinæ" of Bernard de Gordon (Venice, 1496), also exhibited in a rare manuscript of 1349. Nowise classical, these works are typical of the Middle Ages in scholastic subtlety and rigid adherence to dogma. Two books of this group are of special interest to English-speaking people—the "Compendium Medicinæ" (London, 1510) of Gilbertus Anglicus, the leading spirit of Anglo-Norman medicine, and the "Rosa Anglica" (Pavia, 1492) of John of Gaddesden, a prebendary of St. Paul's, whom some think the original of Chaucer's Doctor of Physic. The former is remarkable for its account of leprosy and as containing the first reference to the contagiousness of small-pox. The latter has a remarkable reference to the red-light or Finsen treatment of the same disease, but is otherwise a farrago of Arabist quackeries and countryside superstitions.

V. THE PERIOD OF THE RENAISSANCE, THE REVIVAL OF LEARNING AND THE REFORMATION (1438-1600)

In the transition of civilized mankind from medieval to modern conditions many forces were operative, but undoubtedly the most potent were the invention of gunpowder, which gave the *coup de grâce* to feudalism, and the discovery of printing, the greatest agent in uplifting mankind by self-education. The effect of the revival of Greek culture by the Byzantine scholars who poured into the Italian peninsula after the fall of Constantinople (1453) was to substitute the spontaneous receptive attitude of Plato and Hippocrates for the dialectics and logic-chopping of Aristotle and the Galenists. Prime movers in this change for medicine were the great printers of the Renaissance and the so-called medical humanists. The printing houses of the Aldi and Giunti in Venice, Stephanus and Colinæus in Paris, Herbst (Oporinus) and Froben in Basle, Wynkyn de Worde and Wyer in London, Plantin at Antwerp, Elzevir in Leyden, vied with each other in the issue of stately folios and beautiful texts, while such editors and translators as Niccolo Leoniceno at Ferrara; Rabelais at Meudon, Gunther of Andernach at Strasburg, Hagenbut (Cornarus) at Marburg, and Anutius Foesius at Metz did for Hippocrates what Linacre and Caius in England did for Galen. Linacre's translations of Galen in particular made it clear to physicians of the day that for centuries the profession had relied on garbled and second-hand versions of their favorite author.

Some time after the invention of printing, Germany entered the field of medicine with a remarkable array of semi-popular treatises, most of them written, contrary to custom, in the vernacular, the language of the people. The earliest of the German incunabula on exhibition is the "Regiment der jungen Kinder" of Bartholomæus Metlinger[1] (Augsburg, 1473), a little book on infant hygiene which would be the first Renaissance contribution to pediatrics were it not preceded by Paolo Bagellardo's "De Ægritudinibus Infantum" (Padua, 1472). The "Artzneibuch" of Ortolff of Bavaria (Nuremburg, 1477) was an important German text of popular medicine in its day, and followed, about 1500, by Ortolff's quaint little "Frauenbuchlein," or popular hand-book for lying-in women. A few years later (in 1513), there appeared at Worms the "Rosegarten" of Eucharius Röslin, a work which bears the same relation to Renaissance obstetrics that the "Anathomia" of Mundinus did to medieval anatomy. Although mainly a compilation from Soranus of Ephesus as filtered through the manuscript codices of Moschion, it was still the only text-book in the field after a lapse of fourteen centuries. Three first editions were issued simultaneously, all extremely interesting for their quaint cuts (already faintly outlined in the Moschion codices), for the *réchauffé* of podalic version as originally described by Soranus and for the fact that Röslin's text was miserably plagiarized by Walther Reiff[2] in 1545, and also translated and reissued by William Raynalde as "The Byrthe of Mankynde" (London 1545). The ordinance issued by the city of Ratisbon in 1555 for the direction of midwives ("Regensburger Hebammenbuch") has been proved by Mr. Felix Neumann[3] to be the earliest public document of this kind in the vernacular.

The foundations of medical jurisprudence were laid in its earliest European text, the "Caroline Criminal Constitutions" (*Peinliche Gerichtsordnung*) issued by Emperor Charles V in 1533 and exhibited in Schmid's Middle-High German text (1835). Interesting relics of the great medieval pandemics of syphilis and bubonic plague are preserved in the curious tracts of Widman (1497), Conrad Schelling (1502), Grünpeck (1503), Ulrich von Hütten (1514) and Schmaus (1518). Early German botany survives in the wood-engravings of the "Hortus Sanitatis" (1491) and the herb-books of Brunfels (1530) and Bock or "Tragus" (1539); early German surgery begins with Haeser's reproduction of the "Bündth-Ertzeney" (1460) of Heinrich von Pfolspeundt, which contains the first reference to gunshot-wounds as "powder-burns"; the "Buch der Cirurgia" of Hieronymus Brunschwig (Strasburg, 1497) and the Fieldbook of Military Surgery by Hans von Gersdorff (Strasburg, 1517), both containing some of the most instructive pictures of early surgical procedure in existence, the latter including unique plates of diseases like leprosy and St. Anthony's fire. The same thing is true of the Οφθαλμωδουλεια, *das ist, Augendienst* of the court oculist Georg Bartisch (Dresden, 1583), the striking illustrations of which give us a complete purview of Renaissance eye surgery. The earliest work in this field was the "De Oculis, Eorumque Egritudinibus et Curis" of Benvenuto Grassi (Ferrara, 1475), and in the vernacular group may be mentioned the little eye book of Walter Bailey (London, 1586) and the "Traité des Maladies de l'Œil" by Jacques Guillemeau (Paris, 1585).

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[1] An earlier German incunabulum is the Hochenburg "Regimen Sanitatis," printed at Augsburg in 1472. (See Sudhoff's "Deutsche Medizinische Inkunabeln," Leipsic, 1908, p. 8.

[2] The plagiarist Reiff should not be confused with the Swiss obstetrician Jacob Rueff (1500-58), author of the "Trostbüchle" (Zürich, 1554), a midwifery of sterling character.

[3] Arch. f. Gesch. d Med., Leipsic, 1911, v.

The effect of these vernacular writings was to get men's minds away from scholasticism and turn them toward realities. This Renaissance tendency reached its highest development in the earliest of the medical leaders of the sixteenth century, Paracelsus, Vesalius and Paré—three strong men of aggressive temperament, who by shouldering past other men, literally "blazed the way," not only for the general advance of medicine, but for keen and liberal thinking in all its branches.

Aureolus Paracelsus (1493-1541), the founder of chemical pharmacology and therapeutics, was neither the refined, supersubtle mystic of Browning's poem, nor yet the roystering, lying, tippling blackguard and quacksalver of tradition. His influence was far-reaching and his real services were great. Far in advance of his time, he discarded Galenism and taught men to accept chemistry as a science; he attacked witchcraft and the strolling mountebanks who butchered the body in lieu of surgical procedure, and he did away with the silly uromancy and uroscopy; almost the only asepsist between Mondeville and Lister, he taught that Nature (the "natural balsam") and not officious meddling heals wounds; he introduced mineral baths and was the first to analyze them; he made mercury, opium, arsenic, antimony and lead a part of the pharmacopeia, and discovered zinc; his "doctrine of signatures" survives in the essence of homeopathy; and in comparing the action of the "arcana" or intrinsic principles of drugs to a spark he grasped the idea of catalytic action. As a theorist, he believed in the descent of living organisms from the *Urschleim* or primordial ooze, and some credit him with anticipating Darwin in his observation that the strong war down and prey on the weak—a fact, unfortunately, within the range of any beggar or footman. But none of these things can outweigh the influence which Paracelsus exerted on his time through his personality. In an age when heresy often meant death, he wasted no time in breaking butterflies on wheels, but drove full tilt at many a superstition, risking his neck with the recklessness of a border reiver. The importance attached to his name may be gathered from the line in Shakespeare's comedy which brackets it with that of Galen[4]. Paracelsus was great in respect of his own time. He does not seem particularly great in relation to our time.

The works of Paracelsus on exhibition are his manual introducing the use of mercurials in syphilis (Frankfurt, 1553), the treatise "De Gradibus" (Basel, 1568), which contains most of his innovations in chemical therapeutics, and his monographs on miners' diseases ("Von der Bergsucht," Dilingen, 1567) and mineral baths (Basel, 1576), the former one of the few original contributions of his time to internal medicine. In this connection we should mention Baillou's account of whooping-cough (1578) and the original description of the syndrome "mountain sickness" by the Jesuit traveler Joseph d' Acosta (1590)[6].

After the time of Mundinus, there appeared a number of anatomic treatises containing the first rude attempts at pictorial representation of dissected parts. These are the so-called "graphic incunabula" of anatomy, of which appropriate woodcuts from Ketham (Venice, 1493), Peyligk (Leipsic, 1499), Hundt (Leipsic, 1501), Friesen (Strasburg, 1519), Berengario Carpi (Bologna, 1521, 1522), and Dryander (Marburg, 1537) are displayed. These tentative efforts at representation, rare and curious as they are, pale almost into obscurity beside the cartoons, *écorchés* and chalk drawings of the great artists of the period—Luca Signorelli and his pupil Michael Angelo, Raphael and Leonardo da Vinci. Of chief interest are the reproductions of Leonardo's red-chalk drawings from the Ambrosian Library at Milan and the Royal Library at Windsor. Startlingly modern in their accuracy and display of physiologic knowledge, these impromptu sketches, made beside the dissected subject, reveal such acquaintance with muscular anatomy as was possible only to the Greek sculptors, and fully justify William Hunter's claim that their author was "the greatest anatomist of his epoch." The marginal notes, which Leonardo has recorded in mirror-writing lest others appropriate his ideas on the physiology of locomotion, reveal the cautious, secretive spirit of the time. The exhibit of pre-Vesalian anatomy includes, of course, the *editio princeps* of Albert Dürer's treatise on human symmetry (Nuremberg, 1532).

Thoroughly as the great artists of the Renaissance may have studied external anatomy, yet dissecting for teaching purposes was still hampered by the theologic idea of the sanctity of the human body as the image of Godhead and the anatomy of the schools was the anatomy of Galen. How far such teaching had progressed may be gathered from the quaint cut on the title-page of the Melerstat Mundinus (1493), in which the scholastic instructor in long robe and barretta, wand in hand, gravely expounds Galen by the book from his pulpit-chair, while below the long-haired barber-servant makes a desperate shift at demonstrating the viscera of the subject before him. The Faust who was to release the science from these trammels and revive the doctrine of the *visum et repertum* was Andreas Vesalius (1514-64), the most commanding figure in European medicine after Galen and before Harvey. There were plenty of dissectors and dissections before Vesalius, but he alone made anatomy what it is to-day—a living, working science. It was the effect of his strong and engaging personality that made dissecting not only viable but respectable. His career is one of the most romantic in the history of medicine. Flemish born, but of German extraction, a pupil of the ardent and bigoted Galenist, Jacobus Sylvius, Vesalius, in his graduating thesis, showed at first the conventional tendencies of the scholiast, but his mind was too active, his spirit too keen and independent, to feed long on the dust of ages, and he soon established a reputation for first-hand knowledge of the dissected human body, even teaching himself the difficult art, so essential to surgeon and gynecologist, of recognizing the palpable structures by an educated sense of touch. Five years' experience as public prosector at Padua, where he made students dissect and inspect the parts *in situ*, culminated in the magnificent "De Fabrica Humani Corporis" (1543), a work which marks an epoch in breaking with the past and throwing overboard Galenical tradition. The effect of a publication so radical on a superstitious and forelock-pulling age was immediate and self-evident. Sylvius, his old teacher, turned against his brilliant pupil with acrimony and coarse abuse, while his own pupil Columbus, an intellectual upstart, sought to cast discredit and derision on him by sharp practice. Others were inclined to "damn with faint praise" or joined in a conspiracy of silence, and, as a last straw, he was subjected to subterranean persecution at the instance of authority. Those things were not without their effect on Vesalius. His portrait suggests a doughty, swarthy, shaggy, full-blooded nature, like some of Lucas Cranach's worthies—a man ready to give no odds and take none, so long as his opponents confronted him in the open; but nowise intended for the spiritual rôle of a martyr. In a fit of indignation he burned his manuscripts, left Padua and accepted the lucrative post of court physician to Emperor Charles V. He married, settled down, became a courtier, and gave up anatomy so completely that, during the long tedious years in Madrid, "he could not get hold of so much as a dried skull, let alone the chance of making a dissection." He paid the penalty of *il gran rifiuto*, when his favorite pupil, Gabriele Falloppio, came to the front as a worthy successor and rumor began to make it clear that he himself was fast becoming the shadow of a great name—

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[4] In All's Well that Ends Well, Act II, Sc. 3, where Lafeu refers to the king's case as incurable, "to be relinquished of the artists," and Parolles replies: "So, I say, both of Galen and Paracelsus"—meaning, of course, that neither the Galenical nor the alchemical school of physicians could help him in any way.

[6] d'Acosta, Joseph: Historia natural y moral de las Indias, Sevilla, 1590.

> "Vesalius, who's Vesalius? This Fallopius
> It is who dragged the Galen-idol down."

On receiving the Fallopian "Observationes Anatomicæ" in 1561, all the aspirations of his youth revived, if we may trust his own burning, enthusiastic words, language which fully justifies the implications of Edith Wharton's poem:

> "At least
> I repossess my past, am once again
> No courtier med'cining the whims of kings
> In muffled palace-chambers, but the free
> Friendless Vesalius, with his back against the wall,
> And all the world against him."

In the year 1563, Vesalius set out on a pilgrimage to Jerusalem, as a penance, some say, for an accidental human vivisection, more probably, others think, as a pretext for getting away from his tiresome surroundings. On his way back in 1564, he received word of an invitation to resume his old chair at Padua, just vacated by the death of Fallopius. But his highest wish, to "once more be able to study that true Bible, as we count it, of the human body and of the nature of man," was not to be realized. The sudden access of an obscure malady left Vesalius to die, solitary and unfriended, on the island of Zante.

The exhibit of Vesalius includes his graduating dissertation, the "Paraphrasis" (Basel, 1537); Sir William Stirling Maxwell's facsimile reprint of the "Tabulæ Anatomicæ Sex" (Venice, 1538); the "Epitome" (Basel, 1542), an advance specimen abstract of the "Fabrica," remarkable for the plates representing two handsome specimens of the human race, usually ascribed to Titian; finally the "Fabrica" itself (1543), a superb example of the beautiful typography of his friend Oporinus at Basel, sumptuously illustrated by Titian's pupil, Johan von Calcar. While written in Latin, the "Fabrica" is truly vernacular in the sweeping scorn and violence of its language in dealing with Galenical or other superstitions. Although it completely disposes of Galen's osteology for all time, and indeed recreates the whole gross anatomy of the human body, it has never been translated.

The heretic Servetus (1509-53), whom Calvin caused to be burned at the stake for a mere juggling of verbiage, a theological quibble, was one of the great martyrs for "the crime of honest thought." The discoverer of the *vraie vérité* about the pulmonary circulation, he ranks with Ramon y Cajal as a leader of Spanish medicine. The discovery is recorded in his book "The Restitutio Christianismi" (1553), the foundation stone of Unitarianism, of the original of which only three copies are known to exist. The rare Nuremberg reprint of 1790 on exhibition is probably the only copy in the United States.

The exhibit of anatomic works contemporaneous with Vesalius includes the "Isagoge" (1555) of his teacher Sylvius, to whom the discovery of the Sylvian aqueduct and fissure have been wrongly ascribed, but who discovered the valves in the veins before Fabricius and did good work in the obscure province of descriptive nomenclature; the treatises of Fallopius (1561), Varolius (1573), Vidius (1611), and Eustachius (1714), whose names have been eponymically preserved in the structures they discovered; the monographs "De Formatu Fœtu" (1600) and "De Venarum Ostiolis" (1603) by Harvey's teacher, Fabricius ab Aquapendente; and the examples of French and Spanish anatomic illustration by Stephanus (1546) and Valverde (1556).

The effect of Vesalius on Renaissance surgery is seen in the life-work of Ambroise Paré (1510-90), who made the "Fabrica" popular and accessible to surgeons by writing an epitome of it in the vernacular. Paré's greatest contribution to surgery hinges on the baneful effect which the Hippocratic aphorism that "diseases not curable by iron are curable by fire" exerted on the treatment of gunshot wounds, the new feature of Renaissance surgery. Giovanni di Vigo, physician to Pope Julius II, had taught in his "Practica" (1514), that such wounds were poisoned burns and therefore should be treated with a first dressing of boiling oil. How Paré's supply of boiling oil gave out one night in camp and how he profited by the experience to the extent of letting well enough alone in future is well known. Had it not been for his "fat of puppy-dogs," a lard or salve, which, from some tenacity of superstitition, he continued to apply, he would have been a true asepsist. As it is, his relation to the healing power of nature is summed up in the famous inscription on his statue "Je le pansay, Dieu le guarit." Paré invented many new surgical instruments, made amputation what it is to-day by reintroducing the ligature which had fallen into abeyance since the time of Celsus; was the first to popularize the use of the truss in hernia and described fracture of the neck of the femur. In obstetrics, it was his description and use of podalic version that made the procedure viable and practicable. In dentistry, he introduced reimplantation of the teeth, and his little treatise on medical jurisprudence (1575) was the first work of consequence on the subject prior to the "Methodus Testificandi" of Codronchi (1597).

Paré is represented by his essay on podalic version (1550), his treatise on gunshot wounds (1552), the first edition of his collective works (1575) and his discourse on the mummy and the unicorn (1582), which successfully disposed of an ancient therapeutic superstition.

In connection with Paré, let mention be made of the works of his predecessors, Marianus Sanctus Barolitanus, who gave the original account of the "Marian operation" or median lithotomy (1535); the Provençal surgeon Pierre Franco, who (1561) rehabilitated the operations for hernia, lateral lithotomy and cataract, which had previously been in the hands of strolling mountebanks or hereditary in certain families, like the Collots and Brancas; the "Practica" (Basel, 1563) of the Swiss surgeon Felix Würtz, a follower of Paracelsus in the simple treatment of wounds; Rousset's treatise on Cesarean section (1581) and Tagliacozzi's revival of rhinoplasty (1597). Wilhelm Fabry of Hilden (1560-1634), whose statue was unveiled last year in his native town, is usually regarded as the father of German surgery. He was a bold and resourceful operator and is fairly represented by his treatise on gangrene (Cologne, 1593), a condition for which he was the first to recommend amputation above the diseased part.

At a respectful distance from the great Renaissance pathbreakers may be grouped the works of a quartette of original thinkers—Benivieni (1502), Cornaro (1467-1566), Fracastoro (1484-1553) and Valerius Cordus (1515-54). The "De Abditis" of the distinguished Florentine Antonio Benivieni (Giunta edition, 1507), has been described by Malgaigne as "the only work on pathology which owes nothing to any one," and as far as mere priority goes its author may be regarded (Sir Clifford Allbutt thinks) as a founder of pathology before Morgagni. Luigi Cornaro's "Trattato della vita sobria" (first edition, Padua, 1558) is probably the best treatise on personal hygiene and the "simple life" in existence. Girolamo Fracastro, the kindly Veronese, who practiced in the Lago di Gardo region, was at once a physician, poet, geologist, astronomer and pathologic theorist, and shares with Leonardo de Vinci the honor of being the first geologist to see fossil remains in the true light. He was also the first scientist to refer to the magnetic poles of the earth (1530). His medical fame rests on that most celebrated of medical poems, "Syphilis sive Morbus Gallicus" (Venice, 1530), which gave the disease its present name[7], and his treatise "De Contagione" (1546), in which he states with wonderful clairvoyance, the modern theory of infection by microorganisms (*seminaria contagionum*).

Valerius Cordus, the gifted Prussian youth, whose early death robbed science of one of its most promising names, is known to medicine for his discovery of sulphuric ether (*oleum dulce vitrioli*) in 1540; but botanists revere him as the young Marcellus of their science. Greene styles him "the inventor of phytography" and points out that the field-work and taxonomy of a well-equipped modern botanist were actually done "almost four centuries ago by a German boy in his teens."[8] His posthumous commentary on Dioscorides, edited with pious hand by Conrad Gesner, not only describes some 500 new species of plants, the ardent search for which eventually cost him his life, but recreates the species listed by Dioscordides in terms of modern botany. The "Dispensatorium" of Cordus is of interest as the first real pharmacopeia to be published (Nuremberg, 1546).

A striking feature of Renaissance medicine was the publication of a large number of encyclopedic treatises by many authors, not unlike the "up-to-date" works written on the cooperative plan in our own time. Of these we may mention the Aldine "Medici Antiqui Omnes" (1547), the "Medicæ Artis Principes" of Stephanus (1567), the Venetian anthology on mineral waters ("De Balneis," 1553), the Gesner collection of surgical treatises (Zürich, 1555), the Basel encyclopedias of gynecology (1566, 1586) and the medical dictionary of Stephanus (1567).

No account of sixteenth-century medicine would be complete without a passing reference to "The Metamorphosis of Ajax" (1596) of Sir John Harington (1561-1612), the witty graceless godson of Queen Elizabeth, who was banished from her court for writing it. The work introduces an important and indispensable improvement in sanitary engineering, but our author's treatment of his theme is entirely in the manner of Aristophanes, Rabelais or the Zähdarm epitaph in "Sartor Resartus." Those who can read the garrulous whimsical old knight as they would the writers of Elizabethan comedy will smile over his facetious pages.

Army Medical Museum.

REPORT OF A CASE OF TRAUMATIC RUPTURE OF THE UMBILICAL CORD WITHIN THE ABDOMINAL WALL AT BIRTH; RECOVERY

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ST. LOUIS

This case is reported with the hope that it will prove of interest on account of its rarity revealed by a search through the literature. The fact, also, that there was an uneventful, uncomplicated recovery, though death from hemorrhage or shock might be expected, is worthy of notice.

Labor was normal; presentation right occipito-anterior. As the head was born it was noticed that the cord was tightly wound about the child's neck. Employing the usual amount of force, an attempt was made to loosen the cord, but it did not yield and ruptured. The body was quickly delivered and an examination revealed a rupture of the umbilical cord within the abdominal wall. The edges of the cord were so retracted into the abdomen that they could not be grasped with forceps. Hemorrhage was not very profuse. The child continued crying.

Under the circumstances, the procedure that seemed most logical and most easily executed was compression. A hard roll of cotton was hastily applied with an abdominal band rather tightly secured.

The cord measured 35 cm. in length, which probably explains why it could not be unwound from about the child's neck.

No blood being detected through the abdominal band, same was not disturbed for eight hours. There was no further hemorrhage but only a slight oozing for a time.

The entire quantity of blood lost was not more than about 6 drams. The umbilicus healed in the usual manner.

2837 Dickson Street.

[Comment.—The case reported is not extremely rare. Rupture of the cord intra partum has been observed frequently, rarely in spontaneous labors, more often in precipitate labors, and also as a result of manipulation to loosen the cord wound round the neck of the fetus and to slip it over its head. The force necessary to tear the cord differs in different cases; some cords are more resistant than others. The average cord will resist a pull of 5 to 20 pounds, when applied gradually. If applied suddenly, as by letting the weight fall the length of the cord, it will generally break with a weight of 1 to 4 pounds.

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[7] Fracastorius takes the name from Syphilus, a shepherd in the poem, who was stricken with the disease for blaspheming Apollo (liber iii, 329-332):

> "Syphilus ostendit turpes per corpus achores,
> Insomnes primus noctes convulsaque membra
> Sensit et a primo traxit cognomina morbus
> Syphilidemque ab eo labem dixere coloni."

[8] See the chapter on Valerius Cordus in "Landmarks of Botanical History" by Dr. Edward Lee Greene (Smithsonian Misc. Collect., v, 54, Washington, 1909, pp. 270-314). Charming in style and irreproachable in scholarship, this work is cordially recommended to physicians as the best history of early botany and materia medica that has yet appeared.

The cord generally tears near the fetus and not seldom at the place of insertion. The mode of the tear is interesting and explains why serious bleeding after a tear is not very common—at least much more rare than after the cutting of the cord. The tear is irregular and oblique through the amnion, which ruptures first. Then the arteries tear, and lastly the vein. The intima of the arteries rolls in and the muscularis contracts, which causes a rapid closure of the vessels. Because of this tendency to spontaneous arrest of hemorrhage, compression is generally efficient, as in the case recorded above. Seizure of the vessels with the forceps and the use of a small catgut ligature would be easy and more surgical.

This case might serve to justify Shultze's method of managing cases of winding of the cord around the neck. He objects to any attempt to slip the cord over the head as being unnecessary and likely to rupture the cord or to cause a separation of the placenta. As soon as the head is born there is no longer danger of compression of the cord. If the cord is long, the birth of the body will follow without trouble. If it is absolutely or relatively too short, then it is better to apply a double ligature and cut the cord between the ligature.—Ed.]

A LARGE LIPOMA OF THE LARYNGOPHARYNX: REMOVAL EXTRAORALLY UNDER COCAIN [*]

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CHICAGO

The extreme rarity of fatty tumors in the pharynx, the size of the one under discussion, the comparative safety and simplicity of its removal through the mouth, and the improvement in weight, general health and comfort of the patient due to its extirpation, are reasons for placing this case on record. So extremely rare are lipomata in this region that I finally abandoned searching the literature and accepted the statement in the 1909 edition of Dr. D. Braden Kyle's "Diseases of the Nose and Throat" that but one pharyngeal lipoma had at that time ever been reported. That patient was eighty years of age; the tumor originated from the left side of the epiglottis and from the pharyngeal wall; and the symptoms were those of a movable foreign body.

History.—In October, 1907, when I first saw Mrs. C., she was a rather small woman of 27 years. She had lived in central Wisconsin and had never succeeded in obtaining an explanation of her symptoms. For an indefinite number of years the patient had experienced a vague feeling of "something growing in the throat" and of difficulty in swallowing, requiring an effort to get the bolus started, and sometimes actual inhibition of the swallowing act at its inception. A tendency for food to lodge somewhere and be recovered after some hours or even two or three days had existed. Breathing was quite decidedly interfered with, noticed most on exertion, and a noise in breathing was present a part of the time, especially at night. But like most instances of similar slow onset of obstructive tumors, the patient seems to have accommodated herself well to the advancing growth; for, aside from slight nervousness, she was apparently in good health, and yet certainly the nutritive processes were being interfered with more than was at the time realized, as shown by the great increase in body weight following removal. Nothing of moment bearing on the condition was apparent in her medical history; she had had goiter at 13, which had receded, rheumatism, measles, acute appendicitis and acute tonsillitis, and moderate nasal occlusion, found to be due to chronic intumescence.

Examination.—Some enlargement of the glands at the angles of the jaw was noted; this had been present for some time. But the external surface of the neck gave no indication of any abnormality within, even on palpation, except that inward pressure slightly below the angle of the jaw on the right produced dyspnea. Thus the external structures of the neck gave not the slightest indication of involvement by the neoplastic process. The tumor could be seen on the posterior and right lateral wall of the pharynx on depressing the tongue. Its uppermost margin reached to the height of the base of the uvula when the soft palate was at rest. From here it extended downward until its broadened lower portion lay over the laryngeal opening half an inch above the arytenoid cartilages. Thus air in passing in and out of the larynx had to take a markedly twisted course, around the overhanging growth. The tumor was much broader at its base, tapering gradually toward its upper end; its shape at any one time was probably modified by the effect of gravitation, due to changed position, for it seemed capable of considerable movement; at its lower part the growth extended more than two-thirds the distance across the laryngopharynx from right to left and gradually this breadth lessened until at the upper part the lateral extent was only one-third the way across. It was covered by healthy-appearing mucous membrane, without evidence of congestion or of enlarged vessels. On palpation the tumor seemed remarkedly soft and yielding, not firm enough for an ordinary solid, easily mistaken for a fluid, as if a somewhat flexible-walled sac were only partially distended with a liquid, thus permitting the contents to be pressed from one part of the sac to another. Being not at all tender, and, besides, of long standing, it was thought at this stage of the examination, both by two other experienced laryngologists who examined it and by myself, to be a cyst. The aspirating needle passed through a thick wall and then the distal end could be moved freely about, as if in a cavity; but no fluid could be obtained; the needle was plunged in straighter and entered a soft substance, thought possibly to be viscid fluid, but nothing could be aspirated. A trocar having a much larger bore than that of the needle was then employed, but with an identical experience. Incision then was made and this disclosed fatty tissue, which could easily be separated from what was evidently the capsule of a tumor. The needle and trocar had shoved the tumor away from its capsule, thus creating a cavity, easily mistaken for a fluid sac. The microscope served to confirm the lipomatous appearance of the growth. Thus the examination had proved an encapsulated lipoma superficially placed in the fascia beneath the mucous membrane and with no indication of a vascular supply different from lipomatous growths generally. Clearly the indication was to attempt removal in the simplest manner possible.

Operation.—Ten per cent. cocain with full commercial strength suprarenalin (epinephrin) were applied over the surface of the growth, and cocain was applied also to the operative field during the act of removal. An incision through the mucous membrane and the capsule of the tumor was made vertically, near the center of the swelling, from about the level of the tip of the uvula to a point slightly below the level of the tip of the epiglottis, a distance of 3 inches. The tumor was seized above through this incision with forceps and the process of enucleation carried on. Pulling on the mass brought the hyoid bone plainly into the pharyngeal space. Mostly with blunt instruments, including the finger, but occasionally with tonsil scissors and knives set at an angle in long handles, for the heavier binding threads, the growth was shelled out of its capsule. It was not always easy to see clearly whether one was working within or without the capsule and considerable time was wasted at first through this fact, but no more than moderately severe difficulty was experienced at any time. In the course of the enucleation a thick plate-like mass of tissue fell out into the wound and was cut off. This was apparently the overdeveloped fascia that ordinarily exists between the mucous membrane and the constrictor muscles. The hemorrhage was slight and the wound could be kept quite free from blood. It was found unnecessary to ligate any vessel. After removal the edges of the incision lay an inch apart. They were easily brought together and three stitches taken. The fourth was prevented by the breaking of the edges of the mucous membrane; this left the lower angle of the wound open for about three-quarters of an inch in a vertical direction and three-eighths of an inch in width and this was the only provision made for drainage. But moderate pain was experienced until the last stitch was taken.

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[*] Read before the Chicago Laryngological and Otological Society, April 18, 1911.

Postoperative History.—Feeding was carried on through the mouth, using small swallows of milk; the stitches held. The temperature reached 101 F. on the following day. Only moderate reaction occurred, with very little edema. After the third day the temperature did not reach higher than 99.5 F. and the hyperemia then became slight; a gland on the outside opposite the incision became a trifle tender, but quickly disappeared. On the eleventh day the wound was scarcely visible and the pain entirely gone.

Specimen.—The tumor was characteristically lobulated, and, as it lay flat on the table, measured 3¼ inches long, 2¼ inches broad and 1 inch thick, its shape altering with its position. Since the patient immediately left the city, I did not see her for three years, although rumors of great increase in weight reached me. When I did see her, I was somewhat astonished to note the remarkable change in physique, the patient having altered in type from a somewhat small to a much larger woman. The weight had increased from 124 to 156 pounds. After the operation, the husband had felt alarm at the quietness of his wife's breathing, and the patient would find her food well down the esophagus before she realized the act of swallowing had begun. Excepting for two or three small obscure patches of thin, shiny scar tissue, the pharynx appeared normal.

15 East Washington Street.

GLASS TUBE IN THE MALE URETHRA

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History.—Some time since a man aged 27 came to my office saying there was a piece of glass tubing in his urethra which he was unable to remove. He gave no satisfactory information as to how it came there.

Examination.—A few drops of blood appeared at the meatus and there could be felt in the perineum just behind the scrotum a firm body in the line of the urethra; this proved to be the end of the glass tube. By digital examination of the base of the bladder through the rectum the deeper end of the object could be felt lying within the cavity of the bladder and pushing the posterior wall of the bladder backward on the rectum. The anterior end of the object could be felt by introducing a urethral sound.

Removal.—It occurred to me that the tube might be removed through the lumen of an endoscope or urethroscope. Accordingly, I introduced an endoscope, size 26 F., till it came in contact with the forward end of the glass tube, and after removing the obturator I was able to feel the tube slip into the opening of the endoscope. Then with one finger in the rectum I was able to force the tube forward still farther into the endoscope, until finally it was easily removed within the instrument. No anesthesia was used.

There was little tenderness of the parts after the manipulation. The tube was 3/16 of an inch in diameter and between 5 and 6 inches in length. At both ends the tube was rough broken. The patient recovered without further difficulty.

631 Second Avenue, South.

THE STATUS OF SALVARSAN IN PELLAGRA, BASED ON THE REPORTS OF TWENTY-ONE COLLECTED CASES

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MOBILE

The occasional beneficial effects following the administration of various forms of arsenic in pellagra has led several physicians to employ salvarsan in pellagra. In an effort to obtain an early opinion of the therapeutic results we have collected the reports of sixteen unpublished cases, and these together with three cases reported by Nice, McLester and Torrance,[1] and two cases of our own, form the basis of this report. This includes, as nearly as we can ascertain, all the cases of pellagra treated with salvarsan up to May 1, 1911.

We take pleasure in thanking the following physicians for the reports of the sixteen unpublished cases that make this report possible: Dr. Rufus T. Dorsey, Atlanta, Ga., two cases; Dr. E. H. Martin, Hot Springs, Ark., one case; Dr. W. J. Love, Opelika, Ala., one case; Dr. Wilmer L. Allison, Ft. Worth, Texas, three cases; Dr. C. C. Bass, New Orleans, La., one case; Dr. J. Edgar Paullin, Atlanta, Ga., seven cases; Dr. J. D. S. Davis, Birmingham, Ala., one case.

The fact that all the patients have been recently treated precludes any positive conclusions as to any permanent beneficial effects resulting from the use of salvarsan in this disease. All types and stages of the disease have been treated. There has been no uniformity in the manner of administration or the quantity or frequency of the dose. The drug has been given both intramuscularly and intravenously, in amount from 0.1 to 0.69 gm. Most of the cases had a single dose, one had two doses and two were given three doses.

Hospital residence and the coincident administration of other forms of arsenic has to be considered in the reported beneficial results of at least four of the improved cases. To what extent the saline solution administered with the drug intravenously has bearing on some of the cases improved, it would be difficult to say, though it is worthy of consideration. There was an untoward effect in one case, a profuse diarrhea following the drug administration. The physician having this experience administered salvarsan in seven cases and noted no improvement whatsoever in any of the seven cases.

Type of case treated: mild acute, three; mild chronic, four; severe acute, four; severe chronic, seven; type unknown, three; total, twenty-one.

No improvement was noted in ten cases, 47.6 per cent.; improvement noted for at least seven days with no relapse, seven cases, 33.3 per cent.; temporary improvement followed by relapse (death in one), four cases, 20 per cent.

Improvement was noted in the following type of cases: severe chronic, six cases; severe acute, two cases; type unknown, three cases.

CONCLUSIONS

Any administration of salvarsan in this disease of unknown etiology must be considered as empirical when we recall that this drug is considered specific for the *Spirochæta pallida*.

The well-known dangers of administering salvarsan to patients suffering from cardiac and renal lesions should contraindicate its use in many cases of pellagra because of their well-known tendency to myocardial and renal degenerations. If given at all it should be given in broken and repeated doses and preferably by the intramuscular method.

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[1] Nice, C. M., McLester, J. S., and Torrance, G.: The Journal A. M. A., March 25, 1911, p. 896.

The clinical evidence brought forth in this report shows only 33.3 per cent. of improvement lasting seven or more days. Considering that this includes the treatment of all the types of the disease and that no patients are reported cured, we feel that thus far salvarsan offers no better results than other methods of treatment.

202 Conti Street.

EXPERIMENTS ON THE TRANSMISSION OF SCARLET FEVER TO MONKEYS *

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In view of recent reports of the successful inoculation of monkeys with scarlet fever it was thought of interest to relate some experiments made in the interval from Dec. 10, 1909, to September, 1910. Materials from the throats and mouths of children with scarlet fever were collected on cotton swabs and the swabs washed off in milk. The milk thus infected was fed to monkeys. Thirteen monkeys (*Macacus rhesus*) were fed in this way; ten remained well, showing no fever or leukocytosis, and three died. The three monkeys which died may be designated as Nos. 1, 2 and 3.

No. 1 was fed the infected milk on Dec. 10, 11, 13 and 14, 1909, became sick December 20, and died December 21. The autopsy showed a fibrinous peritonitis. The peritoneal exudate and the heart's blood contained colon bacilli; no streptococci or other bacilli could be demonstrated by microscopic or cultural methods.

No. 2 was fed the same materials on the same days as No. 1. On Jan. 7, 1910, he became sick and died Jan. 17, 1910. At the autopsy there was a moderate general edema with fluid in the pericardium, and the urine in the bladder which was clear gave a marked zone of albumin with nitric acid, but no tube casts were found in it. Microscopically there were some parenchymatous changes in the kidneys.

No. 3 was fed infected milk on Jan. 26, 27 and 29, 1910. January 29 he became sick and died on January 31. Shortly before death the blood showed a leukocytosis of 38,800. At the autopsy no macroscopic lesions were found other than hemorrhage in the right adrenal. The pharynx was normal. Cultures from the heart's blood were sterile; no streptococci were found anywhere. Blood removed from the heart of this animal immediately after death was mixed with sterile milk, and fed to a healthy monkey (4) on Feb. 1, 2 and 3, 1910. On February 5, it became sick and refused food. Its temperature was 103.8 to 104.1 F. and the leukocyte count was 52,000. The leukocytes persisted for five days and disappeared, as the temperature subsided and the appetite returned.

We do not attempt to decide whether Monkeys 1, 2 and 3 really had scarlet fever, or whether the one which was fed the blood from Monkey 3 had this disease. The course of the sickness in this last animal, coming on four days after the feeding, running a short course accompanied by fever and leukocytosis, is very suggestive. We were, however, unable to observe any cutaneous eruption. If monkeys are susceptible to infection with scarlet fever, the susceptibility would seem to be rather slight and there must be a good deal of natural resistance as in man. We had hoped to add further observations before making a report, but as this matter is interesting so many just now, these experiments may be of use to others and are therefore reported.

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* From the Memorial Institute for Infectious Diseases.

THE CULTIVATION OF TISSUES IN SALT SOLUTIONS *

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The introduction by Harrison[1] of the important method of the study of the growth of small pieces of living tissues of cold-blooded animals transplanted into lymph and the later extension of this method by Burrows and Carrel[2] to warm-blooded animals by transplanting into plasma marks the beginning of a new epoch in experimental anatomy.

The result of the observations given below, that embryonic chick tissue will grow in various salt solutions, further broadens the field of work in that tissues can be studied in media all the constituents of which are known and the reaction of the cells to different substances can be more definitely determined.

After the cultivation of embryonic chick tissues in nutrient agar and bouillon media,[3] it was found that such tissues would grow nearly as well in Locke's solution to which small amounts of certain of the polypeptids and amido-acids had been added. Later it was discovered that these tissues grow nearly as well in various salt solutions. Over one hundred combinations have been tried with sodium chlorid, calcium chlorid, potassium chlorid and sodium bicarbonate, with and without sugars, and in the great majority of the solutions growth takes place. A more extended account of the growth of tissues in the salt solutions will appear in the *Anatomical Record* for June, 1911.

Locke's solution, first obtained from Dr. D. R. Hooker of the Physiological Laboratory of the formula, $NaCl$ .9 per cent., $CaCl_2$ .025 per cent., KCl .042 per cent., and $NaHCO_3$ 0.02 per cent. to which was added 0.25 per cent. dextrose has given quite satisfactory results in that the growths nearly equal those in plasma. Of three series containing eighty cultures in this medium, all showed growth, which reached its maximum in from twenty-four to seventy-two hours and lasted from three to eight days.

Good growth has been obtained, however, in the salts alone without the dextrose or other sugar. Sodium chlorid seems to be the one essential salt, as growth did not take place in the various combinations of the other salts without the sodium chlorid, while growth did take place in a pure sodium chlorid solution of 0.75 per cent. and 0.9 per cent. Growth took place in solutions of sodium chlorid with the other salts in which the percentage of sodium chlorid varied from 0.225 per cent. to 1.695 per cent. There might also be great variation in the percentages of the other salts. Evidently tissues will grow in solutions of varying osmotic pressures.

The character of the growth in these salt solutions is similar to that of tissues in plasma but the growth is not so extensive. Radiating and migrating cells, reticular formations, various types of membranes and both mitotic and amitotic cell division are found in the cultures. The intestine, for example, often shows membrane growth, reminding one very much of peritoneum. Sympathetic nerve fibers grow in various salt solutions and also in such solutions plus dextrose. Their mode of growth is very similar to that observed by Harrison in amphibia and by Burrows in the chick when the material was taken from the central nervous system and transplanted into lymph or plasma. Since such growth does take place in fluid media, it is evident that the fibrin network is not essential for the outgrowth of the nerve fiber, nor is it necessary for the growth of other cells or the formation of long slender processes of various kinds. The under side of the cover-glass often seems to act as a support for the outgrowing cells and fibers. This adhesion of the growths to the cover-slip makes it possible to study the cultures to better advantage than otherwise since most of the growth is often in one plane.

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* From the Anatomical Laboratory, Johns Hopkins University.

[1] Harrison: Anat. Rec., 1907, i; 1908, iii; Jour. Exper. Zool., 1910, ix.

[2] Compt. rend. Soc. de biol., 1910; THE JOURNAL A. M. A., Oct. 15, 1910, p. 1379; Dec. 10, 1910, p. 2057; Jan. 7, 1911, p. 33; Jour. Exper. Zool., January, 1911; Jour. Exper. Med., No. 3, 1911; No. 4, 1911.

[3] Lewis and Lewis: Bull. Johns Hopkins Hosp., April, 1911.

The material which gave the best results was from embryo chicks less than ten days old. The cultures were grown in hanging drops.

THE EFFECT OF INJECTIONS OF INDOL AND TYROSIN IN EXPERIMENTAL ANIMALS

A PRELIMINARY REPORT **

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CINCINNATI

During the past year we commenced a series of experiments on rabbits and white rats, the object of which was to discover what relation chronic intoxications with some of the lower derivatives of protein decomposition bore to changes in the adrenals and kidneys. We had a suspicion that indol might have, in the process of secretion, or in the process of transformation into indican, or both, an effect in producing changes in the organs which would indicate hyperactivity of certain organs (the liver, and perhaps the adrenals) or irritative changes in others (the kidneys). There seemed to be some basis for this suspicion in the fact that indicanuria, especially when it is of well-marked degree, is accompanied by albuminuria and cylindruria. It seemed useful to discover, therefore, whether injections of indol would produce any noticeable changes in the kidneys; and, since the liver has been supposed to be the site of transformation into indican, it seemed possible that some changes in that organ might be expected. The tyrosin series had a different basis. We were interested in the physiology of the adrenal glands and had been led to suspect that the pigmentation of Addison's disease might be a result of variation in either the content of the chromaffin tissues in tyrosinase, or in the overabundance of tyrosin or some related substance in the body. This was indicated by the suggestion of von Fürth that melanin and related bodies are the result of the action of tyrosinase or related oxydases on the aromatic constituents of the protein molecule, a suggestion which, as Adami says, has been supported by Halle, who demonstrated that tyrosin is converted into epinephrin by a ferment in the adrenal. Adami suggests that pigmentation in Addison's disease is produced when this ferment is deficient—when, in other words, the tyrosin is not converted into epinephrin by the adrenal, but into melanin in the skin. All of which induced us to attempt to discover whether tyrosin would stimulate the adrenals to increased activity or whether large excesses of tyrosin would produce melanosis in experimental animals. If the former were the case, we migl expect to find as a result of increased epinephrin produ tion either arterial changes or renal changes or both.

Finally, because of the similarity in origin of ind and tyrosin, we ran parallel series, each with its contr

We have no definite knowledge of the manner action or of the effects of tyrosin in the organism. W know but little more concerning indol. We are led think that massive doses of the latter may be consum with no, or but little, ill effects in normal man (Ne bitt). Such effects are headache, insomnia, confusic and irritability (Herter), and, with decreased activi of the cells in disposing of such substances, intoxicatio are possible (Richards and Howland). It is, howeve possible that comparatively small doses given over lo periods of time may, even without producing sympton cause changes in the organs which may lead to ve serious results.

Our series of experiments deal with the possibiliti of such results.

In performing these experiments we used rabbits a white rats. Originally we used intravenous injection Later we resorted to intraperitoneal injections. W used saturated aqueous solutions of Kahlbaum's ind and tyrosin.

For the sake of brevity we shall at this time mere summarize our results by saying that after these inje tions we have found the medullas of the adrenals hype plastic and apparently hypertrophic, and that the e dences of chromaffin activity increased in proportion the number of injections. The chrome reaction is sin larly increased. We also found very slight interstiti changes in the kidneys.

We had, at the commencement of our experiments, suspected relation between tyrosin and adrenal change a suspicion of a possible relation between indol and ren changes; and the possibility of a relation betwe adrenal and renal changes.

From our incomplete results, the small importance which we realize, we are not justified in drawing a conclusion, but we might suggest for the sake of pe spective that, provided it be true that a true hype activity of the chromaffin is produced by one or oth or both of the substances we have used, or by oth substances of the same chemical order, that is to sa belonging to the aromatic series, it might be suspect that such an hyperactivity, extending over a considera period of time, may be a cause, perhaps the cause, of t symptom-complex known as diabetes. This would res from a change in the chromaffin-pancreas equilibriu

Eppinger, to whom the idea possibly was suggested Boinet, has remarked that tuberculin may be a su stance which of itself produced inactivity of the chro affin tissues of the body, and that by means of tubercul the pancreas-adrenal equilibrium can be upset on t adrenal side; that is to say, in the Addisonian directio In other words, under the influence of tuberculin t glycolytic function of the organism is increased.

Our experiments in this direction have led us alrea to a temporary belief, at least, in Eppinger's conceptio We have found that seven injections, each of 0.5 mg., tuberculin led to an increase of sugar consumption rabbits. A normal rabbit after 50 gm. of glucose (mouth) showed 0.43 gm. of glucose in the urine (1. per cent.). The same rabbit after seven injections tuberculin showed 0.07 gm. (0.35 per cent.). The results with tuberculin, especially in view of the fa that the medulla of the glands shows atrophy aft tuberculin treatment, are interesting if considered wi the fact that in the diagnosis of Addison's disease tuberculin should be used with the greatest circumspection. Our final suggestion is that it seems possible that tuberculin injection may be of value in the treatment of diabetes, because of its influence on the chromaffin, and, through that influence, because of its tendency to bring back—to correct—the adrenal-pancreas equilibrium. We are continuing our work by carrying out a careful series of physiologic experiments.

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* From the Laboratories of the Cincinnati Hospital.

* Read before the Cincinnati Society of Medical Research, April 6, 1911.

CONJUGAL TABES DORSALIS *

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Recent discoveries have thrown a strong light on certain hitherto suspected but not definitively demonstrable relations of syphilis. The view that tabes dorsalis and paretic dementia are essentially of syphilitic origin has been finally established by the results of the serum-complement reaction. For the purposes of this discussion tabes and paresis may be looked on as expressions of the same morbid process, in the one instance affecting especially the spinal cord, and in the other especially the brain. Not rarely the two affections are associated in the same patient. Of the large number of persons infected with syphilis, however, only a comparatively small proportion become tabetic or paretic. Negroes, although frequently syphilitic, rarely develop tabes or paresis. Perhaps they possess an inherent racial immunity. An explanation for the disparity in the incidence of the two diseases must be sought in some special factor, whether on the part of the infected individual or on the part of the infecting virus. This may reside in a lowering of the resistance of the nervous system as a result of previous disease, or intoxication or traumatism, or other debilitating or exhausting influence; or in a particular and peculiar activity of the syphilitic infection. These forces may operate separately or jointly.

Occasionally tabes or paresis appears in several members of the same family, simultaneously or consecutively. Thus, husband and wife may be affected; sometimes in addition a second husband or wife, or one or more children. Under such circumstances syphilis is quite invariably the common etiologic factor. Each of those affected may present the same form of disease of the nervous system, or one may suffer from one and the other from another form. The association is not common, although probably more so than is apparent, as inquiry is not, as a rule, directed toward this point. Moreover, the disease of the nervous system does not usually appear simultaneously in those affected, and the association may for this reason be overlooked. That tabes and paresis are more prevalent among men than among women is most likely due to the fact that both affections are so often secondary to syphilis, and that this disease is usually acquired through illicit intercourse, an infected woman inoculating several men.

The occurrence of paretic dementia in husband and wife appears to have been recognized only since 1863, when Kjellberg[1] reported the first instances. Tabes dorsalis in husband and wife was first recorded by Voigt[2] in 1885. Both patients presented evidences of syphilis, and the venereal disease, as well as the disease of the nervous system, appeared the earlier in the man. Strümpell,[3] in 1888, reported a similar association and sequence. A comparatively small number of cases of like character have been reported since, largely from German sources. American literature contains a case recorded by F. Savary Pearce[4] from the practice of S. Weir Mitchell, and refers to four other cases observed by Dr. Mitchell; a case recorded by A. P. Francine[5] in a negro barber and his wife; and three cases of conjugal paretic dementia recorded by Richard Dewey.[6] Mendel,[7] in 1895, reported sixteen cases of conjugal tabes and paresis, and came to the conclusion that under such circumstances paresis occurs more commonly than tabes, and that the husband is almost invariably attacked first. Raecke,[8] in 1899, was able to tabulate sixty-nine cases of conjugal tabes and paresis, including seventeen of his own. In twenty-seven there was paresis in both; in twenty-two, tabes in both; in fourteen, paresis in husband and tabes in wife; in six, paresis in wife and tabes in husband. It thus appears that the husband is the more commonly paretic, the wife the more commonly tabetic. The former was generally attacked first.

Moenkemoeller,[9] in 1900, reported eighteen additional cases and referred the usual occurrence of the disease in the husband first to the fact that he is generally syphilitic and infects his wife.

Idelson[1] considers the incidence as more than accidental; else other disorders of the nervous system might be expected to occur in husband and wife with equal frequency. He reports the simultaneous appearance of paresis in husband and wife, both syphilitic at the same time. He was impressed by a certain uniformity in the course of the disease in the persons affected.

Erb[10] concurs, from an abundant experience, in the view that the tabetic husband and wife are almost invariably syphilitic, the former generally infecting the latter, less commonly the wife the husband, and both becoming tabetic or paretic in succession.

Suntheim[11] has made a comprehensive study of conjugal tabes and paresis, reporting twenty-three previously unrecorded cases among 255 carefully studied patients seen in the course of six or seven years. Among 101 cases of tabes in men there were five in which the wife was similarly affected; among fifty-one cases in women there were nine in which the husband also was affected. In sixty-one cases of paresis in men there were five in which the wife also was affected, and among forty-two cases in women there were four in which the husband also was affected. Suntheim points out that while at the beginning the disease of the nervous system, as a rule, pursues the same course in husband and wife, there are differences in its subsequent evolution, the development being more rapid and the symptoms more pronounced in the second person attacked. Often the interval between the syphilitic infection and the appearance of the symptoms of the disease of the nervous system is the same in both. Suntheim found that the syphilitic infection was conveyed through the husband in ten instances as against one in which it was conveyed through the wife (and in this instance the disease was acquired by accident); symptoms of the nervous disorder appeared first in the husband in seven instances

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* Read before the Association of American Physicians, May 9, 1911.

[1] Cited by Idelson: St. Petersburg. med. Wchnschr., 1901, xliii, 473.

[2] Centralbl. f. Nervenh., Psychiat. u. gericht. Psychopathol., April 15, 1885, viii, 169.

[3] Neurol. Centralbl., 1888, xvii, 122.

[4] Jour. Nerv. and Ment. Dis., 1895, xx, 8.

[5] Am. Jour. Med. Sc., 1900, cxix, 543.

[6] Chicago Med. Recorder, October, 1893, p. 233

[7] Neurol. Centralbl., 1895, xiv, 335.

[8] Monatschr. f. Psychiat. u. Neurol., 1899, vi, 266.

[9] Monatschr. f. Psychiat. u. Neurol., 1900, viii, 421.

[10] Berl. klin. Wchnschr., 1904, lii, 64.

[11] Inaugural Dissertation, Leipsic, 1909.

and in the wife in three instances. In the majority of instances both husband and wife suffered from the same form of nervous disease. The interval between the syphilitic infection and the development of the disease of the nervous system varied between two and thirty-five years, averaging fifteen years, in the husband 17.7 years and in the wife 13.3 years. The duration of the nervous disorder was longer in the secondary than in the primary cases, although when tabes developed in the second person the course of the disease was less rapid than when paresis developed.

I have had under observation the case of a husband and wife with tabes dorsalis, symptoms of the disease appearing in both at about the same time. No history of syphilis was elicited, although infection may have occurred. The woman presented herself in July, 1907, when she was 40 years old, complaining for one year of a sense of burning on the anterior aspect of the chest and in the sacral region, and of general weakness. She was neurotic and perspired freely, and she did not appreciate distinctly pricking the flesh of the abdominal wall. There was some dyspnea and a feeling of suffocation. The bowels were constipated and the stools contained mucus. At times there was headache, and sleep was variable. The action of the heart was rhythmic and the sounds were clear. Menstruation had been absent for a year. Three years previously the woman had fallen in alighting from a street-car, and she had made a settlement with the company. At this time her husband was 55 years old, and he was said to be "rheumatic" and not strong. He had been married previously and his first wife had borne three healthy children; five other children had died from various causes. The second marriage had resulted in the birth of eight children and one miscarriage; five of the children were well and three had died (chicken-pox, cholera infantum, circumcision). In January, 1908, the woman complained of a sense of constriction about the waist, together with headache, vertigo, weakness in the lower extremities and partial incontinence of urine, but the knee-jerks were preserved, as they were also a month later.

In January, 1910, there was difficulty in walking, with ataxic gait and swaying station, weakness of the anal sphincter after the use of laxatives, and difficulty in expulsion and retention of urine. The knee-jerks were now absent and they could not be elicited even with reinforcement. Coordination in the upper extremities also was somewhat impaired. The pupils were of moderate size and reactive to light and in accommodation.

The husband came under observation in August, 1909, when he was 57 years old. He had been complaining for eighteen months of a lack of feeling and of numbness in the lower extremities, with difficulty in locomotion. His gait was awkward, though not characteristically ataxic, the feet being lifted high, somewhat as if to avoid pain, and station was unsteady. There was also some want of control of the bladder. The pupils were of moderate size, but not reactive to light. The knee-jerks were absent, and could not be elicited on reinforcement. There was a history of "rheumatism" nineteen years and also five years previously.

It is a little difficult to decide whether in these two patients the symptoms of tabes did or did not develop simultaneously, the woman complaining of constriction about the waist, weakness of the lower extremities and partial loss of control of the sphincter of the bladder, but with preservation of the knee-jerks, at about the same time as the man was complaining of numbness in the lower extremities, with difficulty in walking. The disease of the nervous system was recognized earlier in the man.

Through the courtesy of the late Dr. Wharton Sinkler, of Dr. Morris J. Lewis and of Dr. John K. Mitchell, I have been permitted to examine the dispensary records at the Philadelphia Orthopedic Hospital and Infirmary for Nervous Diseases, and among 244 cases of tabes dorsalis seen during sixteen years I have been able to find only two instances in which the disease occurred in husband and wife. One of these is that of the colored man and woman already reported by Francine.[5] The other is herewith reported:

A woman, 45 years old, came to the clinic of Dr. John K. Mitchell June 12, 1905, complaining of pain in the lower extremities of three years' standing, incontinence of urine for two years, difficulty in walking for one year, paresthesias of the lower extremities, with swaying station, ataxic gait, incoordination in the upper extremities, abolition of knee-jerks, ankle-jerks and elbow-jerks, pin-point pupils, reacting neither to light nor in accommodation, and grayish coloration of the optic disks. Her husband, who did not apply for treatment and insisted that there was nothing wrong with him, but admitted having had a chancre earlier in life, presented markedly contracted pupils, apparently reacting in accommodation but not to light, swaying station and abolition of knee-jerks. He was able to go on with his work as a pattern-maker.

CONCLUSIONS

Syphilis is a common disease. It is the most important, if not the essential, cause of tabes dorsalis (and of paretic dementia). Tabes and paresis may be considered expressions of the same morbid process, in the one instance affecting especially the spinal cord, in the other especially the brain. Sometimes they occur together in the same patient. The disparity in incidence of the two affections may be due to individual predisposition or to some peculiarity of the syphilitic virus. Negroes rarely, if ever, develop tabes, though they are frequently syphilitic. Sometimes several members of a family develop tabes or paresis, sometimes husband and wife, sometimes in addition a second husband or wife, sometimes one or both parents, together with one or more children. The association is not common, although probably more so than is apparent. When husband and wife suffer, the former generally is attacked first, the latter subsequently. A moderate number of cases have been recorded in the literature.

1019 Spruce Street.

THE GASTRIC WEAK LINE IN WOUNDS OF THE ABDOMINAL WALL *

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After operations on the stomach the wound of the abdominal wall sometimes opens unexpectedly a few days after operation. There is no evidence of sepsis and primary union appears to have taken place in advance of the accident.

If the patient survives, tardy repair follows, with littl tendency to free granulation and suppuration. The discharge from the wound surface at first is sero-sanguinolent. Such cases have occurred in my own practice from time to time, and conversation with surgeons indicate, that all of us are more or less familiar with the subject but no one seems to have an explanation for the frequen occurrence of this complication after stomach operations which is out of proportion to somewhat similar failure of union noted after operations elsewhere in the body and in some cases explainable, no doubt, along the line to be noted presently.

Recently I had one such case at the Post-Graduat Hospital after separation of pyloric adhesions, an

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* Read at the fourteenth annual meeting of the American Ga tro-Enterological Association, Philadelphia, April 19, 1911.

nother in the Plant Pavilion at St. Luke's Hospital ollowing a pyloroplasty. The house surgeons at both ospitals informed me of two other similar cases at the ame time in the practice of other surgeons.

These four cases, coming to my knowledge simulta-eously, made it desirable to seek for an explanation or an accident which would seem to call for special escription.

Dr. Edward Preble was engaged to study the literature n the subject at the library of the New York Academy f Medicine, and reported that nothing relating directly o the subject could be found.

REPORT OF CASE

History.—The case on which the following remarks are based as that of the patient at the Post-Graduate Hospital, C. J., ged 45, a baker, well nourished, except that he had lost 11 ounds in weight during five weeks before his coming to the ospital. He had suffered from epigastric pain, constipation, orning vomiting, and acid dyspepsia. He was admitted to e service of Dr. Edward Quintard on Jan. 16, 1911. Dr. udwig Kast made a series of examinations of the stomach ith the aid of the fluoroscope and bismuth solution in the omach, and reported interference with stomach motility at e pylorus; he thought that the patient very likely had at at point a scar of an old ulcer. A certain shadow at one me suggested the presence of a tumor, but no tumor was alpable. My own impression was that he had a case of lhesions of the bile-tract region, engaging the pylorus. The tient under medical treatment while at the hospital gained ven pounds in weight, but symptoms continuing, he was ansferred to my service on February 1.

Operation.—I made a mid-line incision and separated the tensive adhesions about the pylorus, of the type which I have scribed as "cobwebs of the attic of the abdomen," due apparntly to the influence of toxins excreted by the liver, or to cal infection. A sheet of Cargile membrane was applied to e area from which adhesions had been separated, to prevent currence.

Postoperative History.—The wound was dressed for the first me February 3, and primary union reported. Four days later e wound suddenly opened for a distance of four inches rough the skin and superficial fascia. There was no local idence of inflammation. The patient left the hospital a onth later with a wound which had tardily progressed toward pair.

Shortly after the wound opened it occurred to me at evidence of some trophic fault was sufficient for vestigation along the lines suggested by Head,[1] relatg to certain superficial zones which are known to be ritated in connection with irritation of different visra. Ross and Sherrington had previously shown that ith certain kinds of visceral disturbance an impulse as sent along afferent nerves to definite segments of the inal cord, and referred along the somatic nerve disibution from such parts of the cord, giving areas of in tenderness.

Head arranged these areas in zones, and showed that hen we have ulcer of the stomach sensory nerves of the in are irritated in a zone which forms a triangle, the se of which is at the linea alba, extending between the siform cartilage and the navel, with its apex at the nth intercostal space.

It seemed to me we might assume that trophic nerve sturbance or neurovascular disturbance would occur the same superficial area along with disturbance of e sensory nerves, and that could account for the failre of repair in the area of the stomach zone of Head. n examining the right Head zone of this patient with e point of a pair of dressing forceps I found instead hyperesthesia a distinct lessening of sensation in the right Head zone, but in the left zone two small points of hyperesthesia.

On the following day one of my assistants, Dr. Freudenthal, made an independent examination, not knowing of mine, and said that he seemed to find diminished sensation in the right Head zone, and no point of hyperesthesia.

At this time the patient was rapidly recovering from the source of irritation at the pylorus, and it is probable that we had in the superficial zone a disturbance different from that which might have been found just in advance of the operation, or immediately afterward.

Subsequent examination of this patient by Dr. Freudenthal, Dr. Kast, and myself indicated that sensation in the stomach Head zone was practically normal. We seem, however, to have rather good evidence that the trophic nerves, which are distributed along with the sensory nerves of the superficial area, are irritated simultaneously with the sensory nerves, and this leads to failure of repair in these wounds after stomach operations.

Dr. Kast suggested that contributory testimony would be furnished by applying cantharides cerate on a point within the Head zone and on a near-by part of the body in order to note the comparative character of reactions. Shortly afterward he applied cantharides cerate for six hours at a point in the Head zone of a case of gastric ulcer in a chlorotic young woman, and in a case of angina pectoris in a man, 57 years of age.

There was a distinct difference between cutaneous reaction within the Head zone and at the distant test area. Reaction was more intense within the Head zone and lasted twenty-four hours longer than in the distant test area.

A third case in which Dr. Kast experimented showed no difference in reaction at two test points, but the two positive cases seem to offer definite testimony in support of my theory that the failure of repair in wounds of the abdominal wall after stomach operations is due to trophic or neurovascular disturbance associated with sensory nerve disturbance in the stomach zone of Head.

616 Madison Avenue.

CHRONIC LEAD-POISONING: REPORT OF A CASE

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RANDOLPH, N. Y.

The following case which occurred in my practice is, I believe, fairly typical, the source very plain, and readily illustrates that ignorance plays a prominent part in the causation of lead-poisoning.

The patient in my case, who had no idea that lead was poisonous, was one of sixteen girls working at the same occupation of sealing tin cans. More cases were undoubtedly averted by the recognition of this case and explanation to the others of the cause of their companion's illness.

The circulation of printed information among employees where the various preparations of lead are used would probably eliminate a certain per cent. of cases. Medical inspection, as Hamilton[1] says, would of course be ideal.

History.—E. F., aged 16, employed in a milk condensery, sealing cans, complained of cramps and vomiting and weakness

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1. Head: Brain, vols. xvi, xvii, xix, 1893, 1894, 1896.

1. Hamilton, Alice: Lead-Poisoning in Illinois, The Journal A. M. A., April 29, 1911, p. 1240.

of arms and hands, which began about two months previously, the first symptoms being more or less loss of appetite, constipation and bad taste in the mouth, especially in the morning. She consulted a physician and was treated for stomach trouble but failed to get any relief and steadily grew worse. "Cramps" in the stomach began to appear and later were accompanied by vomiting. About a week before being seen by me, the patient began to notice that her hands and arms were weak and she could not handle the soldering-iron as well as usual. This weakness progressed until she became unable to dress herself; appetite was practically lost and constipation was marked.

On questioning I found that another girl "dropped" the solder, and it was not until next day that she told me about "playing with the solder," as she expressed it, by which she meant that she kept three or four of the smaller pieces in her mouth and chewed them nearly all the time during working hours. Occasionally she swallowed some of the smaller particles.

Physical Examination.—The patient was a fairly well-nourished and developed girl, although there has been a constant loss of weight, and marked pallor was present. The teeth were in fairly good condition; breath sweet and foul; tongue coated white; gums along gingival border showed marked redness and sponginess, although no blue line was present. With arms extended there was marked "wrist-drop," especially on the right. (The patient used the right hand to hold the soldering-iron.) The left hand could be extended so as to bring it in line with the forearm, but no more, and this with difficulty. No extension was possible in right hand. The thumbs of both hands could be abducted and some supination was possible, showing that there was little involvement of the extensor longus pollicis and the supinator longus. The reflexes were practically normal. The lungs were normal.

The heart showed slight enlargement of left border; no thrills or murmurs; arteries palpable; blood-pressure 130; slight tenderness over the epigastrium; otherwise the abdomen was negative. Urine was acid, specific gravity 1,016, albumin, slight trace; no sugar; occasional hyaline cast. Lead test not made.

Blood: Hemoglobin, 70 per cent.; red cells, 3,100,000; white cells, 7,000. Differential practically normal. Basic degeneration of red cells was rather marked.

Treatment.—The patient was placed in bed and given a soft diet. Free catharsis was obtained with magnesium sulphate, the bowels moving two to three times daily. Copious quantities of fluids were given by mouth. Warm baths were given daily. No other medicines or medicinal measures were used for about a week. During this time the temperature remained subnormal. The pulse averaged between 60 and 70. The paralysis of the forearms remained stationary, with very little muscular atrophy, but the extensors of the toes and peronei of both sides became involved. I could make out no paralysis of the tibialis anticus. The stomach symptoms had improved markedly, so the patient was placed on potassium iodid, 30 gm. three times a day, after meals. The improvement was marked and a steady gain followed. The legs cleared first, then the arms. Faradism, massage and an elixir of iron, arsenic and strychnin materially aided the convalescence. At the time of making this report the patient is well, has gained 15 pounds in weight and has been working in her old position nearly two months.

A few words of instruction at the beginning of her employment might have saved several months of poor health and a period of confinement.

Toleration for Nicotin.—In a paper read before the Philosophical Society of Cambridge, England (abstracted in *Nature*, March 16), after noting that one form of toleration for chemical substances is associated with their oxidation and destruction, W. E. Dixon showed that normal animal tissues have the power to destroy a small amount of nicotin, but this is considerably increased by an acquired tolerance. There is evidence, he said, to show that this is not due to chemical combination with the tissues, but that, on the contrary, it is caused by ferment action

A NEW METHOD OF DIAGNOSIS OF ACU INTESTINAL OBSTRUCTION BY THE STOMACH-TUBE

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NEW YORK

When the physician is called to a patient with a l tory of vomiting, the vomited material has usually b thrown away, its character being unnoted. The pati cannot always vomit in the physician's presence, and she does it may not be characteristic. These facts w recently impressed on me when called by Dr. Cha F. Hunt to see a patient. The case illustrates forci the value of the stomach-tube in making a diagn of acute intestinal obstruction.

History.—A married woman, aged 45, had been in per health, except that twelve years previously she had an abd inal operation for some pelvic inflammation, for which it necessary to use drainage-tubes for several weeks, ther causing many adhesions, which, no doubt were the cause of present trouble. She had been in Philadelphia on a visit, eaten a good German dinner, which she fully enjoyed, returned Sunday evening about 9 o'clock. She felt so n seated and distended with gas that she took two enemas w good results. But the pain in the abdomen increased and began to vomit. Her family physician was called at 11 o'cl and gave treatment for acute indigestion. The patient was better on Monday, was worse on Tuesday, and I saw her 11 o'clock Wednesday morning. She was in good condit temperature 99 F., respiration 30, pulse 100. The diagn was still acute indigestion. She complained of considera pain in the abdomen, was so full of gas, as she expressed that she could hardly breathe. She had been vomiting times, but none of the vomitus was saved. There had l no fecal vomiting, so far as the physician and nurse noticed. The stomach was thought to be empty.

Examination.—I obtained a splashing sound down to pubes. Diagnosis was acute dilatation of the stomach. I pa a stomach-tube, and to my surprise expressed over two qu of a dark brown fluid with a fecal odor. On examinatio was found to be fecal. A diagnosis was then given of a intestinal obstruction and a surgeon advised to be calle immediately, which was done.

Operation.—Dr. Henry M. Silver saw the patient at 1 o'c with Dr. Hunt and myself. He concurred in the diagn and the patient was operated on that evening. It was fo at operation that the ileum was being strangulated by a s band of adhesions about the size and shape of a mouse's The intestines were very much distended, and it was diffi to relieve the constriction, owing to the many adhesions, w were due to the previous operation twelve years before.

The patient was back home again in two weeks, and perfectly well to-day.

I would therefore suggest, as an aid to diagnosis these acute abdominal disorders, that the stomach-t be passed from hour to hour, and the contents caref examined. If they are of a dark brown color wit fecal odor, ruling out peritonitis and other acute co tions mentioned above, then a definite diagnosis of a intestinal obstruction can be made, and immediate o ation should be advised. By this means the terrible m tality would be lessened, many patients would be spa and they would rise up and call him blessed—the ph cian with his stomach-tube.

78 Irving Place.

Therapeutics

ACUTE DYSENTERY

Acute dysentery is an inflammation of the large testine, throughout either the whole or a portion of its tent. Sometimes the lower part of the small intestine coincidently inflamed. The disease is generally caused bacteria, two of which have been specifically isolated, bacillus and an ameba. The disease is, therefore, more less infectious, and may be transmitted to others. In her words, it is communicable, as is typhoid fever.

The disease is characterized by mucus, blood and rulent discharges from the rectum, accompanied by uch straining, colicy pains, and tenesmus.

Predisposing causes to dysentery are hot climate, the mmer and autumn seasons, filth, defective hygiene of kinds, overcrowding in camps and prisons, combined rhaps with high temperature and fatigue, with impure d insufficient food and an impure water-supply.

More males suffer from this disease than females, obably because they are more exposed to the conditions ich develop it. Bacillary dysentery especially is likely occur in epidemics, although sporadic cases are not frequent. When dysentery occurs sporadically it is nerally more amenable to treatment.

The general symptoms of acute dysentery are mild ver, a variable pulse, at times rapid or weak from haustion, with a tendency to collapse turns; the move- ents are frequent and exhausting. The nearer the tum the inflammation is, the more intense is the nesmus and the more constant the desire to strain, th resulting small movements and but little relief. ne higher up the inflammation is in the large intestine, e more frequent the griping and abdominal pain. The ools consist of large masses of mucus mixed with feces, d later mucus, more or less blood-streaked, per- ps without any fecal matter at all. Later, slight morrhages occur, depending on the amount of ulcera- n or erosion of the membrane, and finally pieces of mbrane are passed similar to diphtheritic membrane. ne tongue is coated, but generally moist, unless a large nount of fluid is lost. If the progress of the disease is favorable, the temperature is likely to rise higher; nerwise it remains low. If the disease long continues d the movements are frequent and profuse, a typhoid ate develops.

BACILLARY DYSENTERY

The so-called bacillary dysentery may apparently caused by different strains of bacilli which, while sembling each other in many important particulars, ll are distinguished by certain differences in reaction. e most common variety of bacillus found in the stools bacillary dysentery are distinguished as the bacillus Shiga and the bacillus of Flexner.

The objects of treatment are to reduce the frequency the movements, to stop hemorrhage, to soothe and al the inflamed surfaces, to add no new irritant to the lammation such as maldigested food, to reduce peris- sis, to give the patient as well as the intestine rest, d to support the heart. In estimating our success in omplishing these ends, it must be remembered that duration of a mild case is from eight to ten days, but disease may last three weeks. Relapses are not fre- ent. Complications are not to be expected, and most aths are due to prostration and collapse.

The treatment may be subdivided into general and local. By general treatment is meant rest, general care of the patient, the diet, and the care of the bowels.

Absolute rest in bed, physical and mental, should be insisted on from the beginning until convalescence is completely established. Sitting up or walking about will make a mild case serious, and if allowed too soon in convalescence may cause relapse.

Daily hot water sponging is of benefit, and if there is the slightest tendency for the patient to be cold, the extremities, and especially the feet, should be kept warm with hot water bags. The bed-clothing should be heavy enough to protect the patient from cold, and should include a woolen blanket. The same amount of fresh air and sunlight should be given these patients as is advised in typhoid fever.

The food should be of such a character as to be easily digestible and to leave but little residue to be passed on through the intestines and into the large intestine. While many times milk may be one of the most satisfactory diets, perhaps the best food consists of meat broths with egg albumin or, if the patient has but little fever, small portions of scraped, broiled beef, which leaves but little débris for the large intestine. In other words, a diet of a little easily digested meat, one or two eggs, and a small portion of milk is better than a great deal of milk alone. Also, milk frequently causes an undesirable amount of intestinal gas. Milk predigested by the use of pancreatin may obviate this tendency. If milk is desirable but is distasteful, it may be diluted with Vichy; or the milk may be given hot and salted. The milk given must be known to be pure and uncontaminated. If there is doubt, it must be pasteurized. Tea and coffee may be allowed at such times of the day as not to disturb the sleep. While large amounts of water are inadvisable and iced water should not be given, still, if much water is lost by the stools, the amount must be equaled by that which is ingested; otherwise the patient's tissues lose water, the blood-vessels lose water, the urine becomes concentrated, the skin dry, and the patient suffers from this deprivation of water, and such a condition alone may be the cause of death. Preferably, liquids or foods should be given hot, as anything cold entering the stomach is likely to start peristalsis. It may be advisable to give some thin cereal gruel once a day, at least if the disease lasts more than a week.

As soon as convalescence is established, broiled lamb chops, roast beef, and the white meat of chicken may be added to the diet. All solid food should be thoroughly masticated and the digestion may be hastened by giving a few drops of hydrochloric acid directly after meals. As convalescence progresses favorably, toast, stale bread, and boiled rice may be added to the diet, and later baked potatoes. The first fruit that is allowable is either lemon or orange juice.

Most of these patients need alcohol, not only for its beneficial effect in dilating the peripheral blood-vessels, but as a nutriment. The amount should not be large, not more than one or two teaspoonfuls once in three hours, and brandy is probably the best form in which to administer it.

Strychnin should be avoided, if possible, as tending to increase peristalsis, and it should be remembered that strychnin is not a cardiac stimulant. It is a stimulant to the nervous system, and the decision should be carefully made whether that action from strychnin is desired. This is the age of the over-use of strychnin, and such use of it should be abated.

The care of the bowels other than the local treatment of the inflammation or the treatment of the disease itself is important. A calomel purge should be administered in the beginning, followed by a saline, as Rochelle salt or something similar, this to cause a clean small intestine and a complete evacuation of the large intestine. Subsequently there is probably little necessity for administering a laxative. However, it is often well to give a dose of castor oil once in several days, not only for cleaning out the bowel and then having subsequent rest, but for its actual soothing effects. If it is deemed best not to give the full dose of calomel (and it is better to give one sufficient dose of calomel than small divided doses) the sulphate of magnesium may be used, given in doses of 4 grams (1 dram), and repeated every two hours until the movements become odorless and watery.

There can be no question of the advisability and necessity, as soon as the bowels are known to be thoroughly emptied, of stopping the movements for a certain number of hours by morphin, best given hypodermatically. The frequency of its administration is determined by its action and by the amount of pain.

Locally the condition is a surgical one. There is an inflamed, perhaps ulcerating, mucous membrane, a large sinus, which we can in a way treat satisfactorily. It should be remembered, however, that this sinus has great absorptive powers; therefore, medicaments must not be used too strong, nor should we use poisonous antiseptics. Whether high colon washings will go as far as the ileocecal valve is not now under discussion, but certainly the ascending colon and perhaps the transverse colon may be washed and cleansed of irritants. This large sinus (colon) may be irrigated with plain boiled water to which a small amount of salt has been added, as a teaspoonful to the pint, with or without a teaspoonful of boric acid, and this solution should be used either tepid or warm, if there is prostration. If but a small amount is used and there is much fever, it may be used cold. After the fecal matter and mucus have been washed away and the returned solution is clean, the colon may be treated with a weak permanganate of potash solution, as 1 to 10,000; or a 1 part to 8 of peroxid of hydrogen solution may be used. The frequency of such irrigation depends entirely on the case. Once a day in the first part of the disease is generally sufficient, and later such colon washing may be done once or twice a day, depending on the amount of benefit resulting. These washings will sometimes stop the movements of the bowels for hours, even without morphin. If followed by a hypodermatic injection of morphin rest, both of the patient and of the intestine, is prolonged.

If the disease progresses and immediate healing of the inflammation does not occur, and actual ulceration seems to have developed, as shown by the amount of bleeding, an occasional irrigation of nitrate of silver, 1 part to 1,000 (not more than one pint at any one time, viz., 0.50 gram (7½ grains) to a pint of water) is of benefit. Such an injection should be given but once in four or five days, and if the liquid does not immediately flow out of the colon a solution of salt should be immediately injected. The salt forming an insoluble sodium chlorid, will prevent any poisonous absorption of nitrate of silver.

Sometimes injections of bismuth subcarbonate solutions or suspensions, or starch water are of benefit. Certain it is that properly used colon washing will cause the number of movements to be reduced to at least one where there were three or four before.

If there is severe rectal tenesmus, small injections o one or two ounces of ice-water are of value. Or th insertion of small pieces of ice will relieve; or, of cours a suppository of morphin may be used.

If one believes that bismuth administered by th mouth will medicate the colon in any soothing way, h may give the subcarbonate of bismuth in 1 gram (1 grain) doses, at two, three, or four hour interval Very large doses have been recommended, but small doses frequently repeated are probably of as great advan tage. However, as just stated, unless there is coinciden small intestine inflammation, it seems perfectly valueles to give bismuth by the mouth for sedative effect in th colon.

If there is fermentation in the small intestine, an there is no congestion of the kidneys, salol, given i 0.20 gram (3 grain) doses as a dry powder or as a dr powder in a capsule, once in from four to six hours, wi prevent such fermentation.

As above stated, morphin should be given in sufficie doses to give the patient more or less intestinal res Whether or not this morphin is combined with atropi depends on the frequency of its administration. Atropi should not be repeated so frequently as morphin ma need to be. Also, if there is any idiosyncrasy to atropi it, of course, should not be repeated.

If the pain is not severe and the frequency of th movements not great, and the stomach is in good cond tion, instead of administering morphin hypoderma ically, a small dose may be administered by the mout or codein or the tincture of deodorized opium may substituted and given by the mouth.

Various external applications to the abdomen a often useful. These may consist of hot flannel applic tions, dry or moistened with a small amount of alcoh or turpentine. Sometimes a hot water bag, partial filled and not too heavy, is agreeable to the patient. times, a counter-irritant action as produced by a we mustard paste composed of three parts of flour or linse meal with one part of mustard is useful; or a hot fla seed poultice may give considerable relief from intestin pain.

One would be guilty of neglect who left this subj without saying a few words in regard to the preventi of the spread of the disease. As the bacilli which ca the disease are found in the feces, it is very necessa that great care should be used in disposing of these they come from the patient. They should be disinfect with equal, if not greater, care than the fecal discharg from typhoid patients. Any clothing, either personal connected with the bed, which becomes contaminat with fecal discharges, should be disinfected and boi before it is handled.

It has been found that some patients who have h dysentery retain the ability to disseminate the bac long after the acute symptoms have passed away, as some patients who have passed through an attack typhoid fever. These individuals are called dysent carriers. It has been found that these patients chiefly those who have ceased treatment early duri convalescence and who have never completely recove from the disease, but who have been subject to relap at more or less frequent intervals after passing thro the acute stage of the disease. This indicates the urg necessity of keeping convalescents from dysentery un close observation and careful treatment until they h thoroughly recovered, and of impressing on the pati the necessity of taking care of himself and prevent any possible relapse.

(To be continued)

TREPHINING FOR APOPLEXY

JOHN D. MILLIGAN, M.D.
PITTSBURG

There has never been a time in the history of man when certain morbid conditions affecting both sexes were not classed as incurable. The list grows less, however, and there is every reason to believe that by careful and patient work an epoch may yet be reached when we may be able to successfully attack many, if not all, of these affections with reasonable hope of retrieving the sufferer and restoring him to the normal.

Until recently, among these conditions much was left to medicine alone, but the list is growing less by the intervention of the art of surgery, which has reduced the list very materially.

Prominent among those of frequent occurrence is hematocele of the brain (apoplexy) due to rupture of Charcot's "artery of cerebral hemorrhage," accompanied by hemiplegia, aphasia, etc., producing pressure symptoms rather than destruction of brain tissue. We know that if we can remove this morbid focus, we shall relieve the pressure symptoms, and restore the condition to the normal.

Shall we sit idly by and trust to have absorption take place with the result that a brain scar or an unabsorbed brain cyst may remain, and the patient have hemiplegia and aphasia for life? Were this a case of intestinal perforation or rupture in tubal pregnancy, or injury to the heart itself by stab or other wound, the promptness of the surgeon's activity would decide the fate of the patient. And with the now established success of the various operations which even in our short lives have become standardized, shall we stop and debate the question as to whether we shall trephine and remove the clot? Reasoning that in the hematoma of the brain the first seventy-two hours is likely to decide the fate of the apoplectic, granting that he survives the shock, the patient will be found generally in better condition for operation than the patient in the usual case of traumatism of the head. The clot has already become firm and the serum has fairly well separated; the likelihood of further hemorrhages is lessened; the ruptured vessel has been well plugged, and the clot will not be detached without careless handling. Each day thereafter for a limited time, say ten days from the attack, it is still more favorable, and the surgeon can elect the time for operation. As the technic improves, and as the proper time to operate becomes more definitely known, the percentage of fatal cases will become less.

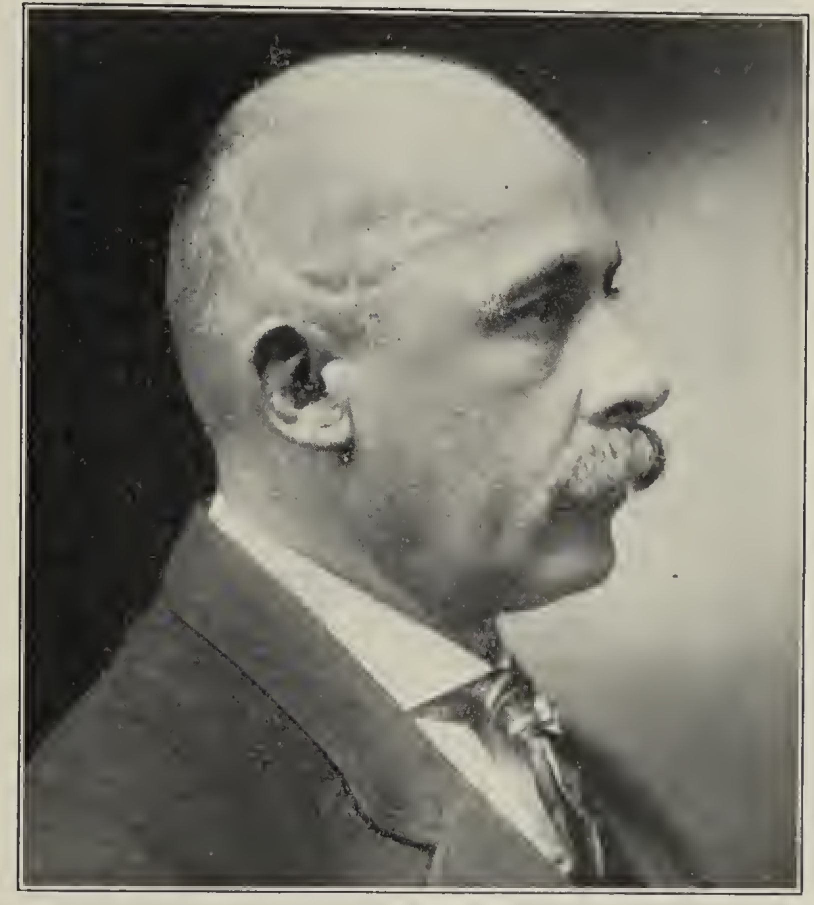
CASE REPORT

History.—E. N. S., freight conductor, aged 42, right-handed, was in the act of stepping from the step of the engine to the ground at Ellwood Junction, May 12, 1909, about 12:50 p. m., when he fell in a heap and rolled over. As the tender passed, it was believed that he was struck by the axle box on the right temple. He was picked up and found to be unconscious, and was at once taken to the Beaver Valley General Hospital, Rochester, Pa., and came under the care of Dr. J. S. Louthan and Dr. R. M. Patterson, of Beaver Falls, Pa. This was 3 p. m., May 12, 1909.

Examination.—The following symptoms were present: The patient was semicomatose, could be roused with an effort, but was incoherent, with aphasia and hemiplegia of the left side present. A slight redness, not even sufficient to be classed as a contusion, was found on the scalp above the ear on the right side and no other marks of injury; sphincters were relaxed, and urine voided unconsciously; stupor increased, with stertorous breathing; following along for three or four days, there was some muttering delirium. The patient made many attempts to get up, or rather to roll out of bed, but was restrained easily. The Babinski sign was present in the left foot; vision affected; hemianopsia present. No fracture of the skull could be found. I saw him with the other physicians May 16, 1909.

Eleven days after the patient was admitted, May 23, 1909, no improvement of any importance having occurred, a careful review and consultation was held and the consensus of opinion was, that there was either a hematocele of the brain (apoplexy) or a clot from the middle meningeal artery; but all agreed that the lesion was in the motor area and that the Rolandic fissure was the site of the lesion. This was concurred in by Drs. J. H. Wilson, Beaver, Pa., J. S. Louthan and R. M. Patterson, Beaver Falls, Pa. It was decided to operate.

Operation.—The operation was done May 23, 1909. The skull was opened with a trephine and careful inspection of the dura was made without finding anything. The wound was then enlarged and the fissure of Rolando was found to present beneath the membranes a slight bulging, which on opening through the membranes, poured out about ½ ounce of clear serous fluid. Further investigation disclosed a small thread clot. The surrounding portion of the brain was carefully pushed aside with a probe and the handle of a scalpel and a pear-shaped clot was removed and the cavity wiped out carefully. At about the location of Charcot's "artery of cerebral hemorrhage" was found a small firm clot adhering to the side of the cavity, which was carefully left. A small wick of iodoform gauze was placed as a drain and the wound carefully closed and antiseptically dressed. The drain was removed on the fourth day and the wound healed without any symptoms.



E. N. S., trephined for apoplexy; from photograph taken March 23, 1911, twenty-two months after the operation and sixteen months after resuming his duties as a freight conductor.

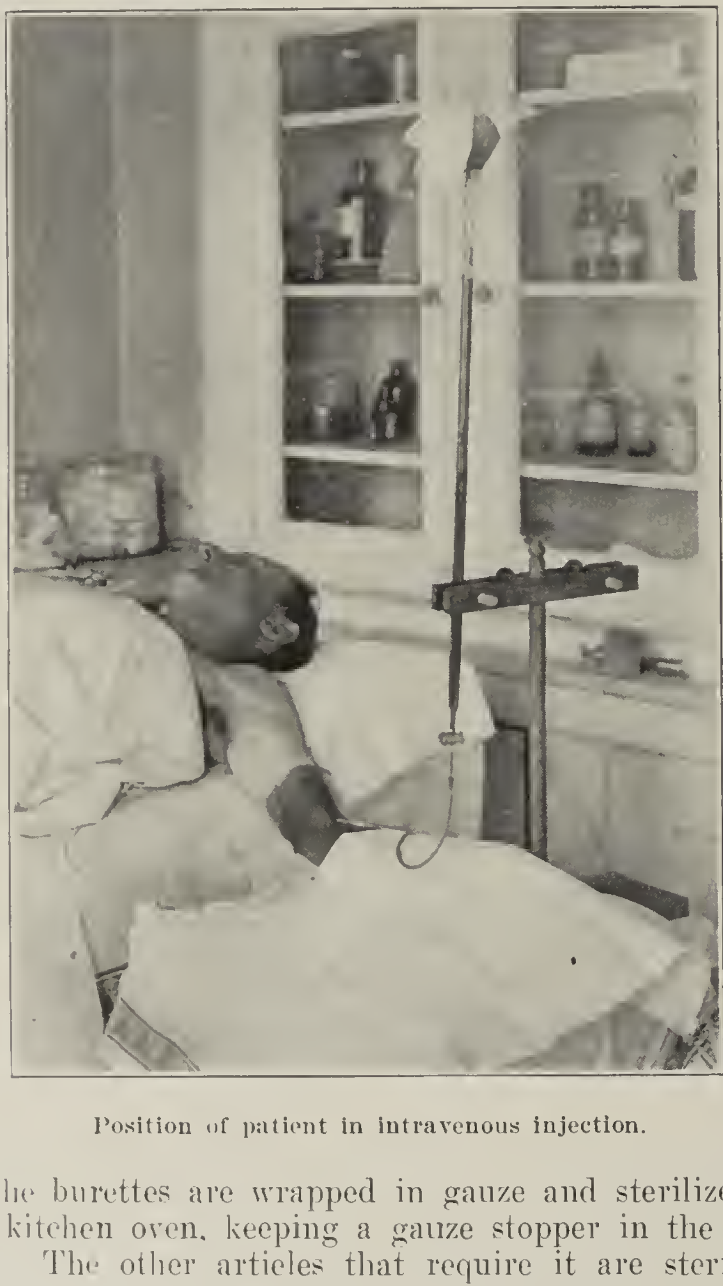
Result.—After the operation there was slow improvement for the first week and then improvement was more rapid, the patient regaining consciousness June 6, 1909, twenty-five days after the accident and fourteen days after trephining. Paralysis was first to disappear in the left leg, then the arm. The Babinski sign was not observed after the end of the first week. Aphasia slowly disappeared by the time he left the hospital.

The hemianopsia was present for some time, and after examination Dr. Robeson reported that the apparent atrophy due to pressure was likely to remain for a long time. But improvement was steady and at the end of six months the patient had been restored to perfect vision. He was in the hospital fifty-nine days and went back to work Nov. 23, 1909, six months after the operation, and has been continuously at work ever since. He had no recollection of anything from 10 p. m., May 11, 1909, which was about fifteen hours before the accident, until June 6, 1909, which was twenty-six days.

A SIMPLE TECHNIC FOR SALVARSAN INJECTION *

MATHEW A. REASONER, M.D.
Captain, Medical Corps, U. S. Army, Vancouver Barracks, Wash.

The following technic for preparing and injecting salvarsan has been followed to date (April 25) in twenty-seven intramuscular and forty-four intravenous injections in forty-seven cases, mostly in the military service. There will be required two, or better three, 50-c.c. glass cock burettes and stand, 10-c.c. glass syringe for intramuscular use, and large and small flasks as indicated. The other accessories will be found in the well-equipped office or dressing-room or may be improvised.



Position of patient in intravenous injection.

The burettes are wrapped in gauze and sterilized in the kitchen oven, keeping a gauze stopper in the open end. The other articles that require it are sterilized according to the means at hand. The sodium hydrate solution should not be heated but prepared under aseptic precautions. A 50-gm. specific gravity flask with solid glass stopper and containing glass beads is used for dissolving and titrating as a mortar or other open vessel is more or less of an invitation to infection. Hot water should not be used in dissolving the powder, as it is an unstable compound which depends for its efficiency on this unstable formula and it is certainly not logical to provoke chemical action by applying heat. Dissolving in water at room temperature, the entire procedure of an injection need not take over one-half hour.

The alkaline solution is preferred for both injections; it is dissolved in 10 c.c. sterile water with constant rotary motion of flask and titrated slowly with normal sodium hydroxid solution, using same motion, carrying it just beyond the faint orange red tint to the point at which only one or two minute flocculi remain. No acid is used nor has litmus or phenolphthalein been found necessary since the first few times. As the sodium hydrate solution is not stable, dependence cannot always be placed on using a definite quantity of this solution. The titrated solution is diluted with sterile normal salt solution (physiologic) to 20 c.c. for intramuscular injection and about 250 c.c. for intravenous use. Should the latter solution not remain clear, a few more drops of sodium hydrate solution will be required.

Capt. R. H. Pierson, Medical Corps, U. S. A., has most kindly assisted in the intravenous injections, using his method, which I have not seen otherwise described. The patient is placed as shown in the illustration; tincture of iodin is applied to the flexor surface of the forearm; a tourniquet is placed above the elbow and with an ethyl chlorid spray the selected vein is frozen to the skin (better one away from the exact bend of the elbow), when no difficulty or pain is ordinarily experienced in passing a 3-inch 17-gauge needle directly into the vein. Without freezing the vein may evade the needle. Blood flows from the needle when the vein is entered and with the salvarsan or salt solution flowing gently from the small rubber catheter attached to the burette, the connection is established, the tourniquet is removed and the warmed solution is allowed to enter in from five to ten minutes. The burette should have been previously warmed.

Cutting down on the vein is a more painful and tedious process, the point of incision remains tender longer and following the manipulation and ligation it would seem that there is more possibility for untoward results. The solution should not be brought into contact with the subcutaneous tissues or healing will be delayed. Following this injection the patient is caused to lie down for a few hours and is returned to duty the following day. In this manner 0.5 to 0.6 gm. doses have been given with no ill effect throughout this entire series. Reactions may be expected in a certain number, and consist of malaise and even chills, fever, vomiting or diarrhea but will pass away in four or five hours. Others show no after-effects. Urticaria has appeared two times during injection and lasted two hours. The blood-pressur should not be high from recent exercise, and wit marked arteriosclerosis some attention should be previously paid the matter of blood-pressure.

The intramuscular injections should be made slowly and with all aseptic precautions in the upper and oute parts of both gluteal regions. The reaction appear later and may last longer. The average time in be for twenty-four patients was five and one-half days It would be somewhat less in civil life. The patien should stay in bed until the local reaction has subsided In the seventy-one injections to date only one untowar result has occurred and that among the intramuscula series. A woman went to her home and on the thir day rode a long distance in a wagon over rough road and bruised the buttocks. One abscess developed, whic was very slow in healing.

It is not believed that either of the two method should be used to the exclusion of the other and bot should frequently be used on the same person. Th Wassermann reaction will indicate the necessity fo repeated injections.

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* Portion of paper delivered before Portland City and County Medical Society, April 5, 1911, Portland, Ore.

THE HOME OF THE ASSOCIATION

A BRIEF HISTORY OF THE MATERIAL PROGRESS OF THE ASSOCIATION AND ITS PLANT

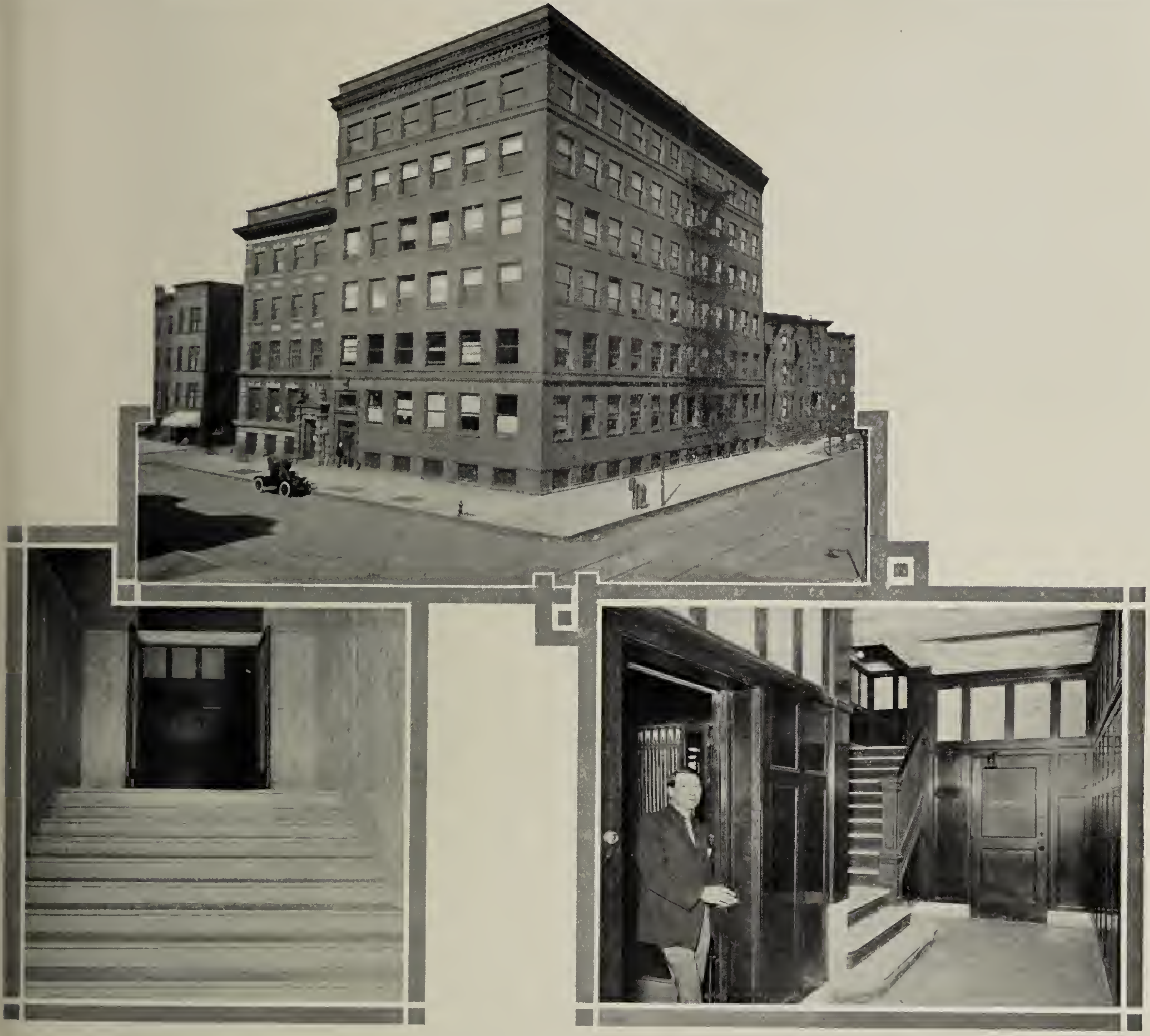


Fig. 1.—View of the Association buildings. A comparison of the new and old buildings will give a slight indication of the growth of the work of the Association. Fig. 2.—The vestibule with the marble stairway and wainscoting. Fig. 3.—The main hall on the first floor, showing the passenger elevator, the stairway and the door to the printing department. Through this door all employees of the mechanical department enter; access is had through it to the composing-room on the second floor, to the bindery on the first floor and to the pressroom in the basement. The mechanical department is thus completely separated from the business and editorial departments.

CHAPTER IV.—THE EQUIPMENT

The story of "The Home of the Association," three chapters of which were printed last fall, was discontinued on account of delay in the completion of the new building at the time set. The building was practically completed and ready for occupancy in January last, when the commencement of the transfer of the plant was made; this transfer was completed in February.

In the last article, published Nov. 12, 1910, the important structural features of the new building were described, although some of the features had not been mentioned.

The building, as completed, is fire-proof, and sufficiently strong to support practically any weight that may be placed on any floor. Fire protection for the contents is provided by standpipes running from the basement to the roof, with connections on every floor, to which is kept attached fire hose sufficient to reach any part of the floor, ready for instant use by anyone. There are both front and back stairs, each absolutely fireproof. The front stairway is made of marble, slate and steel; the back stairway of steel and concrete. The doors and windows leading from both front and back-stairways are of wire-glass and metal, no wood whatever being used.

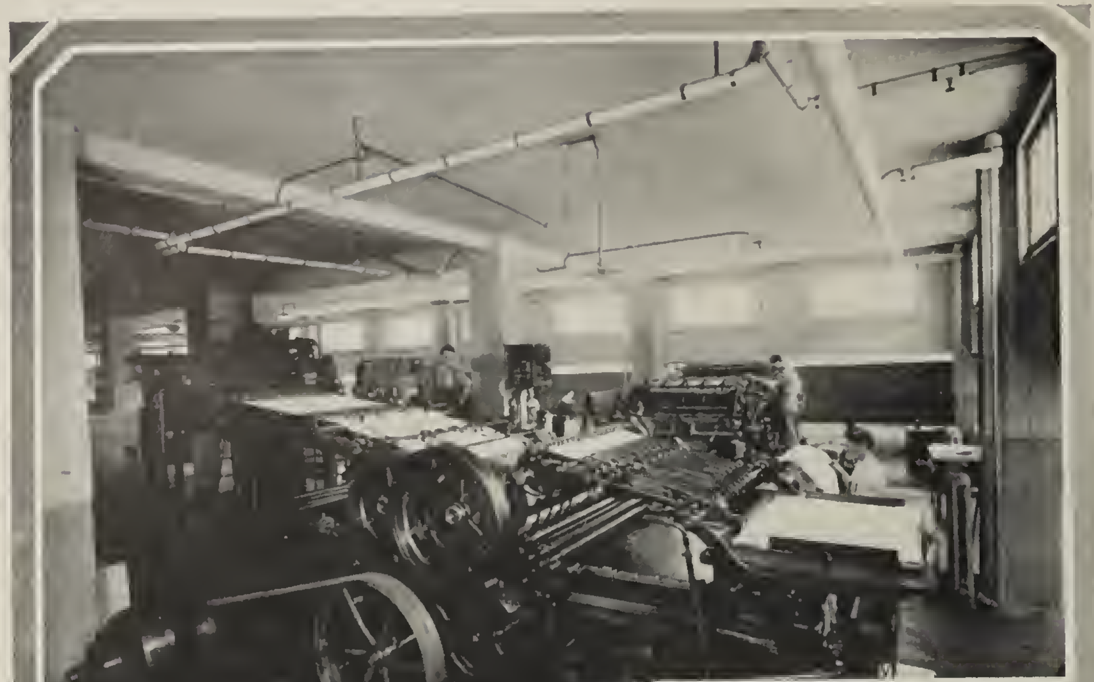


Fig. 4.—A view of one corner of the pressroom, showing flat-bed perfecting press in the foreground.

One enters the building (Fig. 1) through a terra-cotta doorway in the northwest corner of the Dearborn avenue front, and finds a beautiful white-marble vestibule and stairway (Fig. 2). From this one enters the main hallway (Fig. 3) in which is the passenger elevator and from which starts the main stairway to the floors above.

In this main hall, also, is the "employees' entrance" leading into another hall from which entrance is made to the bindery and mailing room on the first floor, to the composing and stereotyping rooms on the second floor, and to the press-room in the basement. In this way the mechanical or printing department is completely separated from the office part of the building.

Basement

PRESSROOM

The press-room is the largest room in the building, since it includes space underneath the sidewalk on the west and south. The floor area of this room, exclusive of the boiler- and coal-rooms, is 80 by 140 feet. The ceiling is 14 feet high. Mr. Frank Counihan is in charge. The room is splendidly lighted; in fact, it i the best-lighted pressroom in the city, if not in th country. In this pressroom there are eight large presses Two of these are rotary perfecting presses (Fig. 6), and one is a large flat-bed perfecting press (Fig. 4), each of which prints thirty-two JOURNAL-size pages at a time In addition there are five ordinary cylinder presses (Fig 5). The flat-bed perfecting press, mentioned above, wa the first large press bought and was considered, at th time—ten years ago—as being quite an advance in ou equipment. Attached to it is an automatic feeder: i will print from 1,500 to 1,800 thirty-two-page signatures (that is, sheets which will be folded to make tha number of pages) an hour.

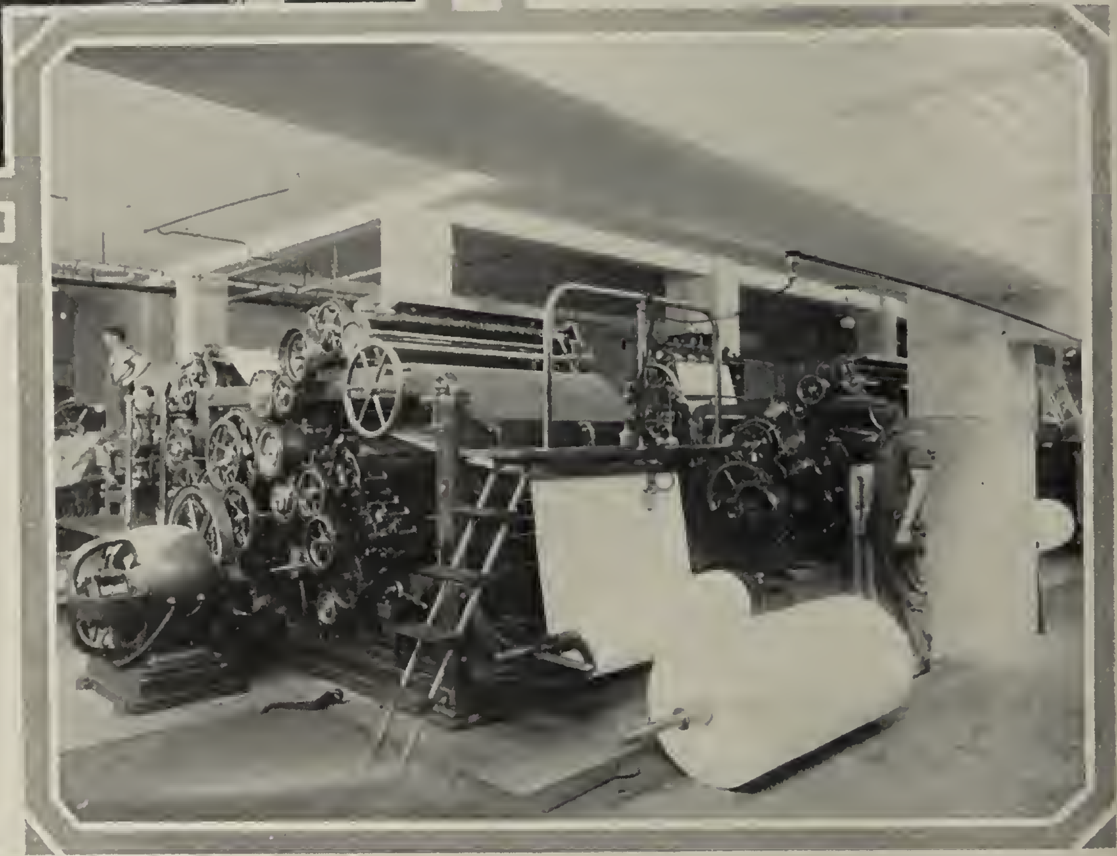


Fig. 6.—One of the two magazine cylinder presses; each wil print and fold 5,000 thirty-two-page signatures an hour, or 10,00 sixteen-page signatures.

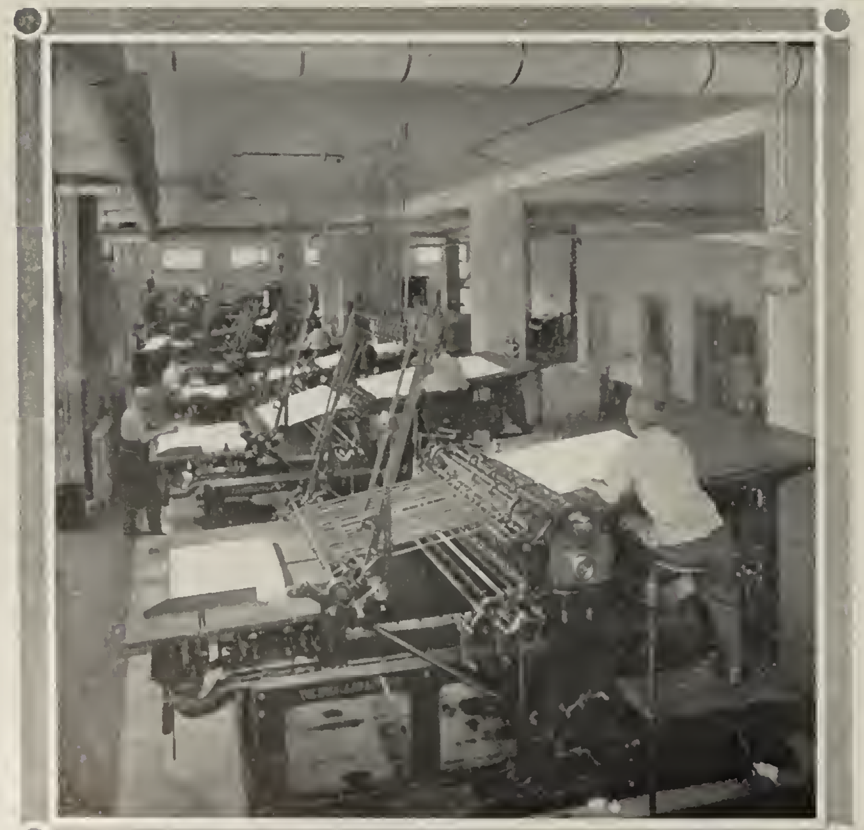


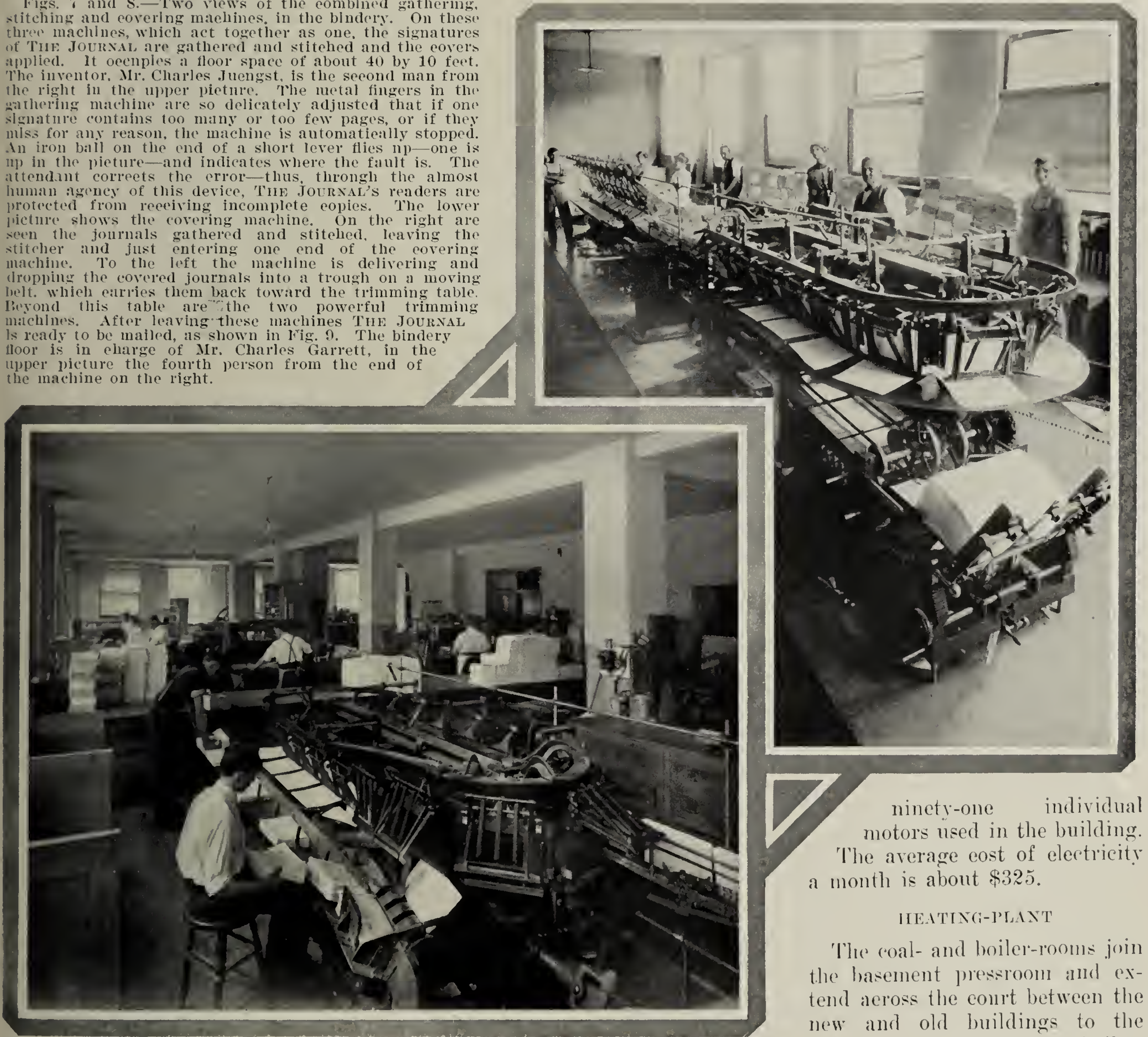
Fig. 5.—View of the east end of the basement, showing the row of cylinder presses for reprint and pamphlet work.

The two most important additions to the pressroon are the rotary presses. One of these was bought abou five years ago. The other has just been installed. Eacl of these presses prints and folds 5,000 thirty-two-page signatures an hour, or 10,000 sixteen-page signatures a hour. The new rotary press is the most perfect of it kind. Formerly, half-tones and fine illustrations ha to be printed on flat-bed presses; now this kind of wor can be done on the new rotary press.

The sizes of the sheets that can be printed by the five cylinder presses vary from 26 by 41 inches to 37 by 53 inches. Each of these will print from 1,800 to 2,000 impressions an hour. They are hand-fed.

In addition to these presses there are three platen presses on the second floor (Fig. 18). On these are printed the smaller pieces of work, such as stationery, record cards, small circulars, small reprints, the covers of reprints and pamphlets, etc.

In one corner of the pressroom is an electroplating plant. Here the stereotyped plates, after they come from the stereotyping room, are plated with nickel. The stereotyped plates have a soft face and are good for only about 20,000 impressions; by nickel-plating them, the type-face is hardened so that 100,000 impressions might be made from them.



Figs. 7 and 8.—Two views of the combined gathering, stitching and covering machines, in the bindery. On these three machines, which act together as one, the signatures of THE JOURNAL are gathered and stitched and the covers applied. It occupies a floor space of about 40 by 10 feet. The inventor, Mr. Charles Juengst, is the second man from the right in the upper picture. The metal fingers in the gathering machine are so delicately adjusted that if one signature contains too many or too few pages, or if they miss for any reason, the machine is automatically stopped. An iron ball on the end of a short lever flies up—one is up in the picture—and indicates where the fault is. The attendant corrects the error—thus, through the almost human agency of this device, THE JOURNAL'S readers are protected from receiving incomplete copies. The lower picture shows the covering machine. On the right are seen the journals gathered and stitched, leaving the stitcher and just entering one end of the covering machine. To the left the machine is delivering and dropping the covered journals into a trough on a moving belt, which carries them back toward the trimming table. Beyond this table are the two powerful trimming machines. After leaving these machines THE JOURNAL is ready to be mailed, as shown in Fig. 9. The bindery floor is in charge of Mr. Charles Garrett, in the upper picture the fourth person from the end of the machine on the right.

In the basement is the storage-room for paper. To print THE JOURNAL and the various other publications, nearly twenty-five tons of paper are used each week, the weekly issue of THE JOURNAL alone averaging about twenty-two tons. Special numbers require much more; the Los Angeles number, for instance, required over forty-two tons of paper. Of course it is necessary to be prepared for strikes, railroad wrecks, and other troubles by keeping in stock a fairly good supply of paper; this requires considerable storage room. The amount of paper kept in stock varies between fifty and one hundred tons.

ELECTRIC POWER

Electric power is used to run the machinery and is supplied by a public lighting-plant. Each press and machine and elevator has its own motor. There are ninety-one individual motors used in the building. The average cost of electricity a month is about $325.

HEATING-PLANT

The coal- and boiler-rooms join the basement pressroom and extend across the court between the new and old buildings to the alley. The floor of the boiler-room is depressed ten feet below the level of the basement floor and contains two sixteen-foot high-pressure tubular boilers with a capacity sufficient for heating both the new and old buildings. In addition there is a smaller high-pressure boiler for supplying live steam to the stereotyping and other rooms. In this sub-basement are also the water-filtering and cooling system, which has recently been installed, the boiler-feeding pumps, the summer heating-plant, etc. The coal-bins are ample to accommodate 175 tons of coal, and are in close proximity to the battery of boilers.

First Floor

BINDERY AND MAILING ROOM

The bindery and mailing-room occupy the first floor. The machinery in this room (Figs. 7 to 11) will show that the Association is well equipped for doing this branch of the work. Among the interesting pieces of machinery is a group of three machines (Figs. 7 and 8) connected and working together as one, on which the "forms" making The Journal are gathered together into one book, stitched and covered. This machine includes the gathering-, the stitching- and the covering-machines. The gathering-machine is a long one, on which the various printed signatures of the publication to be bound are placed in consecutive piles. When the machine is set in operation a device which acts very similarly to the human thumb and finger reaches out and grasps a signature from the bottom of a pile, drops it onto a moving belt and, as it passes on, the succeeding sections are dropped on it, each in its proper place; when the end of the machine is reached all of the sections of The Journal have been gathered together; each group passes on directly to the stitching-machine, which inserts the three wire staples. Without stopping in its forward movement, The Journal, now stitched, but coverless, travels on to the covering-machine, which applies the glue to the back, presses on the cover, counts and delivers it (Figs. 7 and 8), complete except for trimming, on a rack, from which it is removed by hand and placed on the trimming-table. This combined machine will gather, stitch and cover 4,000 books an hour, equaling the work of between forty and fifty people. This combined machine was the invention of one man. He first developed the gathering-machine, then the stitching-machine, and combined the two. This gathering- and stitching-machine was bought by the Association about five years ago and was one of the first made. The covering-machine was only recently invented and has just been obtained.

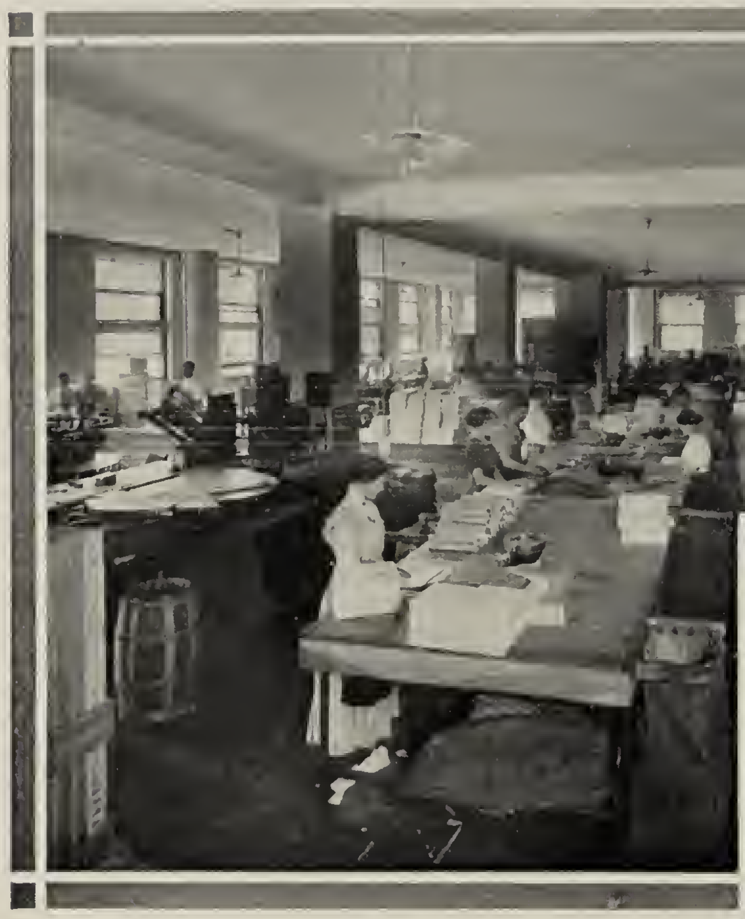


Fig. 9.—The mailing division of the bindery. Copies of The Journal are being wrapped and placed in mail sacks. About 900 mail sacks are used each week.

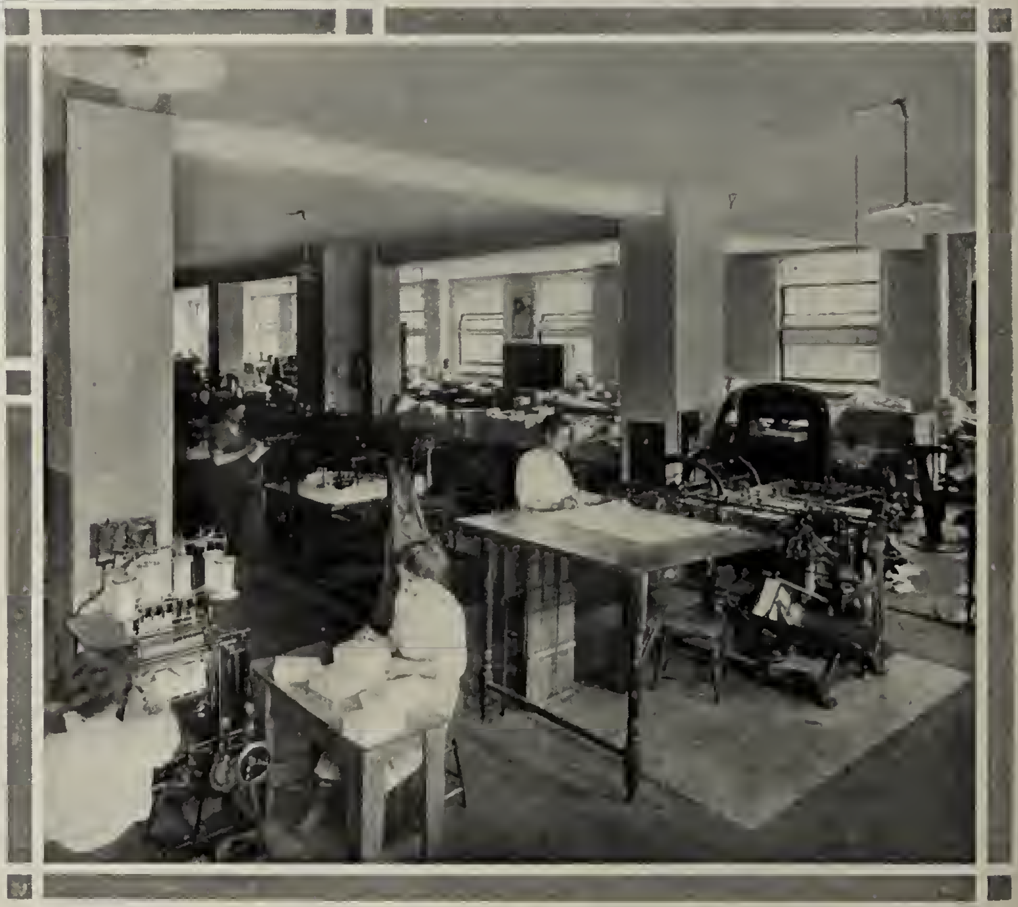


Fig. 10.—Another view of the bindery. In the immediate foreground at the left is a sewing-machine which, when the picture was taken, was sewing together the Official Program for the Los Angeles session. To the right are the folding-machines which fold the sheets that are delivered from some of the presses. Some of the folding-machines are automatically fed, a process that always interests visitors.

The only thing remaining to complete The Journal for mailing (Fig. 9) is the trimming of the edges.

Among the other machines in this room are two power paper cutters (in the background, Fig. 7), four folding-machines (Fig. 10) each having a capacity of 2,500 sheets an hour, one "smashing"-machine, two wire stitching-machines, one thread sewing-machine (Fig. 10), and proof-presses on which are printed the nine hundred galleys constituting the mailing-lists of The Journal, the *Archives of Internal Medicine* and the *American Journal of Diseases of Children.* An average of nine hundred sacks of mail are shipped from this room each week.

Second Floor

The main portion of the second floor (Figs. 12 to 17) is occupied by the composing-room with its advertising, job, book and journal departments, with the linotype machines, job presses and the cases for hand setting, proof-presses, etc.

In the southwest corner of this floor are three well-lighted rooms for the use of the six proof-readers and copy-holders. In the southeast corner is the stereotyping room (Fig. 12) where the type, after it is put in forms, is used to cast stereotype plates. Among the machines in this room are melting-kettles, flat and circular casting-boxes, various saws, bevelers, planers, finishing- and trimming-machines; in short, a thoroughly up-to-date, perfect stereotyping plant.

There are six linotype machines, but as there are certain kinds of typesetting that cannot be set on these machines, this is done in the old-fashioned manner by hand. There are twelve make-up stones on which the type is assembled and the pages made up into the forms. Three job presses occupy an alcove (Fig. 18) in this room as stated elsewhere.

With the periodicals, the reprints, the various books and other publications printed by the American Medical Association, this is a very busy department and already is crowded for room.

Third Floor

Stepping from the elevator on the third floor, the visitor enters the reception room in which he finds chairs and tables, a telephone, writing materials, directories, copies of the publications of the Association, and some current magazines. Here, at a convenient window, one may pay dues and subscriptions, or purchase publications and transact other business with the cashier's department. At another window is the telephone operator and information clerk, who answers questions, calls members of the editorial staff to the reception room to greet visitors, makes appointments for interviews, etc.

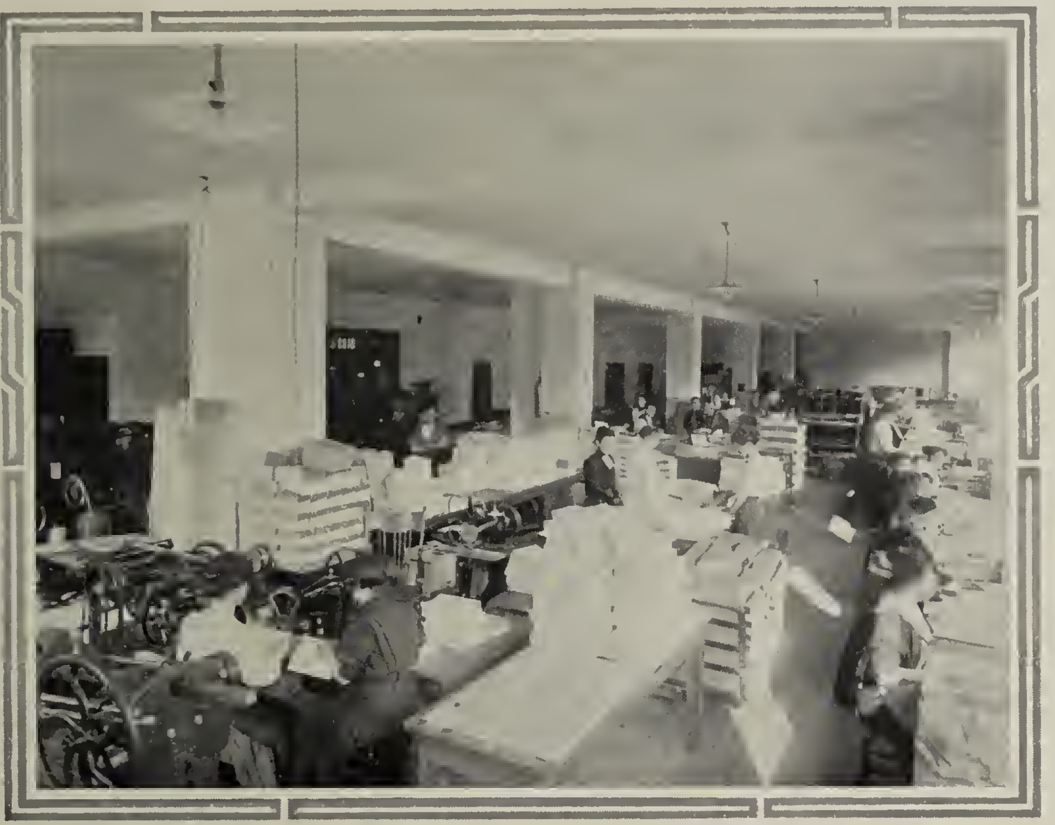


Fig. 11.—General view of the bindery.

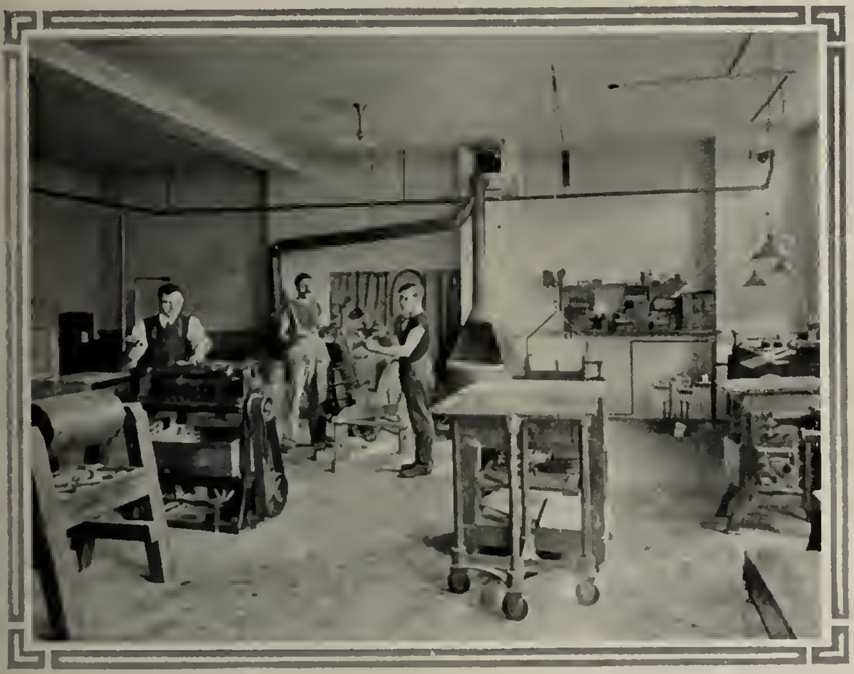


Fig. 12.—A portion of the stereotyping-room with its various machines for making the plates from which The Journal is printed.

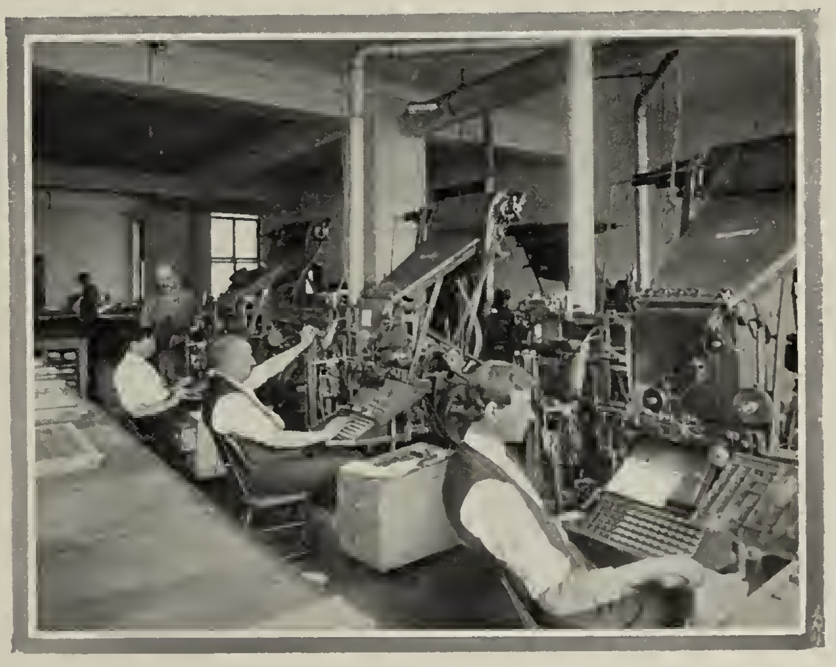


Fig. 13.—A view of one end of the composing-room showing three of the six linotype machines. The three others are just behind these. Some of these machines run both day and night, according to the press of work at various seasons.

EDITORIAL AND BUSINESS OFFICES

Adjoining the reception room is a suite of editorial offices (Fig. 19) and the office of the manager of the advertising and subscription department (Fig. 28). The main part of this floor is occupied by the subscription, membership, advertising and accounting departments (Figs. 24, 25, 28-31). The last occupies a large space, divided off by glass partitions. There is a special billing typewriter, an electrically operated adding machine, a burglar-proof safe, and a commodious fire-proof vault filled with filing cases and other conveniences.

The membership department maintains a card index of the membership of the Association, and closely associated with it is the subscription department. Here are card index files of the subscribers to The Journal, the *Archives of Internal Medicine* and the *American Journal of Diseases of Children;* also mailing-lists of the entire circulation of the various publications are kept in this department and are gone over each week, additions and eliminations being made.

Advertising copy is also prepared and edited in this room. There are the usual cloak and toilet-rooms, and a stationery storage-room, steel lockers for the clerks, desks, typewriting machines, etc. The telephone switchboard connects each room in the building with the city and long-distance systems.

COUNCIL ON HEALTH AND PUBLIC INSTRUCTION

On this floor is the room of the Council on Health and Public Instruction. This Council has charge of work that, until 1910, was divided among several standing and special committees. Here is preserved all material on questions of hygiene and sanitary science and on all questions regarding the relations of the profession to the public and to legislation. Pamphlets and reprints of interest to the public are prepared and sent out under the direction of this Council. State and federal laws and court decisions regarding public health matters, reports of state boards of health, bulletins and pamphlets issued by state boards, etc., are secured and preserved for reference. A press bureau sends out bulletins on medical and scientific questions to newspapers and magazines. This Council is preparing a series of public health pamphlets and it hopes in the near future to be able to supply lists of speakers, stereopticon slides, moving-picture exhibits and other means of public health education, for the use of societies.

Fourth Floor

On the fourth floor are the Council on Medical Education and its subsidiary directory and biographic departments, the exchange and abstract room, the manuscript-editing room, the propaganda department and the office of the assistant to the secretary.

EDUCATIONAL DEPARTMENT

Licensed Physicians.—During the last seven years reports have been regularly received from the various licensing boards throughout the country, on blanks prepared for the purpose. These reports are bound in a book at the end of each year so that at the present time there are seven books, each containing the official data regarding physicians registered by all the licensing boards of the country. In addition to these files a complete list of those previously licensed was obtained from each state. Thus here may be found a fairly complete list containing the record of every man licensed in every state of the Union, so that in the case of the destruction of the records of any state by fire or otherwise, the American Medical Association would be able to supply the loss.

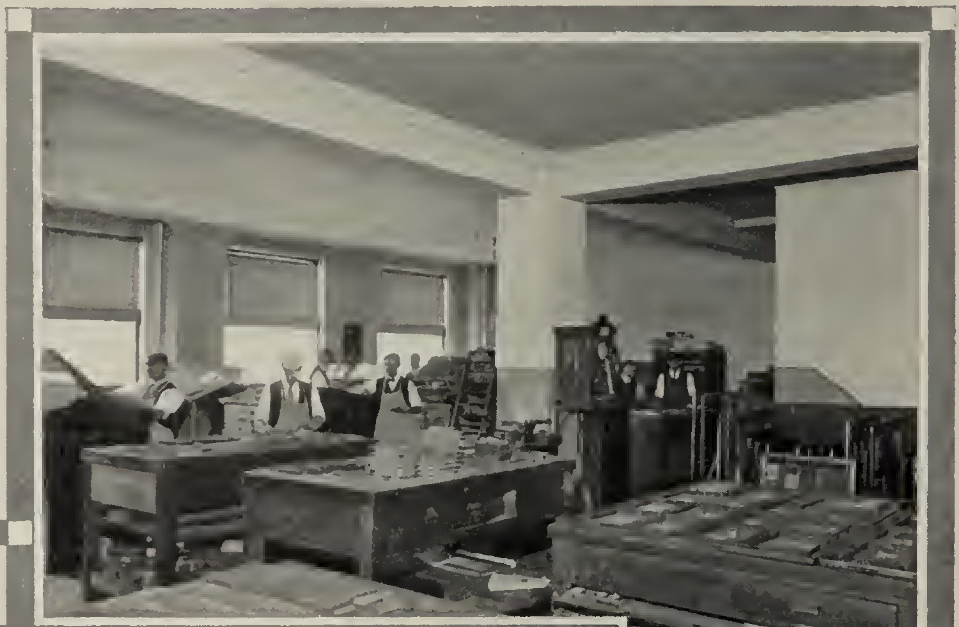


Fig. 15.—A view of the composing-room, showing several of the twelve make-up stones in this room, and that portion of the room containing the hand-set cases.

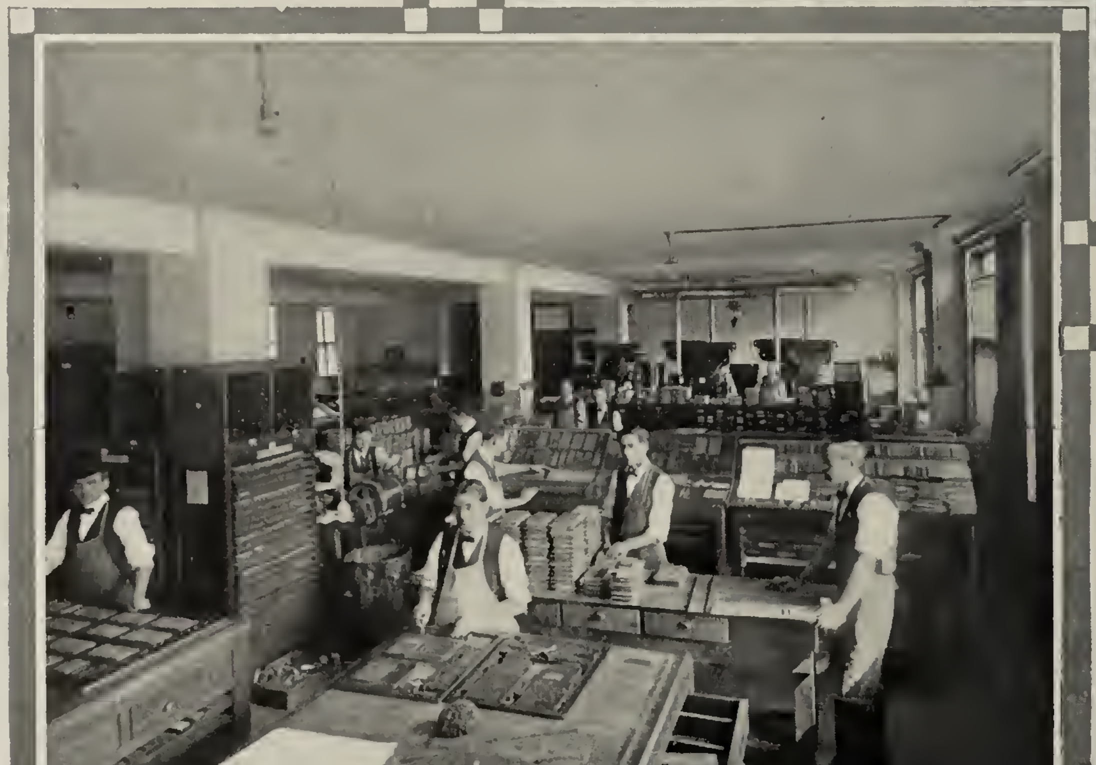


Fig. 14.—View of main portion of the composing-room, with the linotype machines in the rear. The make-up stones contain piles of type pages, and others made up into page forms, one of which is just being "locked up."

Medical College Graduates.—The Council has also received each year reports on those who have graduated from the various medical colleges of the country. These reports are also on blanks furnished by the Council, and are kept in book form, one book for each college year. In addition to these reports the Council obtained complete lists of their alumni from all the existing colleges, and also from the majority of the colleges which have long since been extinct, comprising, therefore, fairly complete files of the graduates of the medical colleges of the country. The Council thus has an official record regarding all graduates of existing medical colleges and of the majority of the graduates of colleges long since extinct; in fact, from these data the Council is in a position to verify the credentials of practically every college graduate, in case the records of his alma mater should be destroyed by fire or otherwise.

The information contained in these files has been secured from official sources in every instance and some of it at considerable expense. For instance, in order to obtain a complete list of those licensed to practice medicine in Pennsylvania, it was necessary to send to the prothonotary's office of every county in the state and have the records copied. The fact that a large majority of the colleges organized during the last twenty-five years are now extinct proves the importance of these permanent records kept by the Council. Medical schools come and go, and when they go, very often their records go too.

The Biographic Card Index.—In addition to the official data regarding licensed physicians and medical college graduates, the Association now has an alphabetically arranged, biographic card index of practically all the physicians in the United States. The information contained on these cards is based on official information so far as the graduation and licensing are concerned. The other information has been supplied by the physician himself. The information on these cards is constantly becoming more and more complete, since there is added to them day by day any information relating to the individual which may be received. These cards show not only where a physician may have been located in the past, provided he has had more than one location, but also other information of importance to the individual physician, as well as to the profession at large.

Of course, the initial expense of establishing these files of valuable data has been rather heavy; but to maintain them will be little more than a matter of ordinary department routine. Each year a card is prepared for every new graduate and the information regarding him is added to from year to year. In like manner, it becomes easy to add the data regarding licensing, etc.

This year the Council on Medical Education is securing the names of medical students from all the colleges which will cooperate—about a hundred at the present time. Hence, the physician hereafter will have a card before he graduates, and it is hoped that in the near future the record of every physician may be kept in this biographic index from the time he enters the freshman year. A record such as this is kept of every medical student in nearly all European countries.

THE AMERICAN MEDICAL DIRECTORY

The information referred to above is entirely independent of, but at the same time forms the basis for, the information published in the American Medical Directory. For the directory an additional card index has been prepared. This card index, however, is arranged geographically. With these cards changes of address are easily made by simply removing a physician's card from one town and placing it under the town to which he removes. These cards constitute the copy for each subsequent edition of the directory. It is always ready and can be sent to the compositors to be put in type on a moment's notice.

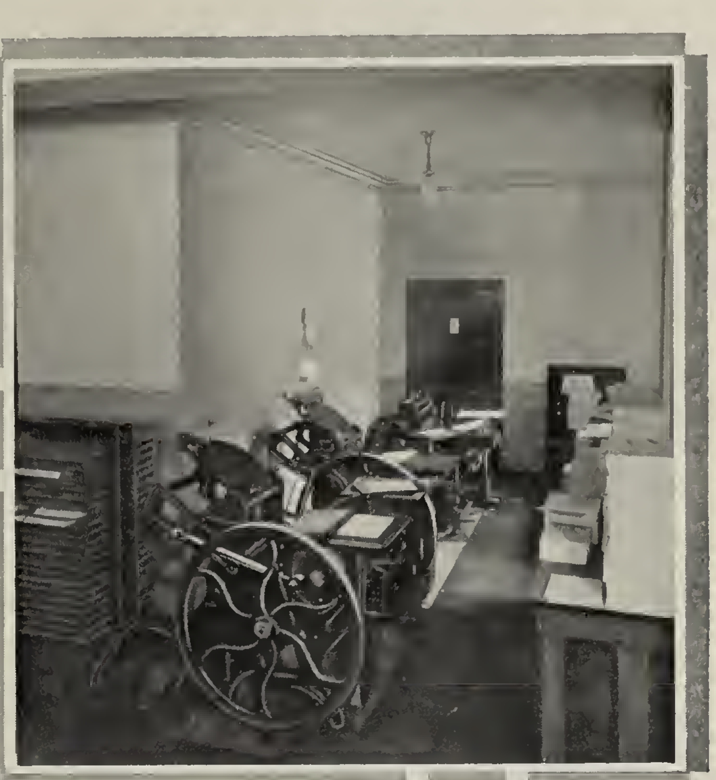


Fig. 18.—An alcove in the composing-room showing the three platen presses for printing stationery and other small jobs.

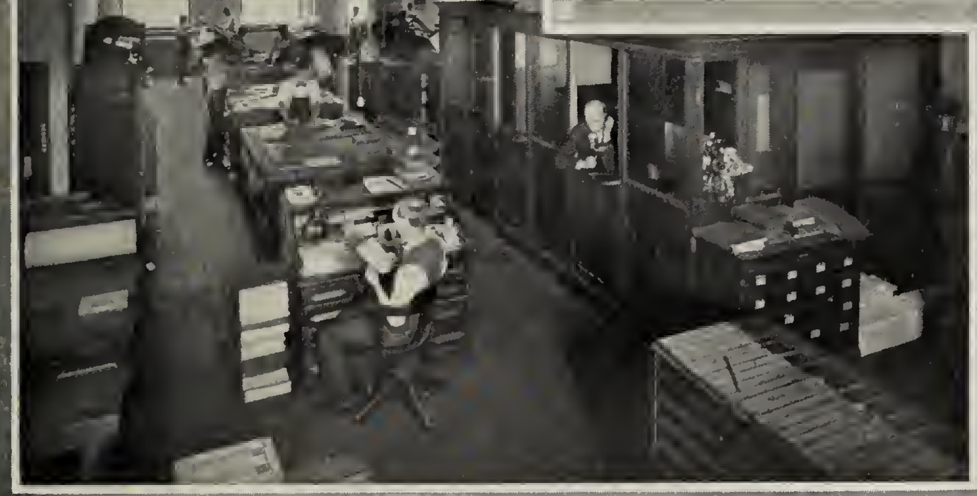


Fig. 17.—A section of the composing-room showing—at the window of his room—the superintendent of the mechanical departments, Mr. Edward D. Harris, and—at the desk—the foreman of the composing-room, Mr. George J. Harris. Looking beyond, toward the west, one sees part of the make-up stones, that part of the room containing the hand-set cases.

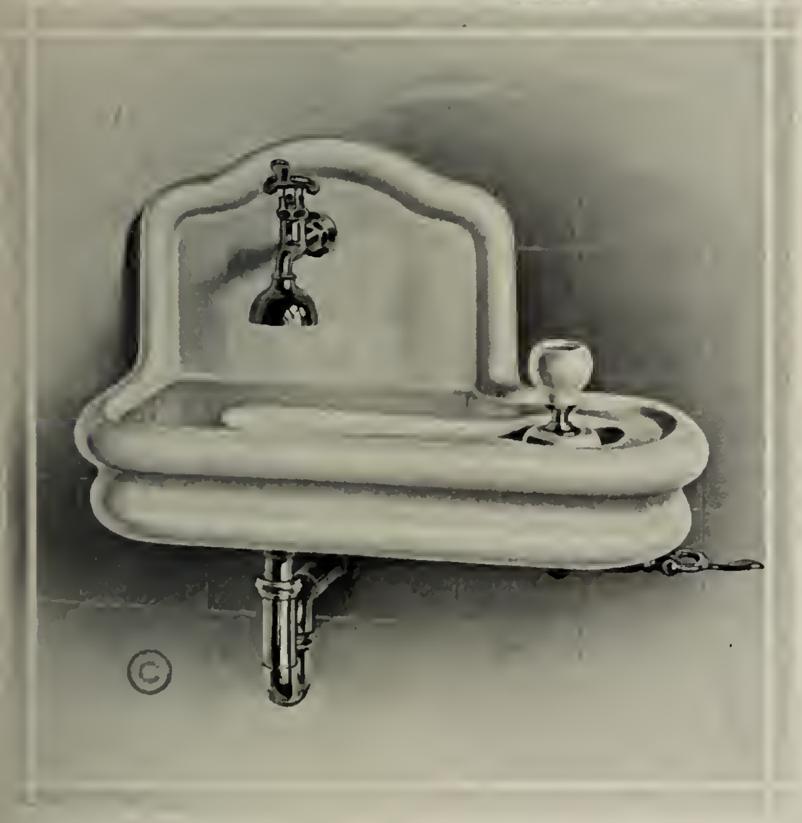


Fig. 16.—The American Medical Association special combination drinking fountain, on each floor. This fountain is specially designed for the American Medical Association. At the right is the sanitary bubbling cup, which flows when the lever at the right is pressed down; at the left is the ordinary faucet. The water supplying these fountains is filtered and cooled by the ammonia process.

MEDICAL COLLEGES

A large alcove in the Educational Department is devoted to information regarding the medical institutions of the world. This consists of extensive files comprising the announcements and catalogues of medical colleges in the United States and of nearly all of the medical teaching institutions of the Old World. These files are constantly being added to, not only as new announcements are issued, but also by back numbers of the announcements of medical schools, both existing and extinct. Here also are extensive files of educational reports, medical council reports and other pamphlets bearing on medical education. There are also files of catalogues, reports and pamphlets giving information in regard to secondary schools and colleges of liberal arts.

A CLEARING-HOUSE OF MEDICAL EDUCATION

Thus, the Council on Medical Education is carrying out one of the chief functions for which it was created, namely, the establishment of a clearing-house for all matters pertaining to medical education. Probably nowhere else can be found such a vast amount of data relating to medical education in all parts of the world.

EXCHANGE AND ABSTRACT DEPARTMENT

A prominent and valuable feature of The Journal is that department devoted to Current Medical Literature, in which is published, each week, abstracts of the leading articles of interest appearing in the principal medical journals of the world. A large room is devoted to this and here are files for the various medical journals. There are received, approximately, three hundred and thirty-five different journals, each one of which has a special compartment in the file as will be seen by the illustration (Fig. 34). These files are numbered crosswise and lettered up and down. A large card contains the list of journals with the letter and number of reference which makes it possible for one to go direct to the periodical wanted.

MANUSCRIPT-EDITING ROOM

Adjoining the exchange room is a large room (Fig. 32) in which all manuscript is edited. Into this room

Figs. 19-23.—A group of editorial offices. In the center is the office of the editor and general manager. The upper left view shows the room of Dr. Frederick R. Green, secretary of the Council on Health and Public Instruction. The upper right view is of the room of Dr. E. E. Hyde, the assistant to the editor. At the right below is the room of the department which investigates nostrums and quackery, in charge of Dr. A. J. Cramp. This room contains the "fake" files and the testimonial file, which together form the most complete collection of information concerning proprietary drugs, "patent medicines," "fake" cures, etc., to be found anywhere. The other view is a stenographers' room connected with the editorial suite; here are the stenographers of the editors and of the advertising manager, and here are kept card indexes of all articles received, accepted or published in all publications of the Association. On several of the pictures on this page will be noted a considerable number of baskets for correspondence. These baskets are emptied every hour by a clerk who carries the contents to the designated departments on the various floors of the building, this facilitating prompt action on letters, proofs, etc.

go all the manuscripts and material for all the publications of the Association, to be edited for the printer.

The subject of editing manuscript is too large a one to receive full treatment here. Few readers have any idea of the amount of work necessary to prepare for the printer the manuscript of even careful writers. Elaborate schemes of subheadings have to be translated into typography; tables have to be rearranged to make them practicable for the compositor and intelligible to the reader; the varying styles of individual writers have to be unified in conformity with the style of the Association press. (The Journal publishes a pamphlet* in which are explained some of the principles of style followed here.) The manuscript-editing room, of course, is supplied with dictionaries of English and other languages, books on style, diction and grammar, works of reference for various technical subjects, files of data, bound volumes of the various publications of the Association, a set of the Index-Catalogue of the Library of the Surgeon-General's Office, etc.

Figs. 24 and 25.—Two views of the accounting department. The lower view shows the cashier's office with Mr. E. C. Sheily, cashier, seated at his desk, and above is another view showing the mail opening department with the billing machines and the electric adding machine, etc All of the mail is opened by one bonded clerk. It amounts to something like 750 pieces a day at ordinary times, and from 1,000 to 2,000 pieces of mail a day at busy seasons. This applies to first class mail only. The exchanges, marked copies, newspapers, books, etc., come in sacks and are opened in another department. There are about 45 feet of high desking supplied with cupboards and drawers surrounding three sides of the room. The open door gives a view of a store room. In this room is kept the supply of pamphlets, reprints and other publications of the Association, and daily orders are filled from this stock. There is a large vault which is not shown in the pictures which contains files with the canceled voucher checks, ledgers and other records of the accounting department. There is also a fireproof and burglar-proof safe.

NEWS DEPARTMENT

In the main room on this floor is the news department. The "Medical News" feature of The Journal is not the least important and to glean the news for each weekly issue is quite a task. The sources of supply are personal communications, letters from occasional and regular correspondents and press clippings. In this department are kept, in envelopes, alphabetically, biographic records of physicians,

Fig. 26.—A view of the uncompleted library. The cases at the side of the room are shown, but the metal stacks are not yet in place.

Fig. 27.—A committee room on the fifth floor where are held meetings of the Board of Trustees and of the Council on Pharmacy and Chemistry, and of other committees. Heads of departments are occasionally called together here to discuss some question of importance to all.

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* A copy will be sent on receipt of 10 cents.

each bearing an individual's name. Into these envelopes are placed clippings and biographic notes. On the appointment of a physician to some important office, or in case of his death, the information contained in the envelopes is valuable in writing the appropriate notices.

ASSISTANT TO THE SECRETARY

The assistant to the secretary occupies the northwest corner of the fourth floor. In this room is kept information regarding the personnel of the organization. This information includes lists of members of all the component county societies of the country, kept by the card index method, arranged by counties and states.

NOSTRUMS AND QUACKERY

In addition to the amount of publicity to which it has subjected the so-called proprietaries, through the Council on Pharmacy and Chemistry, the Association devotes considerable effort to the investiga- of those medical evils which affect the people more directly—"patent medicines" and quackery. During the past year alone, over one hundred "patent medicine" products or quack institutions have been critically discussed in The Journal. Many of the these articles have been elaborated, profusely illustrated and reprinted in pamphlet form for distribution to the laity. That this work has awakened great interest in the subjects discussed is evidenced by the large number of inquiries that have been received on the subject. Hundreds of queries come in and are answered each month. A very large proportion of these have been answered by personal letter because of lack of space in The Journal.

The department in which this work is done (Fig. 23) has an exceedingly comprehensive file—usually referred to colloquially as the "Fake File"—containing a vast amount of data on medical and pharmaceutical fakes. The size of this file is steadily increasing and it probably contains more information on the subjects dealt with than is to be found in any other one place. Adver-

Figs. 28 to 31.—Four views in the business office on the third floor. The upper view shows the office of the manager of the advertising and subscription departments, Mr. W. C. Braun. The view on the right is of the subscription and membership departments. The one on the left is a corner of the general office showing the house telephone exchange and operator, the office boy, the house mail-delivering clerk, and the letter filing and correspondence mailing departments. Just beyond the glass partition is the waiting-room. The glass door straight ahead leads to the editorial suite. A feature of the letter mailing department not shown in this picture is an electric machine which seals, stamps and counts 150 letters a minute, another of the time saving devices of the office. It is especially important as a check on the number of postage stamps used. The lower picture is a general view of the subscription, membership and advertising departments, with the accounting department on the right in the background.

tising matter, both old and new, is to be found here; "follow-up letters" from quacks, "patent medicine" labels, reams of testimonials — these and the other paraphernalia that form the stock in trade of the nostrum exploiter and the quack are to be found classified and arranged in this file. Nor is this all; the names of the individuals who are behind many of the widely advertised "patent medicine" concerns, medical institutes etc., are included in the information that is here available. A comprehensive card index of over fifteen thousand cards is kept in connection with this file and an elaborate system of card indexing makes the information contained therein available in a moment.

Figs. 32 to 34.—View of the main room, fourth floor, showing, in the foreground, the desk of Dr. S. C. Stanton, the news editor; in the center, the directory department; and, in the rear, the extensive files of the Council on Medical Education, and the office of Dr. N. P. Colwell, secretary of that Council. The view on the left shows a part of the manuscript editors' room, in which all copy is prepared for the printer; on the right is the exchange and abstract room.

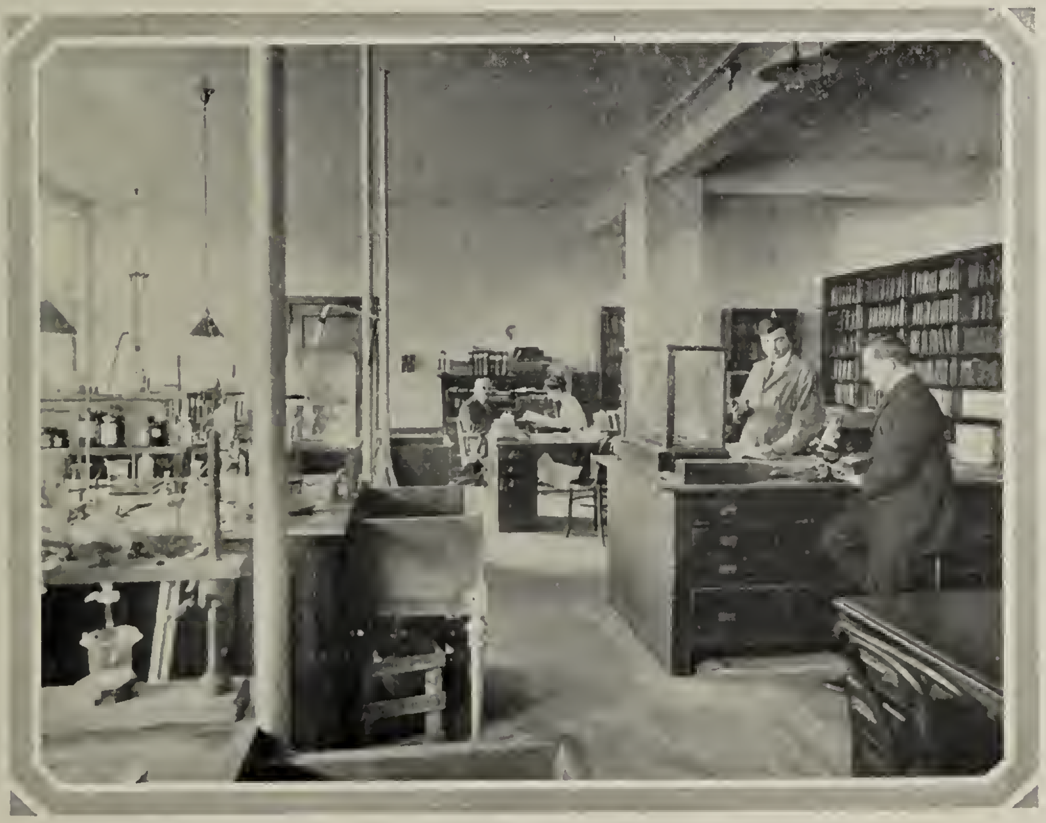

Fig. 35.—This, the main room of the chemical laboratory, is 30 by 40. The director, Mr. W. A. Puckner, is seated at his desk in the west end of the room, and his assistant chemists, Messrs. W. G. Hilpert and L. E. Warren, are standing.

The "Testimonial File," which is in the same department, contains the names of those physicians who make a practice of writing testimonials for proprietary products. There are over sixteen thousand cards in this file, and while most of the names it contains are for testimonials each to a single product, a large number have more than one. Some individuals have as many as twenty-five or thirty preparations against their names. The number of new names added each year, fortunately, is steadily decreasing.

The "Drug File," also compiled in this department, contains the names of all new drugs — proprietary and otherwise—whose use is described in current medical literature. Well-known non-proprietary drugs, when used in any uncommon way, are also listed in this file. In each case the reference and data are given. The value of this file of over 3,000 cards is appreciated when information is wanted on the probable therapeutic value of proprietary mixtures containing one or more obsolescent drugs. Ordinary textbooks contain practically no reference to drugs of that kind.

To look over even a fraction of the material collected in this department is to have overwhelmingly driven home to one the fraud, the deceit and heartlessness that are inseparable from quackery and nostrum exploitation.

On the fifth floor are the chemical laboratory, the library, and the trustees' and committee rooms.

CHEMICAL LABORATORY

From many points of view the chemical laboratory (Fig. 35) is one of the most important institutions in the Association building. It was established in 1906 to assist the Council on Pharmacy and Chemistry in its investigations, its function being to examine medicines to determine the truth or falsity of the claims of manufacturers. Gradually, however, the work of our chemists broadened out, and not only so-called "ethical" proprietaries, but the ordinary "patent medicines" became subject to investigation.

Here also are samples of old and new proprietary preparations and of the great majority of "patent medicines." The laboratory is thoroughly equipped in every particular; the new apparatus includes a microscope, a polariscope, a spectroscope, a Carius furnace, a combustion furnace, etc. It has a library of about 500 volumes on chemistry and pharmacy, and practically all the leading chemical and pharmaceutical journals of the world, thus making accessible to the medical profession, which the laboratory represents, every advance in pharmacy and chemistry. The laboratory personnel includes the director, who is an expert chemist, two other chemists, two clerks.

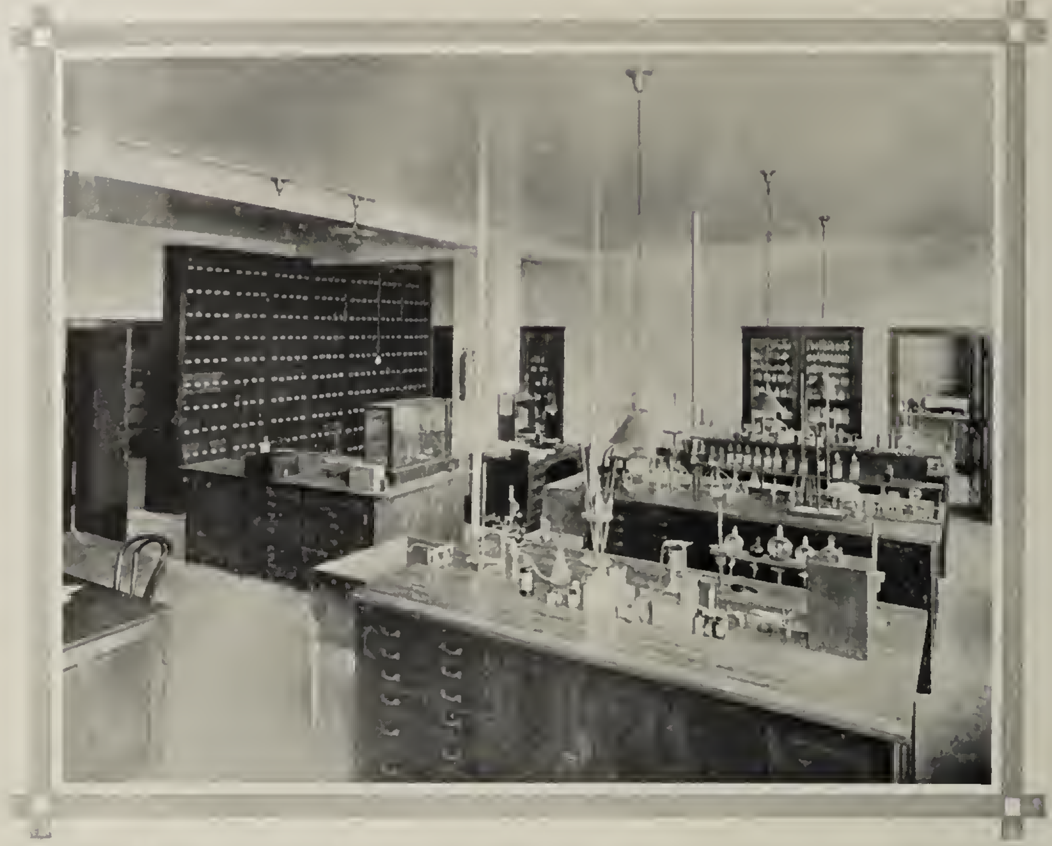
Fig. 36.—Another view of the chemical laboratory. Opening off from the main room to the right of the picture will be seen the fume room, in which many of the chemical procedures are carried on. This room is equipped with a powerful exhaust fan to carry off the fumes. Another room for the stenographers opens off from this room in the northeast corner. It also contains some of the files.

The sixth floor at present is used for storage purposes.

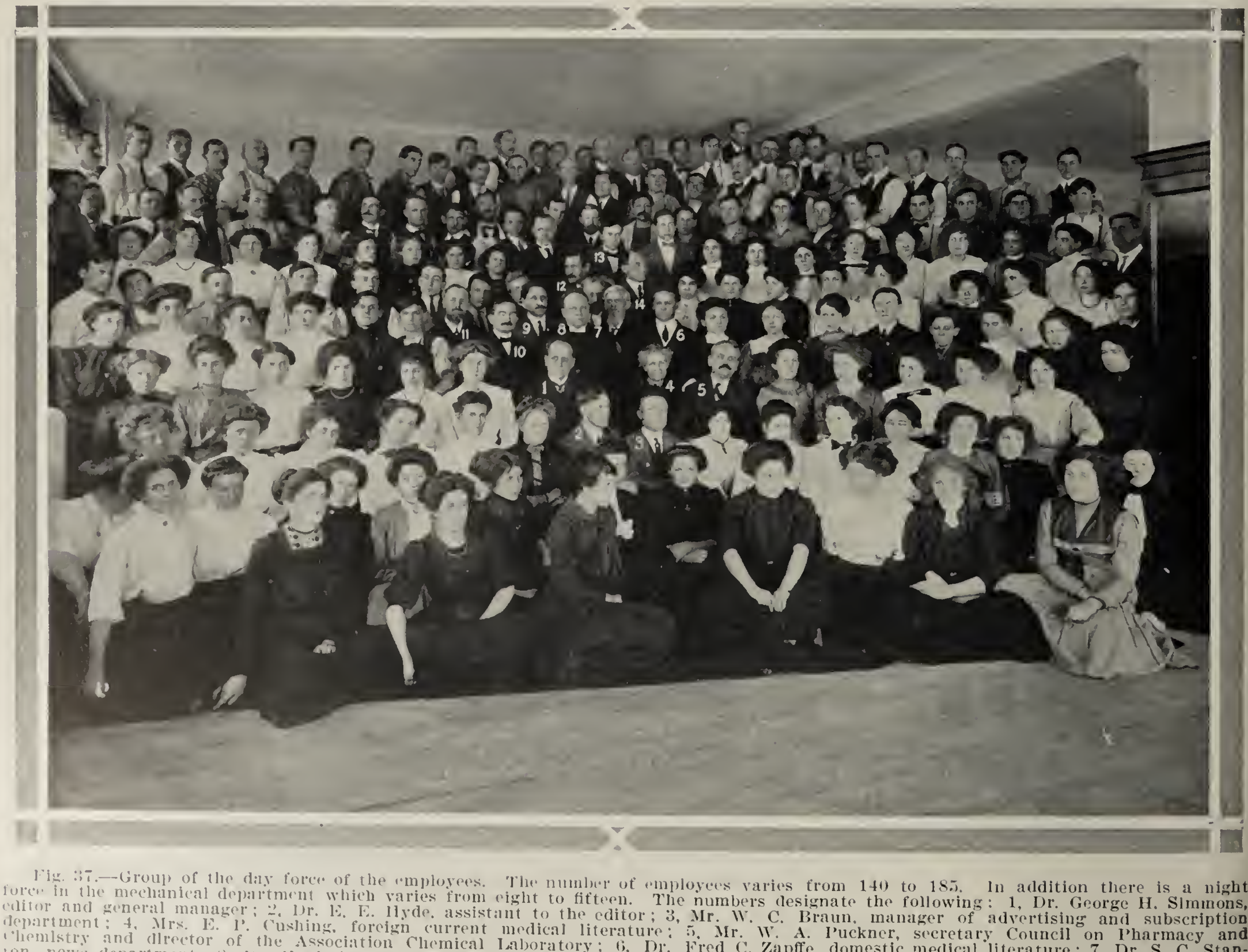

Fig. 37.—Group of the day force of the employees. The number of employees varies from 140 to 185. In addition there is a night force in the mechanical department which varies from eight to fifteen. The numbers designate the following: 1, Dr. George H. Simmons, editor and general manager; 2, Dr. E. E. Hyde, assistant to the editor; 3, Mr. W. C. Braun, manager of advertising and subscription department; 4, Mrs. E. P. Cushing, foreign current medical literature; 5, Mr. W. A. Puckner, secretary Council on Pharmacy and Chemistry and director of the Association Chemical Laboratory; 6, Dr. Fred C. Zapffe, domestic medical literature; 7, Dr. S. C. Stanton, news department; 8, Dr. Frederick R. Green, secretary Council on Health and Public Instruction; 9, Dr. N. P. Colwell, secretary Council on Medical Education; 10, Dr. A. R. Craig, assistant to the Secretary of the Association; 11, Dr. A. J. Cramp, department of propaganda for drug reform; 12 and 14, Drs. J. H. Salisbury and J. B. Champion, of the editorial staff; 13, Mr. E. C. Shelly, cashier.

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SATURDAY, JUNE 17, 1911

THE PERMEABILITY OF THE MENINGES

In the treatment of cerebrospinal fever by specific antiserum, the contention of Flexner and others, that without intrameningeal administration little or no effect is to be observed, has been amply confirmed clinically. A partial experimental basis for this conclusion was furnished by observations which showed that the meninges are normally quite impervious to certain foreign substances, but such observations have until lately been limited entirely to crystalloids. Recently, however, Lemaire and Debré[1] have investigated the permeability of the meninges to antitoxins, and they have obtained results that confirm in a very striking manner those of the clinical work.

Their method was to administer to dogs, subcutaneously, large doses of tetanus antitoxin obtained from a horse. After allowing three days for complete diffusion of the antitoxin, cerebrospinal fluid was withdrawn with all possible precautions against admixture with blood, and this was then tested both for its protective power against tetanus toxin in white mice, and, by precipitation tests, for the presence of horse-serum. In no case were the investigators able to obtain any evidence of the latter, but some slight protective power—so slight as to be almost negligible—was observed. The blood, tested similarly, had a protective power about five hundred times as great as that of the cerebrospinal fluid, and gave a very strong precipitation reaction.

In view of the possibility that alteration of the rate of circulation might influence the permeability of the meninges, Lemaire and Debré tried the effect of administration of morphin shortly before the meningeal paracentesis. As before, no precipitation test for horse-serum was obtainable in the cerebrospinal fluid, but this now had a protective power two to three times as great as before. Strangely enough, the antitetanic power of the blood was diminished to almost one-tenth of its former value; and inasmuch as any direct action of the morphin on the antitoxin could be eliminated, they believe that the explanation lies in a generally greater diffusion of the antitoxin into the tissues.

Setting aside, however, these minor considerations, this work serves to demonstrate strikingly the resistance to penetration offered by the envelopes of the brain and spinal cord. And it is quite possible that in this direction is to be sought, at least in part, the explanation of the relative insusceptibility of certain diseases of the central nervous system to indirect medication.

THE OLDEST PRESCRIPTION IN AMERICA

What is undoubtedly the oldest prescription in America is listed under Accession Number 988 at the New York Metropolitan Museum of Arts. Its date is probably not later than 1500 B. C., some time during the nineteenth dynasty. It is written on a small piece of limestone, about three and one-half by three inches in its present somewhat injured condition, carefully smoothed for the purpose, forming what is called an "ostracon." The writing was done with a brush and some sort of black ink or paint, for pens did not come into use in Egypt until the Roman time. The substance employed was well adapted to its purpose, for the writing is still quite plain, except near the edges of the stone where fragmentation has occurred. The inscription is in the old cursive hieratic writing, somewhat similar to that of the Ebers papyrus, which dates from about 1600 B. C. It is written on both sides of the stone, with what Egyptologists would probably call typical old Egyptian neglect of such details, from above down on the longer measurement of the stone on one side, but across on the other side, as some ladies of the present day, after having written down one sheet of letter-paper, then turn it over and write crosswise on the back of it. Unfortunately it is not known whence this specimen comes. It was noticed in the museum some years ago by Mr. Max Müller, who recognized its medical character and translated the inscription, though rather unsatisfactorily.[1] An effort was then made to find the place of its origin, but the specimen had come with a number of other antique finds of many kinds gathered from various portions of Egypt and its exact provenience, to use the archeologic term, could not be determined.

The prescription as written seems to be a copy, because portions that in the ordinary medical writings of the time are abbreviated are here written out completely, just as copies of prescriptions written out by druggists to-day have the abbreviations enlarged. The ingredients called for in the prescription are mainly precious stones. These were to be ground up to be used for fumigation. Professor von Oefele, an authority on ancient Egyptian medicine, suspects that the case was one of hysteria, though there is no indication of this on the prescription itself. Ground precious stones were favorite remedies for hysterical manifestations. They were used for fumigation whenever the ball in the throat, our globus hysteriens, was a prominent symptom. This was supposed to be due to a crowding of the other organs by a dislocation of the uterus upward.

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[1] Lemaire and Debré: Jour. de physiol. et de path. gén., 1911, xiii, 233.

[1] An Ostracon in the Metropolitan Museum, New York, Recueil de travaux relatifs à la philologie et à l'archéologie égyptiennes et assyriennes, xxii, 103.

Indications on the prescription show that various classes of precious and semiprecious stones were used for patients of differing degrees of wealth. For the very wealthy, a valuable stone like sapphire was used. For those of moderate wealth a more modest stone would do. For the poor, malachite, which was rather common, sufficed. The remedies which cure the nervous affections of ordinary people seem never to have been capable of producing the same effect on the neurotic symptoms of the wealthy, for whom something quite different, and above all, much more costly is required. Further study of the specimen will doubtless bring out more interesting details with regard to the medicine of the time.

THE PUBLIC DRINKING-CUP

The "cup of death" is rather gruesomely pictured in the *Cup-Campaigner* as a skull, with its top sawed off (as in autopsies), a handle fashioned to the occiput, a chain attached to the handle, the other end being fastened to a drinking-fountain. A campaign against the public cup is now being conducted throughout the Union. Several states have already taken action, Kansas being the first to abolish the common drinking-cup; Michigan, Wisconsin, Mississippi, New Jersey, New York, however, have fallen in line. Pennsylvania, through the secretary of her state board of health, warns her people that "the cup used in common in public places must inevitably be the constant medium of communication of diseases such as tuberculosis, diphtheria and other infections." In Illinois it is declared that "the public drinking-cup is as antiquated as the ducking-stool and the inquisition; people never think of eating from public plates or wearing public clothes or smoking public cigars."

Illinois has just passed a bill abolishing the use of the public drinking-cup. Chicago, through its health department, supported by the newspapers, has waged an active campaign against it. The city bacteriologists have collected drinking-cups from various school buildings, hotels, railway stations and stores in the city of Chicago and have made microscopic examinations and bacterial cultures from these cups. The most frequent varieties of germs found are various pus germs, also, specimens of pneumonia and diphtheria bacilli have been found. Guinea-pigs have been inoculated with these cultures and the results of these tests, according to the city bacteriologists, prove the deadly nature of these bacteria. All the pigs inoculated with the bacteria of the pus infections developed fatal abscesses. The tests with the diphtheria culture were also positive, as proved by the occurrence of the disease.

In Connecticut (as also in other states) private banking-houses, hotel managers, department-stores and other corporations are cooperating with the health authorities for the protection of their employees and their patrons and for the installation of the bubbling drinking-fountain in railway trains and stations, in parks and other public places. Many cities are moving in the same direction. New York City, after October 1, will make illegal the use of the public drinking-cup in any public institution, hotel, theater, factory, hall, school, railway station or ferry house; already some of the public schools of New York City have been equipped with a jet apparatus, so arranged that the child's lips do not touch any part of the machinery.

A large number of railroads have adopted a paper cup, supplied to the thirsty on putting a penny in the slot, which may be used for the entire trip. In trains, of all places, is this a necessary measure, both for disease prophylaxis and for elementary decency. Again, in barrooms, glasses, after being used, often receive no more attention than a dip in cold water and a perfunctory wipe with a towel that has already seen considerable service. At soda-water fountains also, "a lick and a promise" by way of apology for washing, are much in evidence. Such glasses may look clean, but often the invisible pathogenic bacteria remain to enter any abrasion of the lips, or possibly to penetrate an intact mucous membrane.

Elimination of this means of spreading disease, especially those most unfortunate cases of lues innocentium, should receive support, and might well be extended to cover a number of other public uncleanlinesses.

THE TREATMENT OF NEURALGIA WITH INJECTIONS OF ALCOHOL

The treatment of neuralgia by means of superficial or deep injections in the vicinity of the trunk of the affected nerve of sterile water or of saline solution or of various medicinal substances, anesthetic or otherwise, in solution is no new procedure, and good results have been obtained in this way. As our readers know, it is, however, only within the last decade that injections of alcohol, 70 per cent., 80 per cent., 90 per cent., into the sheath of a nerve have been made with the same object in view, and more particularly for the relief of trigeminal neuralgia.

In the hands of those who have had the largest experience the results have been most satisfactory.[1] Especially in the case of the branches of the fifth nerve the operation requires special skill and special apparatus by reason of the deep and concealed situation of the structures. Here the object is to reach the trunk of the first division in the sphenoidal fissure, or the second division in the round foramen, or the third division in the oval foramen, and these may be approached either from the side of the face or from the interior of the mouth. The operation is attended with some pain or a sense of burning, but the majority of operators do not use general or even local anesthesia, although some do. If the injection be properly made relief from pain follows within an hour or so in association with anesthesia or numbness of the parts supplied by the nerve subjected to treatment, and in many cases paresthesia in the skin or mucous membrane. The anesthesia, numbness or paresthesia gradually wears off, while the pain usually remains absent for months or even for years. Sometimes, perhaps because the injection does not thoroughly reach the nerve, the relief is but slight, and the injection must be repeated in a day or two or a week. Occasionally, several injections may be required, and it may be necessary to inject several branches of the fifth nerve on one or on both sides. The operation is comparatively free from danger, although circumscribed edema or a hematoma may develop, or a blood-vessel may be penetrated or a motor nerve injured. The technic can be readily acquired.

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[1] See the index of The Journal for the past four and one-half years for articles by Patrick, Hecht and others on this subject, among which the following may be mentioned: Blair, V. P.: Notes on Trifacial Neuralgia Treated by Deep Injections, The Journal A. M. A., Feb. 4, 1911, p. 335. Patrick, H. T.: Seventy-Five Cases of Trifacial Neuralgia Treated by Deep Injections of Alcohol, The Journal A. M. A., Dec. 11, 1909, p. 1987.

The procedure is indicated when the usual measures—medicinal, climatic, hygienic, physical—have failed, and it may be employed even after operations on the Gasserian ganglion have been unattended with success. Further, failure with this expedient does not preclude other surgical intervention. Endoneural injection of alcohol for the relief of neuralgia is applicable only to sensory nerves, inasmuch as serious muscular paralysis might result from infiltration of a motor nerve. Deliberate injection of a motor nerve may, however, be practiced in the presence of tonic or clonic muscular spasm.

THE SUPREME COURT ON THE FOOD AND DRUGS ACT

The Supreme Court's interpretation of the Food and Drugs Act in the case that is technically known as the United States *vs.* O. A. Johnson, has already been commented on in THE JOURNAL.[1] This week we reproduce in "The Propaganda for Reform" the full text of both the majority and the dissenting opinions of the court. A careful reading of these two documents will prove both interesting and instructive. Without desiring to criticize the findings of the highest court in the land, we believe that a careful study of the majority opinion will lead to the inevitable conclusion that the court had to strain the meaning of the English language and flounder far afield in order to find points on which to reach a decision that would uphold the lower court. On the other hand, we believe that all open-minded persons will declare that Justice Hughes' dissenting opinion is as superior in logic and common sense to the majority opinion as it is in composition and clearness of expression.

On analyzing the majority decision, it is found that the court admits that the claims made by Johnson for the curative effect of his nostrum were "false, or, at least, misleading." The court holds, however, that the words in the act which prohibit "any statement . . . which shall be false or misleading in any particular," mean "false or misleading" in *certain* particulars, namely, those relating only to the composition of a drug product or its place of manufacture. The court admits further that while "logically" interpreted the law probably prohibits the making of false statements regarding curative effects of drugs, interpreted "idiomatically it does not" prohibit. It appears then, that not only have Dr. Wiley and his assistants, in the past, interpreted the Food and Drugs Act in the interest of the sick who might be swindled, but they have interpreted it "logically." The Supreme Court, on the other hand, interprets the words of the act in an "idiomatic" sense— and incidentally in the interest of as cruel a gang of swindlers as ever operated under the protection of the law.

One point more is worth noting while discussing the majority decision: In the closing paragraph, while the court does not explicitly state that in its opinion Congress has no constitutional right to prohibit false statements regarding the curative effect of drugs, yet it is hard to read into that paragraph any other meaning. The court apparently holds that should Congress specifically prohibit false claims for curative effect, it would, in so doing, "distort the uses of its constitutional power" by establishing criteria "in regions where opinions are far apart." We believe that it is not necessary for a man to be learned either in law or in medicine to be able to see on the face of it that the claims made by Johnson the cancer cure quack and by those of his kind, are false *per se,* and in determining the falsity it is not necessary to wander into "regions where opinions are far apart."

In his dissenting opinion, which was concurred in by Justices Harlan and Day, Justice Hughes, in referring to the limitations which the majority of the court has placed on the meaning of the act, said:

> "I fail to find a sufficient warrant for this limitation, and on the contrary, it seems to me to be opposed to the intent of Congress and to deprive the act of a very salutary effect."

Mr. Hughes says further that to limit misbranding to mere statement of composition and place of manufacture is to "ascribe an altogether undue weight to the wording of the clause and to overlook the context." He says that, as must be evident to anyone:

> "If Congress had intended to restrict the offense to misstatements as to identity, it could easily have said so. But it did not say so."

Moreover, it is pointed out that when the question was before Congress, that body refused "so to limit the statute." To the argument that the curative properties of drugs are matters of opinion and that there are conflicts of opinion both between different schools of medicine and between individuals of the same school, he delivers this common-sense, knock-out blow:

> "Granting the wide domain of opinion and allowing the broadest range to the conflict of medical views, there still

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[1] THE JOURNAL A. M. A., June 3, 1911, p. 1660, and June 10, 1911, p. 1725.

remains a field in which statements as to curative properties are downright falsehoods and in no sense expressions of judgment. This field, I believe, this statute covers."

The dissenting justices hold that where a nostrum has been represented to be a cure, when as a matter of fact it is "absolutely worthless and an out-and-out cheat, the act of Congress can be said to apply to it." Finally, Justice Hughes sums up the whole question in one pointed and pertinent sentence:

"WHY SHOULD NOT WORTHLESS STUFF, PURVEYED UNDER FALSE LABELS AS CURES, BE MADE CONTRABAND OF INTERSTATE COMMERCE—AS WELL AS LOTTERY TICKETS?"

We believe that the country is asking the same question. Congress should answer it!

PROPHYLAXIS OF FOURTH-OF-JULY TETANUS

We have every reason to hope that the annual crop of tetanus cases will not be so large after this Fourth-of-July celebration as in previous years, for the "sane Fourth" movement seems to show a healthy growth, and tetanus occurs only in those places that still tolerate an insane Fourth. In 1909 there were reported 1,225 blank-cartridge wounds with 150 cases of tetanus, while in 1910, largely as a result of improved control of celebration by municipalities, only 450 blank-cartridge wounds were inflicted—a mere trifle—causing but seventy-two cases of tetanus, of which about sixty-seven were fatal. Even though this great improvement has taken place, we are still of the opinion that such comfort, joy and patriotic fervor as may be yielded by the primitive custom of celebrating Independence Day by explosives, is not worth the 131 lives and 2,792 injuries of greater or less severity which it cost last year. Enough others seem to be of the same opinion to assure a decreased expenditure of life, blood and cuticle for the 1911 celebration, but not enough to reduce this to zero.

It is still necessary to impress on practicing physicians the fact that, however many accidents may occur, the loss of life from tetanus is almost entirely preventable. Sixty-seven deaths from tetanus last year means that at least sixty-five lives might have been saved by prompt injection of antitoxin immediately after the wound was received. Undoubtedly in many cases this failure was caused by the neglect of the patient or his parents; but not a few failures, we regret to say, rest on the shoulders of the attending physician. Surely, after all the years in which the danger of tetanus from blank-cartridge wounds and the efficiency of tetanus antitoxin as a prophylactic have been heralded in the medical press, there is no reasonable excuse for such neglect. It should be remembered that the percentage of deaths from blank-cartridge wounds received in last year's celebration was greater than from bullet wounds, only 10.2 per cent. of the latter causing death, while 12.7 per cent. of the blank-cartridge wounds were fatal. The experience of each year, as to both Fourth-of-July injuries and ordinary traumas, strengthens the standing of tetanus antitoxin as a prophylactic agent, especially when given immediately after the wound is received. We would particularly emphasize, however, that antitoxin is not a substitute, but an accessory to thorough surgical cleansing, and also that the most thorough surgical care without antitoxin is not proof against tetanus when blank-cartridge wounds are under consideration. It must be realized that the cleansing of these wounds is a major operation, which can be performed only under complete anesthesia. The few recorded cases in which antitoxin has failed to prevent tetanus after suspicious injuries have usually occurred when a local infection has permitted the tetanus bacilli to live in the tissues until such time as the antitoxin has been eliminated or destroyed; hence in cases in which suppuration takes place in the wound, repetition of the prophylactic injection should follow at intervals of from eight to twelve days until complete healing has taken place. Neither should antitoxin be omitted when patients are not seen until the wound is several days old, but rather it should then be given in large doses, for although not certain to prevent tetanus when given this late, yet if tetanus does arise the prognosis is decidedly better if antitoxin has been used.

As to the curative treatment of tetanus, there still fails to be any decided step in advance. The magnesium sulphate treatment contains an element of danger which should limit its use for the present to large clinics and hospitals, where all conditions can be controlled, and where expert consideration can be given to the procedure. Unsparing use of antitoxin is apparently advisable after symptoms of tetanus have manifested themselves, and a review of the world's literature on the use of antitoxin gives strong indication that the intraspinal route is the method of choice. Not only is it theoretically advisable on the ground that antibodies injected into the blood are not secreted into the cerebrospinal fluid in large amount, but also because the clinical reports show a distinctly higher percentage of recoveries in cases in which the antitoxin has been given in this way.

Current Comment

GREAT IS MAMMON

Over a month ago we called attention to the fact that the referee board had upheld Dr. Wiley's contention that saccharin was injurious and, on the strength of this decision, the Secretary of Agriculture had declared that after July 1 of this year saccharin-containing foods would be regarded as adulterated under the Food and Drugs Act. Of course, a protest at once was made by those whose pocketbooks would be hurt by the decision; namely, the manufacturers of saccharin and those "food dopers" who think more of dividends than of public health. They pointed out that vast sums of money had been invested in the saccharin business and that the order issued by the government would practically destroy this business. The wail was heeded, and the sale of foodstuffs that are adulterated with "a poisonous and deleterious substance" instead of being prohibited after July 1, 1911, has been permitted to continue until May 1, 1912. The fact that saccharin is a harmful substance, and that in the interest of the public health its use in foods should be prohibited, counts as nothing when the almighty dollar is at stake. According to the Charleston (S. C.) *News-Courier*, Secretary Nagel, of the board of review, takes this attitude in cases of this kind:

> "Where the question about these foods is a close one, every consideration should be shown to the man who has invested his money in a business."

In other words, when the question between public health and individual profit is not clearly defined, decide in favor of individual profit! As the Charleston *News-Courier* says:

> "Here the lines were plainly drawn. This man's dollar was up against that man's health. The man for the dollar was there to speak for himself. The man whose health was to be placed in jeopardy was not there. The man with the dollar won, of course."

LINGER IN LOS ANGELES

The Los Angeles Committee on Arrangements most cordially invites all who attend the annual session to remain over the following Sunday. The rules restrain entertainments during the time the sections are holding their meetings. The committee, therefore, plans most elaborate entertainments on Friday and Saturday. A considerable amount of money has been raised and the committee would be sorry not to have its guests present to enjoy the good things which have been provided. A list of entertainments was given in The Journal May 20. It includes a Spanish luncheon in the beautiful sunken gardens, Roman chariot races and a midsummer night carnival. There will be trips to the orange-groves, to the beautiful bay of Avalon on Catalina Island and to San Pedro Harbor, Long Beach and other suburban beaches and resorts. It ought not to be hard to grant such a request as this. The reputation of California for hospitality adds a most delightful flavor of sincerity and cordiality to the urging of the committee, and we pass the invitation on to all of our readers with hearty endorsement.

THE TUBERCULOUS PATIENT AFTER SANATORIUM TREATMENT

Pennsylvania is one of the states that have made considerable advance in the institutional treatment and after-care of tuberculous patients. In addition to a number of state sanatoriums, there are distributed throughout the state some one hundred and fifteen tuberculosis dispensaries. The health commissioner of that state, Dr. Samuel G. Dixon, has prepared instructions to aid physicians and nurses in charge of these dispensaries in systematically following up these patients after they have left the sanatoriums. This is done principally by the trained nurses connected with the dispensaries. Under these instructions, the nurse in her visits to these patients is required to note details of their physical condition, not of course making such an examination as the physician makes, but observing whether a patient is improving, holding his own or going backward; the patient's general living condition; if employed, how many hours he is able to work, and conditions surrounding his work; facts as to the patient's present and previous earnings; family income; habits in regard to the use of alcohol and tobacco; number of hours the patient is able to rest; amount of sleep he takes; general sanitary conditions of his home, etc. The nurse also investigates particularly whether tuberculosis has developed in the patient's immediate family or among his relatives, and whether any connection exists between the new and the old cases. The institutional treatment of tuberculosis is now regarded as most effective. One of the difficulties connected with it, however, is the fact that most of the patients leave the institutions before they are cured. This is true as regards private sanatoriums, but especially of the state or municipal institutions, where there is such a large demand for admission, making it seem almost necessary to limit the time the patients may remain in such institutions. Hence it is most wise, if permanent results are to follow, that attention be given to the patients after they leave the institutions; and this not alone for the individual patient's good, but that he may not become a source of infection to his family and the community. The after-supervision is recognized by all as of great importance, and the system followed in Pennsylvania offers valuable suggestions that might wisely be followed in other states.

INDUSTRIAL LABORATORY SECRECY

It is a principle of the medical scientist working in the fields of chemistry, therapeutics, physiology, bacteriology, etc., or the surgeon in his special field, in originating an improved or new surgical procedure or instrument, immediately to give the world the benefit of his discovery or invention, without reservation and without material reward. In this age the discoveries of research workers and experimenters are seized on with avidity and applied in industry for commercial profit. So enterprising have industrial firms become that many of them maintain finely equipped laboratories and competent staffs of workers to invent and improve processes and substances which may be exploited for profit, taking advantage of every revelation of science. This is particularly true of discoveries in chemistry and biology, which may be applied in the treatment of disease. Many of these laboratories develop independently products of great value and in their work attain results or establish facts which cannot be utilized by them, but which might, if given to the world, lead to other discoveries of the highest scientific importance, perhaps in an entirely different direction. In making a plea for a more generous publication of scientific results in industrial laboratories, Prof. William H. Walker, of the Massachusetts Institute of Technology, in a recent address[1] says that there is a heavy moral obligation on the part of large industrial organizations maintaining fully equipped laboratories to contribute their share to the advancement of the world's knowledge, and that they could do much in this way without harm to themselves. In this respect he compares the attitude of the industrial establishments of Germany with those of this country, to the distinct advantage of the former. There are some notable exceptions to the rule, however, as in the instances of a few of the large commercial biologic laboratories of this country. But Professor Walker rightly deprecates the spirit which would have these laboratories remain the secret chambers of the alchemists, as it were, wherein to improve their methods of changing baser metals into gold without regard to their larger obligations to humanity. He rightly demands that they should join in the work of the special laboratories endowed by philanthropy and aid more largely in the general advancement of science.

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[1] Walker, William H.: Scient. Am., April 29, 1911, p. 422.

THE PASSING OF THE SMOKY CHIMNEY

Portraits of the literal, inartistic kind, when many years old, often have a ludicrous appearance, owing to changes in style of dress. Similarly, years hence, some of our present customs will invite a supercilious smile from the rising generation, for surely they are fated to become obsolete, and when they have become so it will be hard to understand why they were ever tolerated. The smoking chimney is a sample. We have before us the letterhead of the "Department of Public Safety, Office of the Superintendent of Hospital," of one of the largest cities of our country. A very carefully executed engraving of the hospital and grounds adorns the letterhead. In the background a smokestack rises from the heating plant. The artist, knowing that a smokestack was meant to smoke, does his duty nobly. The smokestack belches forth a black cloud. Such an exhibit on the letterhead of a Department of Public Safety will be absurd twenty-five years hence. This conception of the artist — namely, that a chimney should smoke — has been a source of amusement before now. Health resorts, steamboat lines and railroad companies often portray on their advertising matter a steamboat or engine belching out a veritable cloud; and the apparent besmirching and discomfort of all who are within reach cannot be said to be a first-class advertisement for the resort or the railroad. Customs change. Although a moving railroad train without a cloud of smoke would seem to be as much of an anomaly now as a horseless carriage would have seemed a short time ago, in the future the anomaly—and a most discreditable one—will be the smoking stack, at least within urban limits.

Symptoms of Phlegmon of the Larynx.—If seen during the first twenty-four hours, writes J. Harper in the *Practitioner*, the local appearance of acute phlegmon of the pharynx is that of follicular tonsillitis, but the general symptoms are out of all proportion to that disease. The disease is usually ushered in by severe shivering. In a short time the slight discomfort in the throat has developed into severe pain, and almost from the commencement the temperature is high, ranging between 103 and 106 F. The pulse at first is full and bounding though rapid, but soon becomes feeble. In a remarkably short time the patient's condition becomes extremely weak, in some cases going on to delirium and coma.

Medical News

ILLINOIS

University of Illinois Gets Appropriation.—Governor Deneen has signed the bill providing for an appropriation of over three and a half million dollars for the immediate support of the University of Illinois and for a mill tax each year for the future. Another item in the bill provides $60,000 per year for two years for the College of Physicians and Surgeons of Chicago, which will hereafter be known as the College of Medicine of the University of Illinois.

Chicago

Personal.—Dr. and Mrs. Clarendon Rutherford have started for Europe.——Dr. Newton D. Lee is said to have narrowly escaped drowning at Gray's Lake, June 4.——Dr. P. J. H. Farrell has recovered from his recent illness and resumed practice.

Home for Nurses.—Plans for a home for the nurses of Mercy Hospital have been started by the sisters in charge. It is proposed to erect a building to cost $100,000 and to accommodate 120 nurses. The urgent necessity for this lies in the fact that seventy of the nurses will soon be obliged to leave their present quarters on account of a decision of the city building department.

Medical Reserve Men Organize.—On June 6, the third meeting of the members of the Medical Reserve Corps, U. S. Army, was held in Chicago. Lieut. Charles Adams, surgeon-general of Illinois, presided, and Lieut. Samuel C. Stanton was secretary. After remarks by Col. L. Mervin Maus, M.C., U. S. Army, and Surgeon George B. Young, U. S. P. H. and M.-H. Service, on the scope and object of the medical reserve corps, a constitution was adopted and the Association of the Medical Reserve Corps, U. S. Army, Illinois Division, was formally organized and the following officers were elected: president, Lieut. Frank Billings; vice-president, Lieut. Edmund J. Doering; secretary and treasurer, Lieut. J. Allen Hornsby, and councilors, Lieuts. Charles Adams, Junius C. Hoag, Daniel A. K. Steele and Albert E. Halstead. Votes of thanks were given to Colonel Maus and Capt. James F. Hall, M.C., U. S. Army, for their aid in organizing the association, and these gentlemen, with Surgeon George B. Young, U. S. P. H. and M.-H. Service, and Brig.-Gen. Robert M. O'Reilly, M.C., U. S. A., retired, were made honorary members of the association.

Hospital Notes.—A free tuberculosis clinic was opened at St. Elizabeth's Dispensary, Blackhawk Street and North Ashland Avenue, June 2. Dr. Stephen R. Pietrowicz is attending physician and the clinic will be open on Mondays and Thursdays from ten o'clock until noon.——Plans are being prepared for the initial building for the Chicago Fresh Air Hospital at 7528 North Western Avenue. A three-story administration building, 50 by 150 feet, is first to be erected.——Property near Michael Reese Hospital has been purchased by the trustees of that institution on which the Sarah Morris Hospital for children, for which $300,000 was provided in the will of the late Mr. Nelson Morris, will be erected.——The Danish Hospital Association has been incorporated and proposes to build a Danish hospital on the south side of Chicago in honor of the late Dr. Christian Fenger, to be known as the Fenger Memorial Hospital.——By the sale of eight cornerstones and other privileges, $5,000 was raised, May 28, for the Maimonides Kosher Hospital which is now in course of construction at California Avenue and Rebecca Street.

INDIANA

Birth and Death-Rate.—During 1910 the birth-rate for Indianapolis was 20.03 per 1,000 and the death-rate 17.28 per 1,000. The rate for 1909 was 18.35 per 1,000 for births and 12.67 per 1,000 for deaths.

Sanitary Advancement in Public Schools.—The Indianapolis public schools have discarded the individual drinking cups and have placed bubbling fountains in every school building, and the use of sanitary tissue-paper towels is now being tried in place of the old-fashioned roller towel.

KENTUCKY

Dean Resigns.—Dr. Thomas C. Evans, Louisville, who, since the consolidation, has been the dean of the medical department of the University of Louisville, has resigned on account of ill health and Dr. William E. Grant has been selected as his successor.

Society Meetings.—At the annual meeting of the Southwestern Kentucky Medical Association, held in Paducah, May 17-18, the following officers were elected: president, Dr. William G. Kinsolving, Eddyville; vice-presidents, Drs. T. Atchison Frazier, Marion, and Claude E. Kidd, Paducah; secretary, Dr. Henry G. Reynolds, Paducah (reelected); treasurer, Dr. Vernon Blythe, Paducah (reelected), and historian, Dr. Robert T. Hocker, Arlington (reappointed). The next session will be held in Clinton, October 31.——Eagle Valley Medical Association, at its annual meeting held in Sanders, elected the following officers: president, Dr. Edward E. Bickers, Henry County; vice-president, Dr. C. H. Duval, Warsaw, and secretary and treasurer, Dr. John W. Botts, Owenton.

LOUISIANA

St. Luke's Guild Organized.—At a meeting held at the residence of Archbishop Blenk, New Orleans, May 27, an association of Roman Catholic physicians and dentists was organized, the design of the association being to open free clinics for the Catholic poor, not only in New Orleans, but in the centers of population all over the state. Among the officers elected are Drs. Lucien M. Provosty, New Orleans, and Charles M. Menville, Houma, vice-presidents, and Dr. Albert E. Fossier, New Orleans, treasurer.

State Railway Surgeons Organize.—On May 29 the Louisiana Railway Surgeons' Association was organized at Shreveport by surgeons of the Louisiana Railway and Navigation Company, Vicksburg, Shreveport and Pacific Railway, Alabama and Vicksburg Railway, and New Orleans and Northeastern Railway. The following officers were elected: president, Dr. Hermann B. Gessner, New Orleans; and vice-presidents, Drs. James B. Guthrie, New Orleans, and Stuart L. White, Ruston; secretary, Dr. J. D. Martin, Shreveport, and treasurer, Dr. Daniel W. Kelly, Winnfield.

MARYLAND

New County Society Officers.—At the annual meeting of the Howard County Medical Society, Dr. W. Rushmer White, Baltimore, was elected president; Dr. W. B. Gambrill, Ellicott City, vice-president, and Dr. Frank O. Miller, Ellicott City, secretary and treasurer.

Personal.—Dr. Claude C. Smink has resigned as surgeon on charge at the Bayview Hospital and has settled for practice at Lauraville.——Dr. Ira J. McCurdy, Frederick, has been detailed to make the preventive typhoid inoculation of the First Infantry, Md. N. G.

Baltimore

Personal.—Drs. William S. Halstead, William A. Fisher, Walter F. Sowers and Claude A. Stonecipher have sailed for Europe.——Dr. Nathaniel G. Keirle was given the degree of LL.D. by Dickinson College, Pa., June 7.

Antityphoid Vaccination.—Dr. Warren P. Morrill, superintendent of Sydenham Hospital for Infectious Diseases, advises general vaccination against typhoid, and the adjutant general of the state urges that all the militia going into camp this summer be so protected.

Faculty Changes.—The following appointments are announced in the University of Maryland: Dr. Harry Adler has been made professor of therapeutics and clinical medicine; Dr. Gordon Wilson, professor of clinical medicine; Dr. Joseph E. Gichner, associate professor of physical therapeutics and professor of clinical medicine; Dr. T. H. Davis, professor of operative and clinical dentistry, and Dr. B. Merrill Hopkinson, professor of oral hygiene and dental history.

Hospital and School for Crippled Children Opened.—The James Lawrence Kernan Hospital and Industrial School for Crippled Children at Radnor Park was dedicated, June 10. The property contains 63 acres and has on it a colonial mansion which, after having been remodeled, now contains thirty rooms. A modern cottage adjoins it, which contains twelve rooms, is to be used as a nurses' home. This institution will take the place of the City Hospital which it has occupied for the last fifteen years.

MASSACHUSETTS

Opium Seller Arrested.—Louis Quay, said to be the only Chinese doctor in Chinatown of Boston, was arrested June 1, charged with having opium in his possession. Another Chinaman was arrested at the same time, charged with being present when opium was found.

Personal.—Dr. Elmer E. Southard, Boston, secretary of the Section on Nervous and Mental Diseases, has been forced to give up his trip to Los Angeles because of an infection obtained at an autopsy on one of the patients in the strange tonsillitis epidemic which has been raging in and near Boston for some weeks. His assistant, Dr. Mooers, was infected by the same material and died from streptococcus septicemia and meningitis.

Harvard Post-Graduate Courses.—The post-graduate courses which have been held at Harvard Medical School for many years, have been organized into a definite school or department of the faculty of medicine so that the faculty, hereafter, will consist of the medical school, the dental school, and the graduate school in medicine, each presided over by a dean and administrative board, in addition to a dean of the faculty of medicine. Besides this, there is a division of medical sciences in the faculty of arts and sciences by which is administered master of arts, doctor of science, and doctor of philosophy degrees in medical subjects. This graduate school is to go into operation with the beginning of the academic year, 1912-1913. The proposed courses are: first, all-day courses, consisting of a general course in a variety of subjects for general practitioners, continuous throughout the school year, or special courses on single subjects for practitioners, teachers or specialists; second, interrupted courses or courses in special subjects for those who want instruction for a part of one or more days in the week; and third, research courses for men who wish to do original research work.

MINNESOTA

Detention Hospital Opened.—The formal opening of the new isolation hospital, erected by the village of Hibbing at a cost of $10,000, took place May 3. There are no cases of communicable disease in the hospital.

Personal.—Dr. and Mrs. William W. Lewis, St. Paul, have started for Europe.——Dr. Arthur W. Whitney, St. Paul, has been made chairman of the charter commission.——Dr. Roy J. Heron has resigned from the medical staff of the Soldiers' Home, Minneapolis, to enter private practice in North Dakota.——Dr. Homer F. Peirson has been elected chairman of the board of health of Austin.

MISSOURI

Hospital Directors Named.—Drs. Norman F. Terry, Theodore A. Coffelt, John R. Boyd and Robert L. Pipkin will serve as the directors of the Springfield Hospital Association for the ensuing year.

County Society Election.—Lafayette County Medical Society, at its annual meeting held in Lexington, May 11, elected the following officers: president, Dr. Caius T. Ryland, Lexington; vice-presidents, Drs. Ferdinand Schreiman, Concordia, and William A. Braecklein, Higginsville, and secretary and treasurer, Dr. Paul B. Clayton, Odessa.

Maternity Service and Nursery.—The trustees of the German Hospital, Kansas City, have set apart one floor of their new building for a maternity service and nursery. A modern equipment is being installed throughout. Dr. George C. Mosher has been elected obstetrician and director of the department and Dr. Frank C. Neff has been made pediatrist for the hospital.

St. Louis

Presentation to Health Commissioner.—On the retirement of Dr. H. Wheeler Bond as health commissioner, May 22, the officials and employees of the health department presented him with a silver punch bowl, ladle and tray.

Personal.—Drs. Walter H. Fuchs and James B. Pritchard have been appointed members of the board of health.——Dr. George A. Johns has been confirmed by the council as superintendent of the sanitarium and Dr. Michael J. Dwyer as superintendent of Robert Koch Hospital.——Dr. G. Alexander Jordan has been reappointed assistant health commissioner.——Dr. John B. Coryell has been elected grand medical examiner of the Knights and Ladies of Honor.——Dr. William Engelbach sustained painful injuries in a collision between his automobile and a work train of the United Railway Companies, May 19.

Memorial Services.—At a meeting of the St. Louis Medical Society, May 28, the nine members of the society who had died during the year were made the subject of eulogies by members. Dr. Gustav Baumgarten was eulogized by Dr. Washington E. Fischel; Dr. John E. Faber by Dr. Frederick W. Abeken; Dr. Theodore F. Fienup by Dr. Arthur N. Curtis; Dr. Robert Q. Gray by Dr. Paul Y. Tupper; Dr. John A. Leavy by Dr. James M. Scott; Dr. Julius F. Menestrina by Dr. Edward Horace Johnson; Dr. Bernard W. Moore by Dr. Edward W. Saunders; Dr. Edwin M. Nelson by Dr. Aaron J. Steele and Dr. Warren B. Outten by Dr. Frank J. Lutz.

NEW YORK

Jenkins Medical Association.—At the annual meeting of Jenkins Medical Association, held in Yonkers, May 11, the following officers were elected: president, Dr. L. B. Goldhorn, Mount Vernon; vice-president, Dr. Albert C. Benedict, Yonkers; secretary and treasurer, Dr. Frank W. Shipman, Mount Vernon; and trustees, Drs. Archibald M. Campbell and William F. Greene, Mount Vernon, and Edgar M. Hermance and Nathan A. Warren, Yonkers.

Personal.—Dr. Burt G. Wilder, Ithaca, emeritus professor of neurology and vertebrate zoology of Cornell University, Ithaca, has moved to Brookline, Mass.——Dr. Ambrose Beach, Coxsackie, underwent operation for appendicitis in the Albany Hospital June 3.——A building in Schagticoke, owned by Dr. James H. Lyons, Troy, was burned, May 26, with a loss of $3,000.——At the semiannual meeting of the Seneca County Medical Society, held in Seneca Falls, Dr. Elias Lester, Seneca Falls, who has been a member of the medical profession for more than fifty years, was the guest of honor.

New York City

Cholera Death on Ocean Liner.—The passengers on the steamship *Berlin* from Naples were held in quarantine on arrival at New York City on account of a death from cholera on board.

Personal.—Dr. Walter H. Conley has been appointed first deputy medical superintendent of Bellevue and Allied Hospitals, vice Dr. George O. Hanlon, promoted to general medical superintendent.——Dr. and Mrs. Louis Kast sailed for Europe, June 6.

New Polyclinic Hospital.—The New York Polyclinic Hospital will be completed about October 1. Dr. John A. Wyeth was the founder and is the secretary and moving spirit of the institution and the chief promoter of this new enterprise. The building is said to be the tallest hospital building in the country. The main building will be ten stories in height, with a solarium on the roof. On the ground floor will be the dispensary, rooms for the visiting staff, patients, trustees, etc.; on the second floor the medical and surgical amphitheater, four wards, examination rooms, *x*-ray and laboratory, and minor operating room; the mezzanine floor will be given over to diseases of the eye, ear, nose and throat; the fourth floor will be occupied by a children's ward, maternity ward, and museum; sleeping rooms for nurses and servants are located on the fifth floor; the sixth, seventh and eighth floors are to be devoted to private patients; the ninth floor to private operating rooms and wards; the tenth floor contains an isolation ward, and the dining rooms of the officers, nurses and servants, while the roof will be used as solarium for all patients. The legend over the entrance of the hospital is: "For the sick without regard to race or creed." The main building will cost about $650,000 and, with the adjoining ambulance station, training school for nurses, and cost of ground, will represent, altogether, an investment of about $1,000,000. About half of this is available at the present time.

OHIO

Personal.—Dr. Henry G. Meek, Bellaire, has been elected president of the Bellaire Board of Health, and Dr. Dixter W. Boone, health officer.

New Officers for State Board.—At the annual meeting of the State Board of Health, Dr. Frank Warner, Columbus, was elected president; Dr. Oscar Hasencamp, Toledo, first vice-president; Dr. Frank Boudreau, Cleveland, epidemiologist, and Dr. Charles O. Probst, Columbus, was reelected secretary-treasurer.

Cincinnati

Visiting Nurse for Eye Cases.—The board of health has accepted the offer of the Cincinnati Society for the Welfare of the Blind to give $1,000 a year for the employment of a visiting nurse to look after cases of affected vision in children, with especial reference to ophthalmia neonatorum.

Health Department Experience for Advanced Students.—The board of health of Cincinnati has voted that junior and senior students of the College of Medicine of the University of Cincinnati may have a practical course in public health and sanitation. The work will include the usual chemical and bacteriologic work of health departments, the questions of water-supply, sewage disposal, disposal of dead, sanitary tenement and house inspection, meat, vegetable and dairy inspection, school inspection and vaccination, tuberculosis field work (including dairy work), actual epidemiologic work (including tracing of cases and sources of infection), and finally, statistical work and methods of making and filing reports.

PENNSYLVANIA

Personal.—Dr. Francis H. Brobst of Reading has sailed for a two-year trip around the world.——Dr. Samuel S. Woodburn has been appointed a member of the council of Pittsburg.

Philadelphia

Personal.—Drs. Alexander C. Abbott and D. Braden Kyle have been reappointed members of the board of health.——Dr. James A. Erwin and Mrs. F. M. Erwin sailed for Europe, June 10.——Dr. J. Louis Borsch, formerly of Philadelphia but now of Paris, has been elected ophthalmic surgeon to the Trinity Lodge Hospital in that city to fill the vacancy left by the death of Dr. Bull.——Dr. H. Brooker Mills has been elected physician to the Northern Home for Friendless Children at Philadelphia.——Dr. George Hudson-Makuen was elected president of the American Laryngological, Rhinological and Otological Society at the meeting in Atlantic City, June 3.——Drs. Ferdinand Lessing and Albert P. Brubaker have sailed for Europe.——Dr. Allen J. Smith, dean of the Medical School of the University of Pennsylvania, received the degree of LL.D. at the exercises attending the opening of the Medical School Building of McGill University.——Dr. Milton B. Hartzel received the degree of LL.D. at the commencement exercises of the State College.——Dr. Charles E. G. Shannon has been appointed assistant attending ophthalmologist to the Philadelphia General Hospital.

RHODE ISLAND

Library Cornerstone Laid.—In the presence of a notable gathering of the medical fraternity of Rhode Island, the cornerstone of the new library of the State Medical Society was laid June 1. Addresses were made by Dr. G. Alder Blumer, New Haven, Conn., and the presiding officer, Dr. Frank L. Day, Providence, who laid the cornerstone.

State Society Meeting.—The ninety-ninth annual meeting of the Rhode Island Medical Society was held in Providence, June 1, and the following officers were elected: president, Dr. Frederick T. Rogers, Providence; vice-presidents, Drs. Alexander B. Briggs, Ashaway, and John W. Keefe, Providence; secretary, Dr. Stephen A. Welch, Providence (re-elected), and treasurer, Dr. Winthrop A. Risk. Dr. G. Alder Blumer delivered the annual address entitled "A Plea for the Medical Library." At the annual dinner of the society, Dr. Arthur Hollingworth, Providence, acted as toastmaster and Dr. Shattuck, Boston, made an eloquent appeal to arouse interest and support for the library.

GENERAL NEWS

Honors to Surgeon-General.—Surgeon-General Charles F. Stokes, U. S. Navy, delivered the valedictory address at the commencement exercises of Jefferson Medical College, Philadelphia, June 5. On this occasion the college conferred on Surgeon-General Stokes the degree of LL.D. and on the following day Columbia University, New York City, gave him the degree of D.Sc.

Orthopedists Elect Officers.—At the annual meeting of the American Orthopedic Association, held in Cincinnati, May 15-17, under the presidency of Dr. Albert H. Freiberg, Cincinnati, the following officers were elected: president, Dr. Virgil P. Gibney, New York City; vice-presidents, Drs. George B. Packard, Denver, and T. Halsted Myers, New York City; secretary, Dr. Ralph R. Fitch, Rochester, N. Y.; and treasurer, Dr. Gwilym G. Davis, Philadelphia. The next meeting will be held in New York City in May, 1912.

Southern Railway Surgeons Meet.—The sixteenth annual meeting of the Association of Surgeons of the Southern Railway was held in Charlotte, N. C., May 29-30, and the following officers were elected: president, Dr. John H. Mitchell, Mount Vernon, Ill.; vice-presidents, Drs. Robert L. Gibbon, Charlotte, N. C., Reuben T. Ramsey, Elba, Va., Francis A. Webb, Calvert, Ala., and Walter R. McKinley, Columbus, Miss., and secretary and treasurer, Dr. Jacob U. Ray, Woodstock, Ala. Surgeon Charles P. Wertenbaker, U. S. P. H. and M.-H. Service, delivered an address on "Railroad Sanitation."

Medical Milk Commissions.—The fifth annual meeting of the American Association of Medical Milk Commissions was held in Philadelphia, May 23-24, under the presidency of Dr. Milton J. Rosenau, Boston, coincident with the Philadelphia Milk Show, May 20-27, and the meeting of the Certified Milk Producers' Association, May 22-23. Louisville was selected as the place of meeting for 1912. Dr. Henry Enos Tuley, Louisville, was elected president, Dr. Samuel McC. Hamill, Philadelphia, treasurer, and Dr. Otto P. Geier, Cincinnati was reelected secretary.

Award of Marie Feodorovna Prizes.—The American Red Cross announces, in connection with the International Conference of the Red Cross, which will be held in Washington, D. C., May, 1912, that the Marie Feodorovna prizes will be awarded. These prizes represent the interest on a fund of $51,000 which the Dowager Empress of Russia established about ten years ago for the purpose of diminishing the suffering of the sick and wounded in war. Prizes are awarded at intervals of five years and at present are of the following value: one of $3,600; two of $1,530 each; and six of $510 each. The topics selected for the competition are:

1. Organization of evacuation methods for wounded on the battle field, involving as much economy as possible in bearers.
2. Surgeon's portable lavatories for war.
3. Methods of applying dressings at aid stations and in ambulances.
4. Wheeled stretchers.
5. Support for a stretcher on the back of a mule.
6. Easily portable folding stretcher.
7. Transport of wounded between men of war and hospital-vessels and the coast.
8. The best method of heating railroad cars by a system independent of steam from the locomotive.
9. The best model of a portable Roentgen-ray apparatus, permitting utilization of *x*-rays on the battle field and at the first-aid stations.

The chief prize will be awarded for the best solution of any of the subjects in question. Further information may be obtained by addressing the chairman of the exhibit committee, American Red Cross, Washington, D. C.

Circular on Acute Epidemic Poliomyelitis.—The American Orthopedic Association and American Pediatric Society have issued a circular addressed to health authorities and boards of health on anterior poliomyelitis. This circular states that the disease is communicable from one patient to another, and also by a third person; that it occurs in epidemics and tends to spread along the lines of travel; that there is reason to believe that it is prevented from spreading by quarantine and that in the opinion of the associations it should be a reportable disease. It further stated that abortive cases are of particular significance; that they are, undoubtedly, a source of infection and that their study is of much importance. In cases of infantile paralysis, other cases of illness with sudden onset of fever and meningeal symptoms should be closely watched and regarded as suspicious. All kinds of infantile paralysis should be strictly quarantined, the sputum, urine and feces being disinfected, and the same rigid precautions adopted as in scarlet fever. The quarantine should last four weeks, in the absence of definite knowledge as to when the infection ends. Children from infected families should not be allowed to go to school until the quarantine is raised. The transportation or transfer of patients in the acute stage of the disease in public conveyances should be strictly forbidden. It would be desirable to adopt provisional quarantine measures as regards suspicious cases when an epidemic prevails in a community. All cases should be reported to the public health authorities and all deaths from this cause properly described and registered. The committee, in conclusion, advises that public health authorities make a careful study of epidemics.

FOREIGN NEWS

Physiology at High Altitudes.—The scientific laboratories on Monte Rosa, named after the late Prof. A. Mosso, of Turin, will be opened for scientific research on and after July 15, this year. There are sections devoted to physiology, botany, physics and microbacteriology, and there are nineteen posts open to research workers from all the countries or institutions which contribute to the support of the institution. Applications for reservation of a place must be sent to the director, Dr. A. Aggazzotti, Corso Raffaello 50, Turin, Italy, not later than July 1, with specifications as to the subject of research and the credentials from the government or institution.

Influence of Occupation on Development of Female Diseases.—The *Staatsministerium* in Bavaria has issued an official appeal to physicians suggesting that in all case-histories hereafter the occupation and the special trade, in particular, shall be briefly noted. It states that the influence of the occupation on development of female diseases must be studied more closely as women are becoming wage-earners in constantly larger proportions. The data accessible on this subject are not sufficient at present on which to base general conclusions. The appeal is signed by Dr. Koelsch of Munich, the medical official in the *Staatsministerium* in charge of industrial matters in Bavaria. He adds that the material already on hand to date in the various university clinical institutions might be utilized for graduation theses, and he offers his services to supply the writers with social-technical information as desired. The appeal is being published in the current German gynecologic and general medical journals, as, for instance, in the *Monatsschrift für Geburtshülfe und Gynäkologie*, April, 1911, p. 514.

Pneumonia and Phthisis in the Transvaal.—According to a report by Dr. G. D. Maynard, an inspector of the health department, Johannesburg, on the mortality among natives employed in the mines and on other work in the Transvaal, the most frequent causes of death are pneumonia and pulmonary tuberculosis. The fact is also revealed that the death-rate from these diseases among the natives recently arriving from the northerly or more tropical regions is considerably higher than among those coming from south of latitude 22 degrees S. Among the East Coast natives who have not completed one month at work, pneumonia accounts for 443 per 1,000 of all deaths during the first month, while only 97 per 1,000 deaths are due to tuberculosis. At the end of a year, however, tuberculosis accounts for approximately 300 per 1,000 deaths. The conclusions of the report are that the general death-rate among all natives, tropical and others, shows a marked decrease during the first eighteen months at work. The pneumonia death-rate is at least three times as high during the first six months as it is in the second year. Tuberculosis becomes relatively more important as the length of residence in the mining districts is increased, but in spite of this, the general death-rate shows a marked falling off in magnitude.

Deaths Abroad.—In addition to those mentioned by our foreign correspondents, the following are among the prominent men who have recently died: Major Lamb, I.M.S.; University of Glasgow, Scotland, 1890, whose work in connection with the investigations of the action of Indian snake venoms has brought him just renown; died in Edinburgh, Scotland, April 13, aged 42.——V. Cozzolino, professor of ear diseases at the University of Naples, died April 18, aged 58. He has taken a leading part in late years in the campaign against tuberculosis and in the training of deaf-mutes, his last work being on this subject. He offered a prize to be awarded at the next International Congress on Otology, which is to meet at Boston in 1912, for the best work on the various aspects of lesions of the middle ear, inducing insidious, progressive deafness and tinnitus.——R. Binswanger, of the Kreuzlingen, Switzerland, sanatorium for mental diseases, founded by his father and now carried on by his sons, recently succumbed to coronary sclerosis, at the age of 61. The Binswanger family has always stood as pioneers for the principle that occupation and intercourse with the well are most important elements in treatment of mental disease. Binswanger also took a prominent part in local and national politics when matters of public moment were involved.——H. Naegli-Akerblom, privat-docent of the history of medicine, died at Geneva, Switzerland. He was born at Rio de Janeiro but has spent his life in Switzerland.——E. Hagnauer, a leading ophthalmologist at Valparaiso, Chili, of Swiss parentage, succumbed recently to angina pectoris, aged 48.——Don J. Aparici, director of the army hospital at Alcala in Spain, recently succumbed to blood poisoning from a scratch during an operation.——G. Haarmann, mayor of Witten, Prussia, since 1890, who had served several terms as member of the imperial and national legislatures, died at Witten, aged 63.

LONDON LETTER

(From Our Regular Correspondent)

London, June 3, 1911.

National Insurance Bill

In my last letter to The Journal I stated that the profession was thoroughly roused to the great danger to its interests of the national insurance bill. Evidence of this fact is increasing on all sides. Both the medical and the lay press are deluged with letters from angry physicians. A special representative meeting of the British Medical Association lasting two days and sitting on the first day from 10 a. m. until midnight has been held. Absolute unanimity obtained on all important points. The representatives agreed that there must be no control of the physicians by the friendly societies, that there must be a free choice of physicians, that a wage limit for medical attendance of $10 per week must be adopted, and that medical representation must be adequate on the controlling bodies. On the second day the Chancellor of the Exchequer, Mr. Lloyd-George, attended at the morning session for the purpose of hearing the views of the representatives and conferring with them. The proceedings were of the nature of a running conversation. He declared that the whole-hearted support of the profession was necessary for the success of the bill. He was quite in favor of the free choice of physicians. He said that an advisory committee to assist the insurance commissioners would be set up after the passage of the bill when regulations would be framed for medical service, and there would then be ample time for consideration of details. At least one of the insurance commissioners will be a doctor. He was in favor of the freedom of physicians from control by the friendly societies, and for vesting all charges for medical benefits in the local health committees. With regard to the rate of payment, the bill did not dictate this and it would be dealt with by the insurance commissioners. With regard to the income limit he held out no hope that the proposal to fix the limit at $10 per week could be accepted by the House of Commons. Large bodies of skilled workers such as coal-miners and engineers had wages above that and at present were admitted to the friendly societies. No member of the House of Commons, unless a representative of one of the universities, would dare to propose their exclusion. It is on this question of a wage limit that the government will have the greatest difficulty in coming to an agreement with the profession. Probably all other questions can be settled by arrangement, but the wholesale conversion of private into contract practice is abhorrent to the profession, which is thoroughly united on this point. The British Medical Association has 22,000 members, which is somewhat more than half of the profession, and it represents the whole profession in the stand which it is making against the objectionable provisions of the bill. In response to a circular physicians are joining the association in unprecedentedly large numbers for the purpose of fighting the bill. Following the meeting of the representatives of the divisions of the association a mass-meeting of the profession, members and non-members, was held in London. It was attended by about 1,500 doctors and was the largest meeting ever held to consider a medico-political question. On the platform were many of the leaders of the profession; Mr. Butlin, president of the association, and also president of the Royal College of Surgeons, Sir Thomas Barlow, president of the Royal College of Physicians, Sir Victor Horsley and others. The meeting was most enthusiastic, and heartily endorsed the program of the representatives of the association. It was pointed out that if physicians presented a united front all the threatened dangers of the bill could be averted, for no matter what laws were passed their consent to the working of them was essential. Great hostility was displayed to any scheme that would place the profession under the heel of the friendly societies and one speaker was loudly cheered when he went much further and declared that the opportunity had now arisen for abolishing the system of contract practice entirely. A resolution was carried unanimously not to take part in the working of any scheme which had not previously been accepted by the British Medical Association. The only resolution on which there was any difference of opinion was that fixing the wage limit at $10. A small minority voted against this because they would have liked to go still further and fix the limit at $6. The chancellor seems to have made the mistake of imagining that because the contract system was already in vogue all it had to do was to fix the rate a little higher and be regarded as a benefactor by the profession. He was not alive to the fact that the contract system is strongly disliked and is merely tolerated. This bill has done one thing which seemed previously impossible—thoroughly united the whole profession.

Removal of Physicians from the Register for Working with Unqualified Persons

Sandow, who started as a strong man, has undergone an evolution not altogether respectable; he has passed through the stages of teacher of gymnastics and physical culture and finally has become a quack. He has established a most successful business termed the Sandow Curative Institute, to which patients are attracted by all the unscrupulous arts of the nostrum exploiter. Whole-page advertisements filled with the usual blatant humbug promising to cure all sorts of diseases have secured for him the subservience of our venal press, evidenced in disguised puffs in the form of leading articles. Even certain doctors of some standing have, I regret to say, been induced to write articles on the benefits of physical culture in general and Sandow's system in particular. But Sandow has at last gone too far. He engaged three doctors at a salary for the purpose of examining patients to ascertain whether they were fit to undergo the exercise. These doctors have now been prosecuted before the General Medical Council by the British Medical Association for associating themselves in a professional capacity with an institution which systematically advertises for the purpose of procuring patients who are to receive, either by correspondence or attendance, treatment for disease under the personal direction of Mr. Sandow, who is an unqualified person. For the defense it was put forward that the accused doctors took no share of the profits and had no part in the management of the institute. The examinations which they conducted were for the purpose of protecting the public. Sandow also said that, if the doctors should be held to have transgressed the standard of medical ethics so as to render them liable to removal from the register, he was prepared to entrust the prescribing of the treatment according to his methods to the physicians and to cease advertising in the lay press that the Sandow Institute undertakes to cure disease. The Council found the three doctors guilty, but removed the name of only one from the register, and postponed judgment in the case of the other two, giving them time to reconsider their position.

A short time ago I reported the case of a man suffering from tuberculosis of the knee who was treated by Mr. Barker, the well-known bone-setter, under an anesthetic and was obliged subsequently to have his leg amputated. The Council found the doctor who administered the anesthetic guilty and ordered the removal of his name from the register.

The Seventeenth International Congress of Medicine

Particulars as to this congress, which will be held in London, Aug. 6-12, 1913, have been given previously in The Journal, April 8, 1911, p. 1047, May 13, 1911, p. 1404, June 10, 1911, p. 1733. The following officers have been elected: president, Sir Thomas Barlow; secretary-general, Dr. W. P. Herringham, 40 Wimpole St. W.; treasurers, Sir Dyce Duckworth and Mr. G. H. Makins.

The International Association of Medical Museums

At a meeting of pathologists interested in medical museums this organization was discussed. Its objects are the interchange of museum specimens and material for research, the elevation of the medical museum as a teaching medium, and the improvement of museum technic. It maintains an exchange department and an experience department for the interchange of information. The membership is ninety-eight. After discussion the following resolutions were passed: (1) That a meeting of the association be arranged in conjunction with the International Congress on Medicine in 1913; (2) that the three great English medical societies, the Pathological Society, the Anatomical Society and Royal Society of Medicine, be requested to cooperate with special reference to the publication in their journals of news of the department of exchanges, and short reports of meetings; (3) that correspondents be appointed in London to act as local secretaries.

Total Abstinence and Longevity

The seventieth annual report of the United Kingdom Temperance and General Provident Institution is a record of continued progress. The number and amount of new policies are the largest ever issued in one year. In the general section the expected mortality for the quinquennium 1906-1910 was 2,282, and the actual mortality was 1,900 while in the temperance section (confined to total abstainers) the expected mortality was 2,291 and the actual mortality only 1,504. The surplus allows of a reversionary bonus on whole life policies with full profits at the rate of 2.1 per cent. in the temperance section and 1.7 in the general section. The report of the Sceptre Life Association shows a similar result favorable to total abstainers. For the twenty-seven years 1884-1910 the expected deaths in the general section were 3,352 and the actual deaths 2,674 (79.7 per cent.); in the temperance section the expected deaths were 2,311 and the actual deaths 1,124 (52.5 per cent.). But not only here are the figures of the temperance insurers superior over the whole period, but for every quinquennium since 1893 they show an increasing superiority. Thus for the quinquenniums 1894-98, 1899-1903, 1904-08, and the two years 1909-10 the percentage which actual deaths form of expected deaths were in the general section 79.3, 76.9, 80.8 and 80.9, while in the temperance section they were only 54.4, 52.5, 48.4 and 48.4. Thus, while the mortality in the general section shows no decline, the mortality in the temperance section shows a steady fall from 1894 to 1908. This is attributed to a larger number of the assurers in the temperance section being life abstainers and to an increasing number being the children of abstainers.

PARIS LETTER

(From Our Regular Correspondent)

Paris, May 26, 1911.

The New Codex and the Physician's Right of Prescription

The new codex the use of which was made obligatory in 1909 (The Journal, Aug. 29, 1908, p. 772) has modified on a great number of points the old formulas that we were accustomed to use and of which we understood thoroughly the mode of action. Thus, in most of the heroic medicaments our old formulas for tinctures of 1/5 have been modified to 1/10. Other products have been more modified. Thus, in Sydenham's laudanum, two centuries old, wine has been replaced as a solvent by alcohol. Thus it has become a kind of composite tincture which has no longer the same properties as true laudanum. The tincture of iodin, which physicians have been accustomed to employ in the dilution of 1 to 13, has been made 1 to 10, which makes a very caustic drug, all the more that the old tincture was prepared with 90 per cent. alcohol while the new is to be made with 95 per cent. However this may be, these modifications would not at all inconvenience the physician if he were able to prescribe and to obtain for his patient the old preparations, the activities of which he understood perfectly and from which he could obtain therapeutic results. But this is precisely the point of difficulty. The Société de thérapeutique appointed a commission to study the matter. Dr. Albert Robin, who submitted the report of the commission, protested energetically against the narrow and Draconian way in which the new formulas have been made the standard to the exclusion of the old; in fact, the pharmacist has no right to keep in stock the products the formula of which has been modified, and honest pharmacists have several times been criminally prosecuted for merely having in stock, for example, laudanum made according to the old formula. The codex preparation is the one which the pharmacist ought to employ whenever the physician has not specified "old codex;" but if the prescriber has thought it best to give a formula of his own, the pharmacist ought to have the right to prepare in advance the products which enable him to fill prescriptions suitably and rapidly. At the end of this discussion, the society unanimously resolved to request the appointment on the commission of two members of the Société de thérapeutique who would be competent to appreciate the therapeutic properties of drugs.

The Hospital of Beaune

The fine Hôtel-Dieu of Beaune in the department of the Côte-d'Or, founded in 1443, is a magnificent specimen of the art of the fifteenth century. In spite of restorations executed during the last few years by the commission of historic monuments, new and important repairs must be made very soon if this unique monument is to be preserved. A public subscription has, therefore, been opened to cover half of the sum ($20,000 or 100,000 francs) required for the repairs, the other half being furnished by the hospital itself.

Deaths

The deaths are reported of Dr. Arthur Fallot, professor of hygiene and of legal medicine at the Ecole de médecine de Marseille, and of Dr. Bressard, professor of internal pathology at the Ecole de médecine de Poitiers.

Cytodiagnosis in Gastric Diseases

In one of the last sessions of the Société médicale des hôpitaux de Paris, Dr. Maurice Loeper, *agrégé* professor at the Faculté de médecine de Paris, communicated the results of investigations which he made in collaboration with Dr. E. Binet of Vichy, on the cellular elements contained in the lavage liquid of the fasting stomach. In the normal state, except during digestion, one finds in this liquid hardly anything except cellular detritus and ill-characterized nuclear and protoplasmic débris. In cases of gastric ulcer there are found in the same liquid, even in the intervals between hemorrhages, red globules, epithelial cells and leukocytes. In gastritis, one finds white globules of every kind, glandular elements which are quite recognizable and some of which are very granular. The lavage liquid from gastric cancer is rich in large and average-sized cells, strongly colored, very resistant, often multinucleated and very rich in glycogen. Among aerophages and sialophages, one finds a great number of pavement cells from the superior tract. Cytodiagnosis, therefore, is of interest, not only to practical pathology, but also to general pathology, since it permits of the isolation of all latent gastric conditions and even of true mild gastritis from the confused group of the dyspepsias.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, May 27, 1911.

Personal

Professor Fritsch, the renowned gynecologist of Bonn, will resign his position, October 1, on account of sickness.

Professor Abderhalden, professor of physiology at the Berlin veterinary college, has received a call to Halle to fill the chair of Professor Bernstein.

Professor Pohl of Prague has been appointed director of the institute of pharmacology at Breslau in place of Professor Filehne.

The successor of Professor Hensen at Kiel is Professor Bethe, first assistant at the institute of physiology at the university of Strasburg. He assumes his duties as director of the institute of physiology at Kiel during the summer semester. This appointment does not lack special interest. It has been a subject of repeated complaint in the *Deutsche medicinische Wochenschrift* that original investigators in physiology received no recognition in the appointments to regular professorships, and that therefore physiology lagged behind in the German universities as compared with those of foreign countries, particularly when compared with the laboratories of America. Among other things the complaint was made that such an investigator as J. Loeb had been allowed to remove to a foreign country and that a talented scientist like Bethe would apparently stay as privat-docent in Strasburg all his life. There is little doubt that this promotion to Kiel has made an impression; at any rate it is a source of satisfaction that an investigator like Bethe has been called to an independent position. He is at present 39 years old.

A few days ago the curator of the university of Marburg, Professor Schmidtmann, died suddenly at the age of 60. Up to April 1 of last year he was a distinguished councillor in the medical section of the Prussian state department of education, and his call to Marburg excited some comment because it was the first time that the position of curator of a university which heretofore has always been in the hands of the management, has been given to a medical man. Schmidtmann belonged to the medical section fifteen years. According to report he left the position on account of his health, but others intimate that he was worsted in a dispute with the head of the medical section and with a colleague in the department. He had performed special services in his ministerial position in connection with water supply and sewage disposal. He was instrumental in founding a government testing laboratory for this department; this employed almost thirty physicians, chemists, botanists, zoologists and experts in water-supply engineering. Among his many literary works is a handbook of legal medicine (*Handbuch der gerichtlichen Medizin*).

Professor E. Remak died suddenly, May 26, at the age of 62. He was the son of the renowned physiologist and neurologist, Robert Remak, one of the most notable pupils of J. Müller and Schönlein. Ernst Remak received his training in neurology as assistant of Professor Westphal at the Berlin Charité. In his special field he published a series of noteworthy articles, on the clinical aspects of tabes, muscle atrophy, and the reaction of degeneration. His larger works include one on the principles of electrotherapy and electrodiagnosis and a monograph on neuritis and polyneuritis in the Nothnagel Collection.

Privy Councillor H. Rehn, the senior of German pediatrists, of Frankfurt a. M., a brother of the well-known surgeon of the same place, celebrated his eightieth birthday, May 20.——Privy councillor Dr. Götz, of Leipsic, who has won great distinction in the development of German gymnastics, was made an honorary doctor of philosophy at Kiel on the occasion of his eighty-fifth birthday.

Bill for Optional Cremation

This bill the fate of which I reported to be very dubious has, contrary to expectations, received the small majority of two votes in the Prussian lower house of parliament. An important factor in this result was the attitude of a part of the conservatives who although they are in other matters noted for their obstructive tendencies in religious affairs, voted for this bill because, as their representative with remarkable candor announced, they were of the opinion that cremation was not opposed to the teachings of the Christian religion or to the principles of the conservative party and had nothing to do with politics. For the final passage of the law it is still necessary that the upper house should approve it and a majority of the members are conservative. Still from the action of the lower house the hope may be entertained that the vote will also be favorable to the bill.

Pay Ward in Charlottenburg

Like Berlin, the city Charlottenburg is contemplating the erection of a pavilion in the city hospital for paying patients of the second class. The expenses of building a ward with fifty beds is estimated at $135,000 (540,000 marks). The charges for care will be placed at $2.00 a day for citizens of Charlottenburg and $2.50 (10 marks) for strangers. The physicians in charge will have the right to fees according to the prices fixed by the medical societies.

International Congress for Infant Welfare

The third international infant welfare congress will assemble this year at Berlin September 11-15. It is under the protection of the empress who has shown the liveliest interest in the movement to combat the mortality of infants. The imperial chancellor has accepted the honorary presidency of the congress and the chairman of the committee on organization is Dr. Bumm, the head of the imperial health office. The various departments include instruction and teaching, practical measures, legislation and general management, guardianship, and statistics. The following papers are provided for the different sections: instruction of physicians in the field of hygiene and diseases of children; instruction and postgraduate education of midwives in the care and treatment of infants; training of nurses for institutions, families and communities; instruction of the people in the care and feeding of infants; care for pregnant and puerperal women; hygienic stations and nursing dispensaries; milk stations and their results; crèches; closed hospitals for the care of infants; asylums and homes; rural infant hygiene; infant hygiene in legislation and administration; motherhood insurance; care of foundlings and illegitimate children; isolation of syphilitic children; production and control of milk for infants; the international relations of guardianship and the Hague convention; the legal procedure to establish the rights of illegitimate children in foreign countries; their legal position in the most important European countries; mortality, morbidity and birth statistics in various countries, and formulation of a uniform scheme for collecting international statistics of infant mortality and statistics of the success of hygienic measures.

No Change in the Vaccination Law

The renewed attempt of our antivaccinationists to secure a change in the vaccination law and especially the introduction of a conscience clause or at least the appointment of a committee to investigate the vaccination question, again has woefully miscarried. After a final debate, a few days ago, all of the proposals were settled by laying them on the table (passing to the order of the day). This was done in spite of the fact that speakers from almost all the political parties expressed themselves in favor of the propositions of the antivaccinationists. But it may be remarked with satisfaction that the majority of our popular representatives took the standpoint of genuine science on this question and did not yield to the agitation of an unscrupulous antivaccination party. That the latter will not be reconciled to this defeat but will continue their agitation and as soon as possible appear before the Reichstag with a new petition, may be regarded as certain.

Protest Against the Principle of "Tag Days"

A number of distinguished persons, prominent in social charities, have made a serious protest against setting aside a day for aid of children's philanthropies by means of the sale of flowers, which I have mentioned in the previous letter. This protest contains the following considerations: "Such arrangements cause more injury than wholesome effect, whatever may be their financial success, for they weaken the sentiment for intentional and well-planned charity and hinder the well-to-do classes, who are able to help, from receiving the education necessary to a deeper understanding and more serious conception of our social relations. The charitable organizations, whose duty it is above all others, to awaken and sharpen the conscience of all classes regarding the evils with which they are especially acquainted, neglect this duty when they use external incitements to arouse a disposition to give which is prompted by no knowledge of the evil itself; they help to lessen the social sense of responsibility rather than to deepen it. For the young girls who assist, the flower day signifies a confusion of their moral and social ideas since it can have no material success without some sort of festivity. Social obligation should mean to them a serious matter which requires the internal devotion of their personality and not a feast which cannot dispense with external excitements and satisfaction. The attempt is being made to prohibit street selling by children. How can we urge this, if in the service of social needs young girls, perhaps even school children, are exposed to these dangers, and especially in the metropolis. Those who need our help will be injured by this kind of alms-collection. We ought to meet their needs with holy earnestness and the help that we wish to bring them should not be made dependent on public appeals which are not conducted with similar seriousness. The giver also is led astray in a certain sense. He ought to give from an honorable sympathy and appreciation of social aid, not in a jovial, festive mood, following the impulse of the moment. In our time with its social trend, the lust for pleasure, frivolity and ambition ought not to be awakened or nourished in securing the necessary means for philanthropic purposes. Other methods must be sought and in the course of experience ways will be found by which the more serious purpose will be awakened and strengthened and will be led to blessed social accomplishments." The justness of these views, in general, certainly cannot be controverted, but how then can the money for the private assistance of public charity be collected, money which is indeed necessary as the state alone cannot support charity, and other methods of getting money, such as bazaars and similar arrangements, are not only objectionable on the same grounds, but have become exhausted in consequence of too frequent employment. For this reason we do not believe that the protest will result in any interruption of the success of the flower days.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, May 29, 1911.

Medical Wishes for New Laws

Just now a committee of medical men, comprising the representatives of the various Austrian medical organizations, is working in Vienna against the proposed new "public law act," which will be the first thing for the new parliament to deal with. The efforts of the profession are directed towards the elimination of certain clauses and articles contained in the old Codex and taken over into the new act. The following resolutions have been accepted unanimously by the committee and will be forwarded to the government: 1. The profession objects, both in its own interest and in that of the general public, to the obligation to render medical aid in all instances (*Berufszwang*). 2. The profession protests against being dependent on the opinion of lay persons in affairs pertaining to the art of caring for its teaching and its practicing. 3. Physicians protest against the obstacles placed in their way by certain inhuman laws, when they treat and cure patients; especially do they protest against the grotesque condition of absolute professional secrecy imposed by one law, which condition is nullified by other clauses of the same law; also to the law which, under certain conditions, requires a doctor to report to the police a patient who, perhaps, has called the doctor in fear of death. Such a state of affairs converts the doctor into a police agent, and is absolutely abominable and unacceptable for the profession. The special and distinguished position of the medical profession requires a special and distinguished handling of its relations to the public in general. The profession also urgently requests a suitable law against quackery and patent medicine fakes.

The committee resolved to establish central archives for the collection and study of all decisions of a juristic, social, economical and ethical nature, pertaining to the members of the profession or its art. All doctors of the empire will be requested to collaborate in this work and to communicate with this institute also in case of an unjust assessment of rates and taxes of a doctor.

Hypnotic Experiments in Vienna

A series of lectures on hypnotic experiments and similar conditions was delivered some time ago before a lay audience, until the experiments resulted in serious mental derangement of a few persons. The lecturer, a non-medical man, invited those present to come up and allow him to throw them into the state of hypnotic sleep. Whilst he succeeded in doing so, on one night he was unable to remove the spell from one woman. His anxiety caused several other women to faint, and the police had to interfere to prevent further mischief. A similar incident occurred a year or two ago in Budapest, where a young woman died as a result of a hypnotic experiment. Public indignation, as well as scientific protests against such demonstrations, has prompted the police to stop all such lectures. In medical circles it was a matter of severe criticism that no medical association had been asked to pass on the admissibility of lectures of such a nature. The woman referred to above had to be taken into a hospital for nervous diseases for prolonged treatment.

A Remarkable Judgment in Favor of Medical Opinion

Some time ago a patient suffering from caries of the tibia was advised by a surgeon to undergo an operation. He was willing, but on advice of a friend, he declined to do so. The patient died soon afterward, and necropsy revealed that death was due to thrombosis of veins, originating from the affected part. The good friend thereupon was charged with having wilfully prevented the patient from obtaining help and was sent to prison for two months; the judge said that the friend's action was very near intentional murder. The incident will, no doubt, give vantage-ground against quacks, who hitherto have enjoyed a fair amount of indulgence with our courts.

Association News

THE LOS ANGELES SESSION

Other Medical Alumni Reunions

The following announcements have been received, in addition to those already given in THE JOURNAL:

A banquet for all University of Pennsylvania Alumni, who may be visiting Los Angeles, during the sessions of the American Medical Association, June 27-30, will be held at the Hotel Alexandria, corner Spring and Fifth Streets, at 6:30 o'clock, Tuesday, June 27. The price for each plate will be $5.00. All "Pennsylvania men" are asked to notify the undersigned immediately of their intention to attend the banquet, and if possible, to send check or money order, inasmuch as some definite idea must be obtained of the exact number for whom provision is to be made.

The banquet will be addressed by some of America's greatest physicians and surgeons, graduates of "Old Penn", and an enthusiastic and worth-while time is promised. It is further suggested that each alumnus forward the year of his class.

T. PERCEVAL GERSON, M.D.
1011 W. P. Story Building, Los Angeles.
Secretary and Treasurer, University of Pennsylvania Alumni Society of the Pacific Southwest.

The alumni of Rush Medical College will meet at a smoker and reunion on alumni night, June 27, 1911, at Casaverduga at Glendale. Special cars will convey the alumni to the place of meeting. Further information will be furnished at the place of registration.

B. M. LINNELL, M.D., 32 N. State Street, Chicago.

Miscellany

Qualities of Chinese Medical Students.—Jeffreys and Maxwell, in their book on "Diseases of China," state: "The native Chinese has many qualifications for making a worthy practitioner of scientific medicine, and, like the Japanese, may be depended on to enhance the honor of our great profession by adding the strength of native talent to the sum total. We find the following characteristics exemplified among our students and assistants and have reason for believing that they represent the average of the best: excellent memory for facts and detail; faithfulness in carrying out methods once adopted; marked powers of observation; and the most extraordinary devotion to the principle of hard work that we have ever seen among any people; great delicacy in all operations involving the use of the hands, and particular fitness for, and adaptability to, the intricate and time-consuming problems of original investigation, and especially the use of the microscope. We have had students to whom the microscope became the recreation of life and to whom the power of observation was apparently a part of Nature. On the other side of the account we must write down a considerable shortage in the matter of professional judgment and in ability to organize, control and discipline their own subordinates; a tendency to do the operation as laid down in the book without balanced application to the individual; and an overwhelming tendency on the part of some to adopt the methods of quackery and charlatanism. But we must guard this statement by emphasizing the fact that this is only applicable to individuals and that it is merely more prominent as a fault than among our own fellow-countrymen. We have the highest respect for our own assistants, who never fail in courtesy, in loyalty or in application. The day will come when they must take their place as chiefs, as colleagues on an equal footing with ourselves, when they must take on themselves the burden of directing the ministry of medicine among their own people; and we face it with considerable confidence."

Heredity and Epilepsy.—The field workers of the New Jersey State Village for Epileptics (Thirteenth Annual Report, Oct. 31, 1910) in a canvass of thirteen counties of the state, found in the families of 137 patients, 328 epileptics, or an average of 2.4 for each family. The total number of defectives charted was 1,253. Inheritance was found as follows: alcoholic, 69; blind, 18; Bright's disease, 22; cancer, 27; criminal, 5; deaf, 25; epileptic, 57; feeble-minded, 29; insane, 37; migraine, 12; neurotic, 30; paralysis and apoplexy, 43; suicide, 9; syphilis, 4; and tuberculosis, 75. Of 30 children whose fathers or mothers are patients at the institution, 6 are epileptic, 2 feeble-minded, 2 insane, 3 died in infancy, 3 neurotic, 1 tuberculous, 4 undetermined and 9 normal, some of whom may develop epileptic seizures later in life, or have a mental breakdown under stress of harsh conditions. The charts also show that in instances in which the parents are both epileptic or feeble-minded, or one epileptic and one feeble-minded, all the children will be either feeble-minded or epileptic. A study of the charts of the most completely known pedigrees indicates that the normal parents of epileptic offspring have come from families with defective ancestry. With the fact established that heredity plays a large part in the production of these defectives, the report emphasizes the fact that the state should protect itself by the passage of laws that will prevent reproduction of other epileptics. This may be accomplished in one of two ways: either by placing under permanent custodial care, or by sterilization of all epileptics. Concerning the use of the continuous bath in the institution, it is stated that the cases selected for treatment in the continuous bath were those of status epilepticus, serial attacks, postepileptic mania, circular insanity and hysteria major. The results obtained have been gratifying, and were obtained more rapidly than when medicinal agents were employed, and without the after-effect and depression which accompany the use of drugs. The patient usually went into a natural sleep, and awakened refreshed in body and mind, and without digestive disturbances, which generally follow medicinal treatment. In brief, it might be said of the use of the continuous bath, that it has the following advantages over medicinal remedies: It is applicable to all cases; the results are rapidly and uniformly obtained; it is always under control; it is easily administered; it has no bad after-effects; the respiratory system is unaffected; the digestion is not disturbed; the circulatory system retains its equilibrium, and the bath may be continued over a long period of time without depression.

Civil Responsibility of the Surgeon.—"Whatever you do, don't leave a sponge or anything else in the abdomen of your patient," exclaims P. Raugé in an article quoted in the *Gazette Médicale Belge*. "That is the unpardonable sin from the standpoint of the public," he declares, "and it may lead to the direst consequences, as witness the case of Professor Bazy, the irreproachable clinician, the skilled operator and the most conscientious of men." (The case was mentioned in the Paris Letter, Jan. 14, 1911, page 130.) "If he had made a mistake in diagnosis or blundered in operating, no one would have complained, but to leave two compresses in the abdomen! The patient, the crowd, the daily papers, the lawyers and finally the judge all take up the cry and condemn the surgeon. If they didn't, what might not surgeons leave in the abdomens of their patients! It is not to be taken into account, naturally, that the operation saved the life of the patient and that she has been in excellent health since and that the passage of the compresses never caused her the slightest disturbances during their alleged silent progress into the intestine and alleged final evacuation. But here they are at last, and Bazy is confounded. The operation was done at the public hospital, free of charge, and the fine of $1,000 imposed on the surgeon was not for damages but to serve as a lesson to him and to all surgeons to 'go and sin no more. And consider yourself fortunate to get off so easily.' The decision in this case is a slap in the face for the entire medical profession. It says plainly that our skill and our conscientiousness no longer suffice to guide us in our professional conduct. We need judges to warn us of our deviations from the straight path of rectitude and show us the right road." "No, and never," he exclaims in conclusion, "do we need such warnings from outside. Our conscience is our guide and mentor, and the public, holding us to such a strict account, can never know the anguish we experience over a dubious diagnosis, a difficult decision, an emergency operation, hoping against hope. And the judges who condemn us might be less severe if they stood beside a sick or dying man with their bistoury in hand. They would appreciate then what medical responsibility really is, and they would understand then, perhaps, that we have to sustain and guide us in our practice something better and higher than the dread of a suit for malpractice."

Diploma Mill Wanted.—The following amusing letter is quoted from the *Rush Alumni Association Bulletin:*

> Dr. Christian - Fenger, Dear Sir:—Please accept of My hand writting though I hav'nt been in touch with you as to write you before.
>
> But at this time I write you for a Diploma of being a family Doctor. I have purchased a family Medical Book from Sears Roebuck and I have Studied it for two (2) years and I have been Examined by Doctor ——— and I Desires to Give Rush Medical College Honor for what I know, and that is why I asked for a Diploma from that College. I have been Teaching for twelve (12) years and I believe I am Prepaired to do the work. I will give you One Dollar and a half ($1.50) for the Diploma if you will Except of My request Please let Me hear from you by return Mail.

Two Facts Regarding Vaccination.—In the Philadelphia *Public Ledger*, May 21, is a letter from Dr. W. W. Keen, in which he presents some facts regarding vaccination against small-pox and typhoid fever. What he states regarding small-pox vaccination is worth quoting: "One of my old students at the Jefferson Medical College, Dr. Victor G. Heiser, is in charge of the sanitation of the whole of the Philippine Islands. He has accomplished there a work which can be favorably compared with that of Colonel Gorgas on the isthmus. When in this city about eighteen months ago he told me that in seven provinces in and around Manila there were annually about 6,000 deaths from small-pox, which would mean 25,000 to 30,000 cases every year. But in the twelve months following the completion of the vaccination of all the population, there was not a single death from small-pox in the same provinces. Could there be a better demonstration of its value as a preventive? Moreover, he stated that in over 5,000,000 vaccinations in the Philippines, in spite of their frequent neglect of the slight sores which are necessarily produced by the operation, and of the uncleanly habits of a large number of the inhabitants, not one single death had occurred, the finest record of any similar wholesale vaccination in the world. In your issue for May 7, also, in the first page of the Magazine Section in Professor Turner's paper on the 'Abolition of Slavery in Pennsylvania,' are published facsimiles of some advertisements which appeared in Philadelphia before the days of vaccination. Among them is one which to-day would be utterly absurd. It reads 'Lately imported from Antigua (as though they were cigars or coffee) and to be sold . . . a parcel of likely negro women and girls from 13 to 21 years of age, who have all had the small-pox.' Such an advertisement at the present day would be unthinkable. It added to the value of a slave in those days to have had small-pox. To-day nobody thinks of any one ever being liable to small-pox, except those who neglect vaccination. I commend this experience of Dr. Heiser in the Philippines and this advertisement from your paper to the attention of our antivaccination friends."

Arteriovenous Anastomosis for Senile Gangrene.—J. Abalos adds another to his previously reported case of this kind. In his first patient the disturbance reappeared three weeks after the anastomosis, and amputation became necessary. In the present case the patient was a man 68 years old, free from morbid antecedents but a great smoker. One leg had been amputated, six months before, for gangrene commencing in the foot, and one toe of the remaining leg was now developing gangrene. The femoral vein and artery were then sutured, end-to-end, under local anesthesia. The blood poured at once into the vein but was arrested by a coagulum. The vein was consequently opened 1 cm. below the anastomosis, the coagulum presenting in the slit, and it was promptly expelled b the pressure of the blood behind, after which the vein wa sutured. The functional results have been perfect to date o writing, twenty-four days after the anastomosis. The gangrene seems to have been arrested and the toe will soon b amputated. The case is reported in the *Semana Medica* 1911, xviii, 629.

Disease and Longevity.—"Man's constitution shows that h is a long-lived being. For his development there must have bee a period when the natural span of life was more fully realize than in the recent past. Disease in its present forms is result of historic conditions. Especially is this true of th great epidemics that have so much shortened life. Filt comes mainly through overcrowding; contagious diseases coul not have antedated it. When the world was sparsely populated and the natural surplus large, a mature old age mus have been the general expectation. Infant mortality wa doubtless large; but this would not have much influence o social organization if this dangerous period was followed by long period of vigorous manhood. Old age would also, as wit animals, quickly lead to death. The young and vigorous woul thus set the pace and shape social and religious usage. The youth and vigor were long and old age short; now, yout is but a passing moment and old age an enduring, hopeles epoch. With us the senile hand is on every institution an influences every social event. It is not to be wondered tha religion has reflected this change and has become a thing o age and grief." (From Patten's "The Social Basis of Religion," New York, 1911.)

Poisoning from Bite cf Spider.—S. Mazza of Buenos Aire has made a special study of the nervous and cutaneous manifestations of poisoning from the bite of spiders or arachnoidism, and in the *Semana Medica* (1911, xviii, 641), report a case in which there were eruption and desquamation resembling that of scarlet fever. The syndrome was differentiate principally by the necrotic lesion at the point of the bite an the intense pain that accompanied it. In some points th syndrome resembled malignant pustule, while the hemorrhagi jaundice and prostration in some cases suggested yellow feve at first. There was no epistaxis or hematuria in his las case, as in infectious purpura, and the spleen was no enlarged, while there was a 3 per cent. eosinophilia. Th patient was a boy of 10 who had had scarlet fever som years before. Pino's patient was a man and besides the eruption, fever and vomiting there were also hematuria and jaundice. Both patients recovered. The case reported here wit numerous illustrations is Mazza's fourth case of sever arachnoidism.

Syphilis and Tuberculosis.—When a consumptive is alread much reduced by the mixed infection of advanced phthisis, hi constitution is too greatly undermined to endure the additio of still another infectious process. He is, moreover, in n condition to stand vigorous antisyphilitic medication. When on the contrary, a person in the third stage of lues become smitten also with tuberculosis, his lungs resist the destructive tendency of the latter process because probably of th tendency to fibrosis manifested in the late period of lues. I many cases the general health does not seem seriously impaired in this stage, or at all events so reduced as to rende it incapable of offering some degree of resistance to th tuberculosis.—R. H. Babcock, in *Interstate Medical Journal.*

Treatment of Neurasthenia in Children.—The treatment o the neurasthenic boy or girl resolves itself, according to Riviere, in the *Practitioner*, into the removal of the cause whether over-pressure or want of sleep, or both. Change t country air and country pursuits, with cheerful company and quiet life, will generally complete the cure in these cases unles the damage done is of considerable extent. An open, dry localit should be chosen, with much sun and little foilage, so tha abundant time may be spent out of doors. Long hours in be must be provided, cold bathing is useful, and the work of th digestive organs must be studied. In cases in which nutritio is very low a full Weir-Mitchell treatment may be advisabl or necessary.

Skin Fixation in Cancer of the Breast.—H. M. Rigby states n the *Practitioner* that of the physical signs the most important, in his opinion, is the tethering of the skin at some point overlying the tumor. When this is present the diagnosis of cancer, he believes, is almost certain. The skin need not actually be dimpled or retracted. The abnormal fixation of he subcutaneous tissues can often be detected some time before the growth has actually approached the surface of the breast. An acute inflammatory condition may certainly cause ome fixation of the skin due to infiltration of the subcutaneous tissue. But with this can generally be seen other signs of inflammation, some discoloration of the skin, edema and ocal heat. Actual dimpling of the skin is diagnostic of cancer.

Annular Stricture of Rectum.—This type of stricture is usually due to traumatism, simple ulceration, tuberculosis or dysentery; it begins abruptly and usually surrounds the entire rectum: it is movable when the patient is squatting or in a emiprone position; there is a sulcus around it into which a probe or bougie is much more liable to pass than into the aliber of the stricture; there is always mucous discharge, ulceration and secretions which are less than in tubular stricures. It is this type of stricture that follows acute or tuberulous ulceration of the rectum chiefly.—J. P. Tuttle, in *Boson Medical and Surgical Journal.*

"Are Soon Parted."—One is reminded of the old proverb ending in these words on reading that the board of health at Mannheim, Germany, has felt obliged to issue a warning o the public not to send 75 cents in response to certain dvertisements in the lay papers offering a cure for snoring. The applicant receives for his money merely a strip of gummed paper with the directions to glue it over his mouth.

Marriages

Charles R. Mitchell, M.D., Paterson, N. J., to Miss Kathleen O'Meara of Fallowfield, Ont., in New York City, April 26.

William Edward Bannen, M.D., New Albia, Ia., to Miss May James of LaCrosse, Wis., June 1.

James Lincoln Huntington, M.D., Boston, to Miss Sarah Higginson Pierce of Brookline, Mass., June 1.

August Ferdinand Ries, M.D., Baltimore, to Miss Fannie Morris Gardner of New Rochelle, N. Y., February 16.

Charles F. Kuhn, M.D., to Miss Ella Meinke, both of Detroit, May 31.

Frank Clifford Ard, M.D., Plainfield, N. J., to Miss Idah Catherine Chappelle of Rivervale, N. J., June 5.

Walter Estell Lee, M.D., Philadelphia, to Miss Margaret Gordon of Germantown, Philadelphia, June 14.

Earl John Byers, Chicago, to Miss Ruth Birge of Grand Rapids, Mich., May 24.

Albert M. Dunlap, M.D., to Miss Eva Wyman, both of Boston, June 1.

Deaths

Joseph Price, M.D., a pioneer in American gynecology and bdominal surgery and one of the most prominent specialists of Philadelphia; died, June 6, four hours after an operation for cute suppurative appendicitis, aged 58. He was born in Rockingam County, Va., Jan. 1, 1853; took his medical course in the University of Pennsylvania and was graduated in 1877. From the time of his graduation he devoted himself to surgery and gynecology and, with Dr. Penrose, founded the Gynecean Hospital and later on succeeded Dr. William Goodell as head f the Preston Retreat. He was a member of the American Medical Association and of the American Gynecological Society, nd was a very powerful and trenchant contributor to the literature of his specialty. Although an invalid and confined o the house for two weeks, as the result of overwork, he rose from his bed and operated on a girl patient for appendicitis t the Price Private Hospital. Four hours after this operaion he collapsed and, although immediate appendectomy was erformed, he did not rally and died four hours later.

Samuel Erskine Maynard, M.D. University of Vermont, Burlington, 1891; a member of the American Medical Association and New England Association of Railway Surgeons; formerly president of the Burlington Clinical Society; one of the best-known practitioners of Burlington, Vt.; division surgeon of the Rutland Railroad and surgeon of the Central Vermont System; professor of gynecology in his alma mater and formerly adjunct professor of theory and practice of medicine and physical diagnosis in the same institution; surgeon to the Mary Fletcher and Fannie Allen Hospitals; died in the Mary Fletcher Hospital, May 26, a day after an operation for appendicitis, aged 42.

Edwin R. Phillip, M.D. University of Michigan, 1861; College of Physicians and Surgeons, New York City, 1866; emeritus professor of gynecology in Hamline University; a member of the Minnesota State Medical Association; surgeon of the Vermont Volunteers during the Civil War; for more than forty years a practitioner of Minneapolis; died in St. Barnabas Hospital in that city, May 31, aged 78.

Everard A. S. Carrington, M.D. College of Physicians and Surgeons, Boston (Mass.), 1907; McGill University, Montreal, 1909; afterward a student in the Liverpool School of Tropical Medicine; a member of the staff of the Public Hospital, Georgetown, Barbadoes, W. I.; died Oct. 15, 1910, after an operation for appendicitis, aged 30.

Augustus J. Lyons, M.D. Baltimore (Md.) Medical College, 1896; since 1901 superintendent of the Second Hospital for the Insane of West Virginia, Spencer; local surgeon of the Baltimore and Ohio System; formerly chairman of the committee of health of Parkersburg; died at his home in Spencer, June 1, from quinsy, aged 38.

Albert Stead Green, M.D. Northwestern University Medical School, Chicago, 1878; a member of the American Medical Association; consulting physician to the Rockford, Ill., Hospital; died at his home in that city, June 1, from heart disease following an attack of influenza, aged 58.

Horace Brand Cole, M.D. Baltimore (Md.) Medical College, 1893; a member of the Missouri State Medical Association; for six years a member of the Sedalia Board of Education and staff physician of the Maywood Hospital; died in that institution, June 3, from typhoid fever, aged 49.

James A. Hall, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1880; a veteran of the Civil War; for twenty-five years a practitioner of Miltonvale, Kan., and postmaster of that city for ten years; died at his home, May 30, from chronic interstitial nephritis, aged 65.

Marcus Ray Peck, M.D. New York University, New York City, 1890; of Colville, Wash.; surgeon to Stevens County Hospital; formerly local pension examining surgeon, and surgeon of the San Francisco and Northern Railroad; was found dead in his bed, May 19, aged 43.

Emma Wilson Mooers, M.D. University of Michigan, Ann Arbor, 1884; a member of the American Medical Association; curator of the neuropathologic department of Harvard Medical School, Boston; died, May 31, from septicemia due to an autopsy wound.

Henry Clay Angell, M.D. Hahnemann Medical College, Philadelphia, 1853; for twenty years professor of ophthalmology in Boston University and the author of several text-books on diseases of the eye; died at his home in Boston, May 27, aged 81.

Abram Miller Henkle, M.D. University of Pennsylvania, Philadelphia, 1873; formerly of Winchester, Va., but for the last twenty-eight years a practitioner of Winter Park, Fla.; died recently at his home in that place, from heart disease, aged 64.

T. G. Greer, M.D. Atlanta (Ga.) Medical College, 1869; one of the oldest practitioners of Roswell, Ga.; mayor of that town for several terms and president of the school board for fifteen years; died at his home, May 21, aged 74.

Charles Herbert Moore, M.D. New York University, New York City, 1888; president of the village of Oakfield, Wis., and, until very recently, president of the school board; died at his home, June 2, from tuberculosis, aged 41.

Washburn Tilson, M.D. Chicago Homeopathic Medical College, 1890; of Lafayette, Ind.; at one time coroner of Tippecanoe County; died at St. Elizabeth's Hospital, Lafayette, May 26, from angina pectoris, aged 45.

John Law, M.D. Northwestern University Medical School, Chicago, 1868; formerly local surgeon for the Colorado Midland Railway, and Surgeon to St. Luke's Hospital, Leadville Colo.; died in Denver, May 28, aged 66.

Seabron Edward York, M.D. Kentucky School of Medicine, Louisville, 1876; for many years a practitioner of Limestone County, Ala., and for nine years postmaster of Athens; died at his home in that place, May 26.

Ellis G. Roberts, M.D. University of Pennsylvania, Philadelphia, 1884; a member of the American Medical Association; died at his home in Fair Haven, Vt., May 29, from disease of the stomach, aged 61.

Benjamin M. Bond, M.D. Missouri Medical College, St. Louis, 1855; surgeon of volunteers during the Civil War; for many years a practitioner of Bellingham, Wash.; died February 28, from senile debility, aged 84.

Henry M. Crouse, M.D. Western Reserve University, Cleveland, 1856; surgeon of the Fifty-Seventh Indiana Volunteer Infantry during the Civil War; died at his home in Knightstown, May 29, aged 81.

William Nathan Wickwire, M.D. University of Edinburgh, Scotland, 1864; for twenty-five years chief medical officer of the Port of Halifax, N. S.; died at his home in that city, March 31, aged 72.

James C. Holland, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1874; a veteran of the Civil War; formerly of Des Moines County, Ia.; died at his home in Denver, Colo., May 26, aged 70.

Benjamin Perrine Marsh, M.D. Hahnemann Medical College, Chicago, 1875; a member of the U. S. Sanitary Commission during the Civil War; died at his home in Bloomington, Ill., May 30, aged 70.

James Hunter Sale, M.D. University of Nashville (Tenn.), 1870; for many years a practitioner of Galloway County, Ky.; died suddenly at his home in Murray, June 2, from heart disease, aged 74.

Daniel Smith Anderson, M.D. New York University, New York City, 1889, a member of the Medical Society of the State of New York; died at his home in Owego, May 21, aged 45.

Norman Rhinehart Hook, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1874; a veteran of the Civil War; died at his home in Oskaloosa, Ia., June 3, from heart disease, aged 67.

David Smith Hunnewell, M.D. Medical School of Maine, Brunswick, 1866; for twenty-nine years a practitioner of Madison, Me.; died at his home in that city, May 31, aged 71.

Nelson B. Wilson, M.D. Cleveland University of Medicine and Surgery, 1865; in 1870 lecturer on pathology in his alma mater; died at his home in Cleveland in March, aged 87.

Samuel Marmaduke Dent, M.D. Baltimore (Md.) Medical College, 1902; of Riversville, W. Va.; died at the home of his parents in Granville, May 31, from tuberculosis, aged 34.

Henry N. Fair, M.D. Reform Medical College of Georgia, Atlanta, 1870; died at his home in St. Matthews, S. C., May 24, from cerebral hemorrhage, aged 61.

Francis J. Weller, M.D. Harvard Medical School, Boston, 1892; a throat and ear specialist of South Boston, Mass.; died at his home, May 29, aged 49.

Edgar C. Parsons, M.D. Hahnemann Medical College, Philadelphia, 1877; a practitioner since 1874; died at his home in Meadville, Pa., June 1, aged 63.

Van E. De Sashmutt, M.D. University of Maryland, Baltimore, 1854; since 1871 a practitioner of Shelburn, Ind.; died at his home, May 25, aged 79.

James Benjamin Rice, M.D. Detroit (Mich.) College of Medicine, 1901; died in his apartments in Flint, Mich., May 31, from heart disease, aged 46.

Henry E. Walet, M.D. Tulane University, New Orleans, 1890; died at his home in Loreauville, La., April 15, from pneumonia, aged 43.

J. E. Jewell, M.D. College of Physicians and Surgeons, Baltimore (Md.) 1881; of Portland, Ore.; died suddenly at Mount Tabor, Ore., May 24.

John S. Crabtree, M.D. Medico-Chirurgical College of Kansas City, Mo., 1903; died at his home in Collinsville, Okla., May 31.

Theodore L. Myers, M.D. University of Alabama, Mobile, 1870; died at his home in Biloxi, Miss., Sept. 17, 1910, aged 65.

William Delker, M.D. Jefferson Medical College, 1884; died at his home in South Philadelphia, May 31, aged 59.

Jesse L. Conant, M.D. Detroit Medical College, 1881; died at his home in Weiser, Idaho, January 8, aged 80.

David W. Collins, M.D. University of Louisville, 1882; died at his home in Pueblo, Colo., May 25, aged 56.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE MEDICAL FRAUD ON THE PUBLIC AND ON THE PROFESSION

THE SUPREME COURT AND THE FOOD AND DRUGS ACT

The Full Text of the Majority and Dissenting Opinions

MAJORITY DECISION

The United States, Plaintiff in Error vs. O. A. Johnson. } In Error to the District Cour of the United States fo the Western District o Missouri.

[May 29, 1911]

Mr. Justice Holmes delivered the opinion of the Court.

This is an indictment for delivering for shipment from Missouri to Washington, D. C., packages and bottles of medicin bearing labels that stated or implied that the contents wer effective in curing cancer, the defendant well knowing tha such representations were false. On motion of the defendan the District Judge quashed the indictment (177 Fed. Rep 313), and the United States brought this writ of error unde the Act of March 2, 1907 (c. 2564, 34 Stat. 1246).

The question is whether the articles were misbranded withi the meaning of Section 2 of the Food and Drugs Act of Jun 30, 1906 (c. 3915, 34 Stat. 768), making the delivery of misbranded drugs for shipment to any other State or Territor or the District of Columbia a punishable offense. By Sectio 6 the term "drug" includes any substance or mixture intende to be used for the cure, mitigation or prevention of diseas By Section 8 the term "misbranded" "shall apply to all drug or articles of food, . . . the package or label of which shal bear any statement, design or device regarding such articl or the ingredients or substances contained therein which shal be false or misleading in any particular, and to any foo or drug product which is falsely branded as to the stat territory or country in which it is manufactured or produce . . . An article shall also be deemed to be misbranded: I case of drugs: First. If it be an imitation of or offered fo sale under the name of another article. Second. (In case of substitution of contents) or if the package fail to bear statement on the label of the quantity or proportion of an alcohol, morphin, opium, cocain, heroin, alpha or beta eucai chloroform, cannabis indica, chloral hydrate, or acetanilid, o any derivative or preparation of any such substances contained therein."

It is a postulate, as the case comes before us, that in certain sense the statement on the label was false, or, at leas misleading. What we have to decide is whether such misleading statements are aimed at and hit by the words o the Act. It seems to us that the words used convey to a ear trained to the usages of English speech a different aim and although the meaning of a sentence is to be felt rathe than to be proved, generally and here the impression may b strengthened by argument, as we shall try to show.

We lay on one side as quite unfounded the argument tha the words "statement which shall be misleading in any particular" as used in the statute do not apply to drugs at all— that the statements referred to are those "regarding suc article," and that "article" means article of food, mentione by the side of drugs at the beginning of the section. It i enough to say that the beginning of the sentence makes such reading impossible, and that "article" expressly includes drug a few lines further on in what we have quoted, not to spea of the reason of the thing. But we are of opinion that th phrase is aimed not at all possible false statements, but onl at such as determine the identity of the article, possibly including its strength, quality and purity dealt with in Sectio 7. In support of our interpretation the first thing to b noticed is the second branch of the sentence: "Or the ingredients or substances contained therein." One may say wit some confidence that in idiomatic English this half, at leas is confined to identity, and means a false statement as to wha the ingredients are. Logically, it might mean more, bu diomatically it does not. But if the false statement referred o is a misstatement of identity as applied to a part of its bjects, idiom and logic unite in giving it the same limit when pplied to the other branch, the article, whether simple or ne that the ingredients compose. Again, it is to be noticed hat the cases of misbranding, specifically mentioned and following the general words that we have construed, are all cases nalogous to the statement of identity and not at all to aflated or false commendation of wares. The first is a false tatement as to the country where the article is manufactured r produced; a matter quite unnecessary to specify if the preceding words had a universal scope, yet added as not being ithin them. The next case is that of imitation and taking he name of another article, of which the same may be said, nd so of the next, a substitution of contents. The last is reach of an affirmative requirement to disclose the proportion f alcohol and certain other noxious ingredients in the package—again a matter of plain past history concerning the ature and amount of the poisons employed, not an estimate r prophecy concerning their effect. In further confirmation, should be noticed that although the indictment alleges a ilful fraud, the shipment is punished by the statute if the rticle is misbranded, and that the article may be misbranded ithout any conscious fraud at all. It was natural enough to hrow this risk on shippers with regard to the identity of heir wares, but a very different and unlikely step to make hem answerable for mistaken praise. It should be noticed till further that by Section 4 the determination whether an rticle is misbranded is left to the Bureau of Chemistry of he Department of Agriculture, which is most natural if the uestion concerns ingredients and kind, but hardly so as to edical effects.

To avoid misunderstanding we should add that, for the purposes of this case, at least, we assume that a label might e of such a nature as to import a statement concerning lentity, within the statute, although in form only a commenation of the supposed drug. It may be that a label in such orm would exclude certain substances so plainly to all comon understanding as to amount to an implied statement of hat the contents of the package were not; and it may be at such a negation might fall within the prohibitions of the t. It may be—we express no opinion upon that matter—that the present indictment had alleged that the contents of e bottles were water, the label so distinctly implied that ey were other than water as to be a false statement of cts concerning their nature and kind. But such a statement to contents, undescribed and unknown, is shown to be false ly in its commendatory and prophetic aspect, and as such not within the act.

In view of what we have said by way of simple interpretaon we think it unnecessary to go into considerations of ider scope. We shall say nothing as to the limits of conitutional power, and but a word as to what Congress was kely to attempt. It was much more likely to regulate comerce in food and drugs with reference to plain matter of fact, that food and drugs should be what they professed to be, hen the kind was stated, than to distort the uses of its nstitutional power to establishing criteria in regions where inions are far apart. See *School of Magnetic Healing v. Annulty,* 187 U. S. 94. As we have said above, the reference of the question of misbranding to the Bureau of Chemisy for determination confirms what would have been our pectation and what is our understanding of the words mediately in point.

DISSENTING OPINION

Mr. Justice Hughes dissenting: I am unable to concur in judgment in this case, for the following reasons: The fendant was charged with delivering for shipment in interate commerce certain packages and bottles of drugs alleged have been misbranded in violation of the Food and Drugs t of June 30, 1906, Chapter 3915, Stat. 768.

The articles were labeled respectively "Cancerine tablets," ntiseptic tablets," "Blood purifier," "Special No. 4," "Canrine No. 17," and "Cancerine No. 1,"—the whole constituting hat was termed in substance "Dr. Johnson's Mild Combinaon Treatment for Cancer." There were several counts in the indictment with respect to the different articles. The labels contained the words "Guaranteed under the Pure Food and Drugs Act, June 30, 1906;" and some of the further statements were as follows:

> "Blood Purifier. This is an effective tonic and alterative. It enters the circulation at once, utterly destroying and removing impurities from the blood and entire system. Acts on the bowels, kidneys and skin, eliminating poisons from the system, and when taken in connection with the Mild Combination Treatment gives splendid results in the treatment of cancer and other malignant diseases. I always advise that the Blood Purifier be continued some little time after the cancer has been killed and removed and the sore healed.
>
> "Special No. 4. . . . It has a strong stimulative and absorptive power; will remove swelling, arrest development, restore circulation and remove pain. Is indicated in all cases of malignancy where there is a tendency of the disease to spread, and where there is considerable hardness surrounding the sore. Applied thoroughly to a lump or to an enlarged gland will cause it to soften, become smaller and be absorbed.
>
> "Cancerine No. 1. . . . Tendency is to convert the sore from an unhealthy to a healthy condition and promote healing. Also it destroys and removes dead and unhealthy tissue."

In each case the indictment alleged that the article was "wholly worthless," as the defendant well knew.

In quashing the indictment the District Court construed the statute. The substance of the decision is found in the following words of the opinion: "Having regard to the intendment of the whole act, which is to protect the public health against adulterated, poisonous, and deleterious food, drugs, etc., the labeling or branding of the bottle or container, as to the quantity or composition of 'the ingredients or substances contained therein which shall be false or misleading,' by no possible construction can be extended to an inquiry as to whether or not the prescription be efficacious or worthless to effect the remedy claimed for it." And the question on this writ of error is whether or not this construction is correct. *United States* v. *Keitel,* 211 U. S. 370.

What then is the true meaning of the statute?

Section 8 provides:

> "SEC. 8. That the term 'misbranded,' as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food, the package or label of which shall bear any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced."

The words "such article" in this section, as is shown by the immediate context, refer to "drugs" as well as to "food."

"Drugs" are thus defined in Section 6:

> "SEC. 6. That the term 'drug,' as used in this Act, shall include all medicines and preparations recognized in the United States Pharmacopeia or National Formulary for internal or external use, *and any substance or mixture of substances intended to be used for the cure, mitigation, or prevention of disease of either man or other animals.*"

Articles, then, intended to be used for curative purposes, such as those described in the indictment, are within the statute, though they are not recognized in the United States Pharmacopeia or the National Formulary. And the offense of misbranding is committed if the package or label of such an article bears any statement regarding it "which shall be false or misleading in any particular."

But it is said that these words refer only to false statements which fix the identity of the article. According to the construction placed upon the statute by the court below in quashing the indictment, if one puts on the market, in interstate commerce, tablets of inert matter or a liquid wholly worthless for any curative purpose as he well knows, with the label "Cancer Cure" or "Remedy for Epilepsy," he is not guilty of an offense, for in the sense attributed by that construction to the words of the statute he has not made a statement regarding the article which is false or misleading in any particular.

I fail to find a sufficient warrant for this limitation, and on the contrary, it seems to me to be opposed to the intent of Congress and to deprive the act of a very salutary effect.

It is strongly stated that the clause in Section 8,—"or the ingredients or substances contained therein,"—has reference to identity and that this controls the interpretation of the entire provision. This, in my judgment, is to ascribe an altogether undue weight to the wording of the clause and to overlook the context. The clause, it will be observed, is disjunctive. If Congress had intended to restrict the offense to misstatements as to identity, it could easily have said so. But it did not say so. To a draftsman with such a purpose the language used would not naturally occur. Indeed, as will presently be shown, Congress refused, with the question up, so to limit the statute.

Let us look at the context. In the very next sentence, the section provides (referring to drugs) that an article shall "*also*" be deemed to be misbranded if it be "an imitation of or offered for sale under the name of another article," or in case of substitution of contents or of failure to disclose the quantity or proportion of certain specified ingredients, if present, such as alcohol, morphin, opium, cocain, etc.

It is a matter of common knowledge that the "substances" or "mixtures of substances" which are embraced in the act, although not recognized by the United States Pharmacopeia or National Formulary, are sold under trade names without any disclosure of constituents, save to the extent necessary to meet the specific requirements of the statute. Are the provisions of the section to which we have referred, introduced by the word "*also*," and the one relating to the place of manufacture, the only provisions as to descriptive statements which are intended to apply to these medicinal preparations? Was it supposed that with respect to this large class of compositions, nothing being said as to ingredients except as specifically required, there could be, within the meaning of the act, no false or misleading statement in any particular? If false and misleading statements regarding such articles were put upon their labels, was it not the intent of Congress to reach them? And was it not for this very purpose that the general language of Section 8 was used?

The legislative history of the section would seem to negative the contention that Congress intended to limit the provision to statements as to identity. The provision in question as to misbranding, as it stood in the original bill in the Senate (then section 9) was as follows:

> "If the package containing it, or its label, shall bear any statement regarding the ingredients or the substances contained therein, which statement shall be false or misleading in any particular."

The question arose on this language whether or not it should be taken as limited strictly to statements with respect to identity. It was insisted that the words had a broader range and the effort was made to procure an amendment which should be so specific as to afford no basis for the conclusion that anything but false statements as to identity or constitutents was intended. An amendment was then adopted in the Senate making the provision read:

> "any statement as to the *constituent* ingredients, or the substances contained therein, which statement shall be false or misleading in any particular."

With this amendment the bill was passed by the Senate and went to the House. There the provision was changed by striking out the word "constituent" and inserting the word "regarding," so that it should read:

> "any statement regarding the ingredients or substances contained in such article, which statement shall be false or misleading in any particular."

Finally, it appears, that in conference the bill was amended by inserting the words "*design, or device*," and also the words "*such article, or;*" and thus the section became a part of the law in its present form—containing the words:

> "any statement, design, or device regarding such article, or the ingredients or substances contained therein which shall be false or misleading in any particular."

It is difficult to suppose that, with the question distinctly raised, Congress would have rejected the provision of the Senate bill and broadened the language in the manner stated if it had been intended to confine the prohibition to false statements as to identity. Reading the act with the sole purpose of giving effect to the intent of Congress, I cannot escap the conclusion that it was designed to cover false and misleading statements of fact on the packages or labels of article intended for curative purposes, although the statements relat to curative properties.

It is, of course, true, that when Congress used the word "false or misleading statement" it referred to a well-define category in the law and must be taken to have intended statements of *fact* and not mere expressions of opinion.

The argument is that the curative properties of article purveyed as medicinal preparations are matters of opinion and the contrariety of views among medical practitioner and the conflict between the schools of medicine, are impressively described. But, granting the wide domain of opinion and allowing the broadest range to the conflict of medica views, there still remains a field in which statements as t curative properties are downright falsehoods and in no sens expressions of judgment. This field I believe this statut covers.

The construction which the District Court has placed upo this statute is that it cannot be extended to any case wher the substance labeled as a cure, with a description of curativ properties, is "wholly worthless" and is known by the defendant to be such. That is the charge of the indictment.

The question then is whether, if an article is shipped i interstate commerce, bearing on its label a representation tha it is a cure for a given disease, when on a showing of the fact there would be a unanimous agreement that it was absolutel worthless and an out-and-out cheat, the act of Congress ca be said to apply to it. To my mind the answer appears clea One or two hypothetical illustrations have been given abov Others may readily be suggested. The records of actua prosecutions, to which I am about to refer, shows the operation the statute has had and I know of no reason why thi should be denied to it in the future.

Our attention has been called to the construction which wa immediately placed upon the enactment by the officers charge with its enforcement in the Department of Justice and th Department of Agriculture. It is true that the statute is recent one, and, of course, the question is one for judicia decision. But it is not amiss to note that the natural meanin of the words used in the statute, reflected in the refusal o Congress to adopt a narrower provision, was the meanin promptly attributed to it in the proceedings that were take to enforce the law. And this appears to have been acquiesce in by the defendants in many prosecutions in which th defendants pleaded guilty. We have been referred to th records of the Department of Agriculture showing nearl thirty cases in which either goods had been seized and n defense made, or pleas of guilty had been entered. Amon these are found such cases as the following:

> "No. 29. Hancock's Liquid Sulphur, falsely represented, amon other things, to be 'Nature's Greatest Germicide. . . . Th Great Cure for . . . Diphtheria.' Investigation begun Nov. 2 1907. Plea of guilty."
>
> "No. 180. Gowan's Pneumonia Cure, falsely represented, amon other things, that it 'Supplies an easily absorbed food for th lungs that quickly effects a permanent cure.' Investigation begu Nov. 22, 1907. Criminal information. Plea of guilty."
>
> "No. 181. 'Eyelin,' falsely represented, among other things, tha it 'Repairs and Rejuvenates the Eye and Sight.' Investigation begu Feb. 13, 1908. Plea of guilty."
>
> "No. 261. 'Sure Thing Tonic,' falsely represented, among oth things, to be 'Sure Thing Tonic. . . . Restores Nerve Energ Renews Vital Force.' Investigation begun June 3, 1909. Plead guilty."
>
> "No. 424. 'Tuckahoe Lithia Water,' falsely represented, amon other things, to be 'a sure solvent for calculi, either of the kidne or liver, especially indicated in all diseases due to uric diathesi such as gout, rheumatism, gravel stone, incipient diabetes, Bright' Disease, inflamed bladder, eczema, stomach, nervous and malari disorders.' Investigation begun July 9, 1908. Plea of guilty."
>
> "No. 427. 'Cancerine,' falsely represented, among other thing to be 'A remarkably curative extract which if faithfully adhered t will entirely eradicate cancerous poison from the system. . . A specific cure for cancer in all its forms.' Investigation begu about April 12, 1909. Criminal information. Plea of guilty."

I find nothing in the language of the statute which requir the conclusion that these persons who have confessed thei guilt in making false and misleading statements on thei labels should be privileged to conduct their interstate traffic in their so-called medicines, admittedly worthless, because Congress did not intend to reach them.

Nor does it seem to me that any serious question arises in this case as to the power of Congress. I take it to be conceded that misbranding may cover statements as to strength, quality and purity. But so long as the statement is not as to matter of opinion, but consists of a false representation of fact—in labeling the article as a cure when it is nothing of the sort from any point of view, but wholly worthless—there would appear to be no basis for a constitutional distinction. It is none the less descriptive—and falsely descriptive—of the article. Why should not worthless stuff, purveyed under false labels as cures, be made contraband of interstate commerce,—as well as lottery tickets? *Champion* v. *Ames*, 188 U. S. 331.

I entirely agree that in any case brought under the act for misbranding,—by a false or misleading statement as to curative properties of an article,—it would be the duty of the court to direct an acquittal when it appeared that the statement concerned a matter of opinion. Conviction would stand only where it had been shown that, apart from any question of opinion, the so-called remedy was absolutely worthless and hence the label demonstrably false; but in such case it seems to me to be fully authorized by the statute.

Accordingly, I reach the conclusion that the court below erred in the construction that it gave the statute, and hence in quashing the indictment, and that the judgment should be reversed.

I am authorized to say that Mr. Justice HARLAN and Mr. Justice DAY concur in this dissent.

Correspondence

Knots

To the Editor:—In THE JOURNAL, April 8, is an article entitled, "An Efficient and Time-Saving Method of Tying the Square Knot." In the *South Carolina Medical Journal*, October, 1909, appeared an article in which I described a method of tying knots identical with the one described by Drs. Castle and Ryfkogel. The maneuvers are reversed, however, that is to say, the first turn of their knot is brought down by my second maneuver, etc. Their description also refers to carrying out these maneuvers with both hands simultaneously in order to tie the friction knot. Strange to say, I also anticipated them in describing this one.

B. B. STEEDLY, Spartanburg, S. C.

To the Editor:—Being interested in knots, I attempted to tie this one according to the directions and discovered an error. If the first half of the knot is tied as directed and as shown in Figures 1, 2, 3, 4, I do not get the result as shown in Figure 5. Instead, hands A and B must be crossed to make this half of the knot lie down flat so that it will hold while the second half is tied. This is an awkward position for pulling up the first half which must be snug. This can be obviated by starting with ligature C in hand B and ligature D in hand A. This change will cause the first half of the knot to lie down flat while the second half when tied as given in the directions will come into place properly when the hands are crossed. This is not such an inconvenience in the case of the second half as it does not need to be pulled so snugly.

W. H. BAILEY, Kansas City, Mo.

To the Editor:—In March, 1909, I presented in *Surgery, Gynecology and Obstetrics* an original method of tying surgical knots rapidly and accurately. I have used the method continuously since 1901. The "one-finger" principle described by Drs. Castle and Ryfkogel is identical with mine. The method of application differs merely in the fact that they make first the knot I described as the second, while their second half is my first knot. (Practically, it depends entirely on the manner the hand happens to catch the ligature, whether the one knot is made first or last.) For these reasons I respectfully claim priority in devising and publishing this rapid-tying method. I am very much in accord with Drs. Castle and Ryfkogel in their arguments. This method of making knots will do all they assert and more.

Slight errors are unquestionably due to the artist and not to the surgeon. The context makes this clear. For instance, Figure 4 does not represent any part of a knot. In Figure 5 the hands are shown as having interchanged ends. If this were not done, the hands must be held crossed to show this step in making the knot.

E. P. QUAIN, Bismarck, N. D.

[The above extracts from letters were referred to Drs. Castle and Ryfkogel. The former replies.]

To the Editor:—The principles of producing the square knot which Drs. Quain and Steedly published are identical with those we recently gave. Our application of these, which by the way is merely composed of the movements which have long been employed to form the well known "crochet knot," is less cumbersome than Dr. Quain's. Further, we have given the information necessary to obtain a knot which has two turns in each half, which some surgeons deem very important.

The article that appeared in THE JOURNAL, April 8, 1911, was written over three years ago, since which time it has been lying on the shelf. It was devised, written, and published without the slightest knowledge of any other person's work. I compliment these other authors on their ingenuity and ask your pardon if this occurrence has caused you any embarrassment.

As to Dr. Bailey's criticism: The principle of tying the knot is vividly shown. It would be confusing to mention the end of the ligature that should be held in the grasp of either hand. That is too obvious. If the person tying is the surgeon and if he retains his needleholder in his right hand, thereby using his left hand to tie the free end, one can readily understand that the conditions will be different from those wherein the assistant ties the free end of a continuous suture.

If any one desires to learn to tie this knot by these movements he will have no trouble in learning the method from the article as it stands. He will soon learn to adjust his ligatures in accordance with the conditions governing the situation, i. e. if he is tying with his right or left hand or with both hands, whether he is tying the free end of a continuous suture from the assistant's side of the table or from the surgeon's, or if he is tying ligatures.

H. EDWARD CASTLE, San Francisco.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF COAL-OIL POISONING

To the Editor:—Please give the treatment of poisoning from coal-oil. I do not remember having noticed a description of this particular form of poisoning in any of the text-books.

F. S. SPEARMAN, M.D., Whiting, Iowa.

ANSWER.—The treatment of coal-oil poisoning consists in washing out the stomach or administering emetics and using purgatives. In cases of collapse, warm baths with cold effusions are recommended; the usual respiratory and cardiac stimulants are also indicated.

DIGESTIBILITY OF SOUR AND SWEET MILK

To the Editor:—Kindly give me information concerning the relative digestibility of sour and of sweet milk, both for adults and for infants.

C. B. PURVIS, M.D., Brookline, Mass.

ANSWER.—Sour milk may be consumed in two different forms. The one is the naturally soured milk, the other buttermilk. The difference between the two is, first, that sour milk contains the full amount of butter-fat, and, second, that the coagulated casein is not churned in sour milk. The churning of the casein undoubtedly adds to the digestibility, since the more solid curd of sour milk has to be broken up in the stomach. Both sour milk and buttermilk may be considered to be partially predigested as compared to sweet milk and both are therefore more easily digestible, buttermilk to a higher degree than sour milk.

The acidity in milk is produced by the action of bacteria, the acid being chiefly lactic acid. The milk-sugar is decomposed by the activity of these bacteria. Often sugars give rise to fermentations in the digestive tract of man, and in such cases buttermilk or sour milk is preferable to sweet milk because of the reduction of the amount of milk-sugar contained in sweet milk.

In the digestive tract of infants the conditions are emphasized. Infants are more subject to sugar fermentations than are adults and for this reason and, also, because of the somewhat predigested casein, buttermilk has frequently given favorable results. The fat in milk is probably responsible for more digestive troubles in infants than any other constituent in milk. Buttermilk, whether from the churn or made from separator milk by means of "starters," usually contains less than 1 per cent. fat, often as low as 0.1 per cent. Infants with white stools are therefore benefited by the reduction in fat content in buttermilk as compared with sweet milk.

The same principles apply if fermented milks are used, such as kumiss, kefir, Bulgarian milk, etc. Bulgarian milk has an additional advantage over the other fermented milk, inasmuch as the curd formed by the Bulgarian bacillus is smooth and needs hardly any churning.

The claim that the presence of lactic acid in buttermilk, sour milk, and fermented milks is of advantage has not been sufficiently substantiated.

THERAPEUTIC EFFICIENCY OF VARIOUS KINDS OF YEAST

To the Editor:—Please discuss the therapeutic efficiency of the various forms of yeast—brewers', Fleischmann's compressed and "Yeast Foam" dry. Can one be substituted for another?

W. A. Womer, New Castle, Pa.

Answer.—The different forms of yeast are prepared from the upper or top yeast of the brewer and their activity will vary somewhat, according as the yeast is in active growth or in the resting stage. Aside from this there appears to be no distinction between the varieties mentioned.

The Public Service

Medical Department, U. S. Army

Changes for the week ending June 10, 1911.

Siler, Joseph F., captain, and Davis, William R., captain, ordered to remain on duty at the U. S. military academy, West Point, N. Y., until June 14, 1911.

Murray, Wilson, M.R.C., ordered to accompany field artillery from Fort Snelling, Minn., to Sparta, Wis., and then return to station Fort William H. Harrison, Mont.

Blodgett, Harry H., M.R.C., recently appointed, ordered to active duty, and assigned to duty at Fort Riley, Kan.

Fisher, Henry C., major, June 5, left Columbus Barracks, Ohio, on ten days' leave of absence.

Reno, William W., major, ordered to inspect hospital corps, New Hampshire militia, at encampment near Wilton, N. H., June 12 to 17, 1911.

Long, Charles J., D.S., ordered to several posts in the Department of the East for temporary duty.

Jackson, Thomas W., M.R.C., granted one month and ten days' leave of absence, about June 10, 1911.

Morse, Charles F., captain, granted leave of absence for two months and fifteen days, about Aug. 15, 1911.

Brechemin, Louis, colonel, ordered to proceed to St. Louis, Mo., and relieve Lieutenant-Colonel Snyder as medical supply officer in that city.

Snyder, Henry D., lieut.-col., on being relieved from duty in charge of the medical supply department, St. Louis, Mo., by Col. Louis Brechemin, M.C., will proceed to New York City and assume charge of the medical supply department in that city, as heretofore ordered.

Appel, Aaron H., colonel, relieved from active service after more than thirty-one years' service.

Reynolds, Royal, lieut., left Cienegas, N. Mex., en route to Denver, Colo., for duty.

Reynolds, Charles R., major, is assigned to duty as inspector, sanitary troops organized militia, State of New York, encampment, Peekskill, N. Y.

Love, Joseph W., M.R.C., reported for temporary duty at Fort Andrews, Mass.

Woodbury, Frank T., major, relieved from duty at Fort Assinniboine, Mont., and from temporary duty at Fort D. A. Russell, Wyo., and ordered to Fort Screven, Ga.

O'Connor, R. P., major, relieved from duty at Fort Screven, Ga., to take effect on return from Galveston, Texas, and ordered to Fort Huachuca, Ariz., for duty.

Medical Corps, U. S. Navy

Changes during the week ended June 10, 1911.

Holcomb, R. C., surgeon, detached from the *Delaware* and ordered to the *North Dakota*.

Pleadwell, F. L., surgeon, detached from the *North Dakota* and ordered to the *Delaware*.

Backus, J. W., P. A. surgeon, detached from the *Pennsylvania* and ordered to the *Iris*.

Davidson, A. B., asst.-surg., detached from the *Iris* and ordered to the Pacific torpedo fleet.

Downey, J. O., P. A. surgeon, detached from the *Prairie* and ordered to the *Chester*.

Bogan, F. M., surgeon, detached from the *Wisconsin* and ordered to duty at the naval hospital, Portsmouth, N. H.

Jenness, B. F., P. A. surgeon, detached from the naval hospital, Portsmouth, N. H., and granted sick leave for three months.

Derr, E. Z., medical director, on being placed on the retired list, June 10, detached from the Navy recruiting station, Providence, R. I., and ordered home.

Ohnesorg, K., surgeon, detached from the Navy yard, New York City, and ordered to duty at the naval hospital, Philadelphia.

Dorr, E. Z., medical director, transferred to the retired list from June 10, 1911.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 7, 1911.

Pettus, W. J., asst. surg.-gen., granted nine days' leave of absence from June 2, 1911.

Kerr, J. W., asst. surg.-gen., granted twenty-two days' leave of absence from July 10, 1911.

Long, J. D., asst. surg.-gen., granted one month's leave of absence from July 1, 1911.

White, J. H., surgeon, granted twenty-one days' leave of absence from June 1, 1911, without pay.

Carrington, P. M., surgeon, granted fourteen days' leave of absence from June 23, 1911.

William, L. L., surgeon, detailed to attend the thirty-eighth annual meeting of the National Conference of Charities and Corrections, to be held in Boston, June 7-14, 1911.

Wertenbaker, C. P., surgeon, detailed to attend the annual meeting of the Association of Surgeons of the Norfolk & Western Railway, to be held in Richmond, Va., June 15-16, 1911.

Young, G. B., surgeon, granted nineteen days' leave of absence from June 1, 1911.

Nydegger, J. A., surgeon, granted one month's leave of absence from May 24, 1911, on account of sickness.

Blue, Rupert, surgeon, detailed to represent the service in the Section on Preventive Medicine and Public Health of the American Medical Association, to be held in Los Angeles, Cal., June 26-30, 1911.

Rucker, W. C., P. A. surgeon, directed to proceed to Victor, Mont., and report to Passed Assistant Surgeon T. B. McClintic for duty in the investigation of Rocky Mountain spotted fever.

Smith, F. C., P. A. surgeon, detailed to represent the service at the annual meeting of the National Association for the Study and Prevention of Tuberculosis, to be held at Denver, Colo., June 20-21, 1911.

Hunt, Reid, professor of pharmacology, detailed to represent the service at the sixty-second annual meeting of the American Medical Association, to be held at Los Angeles, Cal., June 26-30, 1911.

Rodman, J. C., A. A. surgeon, granted twelve days' leave of absence from June 13, 1911.

Slamberg, N. L. A. K., A. A. surgeon, granted twenty-five days' leave of absence from June 2, 1911.

Brown, F. L., pharmacist, relieved from temporary charge of South Atlantic quarantine station and ordered to proceed to Wilmington, N. C., and report to the medical officer in command for duty and assignment to quarters; granted fifteen days' leave of absence from June 1, 1911.

Medical Economics

This Department Embodies the Subjects of Post-graduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

EDITORIAL COMMENTS ON PUBLIC HEALTH PROBLEMS

This department has occasionally reprinted extracts from newspaper editorials, with a view to showing the position of the representative newspapers of the country on public health matters. The amount of space given to such questions by the better class of newspapers is steadily increasing. This is one of the many evidences of constantly growing public interest in better health conditions. Here are a few extracts from a large number of newspaper clippings received in the past few weeks:

The Peoria (Ill.) *Transcript*, commenting on the decision of the United States Supreme Court in the case of the government against O. A. Johnson of Kansas City, says:

> The "patent-medicine" business has grown to stupendous proportions in this country. Viewed from the standpoint of "vested interests" it is one of the largest in investment and profits. While there are doubtless many legitimate preparations sold, it is true that the great bulk of consumption, rheumatism and cancer "cures" are rank frauds. If the medicine-makers cannot tell the truth about their product with-

out breaking their business up, it is not legitimate business. The first duty of the government is to protect its citizens from fraud and medical frauds are the least excusable of any.

The Akron (O.) *Beacon-Journal*, after quoting at length from *Collier's* editorial on the National League of Medical Freedom, expresses its opinion as follows:

> Health regulation should be no more a matter of individual choice than should burning one's own home in a crowded city. It is doubtful if more hypocrisy could be created into two words than in the single phrase of "medical freedom" which has been exploited by a league of late, whose workings are hidden to the average man except that it is evidently well provided with money. . . . The era of health regulation, pure food, pure drugs, etc., has fallen heavily on those who formerly made their living from the gullible public by means of pretensions of false science and by dealing in adulterations. Little wonder they have subscribed liberally to frustrate one of the greatest movements of the day.

The *Daily Chronicle* of Orange, N. J., discussing the compulsory vaccination law for school children, says:

> Whatever the plea made in support of the opposition to vaccination, it must be admitted that the vast preponderance of argument and evidence is in favor of the practice. It can hardly be credited to a natural coincidence that smallpox is practically eliminated where vaccination is systematically and generally enforced and the occasional cases of blood-poisoning, tetanus or scrofula that might be authentically traced to the inoculation are too remote a danger to justify the abolition of the precaution that is entirely successful in such a vast majority of cases. Vaccination is required as a preventive and not as a cure. . . . A rule requiring it must be enforced without exceptions if it is to be effective and a single exception in its application would open the way to others of equal merit and it might as well be rescinded entirely.

Commenting on the work of physicians in reducing disease, the Leavenworth (Kan.) *Times* says:

> Doctors are the queerest people in the world. Men in other business use means to increase their business. The doctors use means to make theirs less. It is to their interest that there should be sickness in the community, yet they are constantly advising their patients how to avoid sickness and they are constantly urging the communities in which they live to take precautions to prevent epidemics.
>
> These thoughts were suggested by the action of the Leavenworth County Medical Association in determining to bring the state tuberculosis exhibit to the city again.
>
> Last year the association brought the exhibit here, hired a room and paid nearly all the expense themselves, and all in order to teach the people the danger of contagion from the dread disease and how to avoid it. Hundreds of people visited the exhibit while it was here and the doctors of the city reported afterward that there was a distinct effort being made by many people to take proper precautions to avoid the disease.
>
> It was a great thing to do for the city and the city should have paid the expense. The commissioners felt, however, that they had no right to use the public money in that way, but each one of them went down into his pocket and gave a contribution to assist in paying for the exhibit.
>
> This year the doctors will ask the commissioners to pay at least a part of the expense out of the city treasury and we see no reason why it should not all be paid that way. The exhibit is for the benefit of all—unless the doctors may be excepted. We do not see why they should bear the burden of lessening their own business.

The Des Moines (Ia.) *Register* commenting on the resignation of two members of the state board of health who, according to newspaper reports, were discouraged over the efforts of the board to carry on effective work with the meager appropriation allowed by the state, says:

> It is doubtful if the doctors who are hastening to resign from the state board of health because the legislative appropriations for its work were inadequate are acting altogether temperately. It is true they have occasion to feel dissatisfied. The legislature has treated the matter of conserving the public health as though it were of no consequence. The medical men of the state are, no doubt, getting tired of "nagging the public into taking care of itself." . . .
>
> But, granting the provocation and all else, the fact still remains that the public health must be cared for as best it may. The fact remains that the State Board of Health must continue to do its work in spite of every obstacle. The fact remains that doctors must continue to do the very best they can to interest the public in conserving its health. Why shouldn't the members of the board of health make the best of the situation and give the state the best service they can under the circumstances? Why is not the need of large, capable men on the state board even greater now than it might be otherwise?
>
> Public service always calls for some sacrifice. Even under the most favorable conditions there would be disagreeable things about membership on the State Board of Health. There are merely a few more to contend with now, that is all. The interests of the state at large ought to be considered worth working for in spite of comparatively small annoyances. It is not always the best time to quit when impatient or when there is work ahead.

And yet if the same physicians, who the *Register* says "must continue to do the very best they can" to protect the public health, should ask the legislature for more stringent laws to exclude the ignorant and vicious from trifling with the lives of citizens, or even for the enforcement of existing laws, they would be denounced as endeavoring to establish a "doctors' trust."

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Arizona: Phoenix, July 5-6. Sec., Dr. Ancil Martin.

Colorado: Denver, July 5. Sec., Dr. S. D. Van Meter, 1723 Tremont Street.

Connecticut: Regular, City Hall, New Haven, July 11-12. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, Grace Hospital, New Haven, July 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, July 11, Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

Delaware: State Society and Homeopathic, Dover and Wilmington, June 20. Secretary of the Medical Council, Dr. H. W. Briggs, Wilmington.

Indiana: Room 120 State House, Indianapolis, July 11-13. Sec., Dr. W. T. Gott, Crawfordsville.

Maine: State House, Augusta, July 6-7. Sec., Dr. Frank W. Searle, 806 Congress St., Portland.

Maryland: 1211 Cathedral St., Baltimore, June 20. Sec., Dr. J. McPherson Scott, Hagerstown.

Minnesota: State University. Minneapolis, June 20. Sec., Dr. W. S. Fullerton, 214 American National Bank Bldg., St. Paul.

New Hampshire: State House, Concord, July 6-7. Regent, Mr. Henry C. Morrison.

New Jersey: Capitol Bldg., Trenton, June 20-21. Sec., Dr. H. G. Norton.

New Mexico: The Capitol, Santa Fe, July 10-11. Sec., Dr. J. A. Massie.

New York: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

North Dakota: Grand Forks, July 5. Sec., Dr. H. M. Wheeler.

Oklahoma: Ione Hotel, Guthrie, July 11. Sec., Dr. John W. Duke.

Oregon: Portland, July 4. Sec., Dr. E. B. McDaniel, 704 Electric Building.

Pennsylvania: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

Rhode Island: State House, Providence, July 6-7. Sec., Dr. Gardner T. Swarts.

Texas: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

Utah: State House, Salt Lake City, July 5-6. Sec., Dr. G. F. Harding, 310 Templeton Building.

Vermont: Burlington, July 11-13. Sec., Dr. W. Scott Nay, Underhill.

Virginia: Richmond, June 20-23. Sec., Dr. R. S. Martin, Stuart.

Washington: Tacoma, July 4. Sec., Dr. F. P. Witter, Traders Block, Spokane.

West Virginia: Capitol Building, Charleston, July 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

New Requirements in Arkansas

At the recent meeting of the State Medical Board of the Arkansas Medical Society, a new schedule of requirements for medical colleges was adopted. Beginning with the session of 1911-12, every matriculant in the medical colleges of Arkansas must obtain a matriculation certificate from the board. These certificates will be issued on either (a) acceptable credentials or (b) successful passing of an examination before the State Superintendent of Public Instruction.

The minimum preliminary education is given as that required for entrance to the University of Arkansas. For the next college session this minimum must represent 13 units of secondary school work, 7 of which must be in prescribed subjects as follows: English, 3 units; algebra, 2 units; plain geometry, 1 unit, and United States history, 1 unit. The remaining 6 units may be taken in elective subjects.

To be in good standing, each medical college must require for graduation not less than four courses of lectures of at least thirty weeks each, and must require regular attendance on these courses, no allowance to be made for absence except when due to sickness and such absences must not exceed 20 per cent. of the course. Attendance of at least two years in well-equipped laboratories and two years of clinical and hospital instruction is also required. No medical school will be considered in good standing if it issues a catalogue or announcement containing misrepresentations regarding its teaching facilities, courses of instruction or number of students matriculated.

Minnesota April Report

Dr. W. S. Fullerton, secretary of the Minnesota State Board of Medical Examiners, reports the written examination held at Minneapolis, April 4-7, 1911. The number of subjects examined in was 12; total number of questions asked, 120; percentage required to pass, 75. The total number of candidates examined was 13, of whom 10 passed and 2 failed. One candidate did not complete the examination. Fourteen candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
Rush Medical College	(1909) 82.1; (1910)	81.3
Hamline University	(1908)	75.3, 84.6
Univ. of Minn., Coll. of Med. and Surg.	(1910)	80.7, 86.5, 92
McGill University, Quebec	(1909)	81.7, 87.3
Laval University, Montreal	(1899)	77

FAILED

College	Year Grad.	Per Cent.
Louisville and Hospital Medical College	(1908)	58.5
Hamline University	(1907)	72

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
University of Colorado	(1910)	Colorado
Northwestern University Medical School,	(1908) (2, 1910)	Wisconsin; Illinois.
College of Physicians and Surgeons, Chicago	(1909)	Illinois
Hahnemann Med. Coll. and Hospital, Chicago	(1891)	Wisconsin
Johns Hopkins University	(1904)	Illinois
St. Louis University	(1910)	Illinois
Kansas City Medical College	(1902)	Nebraska
University Medical College, Kansas City	(1908)	Kansas
Western Pennsylvania Medical College	(1900)	N. Carolina
Wisconsin College of Physicians and Surgeons	(1908)	Wisconsin
Marquette University	(2, 1910)	Wisconsin

Nevada May Report

Dr. S. L. Lee, secretary of the Nevada State Board of Medical Examiners, reports the written examination held at Carson City, May 1-3, 1911. The number of subjects examined in was 13; total number of questions asked, 100; percentage required to pass, 75. The total number of candidates examined was 5, all of whom passed, including 1 osteopath. Six candidates were licensed through reciprocity. The following colleges were represented:

PASSED

College	Year Grad.	Per Cent.
National Medical University, Chicago	(1898)	81.9
Univ. of Michigan, College of Med. and Surg.	(1885)	91.9
University of Michigan, Homeopathic College	(1897)	86.2
Columbia Univ., Coll. of Phys. and Surgs.	(1892)	89.9

LICENSED THROUGH RECIPROCITY

College	Year Grad.	Reciprocity with
Rush Medical College	(1901)	Illinois
Indiana University School of Medicine	(1909)	Indiana
Marion-Sims Beaumont Medical College	(1902)	Nebraska
University of Nebraska	(1906)	Nebraska
Miami Medical College	(1902)	W. Virginia
Western Pennsylvania Medical College	(1908)	Illinois

Book Notices

A Text-Book of Gynecologic Surgery. By Comyns Berkeley, M.A., M.D., B.C.Cantab., Gynecologist and Obstetrician to the Middlesex Hospital, and Victor Bonney, M.S., M.D., B.Sc.Lond., Assistant Gynecologist and Assistant Obstetrician to the Middlesex Hospital. Cloth. Price, $5 net. Pp. 720, with 392 illustrations. New York: Funk & Wagnalls Co., 1911.

The purpose of this work is to set forth the detail and technic of the various gynecologic operations. No attempt has been made to discuss the etiology, pathology, symptoms and diagnosis in each condition, but rather the indications and contra-indications for operation have been considered, together with comparisons of the various methods at the operator's disposal in a given case. The descriptions of the various operations are unusually clear and complete, and in many instances each step of the procedure is illustrated. The book is very fully supplied with cuts. After a discussion of general considerations, the writers take up the consideration of vaginal operations, then the gynecologic operations performed by the abdominal route, together with a description of other abdominal operations which, while not strictly of a gynecologic nature, yet frequently are imposed on the operator: for instance, intestinal resection and anastomoses, repair of wounds of bladder and ureter, etc. The subjects are discussed in a systematic, lucid and forceful manner, showing a long familiarity with the work and a keen appreciation of the needs of the occasional operator and the beginner. The chapters devoted to the consideration of the operative complications and after-treatment are to be commended as the usual text-book either passes over them lightly or omits them entirely.

Essentials of Biology Presented in Problems. By George William Hunter, A.M., Head of the Department of Biology, De Witt Clinton High School, New York. Cloth. Price, $1.25. Pp. 448, with illustrations. Chicago: American Book Co., 1911.

A Laboratory Manual for the Solution of Problems in Biology. By Richard W. Sharpe, Instructor in Biology in the De Witt Clinton High School, New York. Cloth. Price, 75 cents. Pp. 352, with 86 illustrations. Chicago: American Book Co., 1911.

Professor Hunter has prepared a text-book, which is issued in company with Mr. Sharp's laboratory manual, the two forming a logical inductive method for the study of biology. The authors have presented their subject by means of a series of "problems" in biology rather than by the more conventional didactic method, seeking to arouse the interest and reasoning power of the pupil by presenting a series of physiologic problems, accompanied by directions for laboratory demonstrations and practical questions for the student to investigate and answer. Copious references to other authors accompany each chapter, many references being to articles in current magazines, government reports, etc. These books form admirable guides for the study of biology and give ample opportunity for the development of topical methods, it being the aim of the authors to show that methods of study which induce thinking are of far more importance than mere memorizing.

Inebriety. A Clinical Treatise on the Etiology, Symptomatology, Neurosis, Psychosis and Treatment and the Medicolegal Relations. By T. D. Crothers, M.D., Superintendent Walnut Lodge Hospital, Hartford, Conn. Cloth. Price, $3. Pp. 365. Cincinnati: Harvey Publishing Co., 1911.

This is probably the most complete treatise on inebriety by an American author. The whole subject is considered scientifically, not sensationally, as so often in treatises on inebriety. The author's recommendations of treatment are judicious and will be helpful to all who need aid in the management of this disease. No subject is more important but, unfortunately, like other common diseases, it interests many practitioners less than the uncommon. What can be done for the inebriate by proper medical advice and guidance is not as universally appreciated as it should be. Moreover, institutional treatment is not a necessity in every case and all practitioners should equip themselves properly to guide patients to recovery or past the hazards which beset the path of so many. A careful study of this book will reward those who do not feel fully equipped for the care of the inebriate.

Bismuth Paste in Chronic Suppurations. Its Diagnostic Importance and Therapeutic Value. By Emil G. Beck, M.D., Surgeon to the North Chicago Hospital, Chicago. With an Introduction by Carl Beck, M.D. And a Chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and the Ear, by Joseph C. Beck, M.D. Cloth. Price, $2.50. Pp. 237, with 90 illustrations. St. Louis: C. V. Mosby Co., 1910.

The use of bismuth paste in the treatment of chronic suppurations and the use of bismuth in various forms of suspension for diagnostic purposes have become recognized procedures of value. With these, as with most operative procedures, however simple they may appear, it is necessary in order to attain the highest degree of success to carefully follow the correct technic. Many of the failures in the use of bismuth paste have been due either to faulty technic or to use in unsuitable cases. In this volume is found a careful description of the technic by the originator of the method as well as a review of the cases in which it has proved of value. Attention is also directed to the fact that severe and even fatal poisoning may follow the injudicious use of bismuth. This method, therefore, should be used only after one is thoroughly familiar with its possibilities and its dangers; hence a careful perusal of this little volume is almost essential to those who expect to use the method.

Truths: Talks with a Boy Concerning Himself. By E. B. Lowry, M.D., Author of "Confidences." Cloth. Price, 50 cents. Pp. 95. Chicago: Forbes & Co., 1911.

This little book, dedicated "To the Man of To-Morrow," is an effort to impart instruction to boys on sexual hygiene. It is interestingly written in the form of talks to a boy by his uncle. Beginning with a description of plant life and the method of plant reproduction, the reader is gradually led through the lower forms of animal life, with which he is naturally familiar, to the chapter on "The Mechanism of Our Bodies," the needed information being imparted in a natural and unsensational manner. Chapters containing needed warnings to boys on the dangers of listening to the advice of advertising fakers and a chapter on "Sowing Wild Oats," containing advice to the boy about to leave home, are particularly good. The tone of the book is excellent and it can be safely recommended to parents and others who wish to instruct children in this important subject.

The Serpent's Trail, or, Memoirs of Harold Bagote, Physician. A Tale of the South and of Cuba. By F. B. Cullens. Cloth. Price, $1.25. Pp. 168. New York: Broadway Publishing Co.

This is a melodramatic story of the adventures of a physician with a band of smugglers the leader of whom is the villain of the book. Under strange circumstances the hero was able to render great service to a beautiful woman. He was also enabled to foil the villain's wicked designs on another young and beautiful girl. The villain's machinations, however, resulted in the death of several characters including himself. The physician was later rewarded by the hand of the beautiful Spanish widow of the smuggling villain. Being written by a physician, concerning a physician, the book may be of interest to physicians who like this kind of literature.

State Board Questions and Answers. By R. Max Goepp, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Second Edition. Cloth. Price, $4 net. Pp. 715. Philadelphia: W. B. Saunders Co., 1911.

According to the preface of the first edition this book is based on the questions asked by state medical licensing boards during several years. Duplicate questions have been eliminated and condensed answers follow. An exhaustive index makes it possible to find the reference to any subject readily. The evident purpose of the book is to provide a convenient compend for those who wish to prepare for state board examinations.

Plaster of Paris and How to Use It. By Martin W. Ware, M.D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital. Second Edition. Cloth. Price, $1.25. Pp. 101, with 90 Illustrations. New York: Surgery Publishing Co., 92 William Street, 1911.

Following out the suggestions contained in the criticisms of the first edition the author has revised and rearranged this book. New matter and new illustrations have been added and marginal notes in red have been employed.

Medicolegal

Hospital for Treatment of Bone Tuberculosis Not a Nuisance

The Court of Chancery of New Jersey, in Board of Health and certain residents and property holders of Ventnor City vs. North American Home (78 Atl. R. 677), denied a preliminary injunction to prevent the defendant from conducting a sanitarium for the treatment of bone tuberculosis.

The court says that it was disclosed by affidavits filed in behalf of the defendant that the sanitarium was for the free treatment of poor children afflicted with said disease, and was not maintained for profit. Notwithstanding, however, the great public good which would necessarily result from the work of an institution of that nature, it was manifest that, if the health of the residents of Ventnor City was jeopardized by its maintenance, a court of equity might grant such relief as would afford adequate protection to the residents of that city from the threatened danger; but, if no real danger of that nature existed, the mere fact that uninformed people who were unacquainted with the true conditions might or probably would assume such a danger to exist could not be made the basis of equitable relief.

The answer which was filed in behalf of the defendant was accompanied by affidavits of a great number of physicians and surgeons of eminence in their profession and who had given special study to the various forms of tuberculosis. They testified that while pulmonary tuberculosis is undoubtedly contagious, bone tuberculosis is neither contagious nor infectious, and cannot be transferred from one to another; and that cases of bone tuberculosis are freely admitted to all the hospitals and treated in the same wards as other surgical cases. If that was true, it was manifest that no danger to the health of the inhabitants of Ventnor City was threatened by the maintenance of the sanitarium in question and the grievance asserted by the complainants was based on an assumed danger which did not in fact exist.

It was urged that the New Jersey legislature had declared bone tuberculosis to be a communicable disease, and an act of 1910 concerning tuberculosis contains this sentence: "Tuberculosis is hereby declared to be an infectious and communicable disease, dangerous to the public health." But an examination of the several provisions of that act, especially when considered in connection with the testimony touching the difference between pulmonary and bone tuberculosis, renders it at least doubtful whether the portion of the act above quoted was intended to include bone tuberculosis. If any truth was to be found in the affidavits of the physicians who had testified touching the nature of bone tuberculosis, it was entirely manifest that the legislature had not intended the section making it a misdemeanor for "any person having tuberculosis" to dispose of his sputum in a manner contrary to the directions of the act, to control the disposition of the sputum of persons afflicted only by bone tuberculosis. Whether any of the provisions of that act were intended to include bone tuberculosis it was not necessary to consider here; but the court is convinced that the legislation referred to could not properly be deemed operative to render the institution conducted by the defendant a nuisance *per se*, or in and of itself.

Wide Range of Evidence Admissible in Support of Defense of Insanity

The Supreme Court of Washington in granting a new trial in the case of State vs. Flanney (112 Pac. R. 630), where the defendant, a half-breed Indian, was convicted of the murder of his wife, says that it deems the question presented as to the admissibility of evidence in such a case to be one of more than usual interest and importance. The question was raised by a rejection by the trial court of an offer by the defendant to prove that his wife had taken up with what is known among the Indians as the Shakers; that the man of whom the defendant was jealous, and whom he charged with having weaned his wife away, was a Shaker; that the Shaker society is an Indian religious organization which teaches and practices promiscuous, illicit intercourse among its members, and that it is the duty of a member having a spouse who is not one of that faith to secure a divorce; that the defendant knew of his wife's faith, and, suspecting her of lewd conduct, was so greatly distressed in mind that for the time his reason was dethroned. The Supreme Court holds that this evidence was admissible.

The Supreme Court says that it has made an earnest research of the authorities, and finds that it is a first principle of the law that in all cases involving mental responsibility, whether it be in regard to contracts, wills, etc. or crimes, every fact which tends to show that the mental condition of the subject was abnormal at the time of the execution of the instrument or commission of the crime is competent. For the mind diseased cannot be measured by the mind of another. Neither the moving cause nor the limit of its aberration is to be calculated by any standard fixed by the law or medical science. Each case fixes its own relation to the law. What may unbalance one mind and lead it to act on its criminal impulses may have no bearing on another. Therefore it is important that all things which may bear on the subject of inquiry should be submitted to the jury, that it may say whether, from all the facts and circumstances leading up to the act complained of, the accused was, in fact, capable of distinguishing right from wrong when he committed the act.

The leading case on this subject is that of People vs. Wood. 126 N. Y. 249, which establishes the principle that "a party is entitled to the benefit of any competent evidence he may offer which bears on a controverted question of fact embraced in the issue."

A delusion of marital infidelity is acknowledged as a type or symptom of homicidal insanity by alienists. Mr. Clevenger, at pages 650, 651, 653, 658 and 1074, cites instances to confirm this theory. So that, whether the accused had a belief grounded in fact or born of imagination, the evidence which was rejected was proper as tending to throw light on the defendant's mental attitude toward the victim of his deliberate physical act. Under all authority, it seems clear that, having laid a foundation by showing some evidence of mental aberration, the defendant could show that his wife's conduct had been such as to account for the state of his mind, and that his plea was not feigned. The testimony does not prove or disprove the crime, but it is a circumstance to be considered by the jury, as is a blow on the head, or a drug habit, etc. Nor does it introduce a collateral issue to be tried out. The inquiry should not go beyond such limit as will disclose the fact to the jury that there was a cause which might have moved the mind of the accused, and which it may consider as evidence tending to sustain his plea.

Such testimony should go to the jury under careful instructions. Its purpose and the limit of its application should be carefully guarded; so that the jury will not take it, if true, as in itself a justification or as an excuse for the crime, nor to prove justification for anger, hatred, revenge or an uncontrolled passion, or the momentary impulse of a sane mind, but for just what it is intended; that is, whether, considering all the facts and circumstances offered to show an insane act, it tends to strengthen the testimony by showing an adequate cause accounting in some degree for the alleged mental condition of the accused at the time the murder was committed.

It may be assumed that no man can measure the torment which a doubting husband tells o'er. If in the telling his reason so far fails that he cannot distinguish the right or wrong of his act, he is indeed an object of pity and compassion; but, on the other hand, if, with mental power to distinguish right from wrong, he takes the life of his victim, he should be made to feel the heavy and unflinching hand of the law. It is for the jury to say whether the defendant is a felon, or the victim of an unfathomed nature. That it may make no mistake, the defendant is entitled to submit such evidence as he may, providing only that it is relevant and competent to sustain his plea.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, Los Angeles, June 27-30.

American Academy of Medicine, Los Angeles, June 23-26.
American Medico-Psychological Association, Denver, June 19-20.
American Ophthalmological Society, New London, Conn., July 11.
American Otological Society, Atlantic City, June 26-27.
American Proctologic Society, Los Angeles, June 26-27.
American Surgical Association, Denver, June 19-21.
Arizona Medical Association, Los Angeles, June 26.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1
Maine Medical Association, Augusta, June 28-29.
Nat'l Assn. for Study and Prev. of Tuberculosis, Denver, June 20-21
North Carolina, Medical Society of State of, Charlotte, June 20.
Oregon State Medical Association, Los Angeles, Cal., July 10.

FLORIDA MEDICAL ASSOCIATION

Thirty-Eighth Annual Meeting, held at Tallahassee, May 10-12, 191

The President, DR. J. D. LOVE, in the Chair

The officers elected were named in THE JOURNAL, June 3 1911, page 1660.

House of Delegates

The report of the secretary showed 316 members in twenty two counties.

Joint Examining Board

DR. J. H. PIERPONT, chairman of the Committee on Public Policy and Legislation, made his report in regard to an effort to have the regular, homeopathic and eclectic examining boards agree to consent to a joint board of examiners; that the homeopathic so far were not favorable to the proposition and that the eclectic would not consent. Many irregularities in the method of appointment by the last-mentioned body were reported on the floor of the house. One of the prominent eclectics, Dr. S. F. Smith of Lakeland, a member of the association, promised his earnest support in bringing about favorable action on the proposed legislation. It is probable that the 1913 legislature of Florida will be asked to combine the three boards.

The Owen Bill

The Owen Bill, Senate Bill No. 1, providing for a national department of health, was endorsed, by resolutions, and its adoption urged.

The house adopted a resolution asking the legislature to place licensed physicians, who wished to practice pharmacy on the same basis as graduates of pharmacy; i. e., requiring an examination before the board of pharmacy; except that this should not prevent a practicing physician from dispensing his own drugs.

Organization and Advancement of the Profession

DR. J. N. MCCORMACK, chairman of the Committee on Organization of the American Medical Association, addressed the association as to the value of organization, mutual cooperation and assistance in an effort to elevate the standard of the practice of medicine. On Thursday evening, his excellency, Albert W. Gilchrist, governor of Florida, presiding, Dr. McCormack, before a public audience, consisting of the state officials, members of the legislature, the medical association, and citizens of Tallahassee, delivered an address on the advantage of good health, how it can be obtained and maintained, the needs of the citizenship from a sanitary standpoint, and outlined the methods which should be followed in obtaining a closer cooperation between the profession and the public.

Some Needs of To-Day

DR. J. D. LOVE, Jacksonville: The growth of the Association has been very gratifying and I would urge that careful selection be made in admitting members and that the older members of the profession take a more active interest in the scientific work and exercise their mature thought in the leadership of the profession. The modesty is unfair and injurious that leads an older physician to withhold his valued teachings in the mistaken assumption that only that which is new and as yet unproved appeals to the profession. As for the charlatans and medical imposters who every year invade the state, proper influence should be used to have the legislature define "the practice of medicine." The examining board should have statutory authority, probably with the consent of the governor in eash instance, to revoke for good and sufficient reason, the license of a physician. The practice of applicants, when having failed before the regular examining board, going before other boards of examiners and securing a license to practice medicine should be condemned. Legislation to secure proper compensation for expert medical testimony should be secured.

Surgical After-Treatment of Anterior Poliomyelitis

Dr. R. C. Turck, Jacksonville: Fully 90 per cent. of all cases of poliomyelitis in children are certain to terminate with some permanent paralysis and muscular atrophy. Every case of infantile paralysis is a law unto itself. Practically no two cases are alike. Until there has been perfected a specific as uniform and as undoubted as diphtheria antitoxin, for instance, we must face the consequences of infantile paralysis, and direct efforts first, to the minimization, and second, to the relief of the inevitable end results. Much can be done in the subacute stages by prophylactic treatment. Massage, joint manipulation, passive and active muscle stretching, with corrective and retention apparatus, if indicated, will prevent contracture deformity in practically all cases. The ideal treatment of deformity in poliomyelitis is prophylactic. In neglected cases, of those in which contracture occurs, in spite of preventive measures, deformities, especially of the ankle and knee, may be corrected by several means: tenotomy is most widely employed and most valuable if used with due regard to end results.

DISCUSSION

Dr. J. H. Randolph, Jacksonville: Notwithstanding the very best medical treatment we can give, sooner or later, with rare exceptions, the surgeon's knife must be resorted to for relief. With increased knowledge of benefits derived from early treatment, a diminution of extreme deformities should result. Early recognition of the condition is necessary, and I hope that soon we will have a serum for general use.

Traumatic Tetanus

Dr. E. N. Liell, Jacksonville: A male, aged 10, was injured by a blank pistol cartridge, Dec. 24, 1908. On the ninth day following, symptoms of rigidity of lower jaw muscles developed, with slight convulsive seizures; subsequently the muscles of the neck, chest and back became implicated. On the twelfth day he was admitted to the hospital. A decided convulsion was repeated an hour later. The wound, of charred character, partly healed, was thoroughly excised and a bichlorid dressing was applied. At 4:30 p. m. 5,000 units of antitetanic serum were injected into the muscles over the right shoulder blade; an enema of normal salt solution was given. Next day 5,000 units were injected at 11 a. m. Repeated convulsions lasting from a few seconds to two minutes occurred throughout the night; nourishment was refused, but he took water through a tube; 4:30 p. m., 3,000 units, 1 pint enema salt solution; January 7, 11 a. m., 3,000 units were injected; muscles contracted but not as rigid; four convulsions during past twelve hours. Five p. m., light convulsion; January 8, numerous convulsive seizures during night; refused nourishment, and chloral and sodium bromid, 10 grains each dose, but would take water; 3,000 units injected 11 a. m.; 3,000 units injected 7 p. m. after several convulsions, one lasting eight minutes though not formidable. January 9, noon, 3,000 units; 7 p. m., 3,000 units; muscles of jaw and neck relaxed somewhat, so that teeth could be separated an inch. January 10, 11 a. m., 3,000 units; 8 p. m., 3,000 units. January 11, 3,000 units. January 12, 11 a. m., 3,000 units; 7 p. m., 3,000 units. January 13, 11 a. m. and 8 p. m., 1,500 units. January 14 and 15, 1,500 units each. January 15 and 16, chloral, 20 grains. Patient discharged well, January 24. Temperature ranged from 99 to 101 F.; pulse 84-122; respiration 20-46; 55,000 units antitoxin total given.

DISCUSSION

Dr. J. H. Randolph, Jacksonville: In a case reported to the association in 1908, intraspinal injections of magnesium sulphate were successful in treatment.

Dr. G. L. Winthrop, Mobile: Of eight patients with traumatic tetanus four were not given antitoxin. They died. Four were given antitoxin after symptoms developed and recovered. In one case chloroform, in two cases intraspinal injections of magnesium sulphate, were given to control convulsions. The question of whether antitoxin given after the onset of symptoms has been beneficial or harmful is unsettled, but in all cases where tetanus develops, the antitoxin should be given.

Rabies in a Human Being with Necropsy

Dr. Henry Hanson, Jacksonville: Patient, male, 9 years of age, was seen in consultation. Physician was called March 12, 1911, found patient suffering with severe throat symptoms and inability to swallow. Examination excluded diphtheria. Forcible depression of tongue temporarily enabled patient to swallow a little medicine. On attempting to drink water, it was forcibly expelled through the nose and mouth with general convulsion. After a few hours the attending physician found the patient much worse, nervous, respiration interfered with, muscles of deglutition paralyzed. The suspicions of the physician were aroused and inquiry was made as to the possibility of the patient having been bitten by an animal. It was found that three weeks previously a stray dog bit the boy severely on the calf of each leg. The patient was in bed three days before a physician was called, refusing food and drink, except small quantities of milk. During the course of the disease the thirst increased, but when water was brought, the patient would strike the glass from the hands of the attendant, or would jump out of bed in various directions, as though frightened. Death occurred on the afternoon of the fourth day, March 15. Permission for an autopsy was obtained. Post-mortem findings were characterized by their negativeness.

Microscopic examination, Anna Williams method: Bodies found within protoplasm of the large ganglion cells as described by Negri in 1903. Three rabbits inoculated, two subdurally (one dying from the operation), one intravenously. The two rabbits died with typical rabies on nineteenth and twenty-third days respectively. The brains of both rabbits showed Negri bodies in smears from Ammon's horn.

The Operative Treatment of Fractures

Dr. Clarence Hutchinson, Pensacola: I do not advocate the operative treatment in every form and type of fracture. It is with the fractures of the shafts of the long bones that we have most to deal, and these fractures, with their marked displacement, with their consequent impaired or lost economic efficiency, have made and are making woeful commentaries on our so-called surgical skill.

The operative technic is comparatively simple and due care reduces the risk practically to nil. Rigid asepsis is the key note to success in fracture cases. Moderate cleanliness is not sufficient. Special care must be exercised in the preparation of the field of operation. Large moist compresses of green soap applied to the field for several hours and even days if the skin is thick or horny, followed by a germicide. The incision should be along a line where there is a minimum chance of damage to important structures. The incision should be adequate to expose the site thoroughly. Avoid unnecessary handling of sponges and instruments and never introduce anything into the wound except instruments necessary for handling fragments. Remove all clots and keep wound dry. Do not burden tissues with unnecessary ligatures and suture material—one tier of sutures is usually sufficient. Put on strong plaster cast after operation and do not disturb wound unless indications are very positive for interference. Age is no barrier to operation; often the procedure is most strongly indicated in old persons. The shock is trivial. It is my rule to operate in all cases of fracture of the shaft of long bones in which there is marked displacement, especially where the economic efficiency of the individual is likely to be impaired from a questionable result.

Spontaneous Amputation of the Leg at Lower Third

Dr. Henry E. Palmer, Tallahassee: A negro male, aged about 70, three years before had an ulcer come under the fourth toe of the right foot; it resisted all treatment for a while and then remained without treatment five months; the foot began to swell and gangrene followed. He was in a semi-conscious state afterward from pain and morphin, which was liberally supplied. Several weeks later the foot suppurated at the ankle and he cut the few tendons with scissors. The flesh sloughed from the lower third of the leg, leaving the bone exposed 4 to 6 inches. In crawling down the steps the crippled leg caught and he fell, breaking the bone above the line of demarcation. A very good stump remains. This unusual termination illustrates the wonderful recuperative powers of some individuals under adverse conditions.

Huntington's Chorea

Dr. Ralph N. Greene, Chattahoochee: The patient, a negro male, entered the hospital for the insane twelve months ago with a diagnosis of Huntington's chorea. He had sustained a severe cranial wound in a railway accident, also gave a history of syphilis twelve years before.

DISCUSSION

Dr. J. H. Randolph, Jacksonville: Cases of chorea major are of sufficient rarity to warrant their exhibition. The occurrence of the condition in the negro race is of particular interest. Of five cases seen by me, only two, including this one, occurred in negroes. The majority of cases reported, are in males. Very little is known as to the etiology of the disease, although attention has been called to the possibility of its being an infectious disease of rheumatic origin.

Dr. R. N. Greene: This is the second case observed at the hospital. The other was a young white man who had had syphilis some years previous, was in the battle of San Juan and was injured by a fragment of a shell. Chorea developed after his return. In the present case the convulsive movements developed almost immediately after the injury, according to the statements of the patient. The convulsive movements are more marked now and have increased in severity.

Dr. R. L. Goodbread, Mayo: I have a case of chorea major under observation at this time. Patient is a male, age about 30, has been an officer of the law, wounded twice seriously; at times is a hard drinker; denies having had syphilis. His spasmodic movements are confined to one side. The mind is not affected, so far as can be seen now. His present employer says his work is satisfactory. In recovering from the attacks of the spasmodic movements he takes no morphin; but when sobering up from a drunken "spree" morphin is taken. He resents persons not familiar with him noting the spasmodic movements.

Purpura Fulminans, Complicating Malaria

Dr. F. Clifton Moor, Tallahassee: There is considerable doubt in my mind as to the relationship between the purpuric symptoms exhibited and a very definite coexisting malarial infection. Most recent authorities give their opinion that the different types of purpuric disease depend on the severity of the affection or the anatomic position of the hemorrhages rather than on any essential difference in the etiology or pathology of the disease itself. As to the etiology of the condition or whether there is any definite etiologic factor operating in all cases, there is a decided difference of opinion. My patient is a male, aged 4, of good physical development, but rather rachitic head. Family history negative, except for a slight hemophilic tendency in the mother and maternal grandmother. Two cases of malaria occurred in the family the previous summer. During the three months preceding the present attack, the patient has had two attacks of remittent fever lasting five to ten days at intervals of two or three weeks. Coincident with a rise of temperature, the child exhibited a decided convulsive tendency. Attacks were acute and marked by sudden rise of temperature to 103½-104 F., accompanied by convulsions or vomiting, or both. Remissions, and sometimes intermissions, of a few hours occurred. Examination of the blood showed the estivo-autumnal type of malarial parasite. During one of the attacks, after the administration of quinin, the examination was negative; Widal, negative. Fourteen days after last attack, at 2 p. m., there was a sudden rise of fever, vomiting and convulsion within an hour. Six grains of quinin had been given daily, up to a week before, for seven days. A smear taken immediately after the convulsion showed crescents in considerable numbers. The disease progressed, following Henoch's classical description, death occurring at midnight of the second day, without convulsions. Deaderick describes several irregular types of pernicious malaria due to actual clogging of the small vessels of the brain with plasmodia and blood cells, mentioning particularly an aphasic, hemiplegic and amaurotic type and states that the pathologic condition as noted above has been definitely demonstrated. If this is the case, a simular condition existing in the cutaneous circulation might well account for the particular symptoms of the case. The treatment was symptomatic.

Other Papers Read

The following papers were also read: "Rupture of the Uterus," by Dr. E. W. Warren; "Review of the Treatment of Epithelioma," by Dr. J. Lee Kirby-Smith; "Diagnostic Value of Lumbar Puncture," by Dr. James H. Randolph, Jacksonville; "Pellagra," by Dr. R. L Goodbrad; "Preliminary Report on Latent Malarial Carriers,' by Dr. Hiram Byrd; "Malarial Infection, Diagnosis and Prophylaxis," Dr. Henry Hanson; "Medical Inspection of Schools in Florida," by Dr. L. A. Bize; "The Eye and Its Relation to Medical Inspection of Schools," by Dr. F. P. Hoover; "Congenital Stenosis of the Pylorus," by Dr. D. C. Thompson; "Contract Practice," by Dr. M. L. Crum, Bowling Green; "Strangulated Inguinal Hernia in the Female," by Dr. H. A. Royster, Raleigh, N. C.; "Pellagra," by Dr. J. J. Watson, Columbia, S. C.; "Thoracic Surgery and Demonstration of Intratracheal Insufflation," by Dr. B. Merrill Ricketts, Cincinnati, Ohio; "The End-to-End Anastomosis of Blood-Vessels," by Dr. G. J. Winthrop, Mobile, Ala.; "Relation of Medical Examiner and Insurance Company," by Dr. R. H. McGinnis, Jacksonville.

ILLINOIS STATE MEDICAL SOCIETY

Sixty-First Annual Meeting, held in Aurora, May 16-18, 1911
(Concluded from page 1748)

The Abuse of Local Treatment in Gynecology

Dr. Henry T. Byford, Chicago: I wish to condemn the inadequacy of college instruction, and to criticize the different kinds of local treatment taught and used in a routine indiscriminate manner by many general practitioners. Iodin and phenol are applied to the cervix when not indicated, and are therefore useless in a large proportion of instances. Abstraction of blood from the cervix to relieve chronic hyperemia of the uterus and adnexa is useless and injurious. Glycerin and ichthyol tampons are of homeopathic efficacy and sometimes act as irritants. As a support the tampon is apt to do more harm than good. The copious high temperature douche accomplishes nothing, except to clean out vaginal discharges and give the patient unnecessary trouble. Medicated douches have a certain value when used intelligently and in a thorough way. I advise the judicious omission of all local treatment not based on definite rational indications. Patients who cannot and will not avail themselves of operations or who do not urgently need them, do better under a regulation of their habits and a correction of pathologic or abnormal conditions of the system in general than to depend on the routine indiscriminate local treatment. Some are made worse by it. Medical knowledge is as necessary for the gynecologist as surgical training; the exclusively surgical gynecologist is only half a gynecologist.

DISCUSSION

Dr. Thomas J. Watkins, Chicago: I would like to subscribe to what Dr. Byford said about the inefficiency of most topical applications in gynecology.

Dr. O. B. Will, Peoria: The American people are to-day busy in ferreting out and trying to rectify abuses of every kind. The medical profession is never backward in that line, but when it comes to placing blame on the general practitioners for abuse in this line, I would like to have it understood that specialists are to blame for these abuses, if such there are, in this line of treatment. The specialist changes his ideas with such rapidity that the ordinary practitioner is unable to keep up with him.

Functional Kidney Diagnosis

DRS. L. E. SCHMIDT and H. L. KRETSCHMER, Chicago: The phenolsulphonephthalein test has apparently been of distinct value in a large series of cases, permitting or aiding in selecting cases suitable for operation. It has been found to be of great value in cases in which there were lesions of the lower urinary tract and the mixed specimens of urine were used: it is equally valuable where the urines have been collected separately and where a consideration of the functional activity of one or both kidneys is to be considered. The carrying out of this test repeatedly on one and the same patient at intervals of three or four days has shown an increase in the rapidity of elimination of the drug as well as an increase in the percentage of drug excreted, both in the first and second hours; and accompanying this, a distinct improvement of the patient clinically during the period of time that preparatory treatment was given. To us this seemed of paramount importance—in fact, no other functional test has ever given us the same opportunity to make similar comparisons. Considering the ease and accuracy with which the test can be carried out —in connection with the ordinary modes of examination—it is by far the most adaptable, as well as accurate, of any of the functional tests in use at the present time.

The Euglobulin Reaction in the Urine

DR. ARTHUR R. ELLIOTT, Chicago: Euglobulin in the urine is demonstrated by treating the urine, diluted with distilled water, with 50 per cent. acetic acid in the cold. A diffuse cloudiness, intensifying on standing denotes the presence of euglobulin or nucleoproteid. Physiologic chemists are not agreed as to the exact nature of the proteid precipitated by acetic acid, some claiming it to be nucleoproteid, others englobulin. It may be that under differing conditions either one or the other may exist in the urine or both occur simultaneously, although nucleoproteid is much rarer and of secondary clinical importance to euglobulin. The clinical conditions in which the reaction occurs are reviewed and attention directed to the value of the test in differentiating certain harmless forms of albuminuria (cyclical, orthostatic, residual) are characterized by the occurrence of euglobulin in the urine, associated with serum-albumin, and such urines give the acetic acid reaction. This reaction is not observed in the urine in chronic nephritis. When these two facts are placed together the test becomes of value as a means of differentiating harmless from serious organic albuminuria. As a rule the more abundant the reaction, the better the prognosis. The cases giving rise to perplexity in diagnosis are those in which albumin in the urine constitutes the only or almost the only symptom. It is in such cases that the acetic acid reaction may prove of value.

Diagnosis and Treatment of Infections of the Renal Pelvis

DR. L. W. BREMERMAN, Chicago: A number of years ago I was treating these patients entirely by lavage of the renal pelvis, and eradicated the infection in the majority of cases, yet there were a small number that would not clear up so that the urine would be entirely free from bacteria. During the last two or three years I have been using, in combination with lavage, injections of autogenous vaccines, and my results have been nearly perfect. I have found that the cases all clear up much more rapidly this way than with either lavage alone or vaccines alone. The lavage is carried out about once every five days by injection, through the ureteral catheter, of a solution of one of the silver salts; silver nitrate solution is preferable. It is well, when using silver nitrate, to lavage the bladder with salt solution, leaving some in that viscus after the treatment to the kidney pelvis. If this precaution is not taken, the silver is apt to produce frequency of urination with tenesmus. The catarrhal and mild purulent forms will clear up very rapidly in some of the cases. I have seen cases in which from one to ten treatments were sufficient, the urine remaining quite bacteria-free, the symptoms all disappearing. These cases, however, are the more difficult to diagnose, and unless special care is taken the condition will be overlooked and will not be recognized until it becomes purulent, whereas if recognized early the pelvic infection may be eradicated absolutely.

Unilateral Pyelonephritis

DR. E. MAMMEN, Bloomington: It is of the utmost importance that an early diagnosis be made; hence it is necessary to make frequent urinalyses when a kidney is suspected. Thoroughness will lead to the right solution of a puzzling condition. It is never wise to dismiss the patient with the assurance that his kidneys are all right. To do this will lead to error. Recently I removed a kidney containing 40 ounces of pus and a large calculus from a man whose urine was examined six weeks before, and the assurance given him that his kidneys were all right. If these kidneys can be detected early it becomes possible to treat them successfully by incision and drainage or decapsulation, or removal of the calculus. If, however, the diagnosis is not made until the parenchyma of the organ has degenerated, then nothing short of complete nephrectomy will suffice.

The Clinical Determination and Significance of Some of the Peripheral Signs of Aortic Insufficiency

DR. FREDERICK TICE, Chicago: Of 124 cases observed by me clinically, the collapsing pulse was present in 118 (95 per cent.); the visible artery pulsation in ninety-five (76 per cent.); the capillary pulse in 112 (90 per cent.); the venous pulse in eight (7 per cent.); hepatic pulse in fifteen (14 per cent.); femoral snap in forty-three (45 per cent.); delayed arterial pulse in fifty (48 per cent.); double femoral murmur in 100 (88 per cent.), and in the femoral tones in twenty-six (24 per cent.). The typical collapsing pulse *per se* is not pathognomonic of aortic insufficiency. The collapsing character is not due directly to the amount of regurgitated blood, but is the result of vasomotor dilatation. Aortic insufficiency may exist without a collapsing pulse. A typical collapsing pulse may occur with perfectly normal and competent aortic valves, as is not infrequently observed in exophthalmic goiter and other diseases with vasomotor dilatation. The degree of the collapse of the pulse in an aortic insufficiency is no indication of the amount of regurgitated blood or the extent of the valvular defect.

Visible arterial pulsations, while very suggestive, are not pathognomonic of aortic insufficiency. The chief factor in their production consists of the arterial and capillary changes; the aortic valves may be normal and competent. Visible arterial pulsations are observed clinically in pseudo-aortic insufficiency of Lennhoff, v. Weissmayer and Huber, in exophthalmic goiter and other diseases associated with a high pulse-pressure. The capillary pulse is not pathognomonic of aortic insufficiency. Its presence depends on a disturbance of the capillary flow, in most instances a vasomotor dilatation and loss of arterial elasticity.

The double femoral murmur *per se* is not pathognomonic of aortic insufficiency. It is an artificially produced phenomenon. The essential portion of the phenomenon, the cardiodiastolic or arteriosystolic results from the backward flow of blood produced chiefly by the vasomotor dilatation. Aortic insufficiency may exist without a double femoral murmur. The phenomenon is observed in other diseases, with perfectly normal and competent aortic valves.

The Liberal Diet in Typhoid

DR. J. L. MILLER, Chicago: The general use of the milk diet in typhoid is due to the fear of injuring the ulcerated surfaces in the ileum. Milk, however, when it reaches the stomach, rapidly assumes a semisolid state on account of the action of the milk curdling ferment. Certain foods, as well-cooked cereals, soft-boiled or poached eggs, mashed potatoes, custards, jellies, gelatin, steam-cooked fruits, etc., are finely divided and cannot form hard masses on reaching the stomach. It has been shown that the typhoid patient's power of digestion and assimilation is only slightly impaired, and he can therefore properly dispose of food. The proteid loss in typhoid is very great and may exceed ½ pound of muscle daily. It has been shown that this muscle waste can be avoided by a proper diet. Carbohydrates and fats offer the best protection to the body proteids, and these must be given in large amounts, as in order to make up for the excessive waste the typhoid patient requires twice as much food as the normal individual. It is practically impossible to give these patients sufficient food to entirely prevent the destruction of the body proteid. They should receive, however, at least 3,000 calories daily. If this were administered in the form of milk between 4 and 5 quarts would be needed. The milk, furthermore, does not contain a sufficient amount of carbohydrates, as about two-thirds of the food should consist of carbohydrates. A suitable diet consists of 1 quart of milk and 1 pint of good cream (1,650 calories), four or five eggs (350 calories), 8 ounces of sugar (1,000 calories), making a total of 3,000 calories. The cream and milk may be given as cream soups, with cereals, as ice cream, etc. The sugar may be added to cereals, cooked fruits, or lemonade, or taken in the form of jellies, honey, etc. With the above as the basis of the diet, any soft foods may be added for variety. With such a diet the extreme emaciation and anemia can be much lessened and convalescence shortened. There is abundance of statistical evidence to show that the mortality danger of perforation and hemorrhage is considerably less on the liberal diet than on a pure milk diet. The only unfavorable results reported are the somewhat greater frequency of relapses.

Cancer in Domestic Animals

Dr. Maximilian Herzog, Chicago: Popularly, all malignant tumors are generally called cancers; scientifically the term ought to be limited to the carcinomata, the atypical epithelial neoplasms. These in domestic animals, on the whole, show the same histologic and clinical properties as in man. However, they vary more in their clinical characters as to malignancy. They may assume a large size without necrotic and ulcerative changes. They may exist for a long time without producing metastases. On the other hand, they may early lead to necrosis and to metastatic formation. The connective tissue matrix in which they grow may show a very profound reaction or there may be practically no reaction at all. The epithelial cells of the carcinomata in domestic animals frequently go through their normal changes, such as cornification, colloid formation, etc., or they may exhibit metaplastic transformation. Calcareous deposits in carcinoma in domestic animals are more frequent than in man; osseous tissue is likewise frequently found. This may be due to early invasion of bone, with subsequent osteoplastic processes or to embryonic inclusions of osteogenetic tissue. While carcinoma in man among the civilized races is undoubtedly on the increase, we are unable to state whether the same is true of these malignant tumors in domestic animals. We do not possess up to date any reliable vital statistics concerning this point in domestic animals. Carcinomata in the latter frequently develop after a so-called precancerous state represented by long-continued irritation or inflammatory or other hyperplasias, catrices, etc.

The Present Status of the Etiology of Cancer

Dr. F. Robert Zeit, Chicago: It is known that absolute failure accompanies any attempt to inoculate animals with malignant tumors from other than the same or nearly related species of animals. The inoculation tumors may grow to such a size as to exceed the weight of the animal. The tumor cells of the successfully transplanted tumors are descendants of the implanted cells and retain the characteristic histology of the primary growth for many generations, as shown by Loeb. Transplantation can be carried on for many generations with increasing virulence. Rapidity of the growth of these transplanted tumors cannot be influenced by mechanical stimuli. Metastases do not occur; at least, they are very rare. In rare cases the transplanted carcinoma stroma may become sarcomatous.

Other Papers Read

The following papers were also read: "The Health Conscience and the Drink Problem," by Dr. C. B. Johnson, Champaign; "The Diagnosis of Acute Poliomyelitis," by Dr. L. H. Mettler, Chicago; "Double Hernial Sacs," by Dr. D. D. Lewis, Chicago; "Intestinal Toxemia," by Dr. M. H. Mack, Chicago; "A New Theory as to the Mechanism of Skull Fractures, and an Analysis of One Thousand Cases," by Dr. F. A. Besley, Chicago; "Arteriosclerosis," by Dr. M. A. Marcy, Peoria.

AMERICAN ORTHOPEDIC ASSOCIATION

Twenty-Fifth Annual Meeting, held at Cincinnati, May 15-17, 1911

The President, Dr. A. H. Freiberg, Cincinnati, in the Chair

Officers Elected

The officers elected are named in The Journal, this issue, under General News.

Standardization in Orthopedic Instruction and Practice

Dr. Albert H. Freiberg, Cincinnati: Orthopedic surgery is the surgery of chronic conditions. For this reason, changes for the better or the worse are the more difficult to appreciate. For instance, witness the great difference in opinion regarding the progress made in the correction of scoliosis. This is due less to the inequality of results than to variation in methods of mensuration and recording. I wish to plead for a recognition and determination of standard methods in mensuration and treatment, and in methods of instruction to patients. It would also be well to look for a plan by which every new method should be granted a careful trial by experienced, reliable men, to be made, if possible, with the cooperation of the proposer of the innovation. This might be accomplished by the establishment of a standing committee, to whom such questions might be referred. Perhaps another field of usefulness for such a committee would be in giving an expression of opinion as to the ideal preparation of the graduate who expects to specialize.

Use of Tuberculin in Joint Tuberculosis

Dr. George B. Packard, Denver: In many cases in which there had been discharging sinuses for a long time, and in which there was mixed infection, the results were excellent without an autogenous vaccine. Though cultures were not made, it is probable that in these cases the active organism was the staphylococcus. If there was the slightest question as to the diagnosis, the Moreau or the v. Pirquet test was made, and always found positive. Skiagrams and microscopic examination of the material obtained by curettement confirmed the diagnosis, also in a case in which the secondary infection was severe and the reaction marked from tuberculin alone, without an autogenous vaccine. I would not use tuberculin as a routine treatment in all cases of joint tuberculosis. When either children or adults are doing well, and there is no evidence of the disease being active or progressive, and when the general condition is satisfactory, I would not use it; but when the disease is progressive and painful, in spite of protection and other general measures, I consider tuberculin to be a valuable adjunct to the treatment.

Spengler's I. K. Serum in Joint Tuberculosis

Dr. John L. Porter, Chicago: Our present knowledge in regard to calculating the dosage is inadequate. Better results can be obtained when the dosage has been perfected. The giving of but one dose in seven or eight days has been found to be more satisfactory than more frequent dosages. Marked disturbance of the patient's comfort is the best guide for a reduction of the dosage. Too great a desire to hasten the cure will usually result disastrously. Contamination must be guarded against. The posterior exterior surface of the forearm, while the arm is held in flexion, is the most convenient and least painful site for the injection. Children seldom complain of the procedure, if the solution is injected slowly. Tincture of digitalis and strophanthus should be administered throughout the entire treatment. Patients with severe or advanced heart lesions should not be treated with I. K. solution until complete compensation has been restored; and then only while in bed and with the greatest care and careful dosage. Jumping to a ten-fold dosage is both dangerous and unnecessary; and it is seldom that patients can tolerate this increase. When rapid immunization is desired, it is better to begin with a small dose of a higher dilution. Then, after an interval of ten days, this can be increased, up to lysis. A relatively small daily liberation of antitoxic immune substance could be better calculated by the physiologic blood force. I believe that I. K. serum has some curative properties and a constitutional effect on patients with tuberculous joints, and that it is worthy of further trial.

Joint Tuberculosis in Children

Dr. **Leonard W. Ely**, Denver: The orthopedic surgeon is responsible for part of the confusion that exists as to the treatment of joint tuberculosis. In the past, there has been a tendency to dwell too much on the non-essentials and to magnify points of difference. There are three reasons for the confusion, and three main rules of treatment on which one may unite, based on clinical experience and on laboratory study: First, deprivation of function; second, avoidance of secondary infection; third, fresh air and good food. In addition let us always emphasize the fact that radical operations are out of place in children's tuberculous joints.

DISCUSSION

Dr. **Herbert H. Galloway**, Winnipeg: What support is there for the contention that the focal reaction produced by the subcutaneous injection of old tuberculin is dangerous? I feel that it is exceedingly valuable in doubtful cases, and have never had occasion to regret its use.

Dr. **William S. Baer**, Baltimore: I do not like the use of the Calmette reaction, because cases have been reported in which serious damage has been done to the eye by it; and it gives no information that the v. Pirquet does not afford. I use the latter first, to see whether there is tuberculosis anywhere in the system, and then employ the injection method, if the v. Pirquet is positive, in order to get a local reaction.

Dr. **James K. Young**, Philadelphia: Under certain precautions, there is no danger in the Calmette test. The eye should not be diseased at the time, and should subsequently be protected.

Dr. **Edwin W. Ryerson**, Chicago: The great value of the Calmette and v. Pirquet reactions is when they are negative. I have seen a case in which after the injection of one milligram of old tuberculin a tuberculous peritonitis occurred. It resulted in such speedy death that I thought the injection had been instrumental in producing it.

Dr. **Sydney M. Cone**, Baltimore: It is true that negative reactions are more valuable than positive. I prefer the v. Pirquet test to the others.

Dr. **G. G. Davis**, Philadelphia: I do not believe in using the Calmette reaction. There is no more obstinate affection in childhood than tuberculous inflammation of the eye; and when an inflammation is started in the eye of a tuberculous child, no one knows when it will stop. The v. Pirquet test is absolutely without objection.

Treatment of Hip Disease

Dr. **Edward H. Bradford**, Boston: Hip disease tends to deform the limb with destruction of the head and widening of the acetabulum. Thorough treatment should overcome this tendency. The threatened deformities are most effectively combatted by the employment of traction during the deforming stages of the disease.

The Conservative Treatment of Hip Disease

Dr. **James K. Young**, Philadelphia: The treatment of hip joint disease should be based on the pathology as shown by the clinical symptoms confirmed always by the skiagram and where possible by exploratory puncture. Mechanical treatment, to be thorough and efficient, should combine absolute fixation of the pelvis and entire lower extremities, including the foot and combined with moderate traction.

DISCUSSION

Dr. **B. E. McKenzie**, Toronto: I think Dr. Bradford could have used the Bradford frame to secure fixation and prevention of deformity. Through its use, one may bring down a femur that has risen up into the pelvis. I believe that the greatest force in the treatment of tuberculous bone-disease is the proper use of the sun's rays. I have given up the use of a brace for any kind of hip disease, except during the period of convalescence.

Dr. **Clarence L. Starr**, Toronto: In my treatment by means of traction and extension, I encountered the difficulty of atrophy of the bone. I should like to know whether Dr. Bradford's apparatus does not produce this, as does plaster of Paris. My experience is that the atrophy is no worse in the case of patients subjected to treatment in bed than in those that have been allowed to be up and around, and that it disappears to a great extent subsequently. I should also like to know whether Dr. Bradford gets correction of the flexion deformity with that apparatus.

Dr. **E. H. Bradford**, Boston: I use my frame in the acute stages for a short time, but the other method of treatment allows the child to walk around. The trouble with Dr. Young's apparatus is that the child cannot sit down well with it on. I have given up peroneal straps, because either the child or the nurse can loosen them. A skiagram would show that there is not the amount of traction that there should be, and the child cannot move the upper part of the body freely. I do not get much atrophy. The muscles, of course, do not develop as well as those of the leg in use; but they do increase somewhat with the splint on. You can get as much abduction with my apparatus as you wish.

Dr. **J. K. Young**, Philadelphia: I think my splint affords the combination of traction and fixation.

Cyst of the Upper End of the Femur, Simulating Hip Disease

Dr. **David Silver**, Pittsburg: A boy, aged 5 years, presented a limp, limitation of motion, trochanteric thickening and atrophy of the thigh. A radiogram showed a cyst with fracture of the inner wall of the neck. At operation a cavity was found filled with sterile fluid and no lining membrane was seen. At a second operation, nearly two years later, for return of the limp, a dense lining membrane was present; and examination showed changes characteristic of osteitis fibrosa.

DISCUSSION

Dr. **Henry L. Taylor**, Montclair, N. J.: I operated in a case of cyst of the base of the neck of the femur in which the symptoms were a little obscure, but entirely different from beginning hip disease. The skiagram cleared up the diagnosis, showing a spot about the size of a dime, with enlargement of the bone inward over this area. A later observation showed that the cyst was about to perforate. I cut out a piece the size of a nickel, and the boy is perfectly well now, three years after the operation.

Dr. **G. G. Davis**, Philadelphia: Dr. Silver has described the growth as osteitis fibrosa. There is nothing indicative of malignancy in that diagnosis. I have had a case of cyst of the end of the ulna, in which, after breaking in the thin wall (there being no proper lining membrane) I found some bloody clot; and up in one corner was a small amount of granulation tissue, which, when submitted to the microscope, showed beautiful myeloid giant cells. Therefore, you could call it a giant-cell sarcoma; yet the amount of new growth was extremely small. It is a question whether these two classes are not simply slight variations of the same kind of growth, those in which there is much proliferation being called myeloid sarcoma, and the others osteitis fibrosa.

Dr. **B. E. McKenzie**, Toronto: I had a similar case in a woman 40 years of age. The cyst contained a bloody serous fluid and had no lining membrane. No curetting was done. Two years and a half have elapsed since the operation, and there is no indication of a reappearance. I also had a case that proved to be a chondroma of the hip. Though not a cyst, it was regarded for a long time as a case of hip disease. The growth was removed by curettement. I adjusted the leg in a fully abducted position, allowing the ends of the bone to overlap and good union was obtained.

Dr. W. S. Baer, Baltimore: I think that the treatment has to be followed out according to the pathology in each particular. On the whole, I wonder whether curettage is better in the long run. When there is any chance that the cyst is epitheliomatous in character, amputation should be done, and no attempt made to save the member.

Dr. Alexander R. Colvin, St. Paul, Minn.: I have had two cases in which cysts not operated on have practically obliterated themselves.

The Prevalence of Infantile Paralysis in Missouri

Dr. James A. O'Reilly, St. Louis: The disease is sporadic over the entire state, but the great majority of the cases are in the northwestern and western portions. The greater number of patients live in the country, and away from railroads or electric lines. Comparing the cases in 1911 with those in the five years previous to 1910, it is seen that the disease is becoming much more prevalent, and that it amounted to an epidemic in 1910.

Dr. Robert B. Osgood, Boston: During the last year, Dr. Lucas and I have been making some transmission experiments in regard to poliomyelitis. We were able to transmit the disease from the tonsils and adenoid tissues of monkeys as late as five months and a half after the attack was over. We also tried to transmit the disease from the nasopharyngeal mucosa of a monkey that had been kept alive by careful nursing, and found the germs present at the end of five and a half months. Later, we obtained the tonsils and adenoid tissue removed from a little girl six months and ten days after having had a spastic paralysis from this disease. The preparation from these was injected in various amounts into three monkeys. One of these animals developed typical signs of the disease accompanied with paralysis. This shows that human adenoid and tonsillar tissue can preserve the virus while no other symptoms of acute diseases are present.

The Operative Treatment of Knee Derangement

Dr. Nathaniel Allison, St. Louis: In spite of the fact that the diagnosis is usually easy, some cases that present the symptoms and signs of internal derangement at the knee show nothing abnormal when the joint is opened; and some cases have typical derangements in the knee, but do not present symptoms or signs tallying with any recognized picture. In these cases, exploratory arthrotomy is advisable and useful. A careful, clean operative technic, however, is absolutely essential. Conservatism must have been responsible for many old chronic knees, which might have been saved for joint function by simple arthrotomy.

DISCUSSION

Dr. S. M. Cone, Baltimore: In regard to arthrotomy, we should be guided a good deal by what is found to be the cause of the trouble at the joint. Different organisms produce different conditions, of varying seriousness.

Dr. H. L. Taylor: Most authors claim that imperfect extension is one of the cardinal signs of a chronic derangement of the semilunar cartilage, and we have also been used to looking at tenderness over the semilunar cartilage as a sign of this condition. I had a patient who had neither.

Dr. J. E. Goldthwait, Boston: I have never seen a case of semilunar derangement in which complete extension was limited and in which it was not possible to relieve the condition by manipulation, unless the anterior third of the cartilage had been turned on itself, so that the section of it lay directly between the condyles. This is a very common thing to find.

Dr. R. B. Osgood, Boston: The communication between the anterior and the posterior portions of the capsule is normally very narrow; and a foreign body in the posterior portion cannot be removed by means of an anterior incision unless one cuts through the lateral ligaments. In such cases, it is much better to make a posterior incision.

Dr. Charles F. Painter, Boston: Exploratory arthrotomy and abdominal operations should be very rarely done.

Dr. W. G. Stern, Cleveland: Lately, many surgeons have been injecting a solution of formaldehyd and glycerin into the knee-joint, with the idea of preventing infection and rendering operations on the knee-joint less dangerous. I have had patients treated in this way in whom severe infection had taken place, and I do not think that the method renders these operations less dangerous.

Dr. John J. Nutt, New York City: I do not think that brace treatment can be considered good, unless it relieves the patient's apprehension.

Dr. G. G. Davis, Philadelphia: My experience with formaldehyd and glycerin is that unless the patient is anesthetized, the injection is an exceedingly painful procedure. One may open the knee-joint to remove synovial fringes, and fail to obtain motion again. In a great many of these apparently traumatic cases, if the joint be opened, a condition that, just for convenience, I would term rheumatic supervenes; and the patient is left with a more or less permanently crippled joint, in spite of the fact that primary union has occurred with no evidence of infection.

Dr. N. Allison, St. Louis: With the absolutely necessary careful technic, the knee can be opened without any more fear on the part of the surgeon than he would feel in opening the abdomen. If the patient can be relieved in three weeks' time by means of operation, this is better than the wearing of a brace. I am not in favor of exploring knees when no symptoms have been made out; but in many cases the typical symptoms are not seen.

Tendon Transplantation and Silk Ligaments

Dr. E. W. Ryerson, Chicago: If possible, the skin incisions should be so placed that the line of suture will not lie directly over the insertion of the silk. Strong braided silk is much better than several strands of finer silk, which tend to cut through. The value of silk ligaments in suspending the foot at a right angle in cases of drop-foot has undoubtedly become firmly established. The method is safer, easier and far more rational than the excision of a diamond-shaped piece of skin from the front of the joint. In the technic I have used for some time, the chief advantage is that the cords are passed beneath the annular ligament of the ankle, instead of merely beneath the skin. Plain corrosive-sublimate silk is apparently free from disadvantages. It seems advisable to omit drainage entirely. It is a good idea to apply a coating of sterile petrolatum to the skin wound and the surrounding skin. After the cast has been applied, a window is cut out over each incision, in order to allow the wound to dry and to facilitate dressing and the removal of the stitches, which should not be removed before the end of two weeks.

The Use of Intra-Articular Silk Ligaments for Fixation of Loose Joints in the Residual Paralysis of Anterior Poliomyelitis

Drs. Bernard Bartow and William W. Plummer, Buffalo: The intention, by this plan, is to secure closer approximation of the loose articular surfaces, and to limit motion in certain directions, by placing check ligaments within the joint. These excite reactive inflammation, followed by organization of exudates, as a further limiting process. Resistance is thereby supplied to diminish or prevent deflection of the limb from the weight-bearing axis.

The Treatment of Paralytic Outward Rotation of the Foot

Dr. Gwilym G. Davis, Philadelphia: In the treatment of infantile paralysis external rotation of the foot is often a troublesome feature. To overcome it I use, in some cases, straps or bands passing from a pelvic band to an apparatus fastened to the foot. In other cases, make an incision in the region of the greater trochanter, and while the foot is rotated strongly inward, sew, with silk sutures, the overlying fascia fast to the posterior edge of the greater trochanter beneath. In cases in which the tensor fasciæ femoris muscle is not paralyzed, this muscle can be loosened and its lower end turned posteriorly and sewn posteriorly on the greater trochanter and upper portion of the shaft of the femur.

What is to be the Attitude of the Orthopedic Surgeon with Regard to the Child with Congenital Ptosis of the Abdominal Viscera?

Dr. Joel E. Goldthwait, Boston: The type of child I wish to consider is the one who stands in an incorrect attitude, with the stomach out, etc. Such children have the arrangement of the visceral supports that is found in quadrupeds. One person in every five is born before the embryologic changes that differentiate the human species from the quadruped have taken place, as these occur in the latter part of embryonic life. The results are not appreciated until the children begin to walk. They have bilious attacks and difficulty in their nutrition, and later have round shoulders and various other deformities. The viscera slip down, and it is impossible to put in new supports. If, however, we can save the strain on a ligament, it will contract, though it may have been stretched considerably. If we can give a little support to the viscera, the children will stand better. We must use the force of gravity in such a way that instead of its constantly making the position worse, it pulls the parts to where they should be. The retroperitoneal fat, which is absorbed when the organs are dragged down, must be replaced in order to get the shelf of sufficient size to hold the viscus. Making the patients lie in bed with supports properly arranged will do much to accomplish this. They should assume this position two or three times a day.

DISCUSSION

Dr. Compton Riely, Baltimore: If the pelvis is tilted forward, it is a mechanical impossibility to get the ribs separated and the lungs expanded. In the treatment, one should make an effort to have the patient tilt the pelvis backward. This has to be done largely by means of exercise, especially of the leg muscles, doing away with heels on shoes, if possible.

Dr. H. L. Taylor: A physical trainer in New Jersey who has had considerable success with neurasthenics devotes almost his entire attention to cultivating the abdominal muscles. One of his favorite exercises is standing on the head. The old knee-chest posture of gynecology might be a good one to have the patient assume. I have seen many neurasthenics who had none of these faults in posture, and numbers of persons who had them were not neurasthenics and had no arthritis deformans.

Dr. John Dunlop, Washington, D. C.: I have found the stomach of such patients in the knee-chest position to be 5 or 6 inches higher than when they were trying to stand.

Dr. J. E. Goldthwaite, Boston: A good exercise is to have the patient crawl off the edge of the bed, letting his head hang to the floor, keeping this attitude long enough for the muscles to tire and the organs to sag back. Exercise should be kept up almost indefinitely. These people are not all invalids, and many have a reasonable degree of efficiency; but many tuberculous patients are poorly nourished for the reason that the machinery is not working right on the inside. The knee-chest position has the disadvantage of causing an additional sacro-iliac strain.

The Prevention and Cure of Foot-Strain

Dr. Robert B. Osgood, Boston: The most common predisposing cause is abnormal muscle balance and the most common exciting cause, the modern ready-made shoes. An important point in reaching the diagnosis is the examination of the patient's well-worn shoes. If the muscle balance is nearly or quite normal, the symptoms being due to bad foot-wear, various flexible-shank shoes may be used. In other cases, rest in some form is the most rational immediate treatment. Persons beginning occupations that require a greater number of hours on the feet should take precautions against foot-strain by employing proper shoes.

A Removable Plaster Corset for Structural Scoliosis

Dr. David Silver, Pittsburg: The advantages of the removable plaster corset are cleanliness, freedom from pressure, allowing the opportunity for frequent inspection, and permitting of the use of corrective exercise (in recumbency), either during the entire period of treatment, or in the later stages. The neck portion comes well up on the base of the neck. Instead of carrying the plaster up to the neck, it may be stopped at the shoulders and a metal neck and shoulder attachment used. The plaster corset may be reproduced in leather or metal.

DISCUSSION

Dr. W. Truslow, Brooklyn: If we begin the use of the corset before proper correction has been obtained, we have to meet the problem of the lack of symmetry of the form to mold the material over. The neckpiece is extremely uncomfortable, and patients do not like to wear it. I prefer a corset made of celluloid, with a simple opening in front. It can be reinforced with strips of metal.

Dr. W. G. Stern, Cleveland: Celluloid is objected to by many on account of the danger of fire. If crystals of the chlorid of iron are added to the celluloid for the middle layer of the jacket, the material will be made practically noninflammable.

Dr. D. Silver, Pittsburg: I do not think the neck-piece is uncomfortable, especially the metal one, because it can be bent until it fits comfortably.

An Unusual Pathologic Condition of the Sacro-Iliac Joint, Causing Sciatica

Dr. Sydney M. Cone, Baltimore: I had two interesting cases, one a case of osteophytic growths following a railroad accident to a healthy man, aged 34. The patient injured his left pelvic region, and after a long period of invalidism was treated for sciatica and sacro-iliac loose joint for several years. *X*-ray examination and physical examination showed bony growths about sacro-iliac joint. At operation several bony growths were removed at this joint and about the great sacro-sciatic notch. Patient was promptly relieved. The second case was treated for a year or more for loose sacro-iliac joint. *X*-ray showed thickening of tissues above the acetabulum of left hip. Exploratory operation showed the joint to be normal, but periosteum thickened and chronically inflamed. Operation revealed thickened periosteum and a small osteophytic growth at the great sacro-sciatic notch. Curetting of this resulted in complete relief from all symptoms.

Peroneal Spasm

Dr. Charles F. Painter, Boston: The rigidity of the peroneal muscles is very difficult to overcome, and no satisfactory explanation has been offered as to the cause of this phenomenon. I found in the tendon sheath, just where it began to play into the groove, an articular facet, which was not a part of the groove; and in the tendon there was a body that could be felt distinctly, causing the tendon to expand in both directions. I dissected this body out, and left the tendon intact. I left the foot entirely free. The second day after the operation, I could move the foot in any direction. The patient has had no recurrence. I performed the operation later in a series of similar cases, all but one of which resulted satisfactorily. In this case, it was difficult to tell how much of the rigidity was due to bony deformity, and how much to peroneal spasm. In view of the anomalies that anatomists have found to exist in the tarsus, I think that this might be a possible explanation of the condition.

Mutton Tallow and Iodin as a Substitute for Bismuth Paste

Dr. David Silver, Pittsburg: Mutton tallow was used because it was felt that an animal substance would be better material to inject into the body than a mineral. It is generally supposed that mutton tallow becomes rancid easily, but a specimen that I had for a long time failed to show any evidences of this. The sinuses in which this substance is used are distinctly drier than are those injected with bismuth paste. This fact also makes the tallow better than petrolatum.

A Simple Splint for Snapping Knees

Dr. A. J. Steele, St. Louis: In this condition, in which the epiphysis is separated from the diaphysis, I presume that the ligaments are too long, so that the bone slips out and is forced back again. It occurred to me that if the tibia and the femur slipped at all, it must be a lateral slip, and that it would be a simple matter to put a small brace that would not interfere with motion on each side of the knee. I devised this, which is a small sole-leather affair, slit at the back, and with straps going around the front. My patient has worn it continually for five or six months, and the snapping has pretty much passed away.

Pott's Paraplegia of One Year's Standing; Laminectomy; Almost Complete Recovery

Dr. Emil S. Geist, Minneapolis: The location was the third and fourth dorsal vertebræ. Laminectomy was done, and an extradural abscess communicating with the posterior mediastinum was found. Drainage was allowed to remain in for three months. A beginning return of sensibility was noted four months after the operation. Motion and sensibility has entirely returned by the end of nine months after the surgical procedure. A brace was applied, and walking begun. The patient had an attack of pneumonia and pleurisy two months later, which ended in death. I have here the pathological specimens, gross and microscopic.

Other Papers Read

The following papers were also read: "Use of Tuberculin in Orthopedic Surgery," by Dr. W. G. Stern, Cleveland; "Treatment of Flexion and Abduction Deformity of the Thigh by Changing the Angle of the Femoral Neck," by Dr. J. A. O'Reilly, St. Louis; "Case of Coxa Vara," by Dr. J. Ridlon, Chicago; "Prognosis in Chronic Arthritis," by Dr. C. P. Painter, Boston; "Results of Treatment of Scoliosis at the Boston Children's Hospital," by Drs. R. W. Lovett and J. W. Sever, Boston; "The Anterior Heel," by Dr. A. G. Cook, Hartford, Conn.; "The Operative Approaches to the Hip-Joint," by Dr. E. G. Brackett, Boston; "Further Study of the Lumbo-Sacral Articulation," by Dr. J. E. Goldthwait, Boston; "Dyschondroplasis," by Dr. C. E. Coon, Syracuse; "Pathogenesis of Spur Formation on the Os Calcis," by Dr. R. G. Meisenbach, Buffalo; "Results of Muscle Group Isolation in the Treatment of Spastic Paralysis," by Dr. M. Allison, St. Louis; "Further Experience with Volkmann's Ischemic Paralysis by the Method of Robert Jones," by Dr. R. H. Sayre, New York City; "Exercise Treatment of Paralysis," by Dr. C. H. Bucholz, Boston; "X-Ray Studies of Arthritis Deformans," by Dr. G. R. Elliott, New York City; "Treatment of Scoliosis," by Dr. E. H. Bradford, Boston; "Orthopedic Treatment of Fractures of the Humerus," by Dr. F. E. Peckham, Providence, R. I.; "Suggestions as to Notes and Records in an Orthopedic Hospital," by Dr. D. B. Gibney, New York City; "A Modified Genuclast," by Dr. P. Hoffmann, St. Louis; "Bilateral Congenital Dislocation of the Lower End of the Ulna," by Dr. S. F. Jones, Denver; "Psoas Abscess from Retroperitoneal Lymph Glands," by Dr. M. H. Rogers, Boston; "Traumatic Arthritis as a Late Complication of Fractures of the Upper Extremity," by Dr. P. LeBreton, Buffalo; "Skiagraphic Study of Brittle Bones," by Dr. R. Hammond, Providence, R. I.; "The Adolescent Tibial Tubercle," by Dr. J. Dunlop, Washington, D. C.; "An Operation for Severe Grades of Claw Toes," by Dr. P. Hoffmann, St. Louis; "Correction of Relapsed and Untreated Cases of Equino-Varus," by Dr. M. Hoke, Atlanta, Ga.

ASSOCIATION OF AMERICAN PHYSICIANS

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(*Concluded from page 1751*)

Renal Decapsulation in Chronic Nephritis in Children

Dr. Henry Koplik, New York: The number of patients operated on so far is limited; the operation is not curative, but undertaken only in cases in which relief from the symptoms of nephritis has failed by all other means, medicinal and dietetic. The operation itself does not endanger life. The improvement in the symptoms after operation has been striking in spite of the persistence of urinary signs of marked disease of the kidney. The freedom from symptoms is combined with a status of well-being lasting in some of the cases for a period of years. Exposure or indiscretion will not exempt the operated case from recurrence of edema and other symptoms, but the patients, as in one of the cases reported, recover promptly and remain well for a time, showing that the operation has not crippled the recuperative powers of the kidney.

DISCUSSION

Dr. G. L. Peabody, New York: I have had a number of these patients operated on with satisfactory results, as a rule. In one case the operation was done four successive times in a period of two years; after each operation a recurrence of symptoms took place, with a marked degree of anasarca closing the boy's eyes so he could not see and after each operation the improvement was marked and lasted for a number of months. He would disappear from the hospital and then come back again with headache, vomiting and almost complete suppression of urine, and in four instances the symptoms were relieved by removing the capsule which reformed after each operation.

Dr. James Tyson, Philadelphia: Recovery is not always prompt. It was quite delayed in two cases, but it occurred none the less. A marked symptom following operation was enormous diuresis, going to show that something must have occurred consequent on freeing the kidney from pressure or obstruction.

Dr. Lewis A. Conner, New York: In one case of severe bichlorid poisoning with complete aneuria absolutely no impression was made on the kidney by the operation. That bears out Dr. Koplik's contention that the acute cases are not necessarily the most favorable.

Dr. James Tyson, Philadelphia: It has been questioned whether there is any advantage in operating on both kidneys. In the first, and, perhaps, the most prominent case, the kidney was operated on. Four weeks later the second kidney was operated on, but without any particular improvement.

Fever, Its Nature and Significance

Drs. V. C. Vaughan, James G. Cumming and John H. Wright, Ann Arbor, Mich.: In 1909 Vaughan, Wheeler and Gidley showed that continued fever can be induced in rabbits by repeated subcutaneous injections of egg-white and certain other proteins. This work has been continued, and it has been demonstrated that by varying the dose and the intervals between doses one can induce an acute, an intermittent, a remittent or a continued fever in rabbits by injections of foreign protein. Furthermore, it has been shown that by repeated intra-abdominal injections of various bacteria, acute fever, followed by immunity, will be produced. The authors hold that fever results from the parenteral digestion of proteins, and that fever must be regarded as a conservative process, although, like many of Nature's processes, it often leads to disaster. Its purpose is the disposal of foreign, dangerous material, and, therefore, it must be regarded as beneficent.

Effects on Blood-Pressure of the Various Anatomical Components of the Hypophysis

Drs. Joseph L. Miller, Dean D. Lewis and S. A. Matthews, Chicago: We have been able to demonstrate that the anterior lobe also contains a pressor substance, but its action is usually masked by excessive amount of depressor substance present. By first removing the depressor substance by extracting with alcohol, it was possible to demonstrate a pressor substance in the anterior lobe. It was determined that this pressor substance is confined chiefly to that portion of the anterior lobe adjacent to the cleft and which histologically is pars intermedia. Both portions of the posterior lobe contain a pressor substance. Cysts of the pars intermedia and colloid from the cleft, the secretion from the pars intermedia, have a distinct pressor effect. It is scarcely probable that the tissues so entirely different as the pars intermedia and pars nervosa should contain a pressor substance. Herring's theory that the secretion from the pars intermedia passes into the pars nervosa would explain these findings.

Failure to detect any pressor substance in the infundibular process, or stalk, might be interpreted as unfavorable to the view that the pressor substance passes through the stalk to the third ventricle.

Sporadic Elephantiasis

Dr. W. Gilman Thompson, New York: I saw four cases of elephantiasis occurring in persons who had never been in foreign countries and therefore were never exposed to filaria. Neither filaria nor plasmodia were revealed by blood examination. There was nothing to throw light on the etiology. There was found considerable hypertrophy of the entire skin. The fibrous tissue was enormously increased. There was the usual corneal edema. There was great enlargement of the sweat glands, and the lymphatics and blood-vessels were considerably increased in size. Only one of the four cases did not give a history of periodical febrile exacerbations.

Dr. F. C. Shattuck, Boston: The conclusions which I came to in a recent paper on elephantiasis was that none of the theories in regard to the etiology of this disease is adequate. I believe the cause is either multiple or else entirely unknown in its basic principles. In a number of cases I believe that chronic infection is an element in the causation.

An Experimental Study of the Pain Sense in the Pleural Membranes

Dr. Joseph A. Capps, Chicago: In hydrothorax the presence of fluid frequently so retracts the lungs and flattens out the diaphragm that the conditions are favorable for testing the sensation of the pleural membranes. This experiment was carried out by means of a long wire inserted through the hollow cannula after thoracentesis. Thirty-five cases were thus explored with the following results: The visceral pleura gave no pain response to irritation. The parietal pleura was sensitive to slight pressure and the pain was accurately referred to the region irritated. The posterior third of the diaphragmatic pleura gave no pain response to irritation. The parietal pleura was sensitive to slight pressure and the pain was accurately referred to the region irritated. The posterior third of the diaphragmatic pleura and a margin 1 to 3 inches broad near its peripheral attachment responded with pain over the lower thorax and abdomen. The remaining portion of the diaphragm when irritated was characterized by pain in the neck region. The pain elicited from the pericardial pleura was also referred to the neck. The neck pain was sharp and localized in a small area of skin, usually situated over the ridge of the trapezius muscle, an area which receives its sensory innervation from the third and fourth cervical segments. This pain is true referred pain and is transmitted from the diaphragm to the posterior cervical cord by the phrenic nerve. These experiments make it possible to map out quite definitely the portion of the diaphragmatic pleura which receives its sensory supply from the phrenic nerve, and the portion which receives its supply from the intercostal nerves.

Is There a Specific Treatment for Diabetes Mellitus?

Dr. Henry Sewall, Denver: Evidence has been presented that in a certain proportion of diabetics beyond middle age the metabolism and general symptoms may be improved and the sugar removed from the urine, at least temporarily, through the administration of an infusion of lean meat acidulated with hydrochloric acid. In a single case of youthful diabetes, though neither beef infusion nor pancreatic infusion was alone efficacious, when the one followed the other, or a mixture of the two, after an interval of some hours, the urine became sugar-free. After the disease had persisted for some months this happy result could no longer be obtained. Nevertheless, the treatment, especially with the beef infusion, seemed to improve the subjective condition of the patient. No good results attended the use of the commercial pancreatic powder employed.

DISCUSSION

Dr. S. J. Meltzer, New York: The fact is dwelt on by Dr. Sewall that if you add sugar to muscle extract and pancreas the sugar disappears. Recent work in the Rockefeller Institute shows that the sugar does not disappear at all, but is simply converted into higher sugar. Therefore, can it be said that in Dr. Sewall's case a cure has been effected simply because the sugar disappeared from the urine?

The Blood in Diseases Commonly Designated "Of the Nervous System"

Dr. Joseph Collins and Dr. D. M. Kaplan, New York: There is no disease of the nervous system dependent on definite and unvarying disease of the blood. There are definite forms of secondary anemia that result from diseases of the nervous system, especially those due to toxic causes. There are definite blood conditions associated with perversion of function of some of the ductless glands, such as the thyroid. The alteration of the blood in anemias resulting from or coincident with certain chronic nervous diseases is not constant. The alteration may be in size, color, shape and distribution of the hemoglobin in the various cells, or in additions to the cells, such as granules. The white cells do not carry the burden of chronic disease as much as the red ones, although often here, as in conditions in which much degeneration takes place, even the white cells begin to show a darker protoplasmic body than is usually encountered in normal cells. The changes in size in the red corpuscles are usually encountered in the small cell or in extraordinarily large ones. The changes in color vary from a very pale pink to that of the bright red, and may change in very much degenerated cells to a grayish green. The contour of the cell may change from round to a cell that can be hardly recognized as an entity, and it may present the changes from an oval and a crescent to mere fragments of a cell. The abnormal enclosure are usually the granules. In the white blood-corpuscles the changes are due to the influence of invasion by morphologic or toxic elements. The great predominance of uninuclear neutrophils direct the attention of the observer to an invasion by bacteria. In an acute disease, irrespective of the number of white blood-corpuscles per cubic millimeter, the white cells show a pronounced uninucleosis. Lead produces changes in the blood that are recognized even by the beginner. Of great importance in connection with the red cells are the granules that appear in lead poison and disappear with proper therapy. In this instance it is essential to know the number of cells affected and the degree of granulation; meaning thereby, coarse granulation or fine granulation. The more pronounced and overwhelming the affection the larger are the granules and the more numerous the cells affected by them. In proper therapy not only do the granules become smaller but the percentage of affected cells noticeably diminishes. It seems at present possible to regard patients who show a relative lymphocytosis with a preponderance of large lymphocytes and diminution or absence in the eosinophils as cases approaching the hyperthyroid type. On the other side blood-smears that present the lymphocytosis with a preponderance of the small lymphocytes and coexistent increase in the eosinophils as types of hypothyroidism. The latter blood findings were found in cases clinically diagnosed as colitis with mucus in the dejecta, bronchial asthma with eosinophils and mucus in the sputum and in endometritis and membranous dysmenorrhea with mucus and blood in the discharged membrane.

DISCUSSION

Dr. E. Libman, New York: I have watched for the last two years disturbed states of the blood in ductless gland diseases and believe they are much more common than has been hitherto believed. It is well known in certain conditions in which the pituitary has been displaced in some way or the ovary has been removed, there has been a lymphocytosis. I have made it a routine practice when I see a patient with general nervous symptoms to look for lymphocytosis, and if I find it I take the case out of the functional group. I think we make a mistake in looking always for thyroid disease. I think we should look for lymphemia.

Dr. F. C. Wood, New York: I have seen a number of cases of high eosinophilia. In one there was 58 per cent. of eosinophils.

Dr. W. B. James, New York: For a number of years I have been in the habit of recognizing a marked lymphocytosis as common in cases of neurasthenia, particularly where there appeared to be a sexual element in it. I have watched a number of these patients through to recovery without permanent impairment and have therefore satisfied myself that it is a transitory secretion, that this lymphocytosis is temporary, associated with a depleted state of health, with neurasthenic symptoms, usually with some disturbance of the sexual organs.

Dr. R. C. Cabot, Boston: I do not believe Dr. Collins meant to put it quite so strongly as he did about the relation of lead to the changes in the blood. Certainly we have the same changes in the blood without lead and we have lead without such characteristic changes in the blood. I suppose we an believe that this change in the blood is a valuable aid in the diagnosis of doubtful cases of lead poisoning, but we could not say that it had anything comparable at all to malaria parasites. Dr. Collins did not speak about an autopsy in the last case. Without that I do not think any of us would accept it as leukemia, or a new disease. This type of blood, such as pictured, is one of the variations around the leukocytosis and around the normal states which is familiar enough in a variety of conditions, but does not deserve to be placed as a new disease, or as leukemia.

Dr. Alfred Stengel, Philadelphia: In view of what I have observed in regard to lymphocytosis it would hardly be proper to attach very far-reaching deduction to the occurrence of that condition. My opinion agrees entirely with that of Dr. James.

Dr. Louis B. Wilson, Rochester, Minn.: The Kochers are at present going so far as to diagnose hyperthyroidism by lymphocytosis. We have made 800 examinations, and we find no evidence on which to base any such inference. We find lymphocytosis in a great many cases of syphilis, of liver disease, but in exophthalmic goiter, conversely, it is absent.

The Work of the Heart in Aortic Insufficiency

Dr. W. G. MacCallum, New York: By means of an arrangement of the circulation in which the aorta is replaced by a long rubber tube the outlet of which is placed at varying heights and empties into a reservoir from which the blood is reconducted into the aorta, the output of the aorta may be studied and compared with the output of the ventricle per beat of the heart. The heart thus acts against controllable pressure and is unaffected by vasomotors. When the tension of the vessel wall is low, there is a systolic fling which distinguishes such a pulse wave from that made in a vessel whose walls are under high tension. In the former there is a high pointed up-and-down curve before the dicrotic notch is reached—in the pulse of high tension there is not. In the first the notch is low, in the second high. No change could be produced in any given pulse wave by the escape of the systolic quantity of fluid which produced that wave upon its expulsion from the heart. The character of the wave in aortic insufficiency depends rather upon the lax condition of the wall which meets the systolic impact and which is due to the partial emptying of the vessel by regurgitation during the preceding diastole. If we subtract the actual output per beat from the aorta, from the calculated amount expelled by the ventricle per beat we find very little residual blood when the heart is intact. The amount is great after the production of aortic insufficiency. The ventricle relaxes very widely and contracts as completely. Its work is greatly increased by its being forced to receive and churn out into the aorta and back that quantity of blood which regurgitates in addition to its usual normal output.

Percussion Signs of Persistent and Enlarged Thymus

Dr. Thomas R. Boggs, Baltimore: This is recognized by medium percussion in the first and second interspaces to the left of manubrium, sometimes on both sides; rarely on right side alone. Differentiated from enlarged mediastinal glands by: (a) Superior and more superficial position. (b) Common position to left of manubrium. (c) By a special maneuver which depends on the movable character of the thymus and its attachments to the lower pole or poles of thyroid. (d) The maneuver. Patient in sitting posture, chin depressed. Outline lower border of thymus dulness. Then while pleximeter fingers are kept exactly in place, sharply retract head to fullest extent. Thymus dulness rises upward toward neck, leaving clear percussion resonance. Mediastinal adenitis, aneurysms and neoplasms do not give this shifting dulness.

Dr. A. Jacobi, New York: I always find that I can with great facility diagnosticate about the size of the thymus. A good many of them at birth weigh only a few grams, 10, 13 and 15. They are not easily recognized when the babies are sitting up or lying down, but they are recognized when the baby is bent over. I have been teaching this method for the last fifteen years.

The Effect of Some General Hydrotherapeutic Procedures on the Blood-Flow in the Arm

Drs. A. W. Hewlett, J. G. Van Zwaluwenburg and Mark Marshall, Ann Arbor, Mich.: Warm procedures increase the flow from two to ten times the original rate. Cold procedures usually lessen the flow, but the exercise and friction given in an ordinary cold shower may cause a moderate acceleration of the flow. The chief cause of the acceleration of blood-flow in an arm not directly exposed to the heat is a vasomotor reflex initiated by the stimulation of cutaneous sense organs, but the rise of body temperature accompanying hot procedures tends to prevent an excessive contraction of the peripheral vessels with chilling when the individual is exposed to cold. If the body temperature is subnormal an immediate reaction may follow cold procedures which are accompanied by friction and exercise, but the individual is liable to become chilly later. The chilliness which indicates a failure to react is accompanied by a slow rate of blood-flow in the arm. Reactions are usually but not necessarily accompanied by normal or moderately increased rates of flow.

Dr. S. Solis-Cohen, Philadelphia: My observations have shown that brief application of cold will raise the body temperature in febrile conditions.

A Case of Pseudochylous Ascites

Dr. F. P. Henry, Philadelphia: The patient was a man aged 60 but looking at least 70. His most prominent ailment was ascites. From the time of his admission until his death, a period of about four months, he was tapped eight times, six to eight quarts of milky fluid being removed at each tapping. After tapping, a mass could be felt in the abdomen a little above and to the right of the umbilicus. It was about the size of an egg, hard and not tender on pressure. At the autopsy this mass proved to be a non-obstructive carcinoma of the pyloric end of the stomach. There was no enlargement of lymp-glands or dilatation of lymphatic vessels. The liver parenchyma was quite normal. No obstruction of the portal vein was found, although the complete dissection of this vessel and of the bile-ducts was rendered impossible by the tumor mass. As the patient was never jaundiced it is certain that there was no destruction of bile-ducts and, probably, that there was none of the portal vein. The most remarkable property of pseudochylous effusions is their resistance to putrefaction. A sample of the effusion obtained on February 18 and kept in an ordinary living-room at a temperature of 65 to 70°, is now, May 10, perfectly "sweet," in fact as devoid of odor as the purest spring water. This property is undoubtedly due to lecithin as proved by the fact that where this substance is extracted from it the fluid rapidly putrefies.

Further Studies on Sensitization in Tuberculosis

Dr. V. C. Vaughan, Jr., Detroit, Mich.: Since May, 1909, thirty-nine persons have presented themselves for examination at the Tuberculosis Clinic who have failed to react to a primary instillation of tuberculin into the conjunctival sac but have reacted to a second instillation in the same eye after an interval of ten to twenty-one days; only two presented any signs or symptoms suggestive of pulmonary tuberculosis. This conclusion was arrived at after careful physical examination and accurate observations of temperature and pulse for a period of one week. Among thirty-three apparently uninfected children, or at least children free from manifestation of active disease, ten gave a reaction of sensitization, while among twenty-three children of tuberculous parents, or associated with tuberculous cases who failed to react primarily none subsequently developed a sensitized reaction.

DISCUSSION

DR. F. T. LORD, Boston: We have injected a number of healthy guinea-pigs intravenously and intraperitoneally with tuberculin and afterward applied the ophthalmic test, but with negative results, indicating that non-tuberculous pigs are not capable of reacting from the standpoint of sensitization.

DR. LAWRASON BROWN, Saranac Lake, N. Y.: Some experiments have been carried on in the Saranac laboratory to try to produce sensitization in animals by the inoculation of various things. It has been found impossible to produce sensitization to eye test and subcutaneous test in animals which have not received previously very large doses of dead tubercle bacilli or living tubercle bacilli, and I cannot but feel that the fact that tuberculin tests may be negative the first time and if repeated in the same place show a reaction, is due to the fact that the patient has had a tuberculous infection at some time. It may never have shown clinically. I do not believe you can sensitize an individual who has not been infected with tuberculosis.

Tricuspid Stenosis, with Report of Five Cases

DR. THOMAS B. FUTCHER, Baltimore: Mine was a case of tricuspid, aortic and mitral stenosis, with autopsy, in which the diagnosis was made during life. In the autopsy records of the Johns Hopkins Hospital there have been only four other cases of tricuspid stenosis out of a total of 3,500 autopsies. There have been only eight cases in the medical wards, out of a total of 26,000 admissions, in which a diagnosis of tricuspid stenosis was made either from the physical examination or autopsy findings. Positive diagnosis by autopsy was made in only five cases.

NEW HAMPSHIRE MEDICAL SOCIETY

The One Hundred and Twentieth Annual Meeting, held at Concord, May 11-12, 1911

Under the presidency of DR. A. S. WALLACE, Nashua

Officers Elected

The following officers were elected: President, Dr. George W. McGregor, Littleton; vice-president, Dr. John W. Staples, Franklin; secretary, Dr. D. E. Sullivan, Concord.

The next meeting will be held at Concord, May 8 and 9, 1912.

The report of the secretary showed the total membership to be 538. The society is in excellent financial condition, a balance of $4,556.75 being available. Five hundred dollars was placed at the disposal of the Committee on Legislation, for legitimate purposes before the next legislature and the county societies were advised to appoint auxiliary committees of legislation to cooperate with the committee of the state society.

Dr. I. A. Watson, chairman of the Committee on History of Medicine in the State, reported that 1,000 copies of the complete manuscript records of the society from 1791 to 1854 had been printed and were ready for distribution.

Child Welfare

DR. Z. L. STRAW, Manchester: I wish to make a strong plea for the welfare of the child from the standpoint of the physician as well as the state, medical science and educational science joining hands that the physical health and energy might be conserved and nourished and developed equally with the mental in the hope of a uniform and well-balanced result. The commingling of children from all families and conditions for long periods largely increases the danger of contagious and filth diseases and renders their management more difficult, and if the schools are to continue for all children they must be kept morally and physically clean and safe. The state compels the child to attend school, and it is thereby bound to take cognizance of its physical welfare. The school is the only governmental department that directly assumes control of children's lives. At least nine out of every ten of all American children are subject to this control. Such control is maintained for the most part during the critical years from seven to fourteen. The open air school is an outgrowth of the work for better medical supervision of scholars, especially such as from any cause are interrupted or retarded. Approximately 16 per cent. of all who drop out do so on account of ill health; it is wasteful to the state and inhuman to the child to curtail its opportunities for future usefulness. This work cannot be thoroughly done without the school nurse supplementing the work of the physician.

DISCUSSION

DR. CLARENCE O. COBURN, Manchester: The most important thing in the inspection is the vaccination which has been a state law for a number of years and has never until now been enforced in Manchester. Fully one-third had not been vaccinated. Eighty per cent. had decayed teeth. Several were discovered blind in one eye without knowing it. We keep a card system and examine pupils who need it weekly.

DR. D. M. CURRIER, Newport: I wish to plead for the introduction of instruction of sex hygiene in schools, lady physicians to teach girls. Ignorance is exceedingly dangerous. Knowledge of this subject would be a safeguard to them.

Tetanus Following Accidental Injuries

DR. M. E. KEEN, Manchester: In one case tetanus was anticipated but did not occur, in the other it did occur though not anticipated. A boy, trampled on by a horse, received eight compound fractures of the skull, four being comminuted. The usual treatment, 1,500 units of antitetanic serum, was given the next morning. There were never any symptoms of tetanus and only a few drops of pus at any time. Patient was discharged well in just one month from date of injury. A boy, aged thirteen, was injured in coasting by colliding with a post. He did not lose consciousness; walked home. Examination: marked pallor of entire body surface; no abrasion; no discoloration. Temperature, 98; pulse, 84. Complained of slight pain in left hypochondrium. Slight vomiting. Some dulness in left upper quadrant extending toward axillary line. Probable rupture of spleen diagnosed and operation advised. Examination disclosed multiple rupture of the spleen, the upper end reduced to a pulp and the external and internal surfaces were fissured from end to hilum. Lower portion of left lobe of liver badly torn. It was necessary to utilize the diaphragm to hold in apposition the numerous fragments of spleen. On the eleventh day tetanus developed, and 1,500 units of antitetanic serum were administered and 20 grains of chloral by rectum. Salt solution, per rectum, one pint per hour and continued two weeks. There were fifteen spasms in sixteen days, to control which 21,000 units antitetanic serum were used. The method of entrance of the germ of tetanus is not known in this case.

DISCUSSION

DR. W. H. LYONS, Manchester: It is remarkable how very great internal injuries there may be with very slight evidence of it. The most interesting point in connection with the second case was the occurrence of the tetanus following the internal injury with no external lesion, not even the smallest abrasion to be seen.

DR. W. A. THOMPSON, Manchester: I wish to draw attention in the first case to the possibility that later on, perhaps in ten years, there may be signs of epilepsy, and it is a question whether it is necessary to close in the defects by putting back the flap over the wound or whether it is advisable to close the defect by artificial means, such as where an external lesion of the skull can be put over to prevent adhesion to the brain and prevent hernia. Whether it is advisable for this boy to undergo that again is a question in my mind. In regard to the second case, I was greatly impressed with the difficulty of operating on the spleen in its sheltered position underneath the diaphragm. No doubt the boy owed his life to the early diagnosis made and the care taken of him.

Clinical Experiences With Serums and Vaccines

Dr. W. Gilman Thompson, New York City: While some of these preparations are now universally admitted to outrank all older therapeutic measures in potency and reliability, others are as yet in a purely experimental stage. Some have proved disappointing, and all present many unsolved problems as to details of technic. The wards of Bellevue and the Presbyterian Hospitals and the out-patient medical clinic of the Cornell Medical College afford abundant material for the study of these remedies. Flexner's anti-meningococcus serum is certainly miraculous in its curative effect in cerebrospinal meningitis of that origin and is injected at the same time the first tapping of the spinal canal is made. There are no untoward symptoms, even when used in a case due to the pneumococcus. The antitetanus and antirabic serums have also a fixed place in our therapy. The antityphoid vaccine is used successfully everywhere. The Hodenpyl anticarcinoma serum does not appear to have justified the hopes which were at first entertained of its effects. Tuberculin injections have proved strikingly beneficial. Colon bacillus vaccine in pyelitis gives very favorable results but does not remove the bacilli from the urine. Pneumococcus vaccine had no marked effect in ordinary cases but in a number of cases with retarded resolution there seemed to have been some moderate betterment. With modified technic it may sometime yield more beneficial results. In chronic gonorrheal joints infections antigonococcus serum and vaccine is very satisfactory. Three cases of streptococcal endocarditis in which the germ was derived from the patient's blood terminated in recovery. Stock vaccines gave uniformly negative results. The Rogers-Beebe exophthalmic goiter serums in an extensive experience have given many very remarkable results.

DISCUSSION

Dr. John G. W. Knowlton, Exeter: I am interested to know that Dr. Thompson feels pretty certain that the epidemics of meningitis are being affected by serum. That, of course, has had a good try-out for the last three years, and it is encouraging to feel that we have something to use in the treatment of meningitis. I believe in serum, and I tell my patients it is the thing to use in epidemic meningitis.

Rational Medical Treatment

Dr. E. A. Landman, Plaistow: The tendency of the day is to return to the simpler therapeutic methods and the few reliable drugs that have stood the test of time—to accept that only which can be proven and to discard that which is doubtful. As we grow older we become less and less disturbed by the new discoveries, unless they seem rational and in accord with known scientific facts. Is it not time that the physician of this new era of scientific therapeutics should reexamine his methods and subject them to the test of approved modern investigations? I criticize the too frequent use of the expensive trade-mark preparations, which are taken up with great enthusiasm only to be discarded on the introduction of newer ones; the day has gone by when one can bluff his way in practice. The general practitioner has no right to do major surgery when a skilful surgeon is available. The results of treating diphtheria by antitoxin and epidemic cerebrospinal meningitis by serum are striking instances of rational treatment. It is the height of folly to use vaccines as in pneumonia to stimulate an already over-stimulated system; when most needed they are useless, and when useful are not needed.

DISCUSSION

Dr. Henry L. Sweeney, Kingston: I believe it possible to obtain good results by the intelligent use of drugs and I have faith in them when needed, carefully chosen, rationally given and pushed to effect.

Dr. John W. Parsons, Portsmouth: Rational medical treatment is the use of reasonable, judicious treatment, based on theory or facts which we possess, although meager, concerning disease and its management, even if no positive or scientific explanation can be given for the action of the remedy.

Ophthalmia Neonatorum

Dr. Louis W. Flanders, Dover: Five minutes' attention at the critical moment will save seventy years of blindness. Credé's method is now followed in practically all public institutions, but not in private practice to the extent that it should be. All physicians should employ it as a routine practice in obstetrics. Our last legislature passed a fairly stringent law relative to this disease. Every obstetric bag should contain one-half dozen soft gauze sponges and one dark amber Stearns dropper-bottle, filled with a 1 per cent. solution of nitrate of silver. Successful treatment demands skilled nursing and perfect technic—no condition in which the services of a trained nurse are more to be desired. The eyes must be cleaned of pus every hour, day and night; the warm boric acid solution is probably as good as any for this purpose. Every two hours let the nurse instill two drops of a 25 per cent. solution of argyrol freshly prepared, and once a day let the physician thoroughly apply to the everted lids a solution of nitrate of silver not stronger than 2 per cent. Allow the solution to stay on thirty seconds, then swab with normal salt solution. If you got a gonorrheal infection in an eye and the sight is lost where you did not use prophylactic treatment, public sentiment would hold you responsible and in a suit for malpractice, it would go hard with you.

DISCUSSION

Dr. Charles F. Nutter, Nashua: The non-gonorrheal cases are worthy of attention, as it is not necessary for the mother to have gonorrhea and the infant extremely sore eyes. The infection may come from the hands of the attendant. The nurse should be instructed to report to the attending physician the very first evidence of congestion.

Dr. D. M. Currier, Newport: A certificate of health should be demanded of those about to marry. There should be a law in this state requiring every physician treating a venereal disease to report it to the board of health.

Anal Fissure

Dr. Charles S. Gilman, Boston: In sixty-eight cases referred by other physicians as hemorrhoids, anal fissure was found to be the primary disease for which relief was sought; in twelve cases hemorrhoids were present as a coexisting condition. In forty-six cases the physician had neglected to examine the parts. There is probably no pathologic condition so limited in extent which causes so much discomfort and distress; in most cases a single ulcer is present. It is more common in men—not rare in young children. Anything which weakens the anal tissues, thus rendering them liable to abrasions, will act as a predisposing cause while the passage of hardened fecal masses with or without foreign bodies in them is nearly always the exciting cause. The pathologic changes vary from a very slight abrasion to quite extensive ulceration. The chief and constant symptom is pain, always increased by defecation, thus encouraging constipation; in women often reflex irritation of the bladder, tenesmus and uterine disturbance. The earliest symptom may be a morning diarrhea. A thrombotic hemorrhoid often develops as a result of straining. Palliative treatment of little value. Operative treatment by incision and excision. Forcible dilatation of the sphincter may be followed with incontinence of feces; also an oblique incision of the muscle may cause this unpleasant complication.

DISCUSSION

Dr. C. S. Abbott, Laconia: The lesson to be learned by the general practitioner from this paper is greater care and more frequent examinations of these patients.

Dr. W. E. Lawrence, North Haverhill: I wish to report a case with symptoms of appendicitis. Operation gave no relief. Later fissure of the anus was discovered, incised, and the previous symptoms disappeared. There is always indigestion in these cases.

Drinking-Water as a Medium of Lead-Poisoning

Dr. George A. Weaver, Warren: I wish to report eight cases in which the symptoms did not, as a rule, appear until the water had been used about six months. Children were afflicted less often than adults and women were much more susceptible than men. It is more frequent in rural communities in this state than malaria, syphilis and alcoholism combined. In thirty samples of water from lead-conducted sources examined at the state laboratory all but one showed a considerable percentage of lead. Acute poisoning is rare. No symptoms are constantly present that may be considered pathognomonic. One group will show a predominance of gastro-intestinal symptoms; another interstitial nephritis and associated arteriosclerosis; a third may present sclerosis of the brain and cord; a fourth, multiple arthritis. In the case of a child, three years old, vomiting blood and having bloody stools, rectal feedings were resorted to for one week with complete recovery. In another case, a woman aged 30, the menstrual flow was scanty and finally stopped altogether; on discontinuing the water-supply, the color improved and menstruation became normal after six months suppression. Several patients when first seen were comatose; no motor paralysis; relieved by venesection and purging. In one instance there was complete hemiplegia; the patient recovered under appropriate treatment. In any obscure case in which the drinking-water runs through lead pipes, examine the water for lead.

Injury of Scalp

Dr. William E. Lawrence, North Haverhill: A young lady was thrown from an automobile, dragged beneath the machinery and a portion of the scalp, 6¾ by 7¾ inches, was torn from the top of her head. It was placed in normal salt solution after thorough cleansing, hair shaved and edges trimmed and sewed on, using a continuous suture, gauze dressing applied. On the third day, the center seemed dead and was dissected off, about one-third of the piece, and the wound dressed with a solution of chlorinated soda, 1 dram to the pint. At the end of one week only a strip of tissue, one-half inch wide, extending half way round the scalp, was left. The cranial bones were kept covered with petrolatum and the scalp dressed with compresses of normal salt solution. Granulations appeared, and by the fifth week covered the greater part of the vault; skin grafting was then commenced (Thiersch's method) and continued every other day for eight weeks. The new granulation tissue is firmly attached to the cranium and is quite immovable. There are no sweat or oil glands and this need must be artificially supplied.

The Treatment of Medical Subjects by the Lay Press

Dr. Henry O. Smith, Hudson: The schools and the press have most to do with education. The monthly magazines, the metropolitan press and the local newspaper influence greatly the minds of their readers. How important then that the medical articles in the lay press be safe and sane in character? The *Youth's Companion* for many years has printed commendable articles on hygiene and medical subjects. *Life* and the *Cosmopolitan Magazine* pursue a far different course. We still read of sure cures for consumption—of soothing oils for cancer and unfailing remedies for conditions which shall be nameless. The public has a right to demand that the news columns shall be free from such misleading material. Intelligent people outside of the profession are realizing the need of work along these lines. Recently the president of the University of Minnesota exclaimed, "Would that Mr. Carnegie's next gift of $10,000,000 might be devoted to publishing in newspapers authoritative bulletins on hygiene and sanitation."

Dr. Eva M. Locke, Nashua: There is a large class of people who are influenced by the advertisements of patent medicines to their own injury, sometimes irreparable. Cannot attractive articles be put before the public giving them accurate and valuable knowledge on diet, sex hygiene and sanitation? Let these appear in the press, in leaflets and in the fiction of the day. The text-books in the public schools on physiology should be carefully scrutinized. The women's clubs are doing a grand work in these matters.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Old Dominion Journal of Medicine and Surgery, Richmond, Va

May

1 Personal Experience with Salvarsan. J. T. Geraghty and A. Keidel, Baltimore.
2 Cholecystitis: Its Complications and Sequelæ. A. M. Willis, Richmond.
3 *Diagnostic Value of Reflexes. A. Gordon, Philadelphia.

3. **Diagnostic Value of Reflexes.**—The diagnostic value of only such reflexes as the general practitioner can elucidate and estimate is discussed by Gordon. He says that apart from Babinski's sign and the paradoxical reflex, a certain apparently abnormal condition of any of the other reflexes by itself does not necessarily imply an organic disease of the nervous system. For example, an increased or diminished knee-jerk alone will not determine the diagnosis. A patient free from all other possible symptoms has no tabes, if there is only a markedly diminished knee-jerk or even absence of it. It is true that in 99 per cent. of normal cases the knee-jerk is never absent; nevertheless, Gordon has observed individuals in whom the knee-jerk could not be elicited even with Jendrassik's method. A much diminished knee-jerk in normal persons is not so rare as absence of it. However, such cases should be looked on with suspicion and thoroughly investigated. The same remarks are applicable to exaggerated knee-jerks. As a rule, such a reflex is the clinical expression of an involvement of the motor pathway in the brain or spinal cord. Nevertheless increased patellar tendon reflex is observed in normal individuals whose nervous systems are at the time of the examination in a state of tension; also in hysteria and neurasthenia. In hysterical hemiplegia the exaggerated knee-jerk may lead to errors of diagnosis and an incurable organic disease instead of a curable functional affection may be made out.

One symptom alone, therefore, is not reliable enough, no matter how evident it may be. In this latter case, for example, it will be essential to determine whether the palsy, gait, attitude, the state of tonicity of the musculature, etc., are those observed in genuine paralysis of cerebral origin; besides the presence or absence of other reflexes, such as Babinski and paradoxical. It is the association of symptoms that determines a diagnosis, but not one particular phenomenon. On the other hand, in the presence of manifestations which are apparently contradictory and difficult of interpretation, the presence of an exaggerated knee-jerk and of a much diminished knee-jerk or else of absent reflex will render considerable assistance in the determination of a given affection. Ankle-clonus in association with a plus knee-jerk is a good indication of an involvement of motor tract and therefore of an organic disease. It must not be forgotten, that to be a sign of organic disease, ankle-clonus must be prolonged, but not brief, as it is seen in hysteria or other functional disturbances of the nervous system. The exceptions to this rule are very few. If the condition of the knee-jerk and ankle-clonus present sometimes difficulty of interpretation, the same cannot at all be said with reference to Babinski's sign and the paradoxical reflex. They are always and invariably indications of an organic disease of the spinal cord or brain. Finally the state of pupillary reflexes is of great diagnostic importance inasmuch as they may lead to the proper diagnosis and therefore to proper therapeutic measures, when other symptoms are so slight that a diagnosis can be made with great hesitation.

Southern Medical Journal, Nashville, Tenn.

May

4 Increase of Insanity. J. T. Searcy, Tuscaloosa, Ala.
5 Influence of Uncinariasis on the Apparent Age of Children in the Cotton Mills. C. W. Stiles, U. S. P. H. and M.-H. Service.
6 Effects of Some Diseases, Habits and Heredity on Longevity. L. Sexton, New Orleans.
7 Surgery Outside of the Hospital. J. W. Alsobrook, Plant City, Fla.

8 Results with Gonococcic Vaccine. G. R. Livermore, Memphis, Tenn.
9 Five Hundred Cases of Gonorrheal Infection Treated with Gonococcic Vaccine. C. W. Shropshire, Birmingham, Ala.
10 *Treatment of Trachoma. H. H. Martin, Savannah, Ga.
11 Surgery of the Tonsils. H. Wood, Nashville, Tenn.
12 *Scientific Infant Feeding. M. O. Davis, Nashville, Tenn.
13 Case of Elephantiasis Caused by the Streptococcus Erysipelatus, Associated with the Bacillus Prodigiosus. W. M. McCabe, Nashville, Tenn.

10. Abstracted in The Journal, Nov. 26, 1910, p. 1920.

12. Abstracted in The Journal, Dec. 3, 1910, p. 2006.

Journal of the Tennessee State Medical Association, Nashville

May

14 *The Physician in Public. J. A. Witherspoon, Nashville.

14. Abstracted in The Journal, May 6, 1911, p. 1354.

New Orleans Medical and Surgical Journal

June

15 Diagnosis and Treatment of Diseases of the Mitral Valve. F. M. Thornhill, Arcadia, La.
16 Intermittent Claudication (Painful Spasmodic Limp). E. M. Hummel, New Orleans.
17 *Extradural Injections by Sacral Puncture in Genito-Urinary Neuroses. S. P. Delaup, New Orleans.
18 *Case of Tuberculous Meningitis with a Remarkable Ante-Mortem Rise of Temperature. H. D. King, New Orleans.
19 Thoracoplasty by Schede's Method. W. M. Perkins, New Orleans.
20 The Roentgen Ray in the Diagnosis and Prognosis of Pulmonary Tuberculosis. A. Henriques, New Orleans.
21 Prevention of Typhoid. W. F. Sibley, Robeline, La.

17. **Sacral Puncture in Genito-Urinary Disease.**—Delaup has done a sacral puncture and injection in seven cases. Only one patient was not benefited in any way. The author's experience has convinced him that extradural injections with normal salt solution, or any mild analgesic solution, offer the most promising results in abnormalities of urination due to faulty vesical innervation. Incontinence of urine, enuresis, excessive frequency of urination (unless due to other pathologic conditions), can at least be ameliorated, if not cured, by extradural injections. The immediate effects of extradural injections are very rarely even disagreeable, and, when cautiously performed, the injections are in no wise dangerous to the patient, and no more painful than any other hypodermatic injection with a mild solution.

18. **Tuberculous Meningitis.**—Aside from the difficulty encountered in making a diagnosis, the most interesting feature of King's case was the accompanying temperature. The caprices exhibited by the temperature were puzzling and inexplicable. At times there would be distinct remissions, only to be followed by a spurt upward, and then a sudden downward plunge. Often the temperature oscillations were as much as 2 degrees within as many hours; one morning the temperature would be very high, and the evening temperature low. The next day conditions would be entirely reversed. The day following the withdrawal of spinal fluid the temperature dropped nearly to normal, only to rise very high the next day. The pulse was not always commensurate with the febrile reaction. On the fourteenth day of illness, the temperature began to maintain a more definite course, the ascensions and declinations were not as freaky. The temperature on the fifteenth day reached 105.2 F., with a pulse of 110 and respiration 46. Within the next two hours there was a decline of two degrees, though the pulse-rate was increased to 128 and respiration had dropped to 36. For five hours temperature (103 F.), pulse (128) and respiration (36) remained unchanged, and then within the short interval of three hours the temperature leaped to 106.5 F., pulse 140, respiration 48. This sudden change was noted at 6 a. m. and three hours later the temperature was 107 F., pulse 145, respiration 60. From this hour the temperature kept mounting higher. To avoid the chances of error in observation, several thermometers were used, all with the same result. At 1 p. m. the temperature was 107.8 F., pulse 170, respiration 76, and at 5 p. m. the temperature had reached 110.8 F. Forty minutes after this record the patient expired. A complicating terminal pneumonia hastened the end.

Journal of the Missouri State Medical Association, St. Louis

May

22 The Hodgen Suspension Splint: A Reliable Apparatus in Fractures of the Femur. N. W. Sharpe, St. Louis.
23 Cheilitis Glandularis Apostematosa with Associated Cheilitis Exfoliativa. R. L. Sutton, Kansas City.
24 Complete Traumatic Aniridia, with Injury to the Lens: Recovery with Useful Vision. J. Green, St. Louis.
25 Six Hundred Cases of Fracture of the Skull. E. A. Babler, St. Louis.
26 Pellagra. A. J. Vance, Harrison, Ark.
27 A Case of Nasal Polypi. R. S. Magee, Topeka, Kan.

American Journal of the Medical Sciences, Philadelphia

June

28 *Myoma of the Uterus, with Special Reference to Degenerative Changes. J. B. Deaver and D. B. Pfeiffer, Philadelphia.
29 *Cerebral Forms of Poliomyelitis and Their Diagnosis from Forms of Meningitis. H. Koplik, New York.
30 *Abscess of the Liver Occurring in Association with or Following Typhoid. E. M. von Eberts, Montreal.
31 *Irregularity of the Heart and Auricular Fibrillation. A. R. Cushny, London, England.
32 *Perforated Ulcer of the Stomach and Duodenum. G. G. Ross, Philadelphia.
33 *The Cellular Elements of the Blood in Tuberculosis. B. L. Wright and R. W. King, Las Animas, Colo.
34 *Relaxation of the Sacro-Iliac Joints as a Cause of Sciatica and Backache. R. L. Pitfield, Philadelphia.
35 Pneumococcus Peritonitis. G. Woolsey.
36 Freud's Psychology in Its Relation to the Neuroses. T. Burrow, Baltimore.
37 *Fluoroscopy of the Gastro-Intestinal Tract. E. H. Skinner, Kansas City, Mo.

28. **Myoma of the Uterus.**—Hyaline degeneration was noted as present in a marked degree in thirty-seven cases, or about 11 per cent. of 345 cases operated by Deaver and Pfeiffer. This does not represent the true incidence of the condition, since early hyaline change was not specially noted. They found nine instances of myxomatous change and three pronouncedly cystic, twelve in all (3.6 per cent.). Necrosis occurred twelve times, or 3.6 per cent. Calcareous degeneration occurred eight times (2.4 per cent.). Adding together all noteworthy benign degenerations occurring in this series there is a total of thirty, or 9.6 per cent. This is not to be interpreted to mean that approximately 10 per cent. of all fibroids will show such degenerative changes, but that of a series of cases which are considered under present standards to require operation, about 10 per cent. are causing trouble largely as a result of degenerative changes which have occurred in them. Four cases, 1.2 per cent., were diagnosticated pathologically as sarcoma. There were eleven instances of carcinoma associated with myoma (3.1 per cent.). Of these, six (1.7 per cent.) involved the body, and five (1.4 per cent) were situated in the cervix.

29. **Cerebral Forms of Poliomyelitis.**—The condition described by Koplik is one which he says is constantly mistaken for meningitis of the cerebrospinal acute suppurative or subacute tuberculous form. The onset of the illness is acute; it begins with a previous history of absolute health. After the acute symptoms set in, there may be in some cases an abatement and then a recurrence of symptoms of a cerebral nature, which gradually deepen. If the case is one resembling an acute meningitis, the symptoms are more active, with neck rigidity, pain in the neck, headache and delirium. If the case resembles the tuberculous form of meningitis, the patient lies more quiet, exhibits palsies of the cranial nerves and may even have marked hydrocephalus with distinct Cheyne-Stokes respiration and unconsciousness. In both sets of cases the delirium, sopor or coma lightens, the patients after a week or more of illness becoming brighter, and recovery proceeds. Lumbar puncture in all the cases reveals a clear or slightly flocculent fluid, without bacteria, and a cytology of 90 per cent. to 100 per cent. lymphocytes. An examination of the blood shows a leukocytosis at first of pronounced degree of polynuclear type. The onset of the disease may be ushered in by fever, which rapidly subsides to within a fraction of a degree of the normal and the major part of the illness runs its course with this temperature, which is practically normal. The diagnosis is made from the points of clinical course laid down in this paper. The prognosis is for the most part good, except in those cases which involve the nuclei of the nerves controlling respiration. In such cases the outlook is that of an acute bulbar paralysis when the extent of the lesion will

decide the fate of the case. The main point is to have in mind the great similarity of a certain set of these cases to those of tuberculous meningitis, and the absolute futility of a positive diagnosis without study of the case, lumbar puncture and all the clinical aids at our command.

30. **Abscess of the Liver and Typhoid.**—The thirty cases studied by von Eberts are divided into two groups, the first including those in which the presence of the *B. typhosus* as an etiologic factor was confirmed by bacteriologic examination; the second, those cases in which abscess occurred in association with or following typhoid infection, but in which the *B. typhosus* was not isolated. He concludes, as the result of his study, that abscess of the liver occurring as a complication or sequel of typhoid may arise independently of typhoid lesions of the gall-bladder or ducts, pylephlebitis, or the presence of suppuration elsewhere in the body. The recognition of solitary abscess is important because of the fact that only such cases are suitable for surgical treatment. Age and sex have no bearing on the incidence of liver abscess apart from their relation to typhoid generally. As predisposing factors, the virulence of the primary infection, traumatism, and pre-existing disease would appear to have been established. The frequency of liver abscess in relation to typhoid reported from hot climates may be accounted for (a) by the high incidence of typhoid infection in European drafts, and (b) by the pre-existence or occurrence during convalescence of amebic infection. The onset of the symptoms of liver abscess may occur early in the course of the primary infection, after a fever-free interval of days or weeks, or as a remote sequel.

The relation of typhoid carriers to the last class is a subject for further investigation. Of the symptoms of enlargement of the liver, fever, local pain and tenderness are the most characteristic. Jaundice is present in about 15 per cent. of the cases only. In about 50 per cent. of the cases the focus of suppuration is located in the right hepatic lobe. The occurrence of chills is apparently without relation to the organism or organisms found in the local lesion. There would appear to be ground for the assumption that foci of suppuration in the liver due to the *B. typhosus* may occasionally undergo spontaneous resolution. Pleuritis, either serous or purulent, not infrequently occurs as an associated complication. The only safe method of treatment is by incision and drainage, the route selected, either abdominal or transpleural, depending on the location of the abscess. Preliminary transperitoneal puncture should not be practiced owing to the danger of leakage and peritonitis. In future observations on such cases, von Eberts urges that the scope of bacteriologic investigations should include the use of media especially suitable for the cultivation of *B. typhosus*, as well as careful search for amebæ.

31. **Irregularity of the Heart.**—As regards the treatment of this condition, Cushny says that no disease of the heart responds so satisfactorily to digitalis and its allies as auricular fibrillation. But not all cases of fibrillation react thus brilliantly to digitalis; the slow irregular heart in which fibrillation is accompanied by impaired conduction is comparatively little improved. The condition which responds to digitalis most readily and satisfactorily is the rapid irregular heart of old rheumatic disease, in which fibrillation is present along with good conductivity through the bundle of His and a readily responding ventricle. Here digitalis reduces the pulse-rate rapidly from 120 to 150 to 60 to 70, and as the pulse falls the whole of the symptoms improve. If the drug be pushed the pulse continues to fall and may reach 40 to 50. Beyond this, digitalis generally induces other symptoms from the gastro-intestinal tract so that its dose has to be reduced. If it is abandoned altogether the previous condition soon returns, often in a less marked degree, and it is advisable to continue the treatment for several months. Digitalis does not arrest the fibrillation of the auricle, but it certainly reduces the number of impulses which reach the ventricle and thus lessens the rate of that chamber.

Cushny is not convinced that this reduction of rate, which is undoubtedly mainly inhibitory in nature, is the only effect of digitalis, though it is the only one which can be ascertained with certainty at present, and undoubtedly plays an important rôle in the action. When digitalis is administered in auricular fibrillation and the pulse is slowed, the rhythm becomes more regular and the beats more equal in strength, though complete regularity is not attained unless complete block is induced. If the drug is pushed, a curious new form of irregularity often presents itself in coupled beats or continued bigeminus in which each beat of the ventricle that arises in the normal way from an auricular impulse is followed by a contraction arising from the ventricle itself. In connection with the treatment of fibrillation with digitalis, Cushny calls attention to the fact that an attack of this condition may in certain circumstances be precipitated by this drug.

32. **Perforated Ulcer of Stomach and Duodenum.**—In the first of Ross' four cases the second perforation had occurred ¾ of an inch from the first one, and when the duodenum was opened, it was discovered that both perforations had occurred in the same ulcer, which was horseshoe-shaped, corresponding to the curve of the duodenum. In the second case, five months after the date of operation a piece of gauze 1 inch wide by 5 inches long was passed through a suprapubic sinus, which had persisted since the removal of the glass drainage tube. It was a piece of gauze of the tube dressing which had been cut thin at one place and had become separated, and at the next dressing had been pushed through the tube and left there when the tube was withdrawn. The third case illustrates several important aspects of peptic ulcer: (1) The combined peptic ulcer of the stomach and duodenum; and (2) a primary perforation of a gastric ulcer and a subsequent perforation of a duodenal ulcer. Here again the value of a gastro-enterostomy presents itself. The fourth case did not present any special points of interest, except a difficulty in diagnosis.

33. **The Blood in Tuberculosis.**—Wright and King found that in uncomplicated cases of tuberculosis the average number of red cells is normal or above, excepting during a short time prior to death. The hemoglobin percentage averages about 85 per cent. excepting during a short time prior to death. The red cells exhibit an increased resistance to the hemolytic action of salt solutions, this resistance, as a rule, being increased directly as the progress of the disease. Resistance to hemolysis will probably be found of diagnostic value. The prognosis becomes less and less favorable as the hemolytic index falls. The hemolytic index and the lymphocyte percentage bear a direct relationship in prognosis. The total white count increases directly as the disease progresses. In most instances the stage of the disease, in uncomplicated cases, can be more or less accurately determined by the total white count. The polymorphonuclear neutrophils have but little if any phagocytic action in this disease. A high polymorphonuclear percentage makes a bad prognosis. It is strongly probable that the lymphocytes are markedly phagocytic in tuberculosis. A high percentage of lymphocytes is a very favorable prognostic index. The authors claim that the following blood findings are positive proof of improvement in any given case: (a) Decreasing white count; (b) falling polymorphonuclear percentage; (c) rising hemolytic index; (d) rising lymphocyte percentage.

34. **Relaxation of the Sacro-Iliac Joints.**—Pitfield reports eight cases of this kind where the patients were relieved by postures, exercises and fixative apparatus, consisting of a specially constructed leather belt. He points out that these cases illustrate the futility of treating at least a portion of sciatica cases with drugs or any other measures save orthopedic ones. Having seen within two years twenty such cases in general practice and in hospitals, Pitfield believes that true neuritis or neuralgia (idiopathic) of the sciatic nerve is a rare clinical entity. It may be due to reflex causes, such as constipation, pelvic tumors, etc., but he finds it hard to believe that actual degeneration of the sciatic nerve is a common thing.

37. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1582.

Journal of the Indiana State Medical Association, Fort Wayne

May

38 Arteriosclerosis. H. R. Lowder, Bloomfield.
39 *Bacteriology, Pathology and Diagnosis of Typhoid. W Shimer, Fort Wayne.
40 Probable Direction of the Progress of Gynecology in the Immediate Future. B. C. Hirst, Philadelphia.
41 *Differential Diagnosis of Labyrinthine Suppuration and Cerebellar Abscess. J. J. Kyle, Indianapolis.
42 Endotheliomatous Cyst of the Omentum. M. A. Austin, Anderson.
43 *Hygiene of Menstruation. J. M. Ketcham, Indianapolis.
44 Treatment of Club-Feet. J. L. Porter, Chicago.

39, 41 and 43. Abstracted in The Journal, Nov. 26, 1910, pp. 1924, 1927 and 1928.

Washington Medical Annals, Washington, D. C.

May

45 Results of Treatment at the Starmont (Tuberculosis) Sanatorium. G. M. Sternberg, U. S. Army.
46 Case of Cyst of Appendix. G. T. Vaughan, Washington, D. C.
47 Premature Separation of Placenta. A. L. Stavely, Washington, D. C.

Boston Medical and Surgical Journal

June 1

48 *Acute Inflammation of Long Bones, with Special Reference to Excision of the Diaphysis. R. G. LeConte, Philadelphia.
49 Action of Salvarsan on the Wassermann Reaction. H. Fox, New York.
50 Early Diagnosis of Pulmonary Tuberculosis from the Standpoint of Physical and Fluoroscopic Examinations. J. A. Honeij, Boston.
51 Neurology of Apraxia. G. V. N. Dearborn, Cambridge, Mass.
52 Accurate Optics. I. Hartshorne, Poughkeepsie, N. Y.

48. **Acute Inflammation of Long Bones.**—Sixty cases form the basis of LeConte's study. His findings are summarized as follows: The mortality and the extent of the necrosis following acute inflammation of bone depends not only on the promptness of surgical interference, but also on its thoroughness. Suppuration beneath the periosteum does not exclude an infection of the medulla, the presumption being that after three days the medullary cavity is also involved. Within seventy-two hours of the onset of the disease osteoperiostitis is localized usually in the cortex of the bone, and incision, disinfection and drainage are sufficient to bring about a cure. If there is no marked diminution of the symptoms in twenty-four hours after incision and drainage, the medullary cavity should be opened. When the medullary cavity is opened and found healthy, the dangers from infecting it are slight. In the majority of Le Conte's cases osteomyelitis was due to a neglected osteoperiostitis. In operations after the third day, where systemic symptoms are pronounced, the medullary cavity should always be opened and the opening should be sufficiently long to expose healthy marrow, and sufficiently broad and long to expose healthy bone. The mortality of 10 per cent. was directly due to delay in operations, and to inefficient surgery at the primary operation. In five of these cases Le Conte says the surgery was at fault, and had a radical operation been done he believes that all of the patients would have recovered. In one case the delay in operation was perhaps more responsible than the surgery for its fatal termination. It is but fair to say, he continues, that in collecting these sixty cases, perhaps forty more were rejected for various reasons, none of which terminated fatally, so that a mortality of 6 per cent. is nearer the truth.

Cleveland Medical Journal

May

53 Measurement of the Rate of Flow of Blood in Man. G. N. Stewart, Cleveland.
54 Gynecologic Problems of Interest to the General Physician. B. C. Hirst, Philadelphia.
55 Common Fractures and Results of Treatment. F. J. Cotton, Boston.
56 Relation of Liver to Diabetes. J. J. R. Macleod, Cleveland.
57 Drug Exanthemata in Relation to Anaphylaxis. H. N. Cole, Cleveland.
58 Case of Icterus Gravis Following Confinement at Term. H. J. Lee, Cleveland.

Journal of Experimental Medicine, Lancaster, Pa.

June

59 *Adenomata Originating from the Islands of Langerhans. R. L. Cecil, New York.
60 Relation of the Reactive Stroma Formation to the Transplantability of the Cancers of the White Rat. I. Levin, New York.
61 The Micrograph. A. C. Crehore and F. S. Meara, New York.
62 *An Experimental Study of the Question of Aspiration of Foreign Material into the Air Passages During Intratracheal Insufflation. T. S. Githens and S. J. Meltzer, New York.
63 *Action of Salvarsan on the Irritability of Nerve and Muscle. D. R. Joseph, New York.
64 *Bacteriology of Sputum in Common Non-Tuberculous Infections of the Upper and Lower Respiratory Tracts, with Special Reference to Lobar and Bronchopneumonia. T. W. Hastings and W. L. Niles, New York.
65 Resistance of the End-Piece and Mid-Piece of Complement Inactivated by Distilled Water. H. K. Marks, New York.

59. **Adenomata Originating from Islands of Langerhans.**—Cecil records a third tumor of the pancreas of the type reported by Nicholls and by Helmholtz. It occurred in the pancreas of a man sixty-three years old. For a year previous to his admission he had not been in good health. He was suffering from pain in the right lower quadrant of the abdomen, constipation, anorexia, loss of weight and some edema of the feet and ankles. The heart and lungs were normal; the abdomen soft and symmetrical. To the right of the umbilicus a mass 2 by 3 inches could be felt, somewhat tender and fixed to surrounding parts. The skin over the tumor was freely movable. The patient lost ground rapidly. On November 1 he passed about 10 ounces of blood per rectum. The urine contained no albumin or sugar. The patient died November 7. At the autopsy, there was found a large tumor, in the ascending colon, which extended up to the hepatic flexure. It was annular in shape. The outer surface was smooth and hard; the inner surface was papillomatous, with large necrotic ulcerated areas and covered with mucus. The lymph-glands in the mesocolon were not enlarged. Microscopic sections from the tumor showed it to be an adenocarcinoma. The pancreas was firm and pale. The pancreatic ducts were patent. At one point in the caudal portion, near the surface, but completely surrounded by pancreatic tissue, there was a small spherical tumor, the size of a French pea. On section, the cut surface measured 4 by 3.5 millimeters. The tumor was well circumscribed and enclosed by a delicate capsule within which it was freely movable. Cecil believes it is safe to conclude that the tumor developed from islands of Langerhans. Small encapsulated tumors of the size of peas, or even smaller, are occasionally found in the pancreas. These tumors are benign, and have a structure similar in all respects to that of an hypertrophied island of Langerhans. The distinctions between adenomata and forms of regenerative hypertrophy, sometimes so difficult to make in the breast, prostate, liver and other organs, is not easily drawn in the present case. The fact that one may encounter all gradations in the size of islands, from that of the normal island to that of the tumors, suggests that it is more reasonable to consider such tumors merely as hypertrophied islands rather than as adenomata originating from islands.

62. **Aspiration of Foreign Material Into the Air Passages.**—The authors' experiments seem to justify the conclusions that intratracheal insufflation protects the respiratory tract very efficiently against any invasion from the pharynx. The filling up of the pharynx with extraneous material, whether it be from the stomach or from the mouth, brings no danger to the trachea and bronchi. This holds true even if the animal is under deep anesthesia. On the other hand, the presence of a tube in the trachea or larynx without the protection of an effective current air stream, definitely facilitates the entrance of foreign material from the pharynx into the trachea. Anesthesia, which removes the protective action of deglutition, greatly increases the danger from aspiration in these cases.

63. **Action of Salvarsan on Nerve and Muscle.**—Joseph's experiments show that salvarsan is a comparatively inactive drug when applied directly to nerve and muscle tissue of the frog. In perfusion experiments with alkaline solutions, no detrimental action whatever was to be seen either on direct or indirect irritability. In bathing experiments, in which the concentration of salvarsan in the various solutions was surely much higher than that in which it reaches the peripheral tissues in the human subject through the circulation, the loss of irritability occurred only after a long period of exposure to the drug.

64. **Bacteriology of Sputum in the Respiratory Tract.**—In their examinations the authors found only 38 per cent. of the infections of the respiratory tract below the glottis pure, and this percentage was reached only by carefully following Kitasato's method of handling sputa. They believe that lobar pneumonia may produce sputum free from pneumococci, and may undoubtedly be caused by organisms other than the pneumococcus. There is found a marked yearly variation in the organisms which excite inflammation of the respiratory tract. *M. catarrhalis* is usually considered a common secondary invader; but it may, and probably frequently does, assume pathogenic properties.

Western Medical Review, Omaha, Neb.

May

66 Tendon Transplantation and Tendon 'Separation for the Reduction of Congenital and Acquired Deformities. F. Borglum, Lincoln, Neb.
67 Local Versus Diffuse Peritonitis. C. Lieber, Omaha, Neb.
68 Pathologic Basis of Uterine Hemorrhage. P. Findley, Omaha, Neb.
69 Clinical Aspect of Uterine Hemorrhage. W. O. Henry, Omaha, Neb.
70 Lactic Acid and Milk. C. W. Melick, Lincoln, Neb.

Journal of Cutaneous Diseases, New York

June

71 *Epithelioma of the Upper Lip in a Pure Negro. H. H. Kerr and H. H. Hazen, Washington, D. C.
72 A Comparative Study of Dermatitis Repens and Acrodermatitis Perstans. R. L. Sutton, Kansas City, Mo.
73 A Case of Lichen Planus Bullosus. J. W. Miller, Cincinnati.
74 *Eosinophilia in Scabies. J. A. Kolmer, Philadelphia.

71. **Epithelioma of the Upper Lip in a Pure Negro.**—In a rather careful search through the literature at the Surgeon-General's Library, the authors have been unable to find the record of any case of epithelioma of the upper lip occurring in a pure negro. The entire left side of the upper lip and the outer third of the left side of the lower lip were involved. There were two deep ulcers, one at the middle of the upper lip, and one at the corner of the lower lip. The two were connected by a mass of fungoid, sloughing tissue. The bases of the ulcers were sloughing and dirty. The inner edge of the fungus mass, where it was invading the face, was stony hard and deep seated. The whole inner surface of the upper lip was involved as far as the gums. The muscles of the cheek were slightly invaded. The submental and submaxillary glands were much enlarged. A portion of the hypertrophic tissue was removed for diagnosis. Sections showed typical epithelioma; the cells were of the squamous type, and there were many downgrowths that were more or less united, and there were numerous epithelial pearls.

74. **Eosinophilia in Scabies.**—Eighteen cases of scabies were studied by Kolmer during an outbreak of scabies in an institution for children. All were well-marked clinical cases and were under treatment by means of hot baths and sulphur ointment. With the exception of scabies the children were otherwise healthy and represented the usual institutional type. During the first week the disease was characterized by a well-marked uniform eruption and numerous scratch marks. By the third and fifth weeks a few cases were practically recovered. The larger number, however, were quite refractory to treatment, suffered with many relapses, and during the sixth and eighth weeks the lesions were well defined. The disease was accompanied by a mild leukocytosis, according to the degree of severity, which reaches normal as the disease is cured. The eosinophils were relatively and absolutely increased in a fairly well-marked degree. Kolmer believes that this eosinophilia probably bore a relation to the severity of the disease, being highest during the acne of the eruption, and gradually reaching normal as the disease is controlled. The highest leukocyte count was 13,700; the highest eosinophil count 9 per cent.; the lowest 3 per cent.

Iowa Medical Journal, Des Moines

May

75 Syphilis from the Standpoint of the Gynecologist and Obstetrician. G. N. Ryan, Des Moines.
76 Anesthesia During Labor. A. H. McCreight, Fort Dodge.
77 School Life and Its Influence on the Development of the Future Mother. A. Crawford, Mount Vernon.
78 Postoperative Intestinal Ileus. C. Burnside, Des Moines.
79 Macroglossia. E. E. Harris, Grinnell.
80 Hematomyelia. A. D. Woods, Melbourne.
81 Symptoms and Differential Diagnosis of Tuberculous Hip-Joint Disease. C. M. Jacobs, Chicago.
82 A Case of Pellagra. W. E. Sanders, Baltimore.

Pennsylvania Medical Journal, Athens

May

83 *Observations of Mitral Stenosis. J. C. Wilson, Philadelphia.
84 *Treatment of Cardiac Irregularities and Cardiac Weakness. A. Stengel, Philadelphia.
85 *Blood-Pressure in Hypertrophy and Dilatation of the Heart. J. H. Barach, Pittsburg.
86 *The So-Called Nodal Rhythm of Mackenzie. J. Sailer, Philadelphia.
87 *Diagnosis of Hay Fever in Children. W. C. Hollopeter, Philadelphia.
88 *Treatment of Hemorrhage in Tuberculosis of the Lungs. J. Walsh, Philadelphia.
89 Surgery as a Prophylactic Measure Against Intestinal Complications in Typhoid Fever. L. J. Hammond, Philadelphia.
90 Pennsylvania State Pilots. W. C. Posey, Philadelphia.
91 Detachment of the Retina. G. B. Jobson, Franklin.
92 The Artefacts of Insanity. W. K. Walker, Pittsburg.
93 Total Blindness from the Toxic Action of Wood Alcohol, with Recovery of Vision Under Electricity. S. L. Ziegler, Philadelphia.
94 Diagnosis and Treatment of Eczema. M. B. Hartzell, Philadelphia.

83, 84, 85, 86. Abstracted in THE JOURNAL, Oct. 29, 1910, p. 1581.

87. Abstracted in THE JOURNAL, Nov. 5, 1910, p. 1672.

88. **Treatment of Hemorrhage in Lung Tuberculosis.**—Walsh considers Epsom salts one of the most important remedies in connection with hemorrhage. It usually has the revulsive effect of the emetic without producing emesis. In addition to its irritant action it dilates the intestinal blood-vessels and removes a certain amount of liquid from the circulation, thereby thickening the blood. It, therefore, practically takes the place of aconite, venesection, tincture of veratrum viride, emetics and table salt. It even takes the place of ligation of the extremities unless the hemorrhage is severe and continuous. A half ounce should be given at once and may be repeated in two hours, especially if the bleeding continues. If it appear necessary, in order to reassure the patient, to give something every few minutes, a half ounce of Epsom salts may be given at once and 10 grains in a teaspoonful of water every fifteen minutes thereafter. In the great majority of cases absolute rest in bed and Epsom salts are sufficient to control the hemorrhage. All the agents employed for this purpose are discussed by Walsh.

Colorado Medicine, Denver

May

95 Neurasthenia and Psychasthenia. E. W. Lazell, Denver.
96 Five Hundred Blood Observations According to Arneth's Method. W. W. Williams, Colorado Springs.
97 Medicolegal Aspect of Fractures and Dislocations from a Roentgen-Ray Standpoint. S. B. Childs, Denver.
98 A Case Illustrating the Value of Cesarean Section in Eclampsia. T. M. Burns, Denver.

Laryngoscope, St. Louis

April

99 This issue contains a complete index-medicus of oto-laryngology for 1910 and abstracts of the important papers published.

Virginia Medical Semi-Monthly, Richmond

May 12

100 Hematocele. G. T. Harrison, New York.
101 Prevalence and Prevention of Uncinariasis in Virginia. A. W. Freeman, Richmond.
102 Relation of Hookworm to Other Diseases. R. L. Raiford, Sedley, Va.
103 Other Work for Boards of Health—Added Laws if Necssary. S. G. Slaughter, Lynchburg, Va.
104 Lesions of the Sacro-Iliac Synchondrosis. J. Dunlop, Washton.
105 Pupillary Reaction in Health and Disease. C. W. Banner, Greensboro, N. C.

Lancet-Clinic, Cincinnati

May 27

106 *Treatment of Pernicious Anemia Associated with Achylia Gastrica. A. C. Croftan, Chicago.
107 Nitrous-Oxid-Oxygen Anesthesia in Surgery. H. J. Whitacre, Cincinnati.
108 State Requirements for Entrance to Medical Colleges. P. G. Woolley, Cincinnati.

June 3

109 *Interesting Gastric and Intestinal Cases. J. E. Greiwe, Cincinnati.
110 Data Concerning Rabies and the Efficiency of Pasteur Immunization. A. P. Cole, Cincinnati.
111 Methods of Teaching Practical Obstetrics. G. B. Booth, Toledo, Ohio.

106. Abstracted in The Journal, October, 1911, p. 1221.

109. **Gastric and Intestinal Cases.**—Three cases are reported by Greiwe. One deals with ulcer of the stomach and the development of the pyloric obstruction following. The skiagram showed a marked retention of the bismuth mixture eight hours after feeding. The second deals with a case of obstinate constipation, which by means of the skiagram was demonstrated to be due to a sharp angulation both at the hepatic and the splenic flexures of the colon. In the third case a calcareous mass completely filled the pelvis of the kidney and extended in a branched fashion into the right kidney substance itself.

Medical Record, New York

June 3

112 Present Status of Inoculation Therapy. M. J. Synnott, Montclair, N. J.
113 *Method of Diagnosing and Following a Fistulous Tract. J. M. Lynch, New York.
114 *Are Pneumonia and Rheumatism Specific Infections? T. G. McConkey, San Francisco.
115 *The Cause of Belching. D. Roberts, Brooklyn, N. Y.
116 Acute Gonorrheal Epididymitis. C. M. Walson, St. Louis.
117 Mental Suggestion as a Substitute for Anesthetics in the Removal of Tonsils and Adenoids from Children. F. D. Gulliver, New York.

113. **Method of Diagnosing a Fistulous Tract.**—The tracer Lynch has used for the past eight years (not before published) is a mixture of peroxid of hydrogen and a saturated solution of methylene blue. He has learned to appreciate the value of this method as a means of diagnosis, and of its almost unvarying reliability in those very complicated fistulous tracts where the communication between two fistulæ was so narrow as to make it impossible for any probe to pass no matter how fine, especially when the angle between the transverse and longitudinal fistulous tracts was very acute. He says that the peroxid of hydrogen will carry the methylene blue into the finest ramifications of the tract, the methylene blue stains the tract, and when the surgeon comes to operate it is a very simple thing to follow it.

114. **Are Pneumonia and Rheumatism Specific Infections?**—Briefly, McConeky's paper may be summarized as follows: (1) Pneumonia and rheumatism are not specific infectious diseases like typhoid or small-pox, but each is a mere symptom-complex dependent on and secondary to tuberculous vegetations or lesions on the pleura, pericardium, endocardium or periarticular tissues. (2) The streptococcus normally present in the mouth and nasal cavities is the most frequent secondary invader of this abnormal itssue; but staphylococci, Friedländer's bacillus and the specific microorganisms of typhoid, diphtheria, gonorrhea, etc., may also be secondary invaders as well. (3) Whether the symptom-complex called pneumonia or the one called rheumatism occurs, depends on the accident of the location of this damage of tuberculous causation. (4) If situated on the pleura, pneumonia is the diagnosis, provided consolidation occurs; otherwise it is called pleurisy. If situated on the joints alone or in connection with the endocardium or pericardium, it is diagnosed rheumatism. If situated on the endocardium alone and not followed by consolidation of the lung, as it frequently is, it is called endocarditis; but if consolidation occurs it is erroneously called pneumonia complicated with endocarditis.

115. **The Cause of Belching.**—Belching and fermentation are in no way dependent one on the other etiologically, says Roberts. Gas in the stomach, he says, is rarely anything but swallowed air, as true fermentation takes place in the stomach only as a result of actual stasis. Slight, unobtrusive eructation of gas after a full meal is not to be looked on as a morbid phenomenon. Any slight epigastric sensation and occasional eructation are readily exaggerated in the mind of the hypochondriacal. Belching is really a voluntary act, either attempted, permitted or performed in a more or less exaggerated manner to give relief from a real or fancied distress referred to the stomach. The sensation of distress may arise from any organ adjacent to the stomach. The most exaggerated form of belching results from temporary or habitual emotional states, the air not being raised from the stomach but merely gulped into the pharynx and brought up again. If belching gives actual relief from distress it is fair to presume, Roberts says, that the presence of air in the fundus of the stomach is at least a contributing factor in causing the discomfort. Belching, which originally has relieved, may be carried to extremes, particularly in the emotionally excitable. Such a reasonably produced aerophagia often obscures grave underlying disturbances of the circulatory system and the upper digestive tract, the belching being continued after all air has been forced from the fundus. Gas is complained of in a variety of abdominal abnormalities when careful questioning shows belching is practiced. The patient presumes the distress is due to gas. This is particularly common in the discomforts associated with disease of the biliary tract, appendix and colon.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

British Medical Journal, London

May 20

1 Nature of the Immunity Reaction. C. J. Bond.
2 The Hulton Colliery Explosion. W. A. Hatton.
3 Two Cases of Severe Injury Near the Knee. R. Parker.
4 *Vaginal Hysterectomy for Endometritis. F. P. Sturm.
5 A Case of Traumatic Pneumothorax and Pleural Effusion Successfully Treated by Resection. F. S. Rhodes.
6 The Standardization of Preparations of Indian Hemp. C. R. Marshall and J. H. Wigner.
7 *Duodenal Obstruction as Shown by Radiography. A. C. Jordan.

4. **Vaginal Hysterectomy for Endometritis.**—The following case is recorded by Sturn because an unusual, not to say heroic, method of treatment for a fairly common and very troublesome condition has resulted in a measure of success which, he says, is not often attained by the less drastic procedures usually carried out in cases of equal severity. A married woman, 39 years of age, who had been a hard worker all her life, and was the mother of a large and healthy family, complained of constant dragging pains in the groin and back, dysuria, menorrhagia and a profuse semipurulent discharge which was occasionally offensive. For several years she had been practically a chronic invalid, and so profoundly was her general health undermined by the constant pain and discomfort that both she and her relatives were convinced of the presence of malignant disease. She said that she had undergone several operations. Examination revealed a large "boggy" uterus, extremely painful on pressure, freely movable in every direction, with the fundus well above the pelvic brim. The sound passed 4 inches. The cervix, which was the size of a Tangerine orange, was studded with innumerable small semitransparent nodules and was very friable to the touch. The nodules were soft, there was no ulceration, and the general appearance was not that of malignancy. Pressure on the uterus caused quantities of muco-pus to pour through the cervical canal. The possibility of specific infection was excluded by repeated microscopic examinations for the gonococcus, which was never found. The chronic course of the disease and the very gradual deterioration of health from the long-continued pain and discharge were also points which were against the probability of malignant disease. On the other hand, the uselessness of any more scraping operation was so evident and the danger of ultimate malignant degeneration so real that Sturm had no hesitation in suggesting hysterectomy. The uterus was removed by the vaginal route. Sturm saw this patient only a few days ago—that is, about ten months after the operation. She was enjoying perfect health for the first time in many eyars. She is able to perform all the onerous household duties which fall to the lot of women of her class, even including the weekly washing. Sturm claims, therefore, that she is cured in the fullest sense of the term.

7. **Radiography in Duodenal Obstruction.**—A very careful radiographic study by Jordan has convinced him of the existence of the so-called Lane's kink. He found that duodenal obstruction is frequently associated with obstruction at the lower end of the ileum or in the large intestine. Many of the patients exhibit dropping, not only of the stomach, but

also of the large intestine. There is frequently great delay in the passage of feces through the large intestine, and in some cases there is considerable delay in the last portion of the ileum. However, the duodenal obstruction is often the most marked abnormality, and may be the only one which calls for active treatment. In such cases, Jordan says, the operation of gastrojejunostomy relieves all symptoms, and this operation may be expected to do more than place the duodenum at rest by cutting it out of the circuit. As Mr. Lane has pointed out, the jejunum, when attached artificially to the stomach, is supported in such a way that it cannot drop and cause kinking at the duodenojejunal junction.

Lancet, London

May 20

8 *Postoperative Lung Complications. W. Pasteur.
9 Mental Disorders and Suicide. G. H. Savage.
10 *Treatment of Malignant Growths by Radium. C. M. Moullin.
11 *Radium Treatment of Cancer. N. S. Finzi.
12 Diffuse Lipoma and Animals. Sir J. Hutchinson.
13 A Case of Thrombosis of the Superior Vena Cava and Great Veins. F. C. Davis.
14 Our Inability to Diagnose Gross Lesions of the Appendix. E. M. Corner.
15 A Case of Ovarian Cyst in a Nyasaland Woman. H. S. Stannus.

8. **Post-Operative Lung Complications.**—Pasteur endeavors to prove that deflation of the pulmonary bases, resulting from reflex inhibition of diaphragmatic movement. is an essential, if not the chief, factor in the causation of postoperative pneumonia, and that the rôle of the anesthetic is only a very secondary one.

10. **Radium Treatment of Malignant Growths.**—So far as our present knowledge is concerned, with the small quantities that we have at our command, Moullin has come to the conclusion that radium can only be relied on, and that to a limited extent, in cases of malignant disease in which growth is slow and the degree of malignancy relatively slight. On the other hand, it is of the greatest value in what may be called the pre-malignant stage; that is to say, in removing growths which not infrequently become malignant as age advances, without an operation and, what is very important, not merely for cosmetic but for clinical reasons, without leaving much of a scar; and there is good reason to hope that if the small quantities we possess now are capable of dealing with growths of relatively mild malignancy, larger amounts, when we get them, will prove equally successful in circumstances of greater difficulty.

11. **Radium Treatment of Cancer.**—Finzi has treated, or has under treatment, excluding rodent ulcer, altogether 177 patients with cancer. All except four of these were inoperable. He excludes three patients subsequently operated on, four cases treated for prophylaxis only, eight cases in which sufficient treatment was refused, and three cases not treated long enough to judge the result—in all eighteen cases. This leaves ninety-nine cases. Of the cases (twelve) in which growths have disappeared, two patients have died from intercurrent disease—one from cardiac disease and cerebral embolism, and the other from a strangulated umbilical hernia. In the first no necropsy was obtained, but there were no symptoms of recurrence; in the other there was a necropsy, and there were deep recurrences in the liver. In one case (lip) there is no local recurrence, but the marked cachexia (18 months after treatment commenced) leads Finzi to suspect deep recurrences; no definite sign of these is present, however. In two other cases there are recurrences. Many of the patients were treated for relief only, without any possibility of cure, but even then complete local disappearance took place in about 12 per cent., and there are several others well on their way to disapear. Very great relief was secured in twenty cases, substantial relief in forty-two, and no relief in twenty-five. Finzi's results show that in patients who would otherwise be doomed, complete local disappearance of the growth occurs in 12 per cent., relief of pain or other symptoms in 62 per cent., and no relief in 25 per cent. He claims that every local inoperable growth of suitable type should be treated with radium, and that prophylactic treatment should be used after every operation for cancer. It is necessary, however, to use large quantities of radium and metal filters at least 1.5 mm., thick of lead or platinum. Since Finzi has used 200 mg. of radium in his later cases his results are showing promise of being very much better than when he used 50 mg.

Clinical Journal, London

May 10

16 Recent Developments in Methods of Diagnosis. Sir W. H Allchin.
17 Fibroids of the Uterus and Their Complications. C. Berkeley

May 17

18 Ocular and Visual Conditions in Medical Cases. J. Taylor.
19 Medical Cases in Ophthalmology. P. Flemming.

Glasgow Medical Journal

May

20 *Acute Pneumonia: Its Prognosis and Treatment. G. A Gibson.
21 Enucleation of the Tonsil for Chronic Disease. W. S. Syme.
22 The Roentgen Rays in Treatment. J. R. Riddell.

20. **Acute Pneumonia.**—The local treatment or use of external applications in pneumonia is decried by Gibson, although he admits that when there is pain, due to any pleurisy accompanying acute pneumonia, external applications of heat are extremely soothing. It is better, he says, under such circumstances, to employ small poultices, and change them frequently, than to envelop the patient in an extensive application. In certain cases of early acute pneumonia, in strong, robust individuals, the employment of cold, either in the form of the icebag or the cold water coil, will be found decidedly beneficial; and, lastly, when there is a high degree of pyrexia (and, still more hyperpyrexia), the use of sponging and the wet pack—and even the cold bath—may be absolutely necessary.

Medical Press and Circular, London

May 10

23 Clinical and Experimental Observations on Malignant Syphilis and Salvarsan. A. Buschke.
24 Acute Pancreatitis with Pancreatic Pseudocyst. R. A. Stoney.
25 Ionization by Salicylate of Soda as a Treatment for the "Rheumatic" Knees of Middle-Aged and Elderly Women F. Hernaman-Johnson.
26 Present Condition of Vaccino-Therapy. H. Pritchard.
27 Dilatation of the Os Uteri in Labor. G. DeG. Griffith.

May 27

28 Treatment of Cysts and Pseudocysts of the Pancreas. W. Korts.
29 Hyperemic Treatment in Dermatology. W. K. Sibley.
30 One Hundred and Fifty-One Cases of Appendicitis Treated During the Past Three Years. R. W. Murray.

British Journal of Children's Diseases, London

May

31 A London School Clinic. M. D. Eder.
32 *Inherited Syphilis and Blue Sclerotics. J. D. Rolleston.
33 Acute Pyelitis Due to Bacillus Coli Communis as a Complication of Congenital Hydronephrosis. F. Langmead.
34 A Case of Stokes-Adams' Disease in a Boy Aged Fifteen. A. J. Cleveland.

32. **Inherited Syphilis and Blue Sclerotics.**—The principal features of interest in Rolleston's case are (1) the extragenital infection of the mother; (2) the spontaneous fracture of the humerus of the child; and (3) the condition of blue sclerotics in three generations. Although no Wassermann's reaction was performed, the history of the case and the position of the scar made it practically certain that a lesion on the lip of the mother had been a chancre. When three weeks old the baby lost all power in his left arm, but recovered the use of the limb in the course of a month without specific treatment, and when six weeks old had "thrush at both ends." which was probably mucous tubercles in the mouth and round the anus. Both sclerotics show a uniform pale blue coloration; irides grey, embryontoxon at the margin of each cornea. During the child's stay in the hospital the blue coloration of the sclerotics was more obvious on some days than on others. The mother, aged 27, a woman of fair complexion, presented an almost identical condition of the sclerotics, but the coloration was somewhat deeper, more nearly approaching a leaden hue. An arcus senilis was present in each eye. Beyond occasional smarting on exposure to wind and lacrymation following prolonged accommodation, her eyes had not caused her any trouble. She stated that her sister, a fair-haired girl, aged 16 years, presented the same condition, as did also their grandmother, now dead. Their two brothers, aged 37 and 22 years, respectively, were not affected.

Annales de l'Institut Pasteur, Paris

April, XXV, No. 4, pp. 289-368

35 Can Oxyhemoglobin Act as a Peroxydase? J. Wolff and E. de Stoecklin.
36 Fate of Components of Pancreatic Juice in the Course of Its Activation. M. Nicolle and E. Pozerski.
37 Bacterial Flora of Large Intestine of Horse. J. Choukévitch. Commenced in No. 3.

Bulletin de l'Académie de Médecine, Paris

April 25, LXXV, No. 17, pp. 523-544

38 *The Dangers in Treatment of Obesity. (Les écueils des cures d'amaigrissement.) M. de Fleury.
39 *Practical Treatment of Obesity. (Traitement pratique de l'obésité fondé sur l'étude des échanges organiques.) A. Robin.

38. **Dangers in Treatment of Obesity.**—De Fleury has often found a history of inherited taint or of trouble years before, suspicious of tuberculous glandular, pleural or bronchial disease, in persons with a tendency to obesity in adult life. He has also known of six or seven cases in which too vigorous treatment of the obesity was followed by development of active tuberculosis, probably the flaring up of long latent disease. In other cases the benefit of the anti-obesity measures was but transient. He insists on the importance of careful examination of the patient for signs of tuberculosis before attempting treatment of obesity, and not allowing the treatment to be such as to debilitate the patient, and on the necessity for keeping the patient under supervision during the entire course. The measures should aim not only to reduce the fat and ensure its more perfect oxidation but also to restore nerve and muscle force, modifying the diet completely without rendering it distasteful, with exercise and with plenty of water between meals, and one small tumblerful with the meals, one on rising and retiring, with another at 9, 10 and 11 a. m. and again at 4, 5 and 6 p. m. A half hour of out-of-door exercise three times a day, and especially in the evening, is excellent in toning up the muscular system; but still better, he declares, is a course of systematic muscular exercises according to F. Heckel's method of "morphogenetic myotherapy" or Bergonié's method of prolonged and frequently repeated faradization of a whole group of muscles at once. De Fleury has also obtained great benefit from very small daily doses of thyroid extract; but even greater effect can be obtained by stimulating the ductless glands to increased secretion by repeated subcutaneous injection of small amounts of a hypertonic artificial serum, such as a solution of 8 parts sodium sulphate, 4 parts sodium phosphate, 2 parts sodium chlorid and 100 parts water. This serotherapy stimulates the internal secretions and this in turn promotes the metabolism and the appetite increases while the food is utilized better, muscular tone is regained and the patient feels better in every way. If the urine shows traces of albumin with urobilin or indican and tube casts, he restricts the patient for three days to a glass of milk mixed with an alkaline water or skimmed, taken every hour. After this he discards milk entirely as well as all fattening foods and those that putrefy readily, as he believes that intoxication from the food is frequently the source of the obesity. He emphasizes repeatedly the importance of slow eating and long chewing, bradyphagia, he calls it, remarking "the American sect of Fletcherites does not include any obese members."

39. **Treatment of Obesity.**—Robin's method is based on study of the individual organic interchanges, especially the respiratory interchanges. Five small meals are allowed with a walk immediately after the first three, of half an hour at least, avoiding sauces and all beverages except very weak tea. The lunch at 11 a. m. of one or two soft boiled eggs and a little bread, followed by a walk, prevents the patient's being very hungry for the midday meal; the large cup of very weak tea at 5 p. m. and a cracker also reduces the appetite for dinner. He has the twenty-four hours' urine measured; if the amount increases under this régime the outlook is very encouraging. If it does not increase, more fluids should be ingested. The obese patient eating in this way will not feel the restrictions irksome but the total of calories is much below the physiologic amount for the weight. He gives the details of the menu and cites a number of examples to show the benefit from this method in the 200 cases in which he has applied it

Bulletins de la Société de Pédiatrie, Paris

April, XIII, No. 4, pp. 153-218

40 Direct Lymphocyte Count in the Cerebrospinal Fluid Preferable to Centrifuging. (La numération directe des éléments figurés dans le liquide céphalo-rachidien, par la méthode de Jean Nageotte.) M. Nageotte-Wilbouchewitch.
41 *Hypertrophy of the Thymus. V. Veau. (Valeur de l'examen radioscopique et radiographique dans le diagnostic de l'hypertrophie du thymus.) M. Ferrand and C. Chatelin. (Hypertrophie du thymus; spasme de la glotte; tétanie et rachitisme chez un enfant de 8 mois.) C. Chatelin.
42 *The Biuret Reaction in Examination of the Stools. (Un détail de coprologie dans les états infectieux fébriles. La réaction du biuret.) H. Triboulet.
43 *Influence of Thyroid Treatment on Growth in Rachitis. G. Varlot and Pironneau.

41. **Hypertrophy of the Thymus.**—Veau reports the case of a child with a suppurating gland, one each side of the trachea, behind the innominate vein, which he opened and drained and the child can now be regarded as cured. He advises operating in such cases if tuberculosis can be excluded. He also calls attention to the spasm of the glottis with general convulsions, accompanying brain lesions or other cause, and for which the thymus is not responsible, even though it may be unduly large. Thymectomy in these cases has no effect on the spasm of the glottis, as he has demonstrated by personal experience. In the idiopathic spasm of the glottis, a manifestation of tetany, removal of the thymus may cure the tendency, and he has reported a case of the kind, the child having no further spasms after the thymectomy although he had had twenty-seven attacks the day before and had been regarded as moribund.

Ferrand and Chatelin give skiagrams of a number of cases to show the great value of radioscopy to detect or exclude hypertrophy of the thymus, comparing the findings with the normal picture and with glandular disease. With the latter the outline of the shadow is knobby instead of the comparatively smooth outline of the enlarged thymus, blending with the heart shadow below. In their cases the glandular shadows were on the right side, while with the enlarged thymus the shadow was more in the center or protruding more on the left side of the spine, the whole looking like a large pear in some cases; in others the shadow is wider at the top than in the heart region. With glandular lesions the shadow is less opaque at the edges than at the center, while with hypertrophied thymus the shadow is of a uniform depth throughout. The shadows of the glands sometimes show as a chain and sometimes the scalloped outline on the right extends very high. When there are both a hypertrophied thymus and glandular lesions, differentiation is naturally difficult. Four typical cases are described in detail. Veau thinks that the possibility that the thymus may secrete a toxin which normally the parathyroids neutralize, is another argument in favor of thymectomy in case of tetany with suspicion of enlargement of the thymus. Chatelin reports a case of tetany and spasm of the glottis in a rachitic child in which nothing otherwise seemed to indicate the presence of an unduly large thymus but necropsy revealed a very large thymus with almost complete degeneration of the parathyroids. In the discussion that followed, Netter called attention to the importance of systematically examining for Chvostek's sign not only in infants but in children of all ages, and, when found, administering lime salts. He has found them very effectual in reducing the abnormally nervous condition of such children.

42. **The Biuret Reaction in Estimation of Intestinal Functioning.**—Triboulet has found that the biuret reaction may be observed as the manifestation of the non-assimilation of certain heterogeneous albumins, especially the casein of milk, but as a rule it is encountered only with intestinal catarrh. This catarrh may occur during the incubation or as a symptom or sequel of acute infection, and with the biuret reaction its progress can be traced. Intestinal catarrh is far more frequent in acute infections than has hitherto been recognized; it explains the loss of appetite and of weight. The inability to assimilate fats and casein which results from this intestinal catarrh confirms the importance of dieting in the course of the acute infections. Patients sick with typhoid, measles, pneumonia, etc., may be unable to digest even small amounts of milk; their ability in this line is instructively demonstrated by the biuret reaction in the stools: About 2 c.c. of stool is stirred into 4 c.c. of a 5 per cent. solution of sodium

carbonate and filtered. Then 2 c.c. of sodium hydrate is added to the filtrate and into this is added, a drop at a time, 5 or 6 drops of a 2 per cent. solution of copper sulphate. A blue disk forms with normal stools, while the tint is a reddish violet with intestinal catarrh or non-assimilated casein.

43. **Thyroid Treatment in Rachitis.**—Variot and Pironneau gave the thyroid extract merely to hasten the growth of the children, which was abnormally backward. In the five cases reported the effect was marked, the children rapidly increasing in height under the influence of the mild organotherapy, and without displaying any evidences of intolerance. They seemed to benefit in every way by the thyroid treatment, becoming more intelligent and lively during the two-weeks' and six-weeks' courses with an interval of two months.

Presse Médicale, Paris

May 6, XIX, No. 36, pp. 361-376

44 *Vestibular Nystagmus. M. Lermoyez and A. Hautant.

May 10, No. 37, pp. 377-384

45 The Domain of Psychiatry. G. Ballet.

44. **Vestibular Nystagmus.**—Lermoyez and Hautant discuss the mechanism of nystagmus under the influence of cold or heat, showing how the features of the nystagmus are able to localize the seat of the trouble in the semicircular canals. It is possible by this simple temperature test for the general practitioner to determine whether the labyrinth is becoming involved in case of middle ear disease, as injection of hot or cold water into the ear induces the characteristic nystagmus. They give illustrations of the technic.

Revue de Chirurgie, Paris

May, XXXI, No. 5, pp. 513-648

46 *Arteriovenous Anastomosis for Endarteritic Gangrene. E. Quénu.
47 Isolated Fracture of the Lesser Trochanter. A. Binet and A. Hamant.

46. **Arteriovenous Anastomosis for Endarteritic Gangrene.**—Quénu reports a case of arteriovenous anastomosis which, he says, brings to twenty-eight the total on record. He reviews them all, his final conclusions not being at all favorable in regard to the ultimate outcome; the results obtained in operations on dogs can not be applied to conditions in the clinic where the diseased vessels render an inverse circulation scarcely possible. He knows of only one case (Wieting) in which the gangrene was permanently arrested by the anastomosis, and in this case the gangrene had been merely threatened. Quénu says that the best means to combat the chilliness and local asphyxia is by cutting the nerve-trunks and shutting off the nerve-supply from the limb. When the limb becomes warm again after the arteriovenous anastomosis this indicates, he thinks, that the arterial blood finds its way down through the vein, but only mixed with venous blood and incapable of nourishing the tissues efficiently.

Semaine Médicale, Paris

May 10, XXXI, No. 19, pp. 217-228

48 *Thrush in the Lungs. (Le muguet pulmonaire et ses rapports avec la dothienentérie.) C. Garin.

May 15, No. 20, pp. 229-240

49 *The Diagnostic and Therapeutic Importance of the Knee-Chest Position in Internal Disease. (La position genu-pectorale dans les maladies internes.) L. Cheinisse.

48. **Pulmonary Thrush.**—Garin reports the case of a woman aged 41, convalescing from typhoid, when mycotic stomatitis developed with general symptoms and albuminuria, moist râles at the apices and dulness over the supraspinous fossæ, with profuse thick sputum, suggesting that of pneumonia, but found to contain the fungus causing thrush. The patient succumbed a week later in progressive cachexia. The necropsy findings showed actual thrush of the lungs but guinea-pigs inoculated with the parenchyma of the lungs did not seem to be affected. Artault has reported a similar case, likewise in a typhoid patient after defervescence, but his patient recovered. It is possible that such cases are comparatively frequent. Thrush should be suspected when physical signs develop at the apex during convalescence from typhoid fever. It may prove possible to obtain unexpected recoveries by iodid treatment. In the case reported the naked-eye aspect of the lung suggested ordinary tuberculosis except for the absence of tubercles and of enlarged glands; the liver and spleen were both abnormally large.

49. **Knee-Chest Posture as an Aid in Diagnosis and Treatment of Internal Disease.**—Several French writers have recently published cases of effusion in the pericardium in which the patients found relief only when the knee-chest position was assumed. This was observed with pericarditis following rheumatism or scarlet fever, and kidney disease, and Hirtz even asserts that when relief from the symptoms on the part of the heart is obtained only in the knee-chest position, this testifies to the existence of pericarditis with effusion. In a case reported by Cheinisse, however, there could be no question of pericarditis, and yet the patient instinctively sought relief in the knee-chest position during recurring attacks of severe pain above and to the right of the umbilicus, radiating to the epigastrium, and certain features of the anamnesis suggested the possibility of a duodenal ulcer. Umber reported last year a case of duodenal ulcer in which the patient found relief only in the knee-chest position; the ulcer in this case was in the posterior wall of the duodenum and was adherent to the pancreas. Duodenal ulcer is sometimes accompanied by a reflex dyspnea, suggesting pericarditis, and Wynter has recently called attention to the absence of abdominal respiratory movements as an indication of pericarditis. On the other hand, in some cases with symptoms ascribed to a perforated gastric ulcer or peritonitis, they proved to be the manifestations of a pericarditis, and Voelcker has recently reported the case of a child with supposed pericarditis or pneumonia who proved to have diffuse peritonitis from appendicitis. Fellenberg's case, in which the disturbances from a wandering kidney were kept under control by assuming the knee-chest position during the attacks, was recently mentioned in these columns, page 1135. Occlusion of the intestine from kinking or distention changes, with traction on the root of the mesentery, the so-called arteriomesenteric duodenal occlusion, has been repeatedly effectually combated by having the patient assume the ventral decubitus or the knee-chest position, and Tarnier used to take advantage of the mechanical conditions in the "Mohammedan prayer attitude" as a systematic means of treating certain displacements of the uterus.

Beiträge zur klinischen Chirurgie, Tübingen

April, LXXII, No. 3, pp. 581-818

50 Transduodenal Drainage of Hepatic Duct with Plastic Operation on This and the Common Bile Duct. F. Voelcker.
51 *Indications for Operative Treatment After Contusion of the Kidney. (Indikationsstellung zu operativem Eingreifen bei subkutanen Nierenverletzungen.) F. Voelcker.
52 Myotomy of Gluteus Maximus for Snapping Hip Joint. (Offene Myotomie des Musculus glutaeus maximus bei schnellender Hüfte.) F. Voelcker.
53 *Technic for Extraperitonization of Inflammatory Foci. (Extraperitonisierung entzündlicher Herde.) F. Voelcker.
54 *Sacral Excision of the Retum. F. Voelcker.
55 *Pararectal Prostatectomy in Ventral Decubitus. (Konservative Enukleation der hypertrophischen Prostata auf pararectalem Wege in Bauchlage.) F. Voelcker.
56 Cystoscopic Views of the Bladder Portion of the Prostate. (Cystoskopische Skizzen des Blasenanteiles der Prostata.) F. Voelcker.
57 *Excision of Tuberculous Seminal Vesicles with Temporary Displacement of the Rectum. (Excision tuberkulöser Samenblasen mit temporärer Verlagerung des Rectum.) F. Voelcker.
58 *Successful Arsenic Therapy of Apparently Inoperable Sarcoma of the Spine. (Heilung scheinbar inoperabler Wirbelsarkome durch Arsentherapie.) E. Manheimer.
59 *Injuries of the Kidneys. (Ueber Nierenverletzungen.) E. Kenper.
60 *Plastic Operations on Kidney Pelvis and Ureter. F. Weinberg.

51. **Indications for Operative Treatment with Contusion of the Kidney.**—Voelcker comments on the recent statistics of traumatic lesions of the kidney showing a mortality of 14.6 per cent. in 143 cases with a conservative operation and of 16.7 per cent. in 131 nephrectomies, while 20.6 per cent. of the 427 patients not given operative treatment died. This comparative mortality is the more striking when we reflect that only in the severest cases is operative treatment applied. The main points are to determine whether the vessels and the kidney pelvis are torn and whether there is infection. The nature of the accident does not answer these questions, and the intensity of the hematuria is not always an index of the severity of the injury. None of the symptoms is absolutely reliable, but cystoscopy, supplemented possibly by catheterization of the ureters, throws a flood of light on conditions at

once, and he advises this as the routine procedure when there is any doubt. Even mere cystoscopy will show whether the urine is being regularly expelled in a strong jet from the ureter mouth. If the urine is blood-stained, this shows which kidney is injured and that the pelvis and ureter are not torn, and that the passage from the pelvis to the bladder is open. This knowledge excludes the fear of infiltration of the urine and shows that the functioning of the kidney is not materially impaired. The closer to normal the conditions in the secretion, the greater the liability that the injury is confined to the cortex. Chromocystoscopy, that is, inspection of the stained urine after giving indigo carmin, illuminates conditions still further. Fresh blood is red, and if the blood in the urine is brownish, it shows clotting of the blood in the pelvis or bladder. Catheterization of the ureter answers the question as to the presence of infection. If the bloody urine is expelled in approximately normal amounts and rhythm, conservative treatment is indicated, but if no blood or urine enters the bladder from the injured kidney and none can be obtained through the introduced ureter catheter or there is merely blood or a few clots, there is evidently some laceration of the pelvis permitting escape of the urine into the surrounding tissues, or the kidney has been destroyed to such an extent that the secretion of urine is arrested. In either case operative treatment is imperative. If stagnating urine is found in the pelvis, this excludes laceration; the obstruction to the outflow of the urine is probably pressure from some hematoma nearby, with edematous swelling of the mucosa of the pelvis and ureter. Even with these findings, if the pelvic urine is aseptic, conservative treatment is indicated. In case of infection, operative measures should not be delayed. A case reported shows that stagnation of urine in the pelvis may cause the most intense pains, even without direct injury, and evacuation of the urine relieves at once.

53. **Extraperitonization of Inflammatory Foci in the Abdomen.**—Voelcker strives to wall off the focus after its evacuation by inducing what he calls extraperitonization. He accomplishes this with a series of pieces of gauze spread out flat over the walls of the cavity in such a way as to form a funnel, from the center of which project the stumps of the organ or the tissues whose necrosis is dreaded. The irritation from the gauze causes the throwing up of adhesions, soldering the peritoneal surface together, so as to bury completely the cavity. By this method of tamponing, the field is thus extraperitonized from the rest of the peritoneum, and he relates a number of cases in which this technic proved a safe reliance. The list includes some infected abdominal wounds, gangrenous hernia, abscesses, resection of the cecum, tuberculous fistula into the intestine, and for extraperitoneal drainage of retroperitoneal cellular tissue.

54, 55, 57. **Pararectal Operations.**—Voelcker lauds the advantages of the sacral route for excision of the rectum, having found that, with the patient in the ventral decubitus, unusually favorable conditions for the operation were obtained after drawing the rectum to one side and dividing the gluteus maximus, the levator ani and the pelvic fascia. His experience with excision of the rectum by this technic was so encouraging that he has applied it also in removal of the enlarged prostate, permitting retention of the prostatic portion of the urethra. He calls this conservative enucleation, and describes the technic with which it is possible to do prostatectomy by the sacral route, giving eight case histories in which the outcome was excellent, except in the one case of malignant disease. He also describes two cases in which he removed tuberculous seminal vesicles with this technic, drawing the rectum to one side.

58. **Cure of Spinal Sarcoma Under Arsenic.**—After an incomplete operation on an osteoid spindle-celled sarcoma with myxomatous giant-celled parts, growing from the transverse process of the second lumbar vertebra, the patient was treated with intravenous injections of atoxyl. She was a girl of 16 and during the month after the operation before the atoxyl was begun, she seemed to be going down, but at once began to recuperate under the atoxyl and in a month seemed to be quite restored to health. There have been no signs of recurrence during the five months since. Sick has also observed great improvement under Fowler's solution or atoxyl after an incomplete operation for sarcoma, but one patient has since succumbed to recurrence; the other is still in good health, as is also a patient with sarcoma of the skull. In still another case the sarcomatous nodules of the skull retrogressed under intravenous injection of atoxyl. The elderly patient was in good health for two years but then recurrence was observed, which was refractory to further injections. The sarcomas in these cases all had the same histologic features, the sudden stormy onset, the involvement of muscles and bones, preventing a complete removal, and the remarkably favorable influence of the arsenic after an incomplete operation.

59. **Contusions of the Kidney.**—Keuper discusses the points on which the indications for treatment are based, and reports twenty cases, including fourteen with an isolated injury of the kidney; the others were complicated by fractures or the bursting of a hydronephrosis.

60. **Plastic Operations on the Kidney Pelvis and Ureter.**—Weinberg reviews the present status of these operations, adding forty-nine new cases to Kroiss' 102 from the literature, thus bringing the total to date to 151. This includes five unpublished cases from Voelcker's clinic, which he reports in detail. Among other points brought out is that the general condition is not sufficiently accurate for estimation of the ultimate outcome of these operations; cystoscopic examination years after will sometimes reveal unsuspected conditions when the outcome is supposed to be favorable in every respect.

Berliner klinische Wochenschrift

May 15, XLVIII, No. 20, pp. 877-924

61 *Action of Combinations of Drugs. (Untersuchungen über die Wirkung von Arzneigemischen.) E. Bürgi.
62 Melanosis of Mucosa of Large Intestine. (Melanose der Dickdarmschleimhaut.) L. Pick. Commenced in No. 19.
63 Inoculation of Monkeys with Malignant Syphilis. E. Tomasczewski.
64 *The Wassermann Reaction in the Asylums of Denmark. O. Thomsen, H. Boas, R. Hjort and W. Leschly.
65 Transplantation of Fascia. F. Rehberg.
66 Atropin and Vaccines in Treatment of Gonorrhea. (Neuere Gonorrhoebehandlung.) H. Hecht and E. Klausner.
67 Cultivation of the Leishman-Donovan Bodies. (Kultur und Modalitäten der Entwicklung der Leishman-Donovan'schen Körperchen.) G. Franchini.
68 Centrifuge in Determination of Uric Acid in Urine. (Ueber Harnsäurebestimmungen mittels der Zentrifuge.) A. Stephan.
69 Diagnostic Importance of Acquired Disturbances in Color Perception. (Erworbene Farbensinnstörungen.) H. P. Köllner. Commenced in No. 19.

61. **Combinations of Drugs to Enhance Potency.**—Bürgi has made over 1.500 experiments on rabbits with combinations of different drugs in eleven groups, mostly narcotics, and has discovered several laws regulating the action of the various combinations. Among the laws thus discovered is that a mixture of two drugs, especially of two narcotics, has an action which is merely the sum of the action of its two components when both belong to the same group, as, for instance, to the fatty series, or when both are alkaloids of opium. On the other hand, the potency of the action of both is much enhanced when the two components belong to different groups. He has also found that the action of a drug is enhanced when the dose is halved and given at an interval of from five to fifteen minutes. He is inclined to attribute this enhancing of the potency to the fact that the combined drugs act on more points than one drug alone, and also that even when they act on the same points, they act at different times, thus prolonging the medicinal action on these cells. The latter explanation applies also to the enhancing of the effect by halving the dose; this duplicates the action on the cells before the drug is swept away by the blood. Another point he has discovered is that an extremely minute amount of one drug will, in some cases, materially enhance the potency of another; for instance, scopolamin in the rabbit will not induce central anesthesia, even in large doses. The effect is exclusively peripheral. Given in amounts to kill the animals, they die but without preceding general narcosis. But even a tenth of a mgm., when combined with another narcotic, has the desired effect. This suggests that possibly the constituents in mineral waters which may be present only in minute amounts, may be of decisive importance for the general effect, and they should not be disregarded in the artificial production of mineral waters.

64. Summarized in The Journal June 3, 1911, p. 1698.

Deutsche medizinische Wochenschrift, Berlin

May 11, XXXVII, No. 19, pp. 865-912

70 Acute Gangrene of the Gall-Bladder With or Without Cholelithiasis. (Akute Gallenblasengangrän, mit und ohne Steinbefund in der Gallenblase.) P. L. Friedrich.
71 Cellular Anaphylaxis. (Enteritis anaphylactica, Conjunctivitis und Rhinitis anaphylactica—Heufieber—und deren sogen. spezifische Heilung.) A. Schittenhelm and W. Weichardt.
72 Instantaneous Roentgen-Ray Pictures. (Ueber den Begriff "Röntgen-Momentaufnahme" und über Prüfung der Röntgenapparate auf ihre Fähigkeit, Momentaufnahmen sich bewegender innerer Organe zu liefern.) E. Stuertz.
73 *Measurement and Importance of Abdominal Pressure. P. Engelen.
74 Hydrogen Dioxid in Hyperacidity. (Zur medikamentösen Therapie der Hyperazidität.) R. Roubitschek.
75 Case of Traumatic Hysteric Pseudo-Aphasia. T. Becker.
76 Intra-Uterine Fetal Breathing Movements. (Intrauterine Atembewegungen des Foetus.) K. Reifferscheid.
77 Evils of Introduction of Foreign Bodies Into the Uterus to Prevent Conception. E. G. Liek.
78 Gunshot Wounds of Long Bones. (Gelenkschüsse und Schussfrakturen der langen Röhrenknochen im sudwestafrikanischen Feldzug 1904-1907.) A. Franz.
79 Gunshot Wounds of the Abdomen Without Injury of Organs. A. Wagner.
80 Bridging Gap in Urethra with Flap of Fascia. (Ueberbrückung eines ausgedehnten Harnröhrendefektes durch freie Faszien-Plastik.) F. Hohmeier.
81 Technic for Intravenous Injection of Salvarsan. P. Sonnenberg.

73. **Importance and Measurement of the Intra-Abdominal Pressure.**—Engelen expatiates on the importance of the intra-abdominal pressure as a factor in various disturbances, especially those of a cardiac neurosis and with arteriosclerosis, etc. The influence of the intra-abdominal pressure on the circulation in the viscera and throughout the abdomen is obvious, as the functioning of the lungs is so dependent on the correct functioning of the diaphragm and this in turn is dependent on the pressure prevailing in the abdomen. To estimate this correctly, Engelen has devised a simple little appliance based on the principle that a thin elastic membrane serving as a wall between two spaces bulges out into the space in which the pressure is lower. When the pressure is exactly alike on both sides of the membrane wall, the membrane stretches straight, without bulging in or out. He uses a large glass bell with thin rubber tissue tied over the mouth of the bell. The bell is placed on the abdomen to which it adheres airtight; the abdominal wall, and the rubber tissue clinging close to it bulge upward slightly into the glass bell. Air is then pumped into the bell until the rubber membrane and with it the abdominal wall are pushed downward by the pressure until they lie flat. The pressure within the bell required to push down the wall until it is flat is recorded by an index fastened perpendicularly in the center of the rubber tissue; the upper end of the index rides up and down in a graduated glass tube projecting downward from the top of the bell. He comments on the fact that while the disturbances resulting from enteroptosis are familiar, those resulting from abnormally high intra-abdominal pressure have been generally overlooked. Unduly high pressure by impeding the excursions of the diaphragm makes respiration shallower and forces extra work on the heart, especially on the right ventricle, while the excessive pressure also hinders normal circulation in the abdominal organs. When the excessive pressure is due to accumulation of fat, abdominal massage and swimming baths have aided in restoring conditions to normal in Engelen's experience. With abnormally low pressure, as with enteroptosis, the use of abdominal binders, electric stimulation of the abdominal muscles and forced feeding all help. In both conditions, gymnastic exercises, abdominal straining, exercises in deep breathing and inculcation of a correct attitude are of prime importance.

Deutsche Zeitschrift für Chirurgie, Leipsic

April, CIX, Nos. 3-4, pp. 205-424

82 Relations Between Hip-Joint Disease and Coxa Vara. (Zur Frage der Coxitis, Coxa vara und sog. Osteoarthritis deformans juvenilis—richtiger Coxa vara capitalis.) R. Levy.
83 Papilloma of the Thyroid. (Zottenkrebs der Glandula thyreoidea.) M. Plessner.
84 Etiology of Inflammatory Stenosis of the Rectum. (Zur Kenntnis der Aetiologie der entzündlichen Mastdarmstenosen.) A. Exner.
85 *Lymphosarcoma of the Tongue. (Beitrag zur Dauerheilung der Lymphosarkome.) J. Schleinzer.
86 Dermoids of Pelvic Connective Tissue. (Zur Kenntnis der Dermoide des Beckenbindegewebes.) L. Arzt.
87 *Roentgen-Ray Examination After Gastro-Enterostomy. F. Härtel.
88 Meckel's Diverticulum. K. Doepfner.

85. **Lymphosarcoma of the Tongue.**—Schleinzer reports the case of a woman of 54, previously healthy, who suddenly began to experience pains in the neck and difficulty in swallowing, accompanied by the end of two weeks with *fetor ex ore*, copious expectoration and a smarting and burning in the throat. A lump could be palpated in the neck below the angle of the jaw and an ulcer with wall-like edges soon developed on the right margin of the tongue. On the diagnosis of cancer, the glands in the right side of the neck were excised after ligation of the lingual artery; then the lower jaw was temporarily resected and the growth removed. It extended to the epiglottis and arch of the palate. A suspicious enlarged gland on the left side was also excised a few weeks later. The glands showed signs of metastasis, but the patient has had no evidences of recurrence of the lymphosarcoma during the five years to date. The similar cases of sarcoma of the tongue on record are reviewed and compared with this one which seems to be the second case of a histologically verified lymphosarcoma of the tongue and the only one in which the operation proved permanently successful.

87. **Radioscopic Examination Years After Gastro-Enterostomy.**—An interval of from four months to nearly three years has elapsed since the gastro-enterostomy in the twenty-two cases reported by Härtel from the university surgical clinic at Berlin in charge of Bier, and he gives the Roentgen-ray pictures taken before the operation and soon after and again after an interval of a year or so. This is only about half the total cases of gastro-enterostomy for non-malignant disease done during this period, but late after-examination was not possible in the others. There has been recurrence of trouble in three cases and three other patients were only improved by the operation, but the sixteen others were cured. The details of the cases are given, the monograph filling eighty pages. Radioscopy shows that the stomach evacuation proceeds after a gastro-enterostomy not merely by the laws of gravity but by a kind of physiologic sphincter process. The cases teach further that when the new opening is made on account of anatomic stenosis, it answers the desired purpose completely from the practical point of view. When the stenosis was merely spastic the gastro-enterostomy overcomes the tendency to contraction and the pylorus becomes permeable once more. On the other hand, an ulcer in the middle part of the stomach is not much influenced by the gastro-enterostomy; most of the food still passes out through the pylorus instead of through the new opening. One or more internal courses of treatment for the ulcer should follow every gastro-enterostomy. He regards a gastro-enterostomy as contra-indicated with negative findings as to ulcer or stenosis.

Medizinische Klinik, Berlin

May 14, VII, No. 20, pp. 761-800

89 Physiologic Action of Carbonated Baths. H. Winterberg.
99 Spontaneous Healing of Appendicitis. E. Ruge.
91 Salvarsan in Pregnant and Parturient Women. (Die Salvarsantherapie bei Schwangeren und Wöchnerinnen.) E. Langes.
92 *Resection of Spinal Roots for Gastric Crises in Tabes. (Förstersche Operation bei tabischen gastrichen Krisen.) J. Becker.
93 Vibratory Massage in Treatment of Bronchial Asthma and Allied Conditions. W. Siegel.
94 *Urine Findings with Cancer. (Ueber einen Harnbefund bei Karzinomatösen.) O. Gross and M. Reh.

92. **Resection of Posterior Spinal Roots in Tabes.**—Förster's operation was done in Becker's case to relieve intolerable gastric crises in a woman of 54 with advanced tabes, the crises returning so often, accompanied by vomiting, that the woman was unable to retain food and was suffering from progressive inanition. The seventh to the tenth dorsal roots were resected on both sides, and the gastric crises never returned afterward, but both legs and the bladder became paralyzed for a time. These symptoms gradually subsided and by the end of three months the patient was restored to the previous condition, except that the gastric pains had been completely cured. The patient lost with them all sense of fulness of the stomach, so that she is liable to eat too much but vomits up the excess afterward. Some after-hemorrhage, compressing the spinal

cord, may have been responsible for the paraplegia, but more probably, Becker thinks, it was the result of injury of the lumbar cord from the raising of the foot of the bed after the operation. It might have been wiser to have raised the region of the field alone, as after a kidney operation, instead of slanting the whole spine. Or the dural sac might have been tied off above and below the field by the Sick method; or the Guleke technic for extradural interruption of the roots might have been better.

94. **Reaction in the Urine of Cancer Patients.**—Gross and Reh have applied the Salomon and Saxl technic, described in The Journal May 27, 1911, page 1593, in eighteen cases of cancer and in thirty-three patients with other serious affections. This experience has convinced them that the reaction is not pathognomonic of cancer but is dependent on certain disturbances in the metabolism which may accompany cancer but are also liable in other morbid conditions entailing liver trouble or cachexia. It is possible, however, that the pronounced reaction in cases suspicious of gastric cancer may differentiate gastric carcinoma from other stomach trouble in some cases, especially if the technic is further perfected.

Münchener medizinische Wochenschrift

May 9, LVIII, No. 19, pp. 993-1056

95 *Orthostatic Albuminuria and Tuberculosis. H. Lüdke and J. Sturm.
96 Menstruation. (Ursache und Bedeutung der menstruellen Blutung.) G. Klein.
97 Sensitizing Roentgen Rays by Heat. (Experimentelle Untersuchungen über die Sensibilisierung der Röntgenstrahlen mittels Wärmedurchstrahlung.) F. Bering and H. Meyer.
98 *Test for Presence of Salvarsan in the Body. (Neue Methode, das Salvarsan nachzuweisen.) J. Abelin.
99 Influence of Thyroid Extract on Coagulation of Blood. (Einfluss von Schilddrüsenpresssaft auf die Blutgerinnung.) P. Mathes.
100 Radical Plastic Operation for Femoral Hernia with Pectineus Flap. (Radikaloperation des Schenkelbruchs durch Pektineusplastik.) P. Sick.
101 Connection Between Integument and Suprarenals. (Zusammenhang zwischen Hautorgan und Nebennieren.) E. Meirowsky.
102 Action of Chloromorphid on Man. G. Grund.
103 *Typhoid in Children. (Typhusepidemie in einer Kindererziehungsanstalt.) G. Brückner.
104 Pneumonic Plague in Northern China. (Die Lungenpest in Nordchina.) Schreyer.
105 Pyemia After Acute Staphylomycotic Spermatocystitis. G. B. Gruber.
106 Floating Cartilages in the Knee-Joint. (Auf den Recessus subfemoralis beschränkte Gelenkkörperbildung.) E. Ruge.
107 Gall-Stone Disease. (Allgemeine Grundsätze für die Diagnostik, Indikationsstellung und Therapie des Gallensteinleidens.) R. Glaser.

95. **Orthostatic Albuminuria and Tuberculosis.**—Lüdke and Sturm have examined the urine of 140 tuberculous individuals, including sixty in the first stage, fifty in the second and thirty in the third, all afebrile and up and about, and all over 20 years old. In 103 of the 140 a positive reaction for albumin was obtained after the individuals had been on their feet for an hour, the proportion being about the same in each of the three groups. No trace of albuminuria could be detected in the eight healthy controls examined. In a further series of tests the tuberculous individuals giving a negative albumin reaction were injected with a minute dose of tuberculin, not large enough to induce fever, and then albumin was evident in the urine when they had been on their feet for an hour. They also found tubercle bacilli in the urine in the positive cases of tuberculous orthostatic albuminuria. All these facts indicate that the orthostatic albuminuria in these cases is the result of the action of the tuberculous toxins on the kidneys. They suggest further that auto-intoxication may in some cases be responsible for orthostatic albuminuria. The most important practical conclusion, however, from the research reported is that orthostatic albuminuria may reveal incipient tuberculosis in some cases when other causes for the albuminuria can be excluded. The pulse-pressure was lower during the period of orthostatic albuminuria in their experiences.

98. **Test for Salvarsan in the Body Fluids.**—Abelin has applied the Ehrlich diazo reagent to salvarsan and obtained a characteristic color reaction. The urine of patients after treatment with salvarsan may thus give a deceptive diazo reaction. A reaction characteristic of the presence of salvarsan can also be obtained in other organic fluids by adding three or four drops of dilute hydrochloric acid, cooling, and then adding three or four drops of a 0.5 per cent. solution of sodium nitrite, which results in production of a diazo body with lively greenish-yellow fluorescence. This diazo solution of the salvarsan fluid is then added, a drop at a time, to an alkaline 10 per cent. solution of resorcin or other phenol. There follows a red color reaction. The solution must always be alkaline, as free acid checks the color reaction. The reaction is apparent in two hours after an intravenous injection of salvarsan. Using 7 or 8 c.c. of urine with 5 or 6 drops of dilute hydrochloric acid, adding 3 or 4 drops of the 0.5 per cent. sodium nitrite solution and dropping the mixture into 5 or 6 c.c. of the alkaline colorless resorcin solution, it at once turns red.

103. **Typhoid Epidemic in Children's Asylum.**—Brückner's experience with an epidemic of typhoid affecting three-fourths of the 102 boys in the institution confirms the importance of unsuspected typhoid in children as a factor in the dissemination of the disease. It also demonstrates the great value for prophylaxis of systematic taking of the temperature of all in the environment of a case of typhoid and isolating those with the slightest tendency to fever.

Virchow's Archiv, Berlin

May, CCIV, No. 2, pp. 161-320

108 The Plasma Cells in Disease of the Ears, Nose and Larynx. G. Alagna. Commenced in No. 1.
109 Endocarditis Due to Influenza Bacillus. G. Porrini.
110 Pathologic and Anatomic Study of Diabetes Mellitus. K. A. Heiberg.
111 Histologic Study of the Musculature of the Heart. S. Wideröe.
112 Stain for Fibrin. (Ueber Färbung mit Bestschem Karmin, speziell zum Nachweis von Fibrin.) E. Fraenkel.
113 Some Cases of Carcinoma of the Body of the Uterus with Much Glycogen. H. E. De Bonneville.
114 Intermuscular Ossification. K. Kawashima.
115 Histology of Hypertrophy of the Prostate. M. Lissauer.
116 Epithelium and Tumors of the Cerebral Ventricles. (Ueber das Epithel und die Geschwülste der Hirnkammern.) P. Vonwiller.
117 Case of a Leukemic Malignant Lymphoma with Special Changes in the Liver. T. Tsunoda.
118 Experimental Study of Myeloid Metaplasia. A. Werzberg.

Wiener klinische Wochenschrift, Vienna

May 11, XXIV, No. 19, pp. 655-694

119 *Chorio-Epithelioma. F. Hitschmann and R. Cristofoletti.
120 *Paravertebral Liver Dulness. (Ueber vertebrale und linksseitige paravertebrale Leberdämpfung.) P. Grocco.
121 Coincidence of Herpes Zoster and Psoriasis. . G. Gjorgjevic.
122 Injury of Skin by Light and Protection Against It. (Lichtschädigungen der Haut und Lichtschutzmittel.) L. Freund.
123 Technic for Puncture and Intravenous Infusion. R. Bauer.

119. **Chorio - Epithelioma.**—Hitschmann and Cristofoletti review the literature on the subject—all the evidence showing that it is impossible to distinguish between normal trophoblast tissue and malignant chorio-epithelioma, and also that it is impossible to determine by the structure which of the chorio-epitheliomas is going to run a malignant course and which will subside harmlessly. They expatiate on the peculiar conditions with chorio-epithelioma tissue burrowing into the uterine vessels and thus offering the most favorable conditions for embolism when subjected to any mechanical strain. This mechanical strain is supplied by any operation on the uterus, even curetting, and they believe that the operation for removal of chorio-epithelioma is in many cases the direct cause of the malignant metastasis which follows. They tabulate from the literature eighteen cases and report a similar one from their own experience in which on suspicion of chorio-epithelioma the uterus was removed, and at once malignant metastases developed, which proved fatal in less than three weeks. The operation evidently forced the proliferating tissue deeper into the vessels and the emboli were then scattered all through the body, with immediate metastases in nearly all the internal organs, while there had been no signs of metastasis before the operation. In another case in their experience this rapid metastasis followed simple diagnostic curetting. They also tabulate thirty cases in which the patients died during or soon after the operation and necropsy showed the internal organs free from metastases in nearly every instance. In forty-six other cases in which the patients died without any operation having been attempted, the internal organs were free from metastasis in nearly every case except in the lungs and sometimes in the vagina. Three hundred

cases from the literature are reviewed and the practical conclusion drawn that the operation for chorio-epithelioma must be by the abdominal route and with as little manipulation of the uterus as possible and only after ligation of the veins and hypogastric artery. If curetting is deemed necessary, its dangers should be borne fully in mind.

120. **Left Paravertebral Percussion of the Liver.**—Grocco calls attention to the valuable information obtainable by systematic percussion of the region of the last thoracic vertebræ and of the zone to the left in regard to the size and condition of the liver. The facts in regard to the liver dulness from the rear differ; he declares, from the descriptions in the textbooks, and the latter need revision. He says that the vertebral and paravertebral area of dulness of the liver changes its position in case the liver is abnormally high or low or enlarged. The best technic to determine this is by percussing along a perpendicular line a little to the right of the spine, then along the spine, and then along four other parallel lines to the left of the spine until one line coincides with the left margin of the liver, marking the points where the liver dulness commences. The outer limit of the left portion of the liver dulness is determined by percussing horizontally, from the axillary line inward to the mark corresponding to the left margin of the liver. The distance between this outer limit of dulness and the spine, along a horizontal line, if more than 4.5 or 5 cm., indicates enlargement of the left lobe of the liver. In one case recently, percussion by this technic showed that the left upper margin of the area of liver dulness was irregular and displaced, thus permitting the diagnosis of a circumscribed abscess in the liver which gave no other topographic hints of its presence. This percussion technic also shows the point where an exploratory puncture of the thorax can be made without danger of piercing liver tissue. Grocco thinks that this percussion technic should be adopted as an instructive and reliable routine diagnostic procedure.

Zeitschrift für klinische Medizin, Berlin

LXXII, Nos. 5-6, pp. 377-576. Last indexed May 6, p. 1371

124 Etiology of Paroxysmal Hemoglobinuria. L. Fejes.
125 *Diagnosis of Liver Disease. (Leberkrankheiten.) W. Frey.
126 Influencing of Lipoid Hemolysis by Albuminoids. (Die Beeinflussung der Lipoidhämolyse durch die Eiweissstoffe.) J. Kentzler.
127 Antitryptic Properties of Diabetic Blood. (Studien über das antitryptische Vermögen diabetischen Blutes.) E. Neisser and H. Koenigsfeld.
128 Cancer of the Pancreas. (Zur Klinik des Pankreaskarzinoms.) K. A. Heiberg.
129 Experimental Research on Kidney Fatigue. (Ueber Nierenermüdung.) L. d'Amato and V. Faggella.
130 *Experimental Coma. R. Ehrmann, P. Esser and A. Loewy.
131 *Serodiagnosis of Pregnancy. (Serumdiagnose der Schwangerschaft.) E. Rosenthal.
132 Non-Perforated Duodenal Ulcer. (Diagnose und Behandlung des Nichtperforierten Duodenalgeschwürs.) S. Kemp.
133 Unreliability of Serodiagnosis in Tuberculosis. (Die klinische Verwertung der serologischen Untersuchungsmethoden bei der Tuberkulose.) H. Lüdke and F. Fischer.
134 Determination of Total Stomach Content. Ueber die Bestimmung des Gesamtmageninhaltes.) A. Galambos.
135 *Standards for Estimating Size of Heart. (Einfache Massstäbe für die normale Herzgrösse im Röntgenbilde.) M. Levy-Dorn and S. Möller.

125. **Diagnosis of Disease of the Liver.**—Frey devotes fifty pages to discussion of this subject, tracing the fate of the carbohydrates in the body, the nitrogenous bodies, especially urea, ammonia and amino-acids, in connection with disease of the liver, or in pathologic conditions with the liver apparently intact. The metabolic findings in twenty-five patients with liver disease and eleven with healthy livers are tabulated. The general conclusions are to the effect that urobilinuria is frequent with liver affections but that it does not point to functional injury of the liver unless it is possible to exclude an abnormally low proportion of urobilin in the stools and an increased influx of urobilin-producing substances from destruction of blood. Alimentary levulosuria occurs in 10 per cent. of persons with sound livers and in 50 per cent. of those with diseased livers. It is especially frequent with cirrhosis of the liver, but does not constantly accompany it. The proportion of urea in the urine throws no light on conditions in the liver. The ammonia output is high with liver disease and very high in every case of cirrhosis, without exception, and when much meat has been eaten, or there is fever or disease of any kind tending to acidosis. The behavior of the amino-acids is an important aid in determining the functional capacity of the liver. With cirrhosis they are regularly increased (over 0.5 gm. N). The importance of this finding is enhanced by the fact that this anomaly was encountered, besides in cirrhosis, only in a case of amyloid liver and one of pronounced stasis in pneumonia, in typhoid, and in pancreas-diabetes in the dog. The patients with other liver disease seem to be able to take care of the ingested amino-acids as perfectly as the healthy.

130. **Experimental Coma.**—Ehrmann and Esser found that it is possible to induce coma similar in every respect to diabetic coma by feeding dogs with butyric acid or injecting it into a vein. Ehrmann discusses in particular the relations in this respect between sodium butyrate and the isobutyrate, and Loewy and Ehrmann the alkalinity and carbon dioxid content of the blood.

131. **Serodiagnosis of Pregnancy.**—Rosenthal presents evidence to prove that the antitrypsin reaction is merely the index for increased transformations of albumin. He examined the serum of fifty pregnant women to study this index and declares that the antiproteolytic action of the serum from otherwise normal women will reveal the presence or absence of pregnancy. He was unable to find a single case in which the antitryptic index was not abnormally high with existing pregnancy and a living fetus. This occurs almost with the onset of pregnancy, so that it is possible by this means to affirm the existence of pregnancy if the woman is healthy. The antitrypsin reaction is always positive with carcinoma, exophthalmic goiter, nephritis, also with fever, with certain gynecologic affections, for two or three weeks after childbirth and for a week after abortion; but if all these can be excluded then the positive reaction speaks for a pregnancy.

135. **Determination of the Size of the Heart.**—Levy-Dorn and Möller give the findings in 225 persons examined with a view to learn some simple physical standards for approximate estimation of the size of the heart in the individual. They found that the heart measures one and a half times the width of the fist across the joints. It also equals the width of the hand plus the length of the first phalanx of the middle finger. These measurements were always found a trifle less than 1 cm. larger than the heart. Fifty of the persons examined were under 20.

Zentralblatt für Chirurgie, Leipsic

May 13, XXXVIII, No. 19, pp. 661-692

136 Iodin Disinfection for Laparotomies. (Zur Joddesinfektion des Operationsfeldes bei Bauchoperationen.) C. Propping.
137 Cystoscopic Diagnosis of Bladder Syphilis. J. P. Haberern.

Zentralblatt für Gynäkologie, Leipsic

May 13, XXXV, No. 19, pp. 697-736

138 Myoglia Staining in Study of Structure of Myomas. F. Heimann.
139 Operative Treatment of Vesico-Vaginal Fistula. N. Wolkowitsch.
140 Vaginofixation. A. Uthmöller.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 4, XXXII, No. 54, pp. 571-578

141 *Suprarenal Syndromes. T. Silvestri.

May 7, No. 55, pp. 579-594

142 Comparative Tests of Tuberculin Reactions. R. Mosti.

141. **Suprarenal Syndromes.**—Silvestri reports the case of a boy of 5 with convulsions after apparent recovery from diphtheria. Following the convulsions was a condition of extreme weakness, the child being unable to stand, with much dizziness. Ascribing the trouble to insufficiency of the suprarenals, Silvestri gave epinephrin, hoping thus to counteract the influence of the diphtheria antitoxin on the suprarenals. The symptoms presented by the child resembled in many points the syndrome he had evoked in experimental research by abrupt suspension of suprarenal functioning. The results confirmed the accuracy of this view as rapid recovery followed. The analogy was striking between the cerebellar symptoms in this little patient and those in his laboratory animals after monocapsulectomy. In conclusion he mentions similarly successful organotherapy in a case of uncontrollable vomiting of pregnancy, although in this condition the entire system of ductless glands may be involved.

Policlinico, Rome

May 7, XVIII, No. 19, pp. 585-616

143 *Physiopathology of Atrioventricular Conduction. A. Ceconi.

May, Medical Section, No. 5, pp. 193-240

144 Exploratory Craniotomy for Pathologic Localizations in the Zone of Rolando. G. Finzi.

145 *The Signs of Organic Lesions in Epilepsy. F. Agosti.

143. **Normal and Abnormal Atrioventricular Conduction.**—Ceconi reviews the present status of knowledge in regard to the bundle of His.

145. **Signs of Organic Lesions in Epilepsy.**—Agosti reviews the ten different signs of special deficiency or disturbances in the cordination of movements liable to be observed in epilepsy, the special morbid reflexes, of which he cites eleven types, and the eleven types of phenomena showing involuntary associated movements with the voluntary. He then reviews his own experience with thirty epileptics. In ten there were unmistakable signs of a preceding brain affection, but in eighteen no trace of the kind could be discovered. In five others the epilepsy came on with some morbid condition and subsided with it later; there were no evidences of mental trouble in this group, but such were evident in thirteen other cases in which no causal factor could be discovered. He gives the details of six from this last group; in some the epilepsy was of recent onset and yet no signs indicating an organic lesion in the nervous system could be discovered. In one case the epilepsy developed at puberty and the seizures accompanied the menstrual periods. This patient's father had been a hard drinker and had died at 50 of heart disease.

Riforma Medica, Naples

May 8, XXVII, No. 19, pp. 505-532

146 *Ascites and Collateral Circulation. (Del circolo venoso supplętivo nei suoi rapporti colla comparsa dell'ascite, durante il decorso della cirrosi epatica.) S. Livierato.

147 Epinephrin Lesions of Blood-Vessels and Other Organs. (Studio delle lesioni adrenaliniche dei vasi sanguigni e di altri organi.) G. Vincenzo.

146. **Collateral Circulation in the Cure of Ascites.**—Livierato gives the history of a case of cirrhosis of the liver under observation for fifteen years with necropsy after intercurrent pneumonia. The patient was a man of 43 with much ascites and enlarged spleen but the liver was of normal size. Under restriction to milk, urea and potassium iodid the ascites was spontaneously reabsorbed and he had no further disturbances for nearly nine years, when the dropsy reappeared but subsided again under the same treatment. Necropsy disclosed an extensive deep collateral circulation, the mesenteric veins and others being much enlarged and amply draining away the effusions. The case teaches that ascites is not inevitable with interstitial hepatitis but that it may develop under the influence of an intercurrent pneumonia or other infection, from weakness of the heart, and disappear again as the heart regains tone.

Ugeskrift for Læger, Copenhagen

May 4, LXXIII, No. 18, pp. 631-662

148 *Obesity as Sign of Disease in Hypophysis Cerebri. A. Friedenreich.

148. **Obesity as a Symptom of Hypophysis Disease.**—Friedenreich reports two cases of extreme obesity and discusses the share of the hypophysis in it. The first patient was a woman of 42 who had complained for a year of pain in the head and back of the neck with other symptoms suggesting a tumor near the base of the brain, although there were no signs of restriction of the field of vision. The Roentgen-ray findings also suggested a tumor but necropsy showed that the atrophy of the sella turcica was the result of metastasis in the dura from a tumor in the frontal lobe. The hypophysis itself was not enlarged. The second patient was a young man, an imbecile from birth, very short and extremely obese. There were no indications of myxedema but there were other signs of infantilism and femininism, with hypoplasia of the genitals—all suggesting some disturbance in the functioning of the ductless glands. In eunuchs there is generally increased growth in height, and in only twelve of the thirty-two cases of hypophysis disease with obesity with necropsy findings on record is there any mention of atrophy of the genitals. His patient is in good physical health otherwise, and no changes in the sella turcica are apparent by radioscopy. The data cited, however, confirm the assumption that universal obesity may sometimes point to disease of the hypophysis. Radioscopy may prove misleading as the affection responsible for destruction of the sella turcica may be merely a consequence or complication of disease elsewhere.

Books Received

Books received are acknowledged in this column and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for review in the interests of our readers and as space permits.

Merck's Manual of the Materia Medica. A Ready-Reference Pocket Book for the Physician and Surgeon. Containing Names of the Chemicals and Drugs Usual in Modern Medical Practice . . . Therapeutic Uses, Modes of Administration and Application, Regular and Maximum Dosage, Incompatibles, Antibodies, Precautionary Requirements, etc.: A Table of Therapeutic Indications, . . . and Miscellany, Comprising Poisoning and Its Treatment; a Comprehensive Dose Table of Chemicals, Drugs and Galenicals; Urinalysis and Examination of Urinary Deposits; Approximate Metric Equivalents and Various Useful Tables, etc. Fourth Edition. Cloth. Sent on receipt of 10 cents, in stamps, to physicians or medical students in United States. Pp. 493. New York: Merck & Co., 1911.

The Eye, Ear, Nose and Throat. Edited by Casey A. Wood, C.M., M.D., D.C.L., Albert H. Andrews, M.D., and Gustavus P. Head, M.D. Volume III, The Practical Medicine Series. Comprising Ten Volumes on the Year's Progress in Medicine and Surgery. Under the General Editorial Charge of G. P. Head, M.D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School, and C. L. Mix, A.M., M.D., Professor of Physical Diagnosis in the Northwestern University Medical School. Series 1911. Cloth. Price, $1.50. Pp. 365, with illustrations. Chicago: The Year-Book Publishers.

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THE MENINGEAL FORMS OF EPIDEMIC POLIO-ENCEPHALOMYELITIS

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Much has been written about the recent epidemic of poliomyelitis. Attention has been directed to many anomalous and rare types, and our general knowledge of the disease has received a tremendous extension. At the same time, however, not enough emphasis has been laid on certain forms which are probably much more frequent than has been supposed, and which in many individuals run a mild course, and are frequently overlooked, or entirely misinterpreted.

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SOME OF THE SECTION OFFICERS

These are the meningeal types. When severe, they are mistaken for epidemic cerebrospinal meningitis, and their occurrence has in large part given rise to the notion that poliomyelitis epidemics follow those of cerebrospinal meningitis. Wickman[1] has discussed this supposed relationship in a thoroughly critical manner. Many are fatal, while again, others may be grouped with the abortive types of poliomyelitis, concerning which latter we have much to learn.

The Report of the Poliomyelitis Committee[2] has little to say regarding the rarer and anomalous types. Being a general report from practitioners, it would not be apt to represent the more intensive study of the disease, as has been done by E. Müller[3] in his recent monograph, or by Wickman[4] in his excellent series of studies of the Swedish epidemic.

The clinical foundations laid down by Medin in his unusually careful study of the disease have only recently received their full recognition by his fellow countryman Wickman.

The latter author recognizes with reason at least eight fairly definite types of the disease, all of which have come under my observation. These types are as follows:

1. *The Spinal or Poliomyelitic Form.*—This is the usual type with its rich and varied symptomatology.

2. *The Acute Ascending or Descending Types.*—These correspond to the Landry paralysis type, also seen in

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[1] Wickman: Bull. et mém. Soc. méd. d. hôp. de Paris, 1909.

[2] Epidemic Poliomyelitis, Report of New York, 1907, Epidemic, Nervous and Mental Disease Monograph, No. 6.

[3] Müller, E.: Die spinale Kinderlähmung, 1910.

[4] Studien über Poliomyelitis, 1905; Ueber die Prognose, Ztschr. f. klin. Med., 1907; Beitrag. zur Kenntnisse der Heine-Medinsche Krankheit, 1907; Ueber die akute Poliomyelitis, Jahrb. f. Kinderh., 1908; Sur les prétendues relations entre le poliomyélite, etc., Bull et mém. Soc. méd. d. hôp., 1909; Weitere Studien, Deutsch. Ztschr. f. Nervenkr., 1910; Ueber akute Poliomyelitis und Polyneuritis, Ztschr. f. d. ges. Neurol. u. Psychol., 1910; 82 Versamml. d. Königsberg, 1910; Die akute Poliomyelitis, Handbuch der Neurol., 1911.

some hydrophobias and certain neuritides, and which are usually, though not invariably, fatal.

3. *The Bulbar or Pontine Forms.*—In these the bulbar or pontine nuclei are most prominently affected. Here belong many central facial palsies, isolated eye palsies, palsies of the larynx and pharynx. Many of the fatal cases are such because of the medullary involvements. Medin and Oppenheim, respectively, have studied the bulbar and pontine forms.

4. *The Encephalitis Form.*—Strümpell has studied this type in particular. While apparently rare in our New York epidemic, nevertheless it occurred.

5. *The Ataxic Form.*—This is usually a predominantly cerebellar type, and has been seen in only a few instances.

6. *Neuritic or Neuritis-Like Form.* — This is an admittedly difficult type to diagnose, but inasmuch as neuritis is usually rare in children—excepting diphtheria—its occurrence at the time of an epidemic should throw light on the diagnosis.

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7. *The Meningitic Form.*—This will form the subject-matter of this short communication.

8. *The Abortive Forms.*—Wickman roughly estimates that these constitute 15 to 20 per cent. of all the cases, and Müller regards them as occurring more frequently than all the other forms. If Müller's position be true, we have an intensely practical problem before us. It will be imperative for us to devise rapid and accurate methods of diagnosis of these abortive cases if an epidemic is in progress, and prophylactic measures must be put into operation to prevent the spread of the disease through these abortive cases. That they can be the direct means for the communication of the disease has been abundantly proved by most modern students of the disorder, more particularly by Wickman and by Müller.

THE MENINGITIC FORM

In epidemic poliomyelitis of the spinal type the spinal and cranial meninges are almost invariably affected. This one fact has come out with striking prominence in all of the recent studies. The notion that the disease is a toxemia affecting the anterior horn cells, taught by Charcot and repeated in our text-books, must be absolutely dismissed. Poliomyelitis is an acute infectious disease with a meningomyelitis as its most fundamental pathologic foundation.

Hence, practically all of the patients will show some signs of meningeal involvement in their early stages. Irritative phenomena of the spinal nerves, with hyperesthesia, tenderness, irritability, restlessness, etc., are the most frequent signs of this spinal meningitis, whereas photophobia, hyperacusis, headache, somnolence indicate the implication of the cerebral meninges.

Those patients, however, who show much more marked meningeal symptoms than spinal, and in whom both exist, with greater prominence of the former, may be said to be suffering from the meningeal form of the disease.

SYMPTOMS

The chief signs in the meningeal forms vary, in their initial stages, from those of the spinal type, only in the matter of greater severity. There is headache, nausea and vomiting, slight photophobia with hyperacusis, pains in the neck and back, stiffness of the neck, rigidity of the muscles of the vertebral column, opisthotonos of milder or severe grade, Kernig's sign, tonic or clonic convulsive movements; somnolence and even unconsciousness. The temperature runs a non-characteristic course.

While in the ordinary spinal type the disease develops in classical fashion, in the meningitic form it may recede rapidly, and beyond the possible occurrence of transitory or permanent eye palsies nothing remains. In some cases death ensues with the development of stormy symptoms.

In the Vienna epidemic of 1908-1909, Spieler observed at least eight meningeal forms in a series of forty-four cases; in four of these the picture resembled tuberculous meningitis so very closely as to be diagnosed only late in the disease. Spieler describes some of his cases in a very characteristic manner. The cases very frequently have a comparatively lengthy prodromal period, with beginning change in mood, fatigue, nightly unrest with frequent outcries, occasional vomiting with obstipation, suggestive of a beginning basilar meningitis. Then, in children, convulsions suddenly occur, marked stiffness of the neck, irregular pulse, Kernig's sign, increasing patellar reflexes which usually diminish later, facial pareses, strabismus, general hyperesthesia, vasomotor disturbances and atypical facies cerebralis. At this period the lumbar puncture will show lymphocytosis, but no purulent exudate. In the favorable cases the symptoms then begin to recede, the temperature falls to normal, the irritative phenomena diminish, and there may develop a number of the palsies characteristic of the spinal form.

Netter found the meningitic form comparatively frequent in the Paris epidemic, and it is not at all unlikely that in the epidemic of cerebrospinal meningitis of 1905-6 in New York many cases of poliomyelitis went under the guise of a meningitis.

The following case history is representative of a group of cases which have been observed by me in the recent epidemic. I am indebted to Dr. F. C. Lewis of Lakewood for the privilege of seeing the patient in consultation.

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CASE REPORT

History.—The patient, Mrs. H. C., aged 29, a healthy, strong woman, mother of three healthy children, had been perfectly well all summer. August 31 she was attending a county fair in upper New York. Toward the latter part of the afternoon she began to feel tired, found it difficult to walk, and complained of a severe headache. On the way home from the fair she was very tired. Notwithstanding some headache the patient slept fairly well that night on arriving at home. The next day she felt ill, was very dizzy, had some nausea and vomiting, and toward evening noted that she could not see so well as formerly. She had severe headache, her neck felt very stiff, she had nausea and vomiting and considerable hyperesthesia. The next day she saw double, was very dizzy, could not stand up, was nauseated and vomited, had much pain in the head and back of the neck and was very stiff in the neck and shoulders. The bladder and rectum were uninvolved. She was first seen by Dr. Lewis, Sept. 4, 1910. She then had grown steadily worse. The temperature was 100 F., pulse 120, small and regular. The headache was intense, chiefly suboccipital. There was a marked nystagmus, and palsy of the external rectus.

Examination.—I saw the patient the next day. She was then confined to bed, had a severe headache, head painful on percussion, and on movement. She was nervous and irritable, had marked photophobia, hyperacusis, some lethargy and drowsiness. The temperature was 102 F., pulse 120. Examination of the cranial nerves was negative, save in the following particulars. The movement of the eyes to the right was limited; the left eye was in a slightly external and upward position, and the left eyelid showed slight ptosis, and moved slowly. There was distinct nystagmus. There was distinct miosis, and the pupillary light and accommodation reactions were markedly diminished. The pupils were almost immobile. There were no other palsies, save at times a slight flattening of the right nasolabial fold. The upper extremities showed no atrophy, hypertrophy, spasm or hypotonus. The reflexes were present and equal, and there were no sensory disturbances. The trunk showed no abnormalities, the reflexes were present. The lower reflexes showed no anomalies save weakness, slight diminution in the knee-jerks, the left being absent, and no sensory disturbances. No positive Kernig. The vomiting had ceased.

Course of Disease.—The day following the temperature had dropped to normal, and improvement began. There was some loss of power of convergence, and the patient's attempts to look at her nose—and also psychic attempts to look at close objects—developed nystagmus.

September 7, pains and nystagmus had diminished; eye palsies about the same. There was muscular twitching this day and thereafter, and marked dizziness on looking downward.

From September 8 to 12 improvement was gradual. The head remained heavy but did not ache. The temperature remained normal. She still had diplopia and occasional nausea and vomiting.

September 16, the patient was able to be up and about for a time. She was easily fatigued. The ocular palsies were somewhat improved but still remained evident. Vision was normal for either eye alone.

Whereas the chief palsies here belonged to the oculomotor group, the appearance of the patient strongly resembled that of a meningitis patient. It was at first thought that this was the disorder, since it was learned that about seven to ten days previously the family had been visited by a male acquaintance who had been visiting a family across the mountain, four miles distant, where there were reported to be two children suffering from epidemic cerebrospinal meningitis.

Later investigation revealed that the children had poliomyelitis, being two links in the chain of epidemic extension of this disease in its ascent up the Hudson river and Champlain valleys.

The diagnosis, I believe, was one of the meningeal forms of poliomyelitis, the permanent or semipermanent palsies being those of the mid-brain. Had it not been for the marked meningeal signs one could just as well arrange it with the mid-brain types so well written on by Williamson, or the oculomotor types described by Stephenson.

THE URINE IN A CASE OF ACROMEGALY

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In a female patient suffering from well-marked and typical acromegaly of four years' duration, a constant excretion of creatin has been observed. The excretion varied from a minimum of 52 mg. to a maximum of 500 mg., the average excretion being between 100 and 150 mg. a day. The great variation in the amount of daily excretion is undoubtedly largely due to the impossibility of obtaining satisfactory twenty-four-hour samples, the patient being up and about during the whole period of observation.

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TABLE 1.—TOTAL DAILY OUTPUT OF NITROGEN, CREATININ AND CREATIN

Date	Diet	Quantity in 24 Hours, c.c.	Total N, gm.	Creatinin, mg.	Creatin, mg.	Creatin, % of Total Creatinin
2/2	Bread and milk..	630	7.258	380	105	21.68
2/3	Bread and milk..	660	8.767	343	112	24.61
2/6	Bread and milk..	980	.....	559	500	47.21
2/7	Bread and milk..	385	.....	385	104	21.27
2/8	Bread and milk..	425	.....	391	86	18.03
2/22	Full diet	1,170	9.589	866	164	15.92
2/23	Full diet	585	4.011	369	87	19.08
2/24	Full diet	1,040	6.811	572	52	8.32
2/25	Full diet	1,010	7.000	626	111	15.06
2/26	Full diet	800	7.200	544	176	24.44
2/27	Full diet	900	3.843	333	63	15.91
2/28	Full diet	765	5.076	434	91	17.31
3/1	Full diet	290	2.977	287	80	21.80
3/2	Full diet	600	3.990	462	*	.....
3/20	Full diet	1,250	.....	463	399	43.97
3/23	Full diet	500†	.....	375	120	25.00

* Not estimated. † Six-hour sample.

The daily output of total nitrogen, creatinin and creatin is given in Table 1. The creatinin and creatin were both determined by the Folin method; total nitrogen by the Kjeldahl method.

From these figures it can be seen that there was a constant excretion of creatin during the period in which the patient was under observation; that this excretion, while not constant, tended to constitute about 20 per cent. of the total creatinin determined, and that the average output was not influenced by the change from a bread-and-milk to a full diet.

Three determinations of the distribution of the total nitrogen excreted were also made, the first two with the patient on a bread-and-milk, the third on full diet. The results are given in Table 2. The only abnormalities noticed are the low figures obtained for creatinin and the apparent tendency to a high value for the undetermined nitrogen.

The observation of the excretion of creatin in a case of acromegaly seems particularly interesting in view of the recent finding by Krause[1] of a constant excretion of creatin in human diabetes mellitus and in phlorhizin glycosuria in dogs. Krause is inclined in these cases to associate the excretion of creatin with the deprivation of carbohydrates in the food, a condition which Cathcart[2] has shown leads to creatin in the urine. Cushing[3] has recently drawn attention to the close relation of the secretion of the posterior lobe of the pituitary gland to the storage of carbohydrates. The frequency of glycosuria in acromegaly, a condition resulting probably from the hyperactivity of this gland, has long been known. In our patient there was, however, no lack of carbohydrate in the food, nor was there apparently any diminished tolerance for carbohydrates, the ingestion of 100 gm. of glucose on two occasions leading to no appearance of sugar in the urine.

Other conditions in which creatin has been discovered in the urine are starvation, carcinoma of the liver, pro-

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[1] Krause, R. A.: The Excretion of Creatin in Diabetes, Quart. Jour. Exper. Physiol., 1910, iii, 289; Jour. Physiol., Proc. Physiol. Soc., July 9, 1910.

[2] Cathcart, E. P.: Jour. Physiol., 1910, xxxix, 311.

[3] Cushing, H., and Goetsch, E.: Am. Jour. Physiol., 1910, xxvii, 60.

John B Murphy

PRESIDENT AMERICAN MEDICAL ASSOCIATION, 1911 1912.

gressive muscular dystrophy and pregnancy. All these conditions, except the last, are associated with varying degrees of emaciation and loss of muscle-tissue, which may well be the cause of the creatinuria. My patient, during the two months she has been under observation, does not appear to have lost weight, but, on the contrary, is, in her own opinion, stouter.

TABLE 2.—DISTRIBUTION OF TOTAL NITROGEN EXCRETED ON A BREAD-AND-MILK DIET AND ALSO ON A FULL DIET

Date	Diet	Amount, c.c.	Total N. gm.	Urea N.	N as NH_3	Uric Acid N.	Creatinin N.	Undetermined N.
2/2	Bread and milk..	940	7.258	5.705 gm. 77.76 %	0.309 gm. 4.21 %	0.151 gm. 2.05 %	0.204 gm. 2.79 %	0.889 gm. 12.39 %
2/9	Bread and milk..	980	8.767	7.467 gm. 85.16 %	0.455 gm. 5.19 %	0.194 gm. 2.22 %	0.177 gm. 2.02 %	0.474 gm. 5.23 %
2/22	Full diet	1,170	9.589	7.405 gm. 77.22 %	0.654 gm. 6.80 %	0.255 gm. 2.65 %	0.322 gm. 3.36 %	0.953 gm. 9.97 %

Benedict and Myers[4] have pointed out the possibility of the changing of creatinin into creatin by the action of bacteria in the urine. As I had already found in this urine organisms capable of changing nitrates into nitrites and hippuric acid into benzoic acid and glycocoll, I thought it possible that the presence of creatin was due to such a bacterial action. Such an origin for the creatin was, however, eliminated, as samples of the urine incubated at 35 c. for twenty-four hours showed no increase in the creatin present, nor did inoculation with the patient's urine and subsequent incubation produce creatin in creatin-free urine.

There was also found in the urine of this patient a reducing substance, the nature of which I have as yet been unable to determine. This substance reduces Nylander's solution in a typical manner, Haines and Fehling's atypically. It does not ferment and never yields an osazone. The orcein and phloroglucin reactions are negative, as is also Bial's test for pentoses. On several occasions a furfurol reaction was obtained, but this was never sufficiently strong to justify the assumption that the reduction was due to glycuronic acid compounds. The reducing substance is completely precipitated by basic, partially by neutral lead acetate. On extracting the urine with ethyl acetate it entirely disappears, neither residue nor distillate showing any reduction. The urine is faintly levorotatory.

Whether the excretion of creatin in acromegaly is a constant occurrence, and what its significance may be, remains, of course, still to be determined. I have, however, thought its occurrence in this one case worth recording.

I wish to express my thanks to Dr. Graham Chambers for his kindness in allowing me to examine the urine of his patient, and to Prof. J. B. Leathes, under whose direction this work has been carried on. The clinical excerpts of the case will be reported independently.

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[4] Benedict, F. G., and Myers, V. C.: Am. Jour. Physiol., 1908, xviii, 397.

A CASE OF PRIMARY ENDOTHELIOMA OF THE GREAT OMENTUM *

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The occurrence of primary sarcoma of any form in the omentum is so rare that Bonamy and Bonamy[1] in 1908 were able to collect reports of but sixteen well-authenticated cases. In these, eleven of the tumors were spindle-celled, one was round-celled, three were myxosarcomata and one a fibrosarcoma. Cobb[2] two years earlier had been able to collect reports of fourteen cases, four of which were not in the list given by the Bonamys. Since then reports by Conforti[3] (four cases), Marcialis,[4] Lichkus[5]

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* Presented before the Pathological Society of Philadelphia, March 23, 1911.

1. Bonamy, R., and Bonamy, E.: Rev. de gynéc. et de chir. abd., 1908, xii, 285.
2. Cobb: Ann. Surg., 1906, xliv, 16.
3. Conforti: Centralbl. f. allg. Path., 1906, xvii, 817.
4. Marcialis: Riforma med., 1909, xxv, 1328.
5. Lichkus: Russk. Vrach, 1909, viii, 39.

and Frew[6] have been made. Many of the earlier reports are lacking in detail and it is difficult to draw conclusions from the few in which important differential points are mentioned.

Clinically the condition appears to affect the white race most commonly, only one exception being recorded, the case of Frew occurring in a Chinaman. In twenty-eight cases sex has been mentioned, twenty-one being in females, seven in males. In twenty-seven cases in which age was indicated, two patients were in the first decade, one in the third, ten in the fourth, seven in the fifth, six in the sixth, one in the seventh. Even with this small number of cases it seems safe to say that the disease affects females more commonly than males and appears particularly in the fourth, fifth and sixth decades of life, that is, between 31 and 60 years of age. Sacconaghi and Plitek[7] give the symptomatology very concisely. I enlarge somewhat in view of the details found in individual reports. The onset is insidious, the duration variable (indefinite reports, but about three months to three years), cachexia not marked, anemia moderate, wasting gradual and not severe, vague gastro-intestinal disturbance sometimes closely simulating chronic intestinal obstruction, occasionally adherence of omental mass to liver simulating enlarged liver, moderate ascites (usually clear but sometimes blood-tinged), slight edema of lower extremities, occasionally distention of superficial abdominal veins, vague abdominal discomfort rather than pain, death from asthenia.

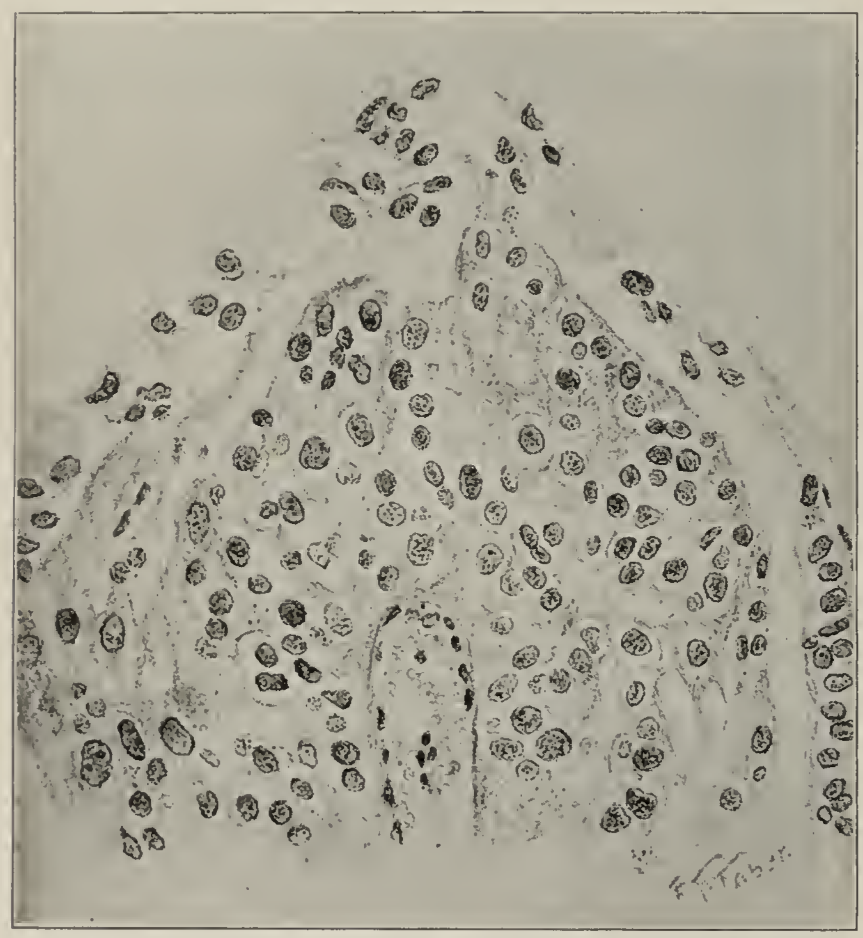

Fig. 1.—Drawing with Spencer No. 8 ocular and 4 mm. objective, showing large cells with large vesicular nuclei and a protoplasm which often takes the stain so poorly as to appear vesiculated. Note the perivascular "combing" of the cells.

Sacconaghi says that "it is impossible from the literature to make any pathologic-anatomic distinctions" and I agree to this. It may be said, however, that grossly the tumor is often massive, although occasionally it is flat, "platelike" in character. The case of Hasbrouck[8] was cystic. Metastasis is uncommon and invasion of other structures by direct extension is not wide-spread. The histologic reports show all varieties of sarcoma but in the later reports the large round-cell and endothelio-matous sarcomata seem to be more frequent and show much the same richness in blood-vessels and perivascular arrangement seen in the subject of the present communication. The rich blood-supply, however, is not confined to these types of tumor but is also seen in the spindle-cell forms and in two instances true perithelioma (perithelial angiosarcoma has been seen.[3], [9] In this respect it is interesting to note that one of the earliest records, that of Fränkel and Kaufmann,[10] was diagnosed as myxosarcoma telangiectodes hæmorrhagicum.

The purpose of this report is to add one more case to a number at the present time too small for satisfactory and conclusive statistical study.

REPORT OF CASE

Patient.—Mrs. P. B., female, white, married, aged 64. Private patient of Dr. George Lewis Smith, of Germantown, to whom I am much indebted for the privilege of using the clinical notes. Family history is negative throughout. Previous personal history shows little except the occurrence in early adult life of pulmonary tuberculosis which, however, was cured. The illness from which she died appeared to have its origin about four months before her death. She complained of indigestion and discomfort in the abdomen. The discomfort became a pain of moderate severity and the indigestion later was accompanied by nausea, vomiting and alternating attacks of severe constipation and moderate diarrhea. The constipation when present was so marked that the patient insisted that she had intestinal obstruction.

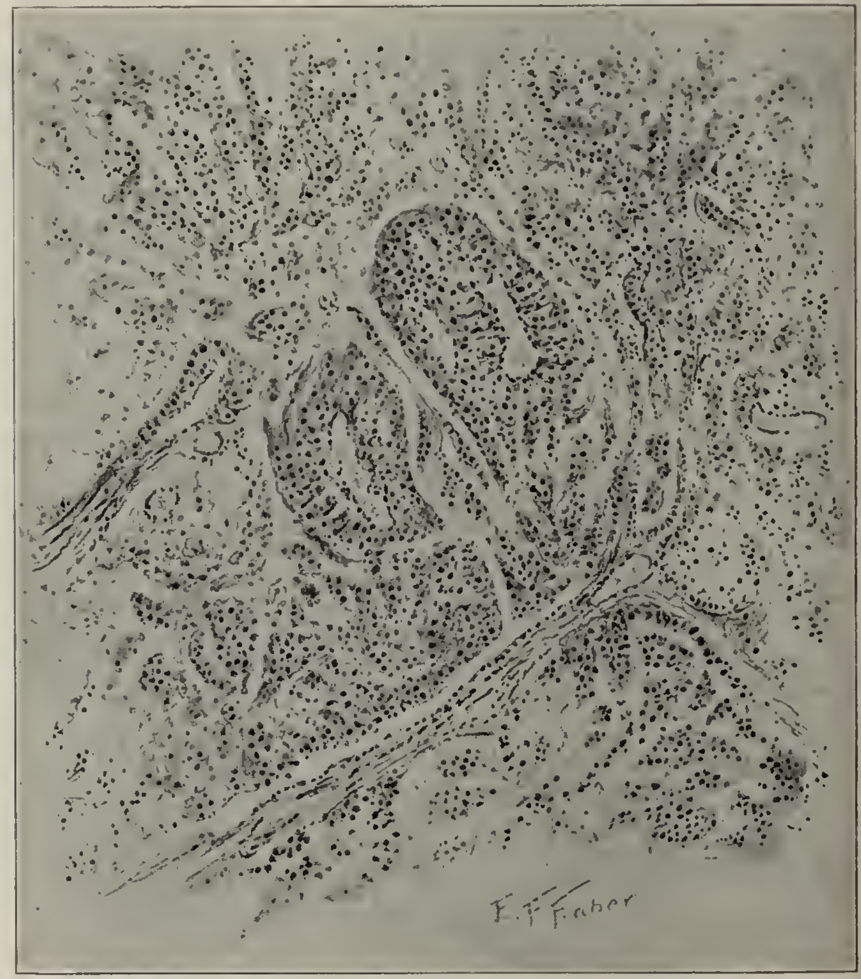

Fig. 2.—Drawing with Spencer No. 8 ocular and 16 mm. objective, showing general arrangement of vascularized trabeculæ and central cellular masses which also are vascularized.

Physical Examination.—This showed moderate wasting but no definite appearance of cachectic color. The chest examination was negative. Examination of the abdomen showed slight diminution in the size of the liver and a distinct but moderate ascites. The lower extremities were negative except for slight edema toward the termination of the disease. These findings were concurred in by Dr. Smith and Dr. J. H. Musser.

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[6] Frew: Transvaal Med. Jour., 1907-8, iii, 127.

[7] Sacconaghi and Plitek: Anleitung zur Diagnostik der Abdominaltumoren, Berlin, 1910.

[8] Hasbrouck: Washington Med. Ann., 1907-8, vi, 364; Ann. Surg., 1908, xlviii, 206.

[9] Nash: Lancet, London, 1911, i, 17.

[10] Fränkel and Kaufmann: Arch. f. Gynäk., 1889, xxxxi, 399.

Examinations of Urine, Blood and Feces.—By Dr. George Morris Piersol. Urine: Amber, cloudy, flocculent, acid, 1.022; faint trace of albumin by Heller test and ferrocyanid test; faint trace of albumose; no sugar; excess of indican; no bile pigments; trace of urobilin; no acetone or diacetic acid. Microscopically there were many leukocytes and epithelial cells; no casts.

Blood: Hemoglobin 70 per cent. (Tallquist); 3,830,000 erythrocytes; 7,200 leukocytes.

Feces: Thin, watery, light brown, offensive, faintly acid, hydrobilirubin, well-digested muscle fiber, no muscle nuclei, small amount vegetable fiber, much mucus and pus, no blood, occult blood or parasites. Further examination gave negative results.

Sputum: Negative for tubercle bacilli.

Necropsy.—This (by H. T. K.) was performed six hours after death. With the aid of the subsequent histologic examination, the following anatomic diagnoses have been made: Vesicular emphysema, healed tuberculosis, passive congestion of lungs; chronic focal fibrous pericarditis; brown atrophy of heart, chronic interstitial myocarditis; sclerotic-aortic, mitral, tricuspid valvulitis; simple (non-luetic) arteriosclerosis; perilobular fibrosis, passive congestion, fatty degeneration of liver; chronic fibrous cholecystitis, cholelithiasis (not demonstrably obstructive); chronic atrophic gastritis; chronic catarrhal enteritis; senile atrophy of spleen; chronic interstitial nephritis, nephrolithiasis, chronic catarrhal pyelitis; chronic interstitial pancreatitis with slight fat infiltration; endothelioma of omentum. The abdominal cavity contained about one liter of clear limpid yellow fluid; intestines were much distended with gas; transverse colon was markedly ptosed. The great omentum was densely adherent in the pelvic cavity and was diffusely thickened throughout its entire extent by the presence of a large number of spherical, generally discrete but sometimes confluent, mottled red, gray and purple, relatively firm nodules measuring from 3 mm. to 15 mm. in diameter, and averaging about 1 cm. The omentum formed a flat mass measuring 17 by 14 by 2 cm., and showing a smooth, glistening, transparent surface except where adherent to bladder, rectum and small intestine. The cut surface showed the nodules to be mottled red, purple and white, generally firm, slightly bulging, slightly bleeding, and with a few pin-head-sized areas of necrosis. Extension of the process to the gastrocolic omentum, gastrosplenic ligament, to a slight degree to the small intestine and mesentery and to the colon, especially in the epiploic appendages, was noted.

Histologic Examination.—There is found a network of connective tissue, giving the tumor a somewhat alveolated appearance. This is richly vascularized and apparently serves as the basis for outgrowth of the cells into the spaces. They are arranged in chains and multiple layers. As a rule, there is extensive necrosis in the center of the alveoli, but in numerous fields the central areas are found to have thin-walled blood-vessels from which the cells "comb out" in a typically sarcomatous fashion. The tumor cells are large, polygonal, rich in protoplasm and contain as a rule a single, large, vesicular round or oval nucleus. In some cases the nuclei are multiplied within a cell so as to overlap one another. Some few of the cells show apparent vacuolation of their protoplasm, which on more careful study is seen to be simply a lack of condensation in contrast with other areas of greater density.

The various features are illustrated in the accompanying drawings.

Diagnosis: Endothelioma of great omentum.

The Entry of Bacteria into the Lungs.—In a report made to the Philosophical Society, Cambridge, England, on experiments as to the entry of bacteria into the lungs (abstract in *Nature*, March 16), Drs. Cobbett and Graham-Smith announced that if *B. prodigiosus* were placed in the mouths of very young guinea-pigs it could be detected in the lungs examined a few minutes later. They assume that this affords an explanation of tuberculosis in animals fed with tubercle bacilli in many experiments, and invalidates certain conclusions which have been deduced as to the usual path of infection in this disease.

A NEW AIR-WATER SPHYGMOMANOMETER

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NEW YORK

Realizing the excessive number of sphygmomanometers already on the market, I felt some trepidation in designing the sphygmomanometer to be described. It was only after I had convinced myself that the very multiplicity of types was due to their faults and limitations, that I had the present model constructed.

Sphygmomanometers are mainly of two types: (1) the mercury manometers; (2) the spring manometers.

1. The disadvantage of the mercury manometer is chiefly the loss or distortion of the pulse-wave during transmission to the instrument. Either no pulsation is obtained, or at best there is a slow oscillation, entirely distorted in both character and duration by the inertia of the mercury. The truth of this statement can be readily proved by connecting rubber-tubing to the manometer and suddenly pinching it. The mercury will rise, then fall below its previous position, and will then oscillate for some time. A single impulse has been distorted by the instrument into a series of oscillations.

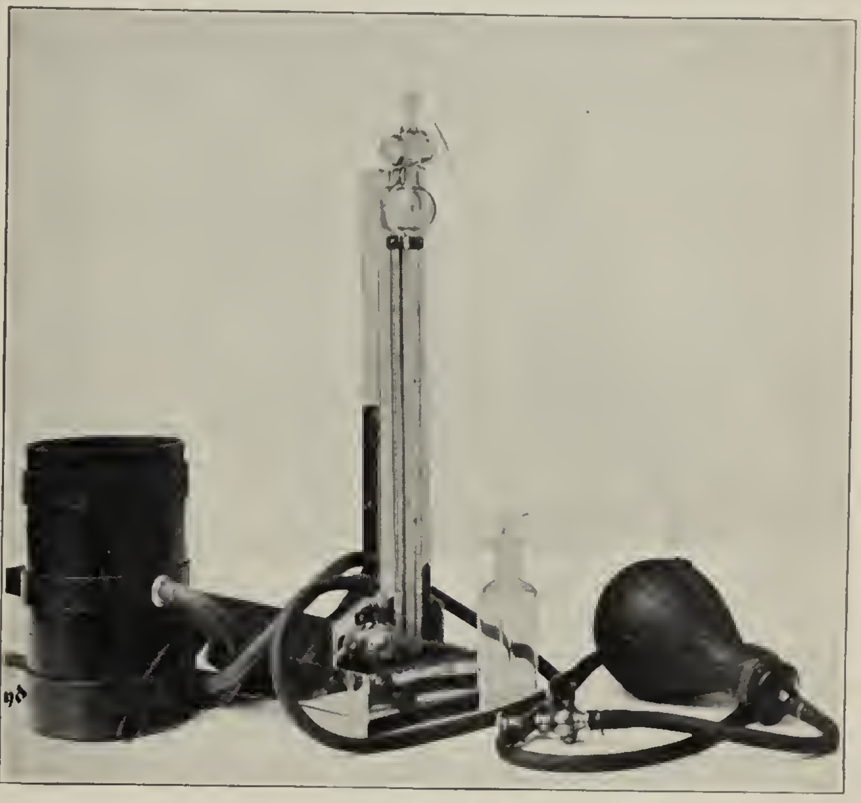


Fig. 1.—Photograph of the complete apparatus, showing tube, stand, cuff, rubber tubing and Politzer air-bag which serves as a pump.

2. The spring manometers have not met with favor chiefly on account of their inaccuracy after prolonged use. The spring weakens with use and is also affected by temperature. Furthermore, the price of that class of spring manometers which can be used with accuracy for any reasonable length of time is prohibitive.

To avoid the inertia of the mercury one naturally turns to the lighter fluids, such as water, alcohol, benzin, etc. But to use these fluids alone a considerable quantity is required, which exerts as great inertia as the smaller quantity of the heavier liquid, mercury. Consequently, to use only a few cubic centimeters of these lighter fluids, we must use them working against some resistance. The simplest and most elastic resistance obtainable I believe to be air compression. This principle—the compression of an enclosed column of air by a few cubic centimeters of water—is utilized in my instrument.

A glass tube of the shape shown in Figure 2 is used. The tube is filled with water until the level indicated in the illustration is reached. The stop-cock is then closed and we have an enclosed column of air above the fluid. This column of air can be compressed by the fluid and the degree of compression can be ascertained from the scale. Pressure from the cuff is exerted on the fluid at *A*, which causes the fluid at *B* to rise until the air-pressure in the tube *C* is equal to the pressure in the cuff. This pressure may be then read off on the scale.

The bulb *A* acts as a reservoir for the fluid, while the bulb *D* acts as a reservoir for the compressed air, allowing the liquid to rise the entire length of the tube in recording pressures up to 300 mm. of mercury. These two bulbs allow of the use of a larger and hence more accurate scale than if straight tubes were used.

The rest of the apparatus is as simple as possible.

1. The cuff consists of a cloth reenforced rubber bag 12 cm. wide, closed by three rapid adjustable straps. A metal plug joins the bag with the rubber tubing.
2. The pump consists of an 8-ounce Politzer bag.
3. A metal "T" tube with stop-cock and needle-valve escape for gradually releasing the pressure. The stop-cock allows the air-pump to be disconnected, giving direct communication between the cuff and the instrument.
4. The rubber tubing is heavy enough to prevent any loss of pulsation by distention of the rubber.

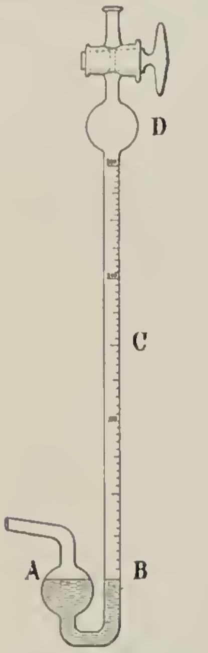


Fig. 2.—Diagram showing the glass tube of the water sphygmomanometer. A, bulb partially filled with water on which pressure is exerted by a column of air in the tube leading from the cuff. B, level of water in upright calibrated tube C, which contains air above. D, bulb in the tube C to contain the air as the water rises. At the top of the tube is a cock for closing the tube after the water is put in below.

The advantages of the instrument are:

1. Sensitiveness. A few c.c. of water constitute the only moving part; hence there is practically no inertia. The transmission of the pulse-wave is immediate and its character is unchanged. Irregularities of the pulse are readily seen and the pulse-force may be estimated. Systolic pressure can usually be read off directly by merely watching the change in pulsation of the fluid as the pressure is gradually lowered. Furthermore, by feeling at the wrist the pulse can be sooner detected by feeling the first few throbs occurring synchronously with the pulsation in the tube. Higher, but more accurate, systolic readings are thus obtained. Similarly, the diastolic pressure can be obtained by observing at what pressure maximal pulsations occur in the tube.

2. Simplicity. Air and water constitute the only moving parts. There is nothing to wear out, hence the apparatus is permanent.

3. Accuracy. Each manometer is individually calibrated against a mercury manometer.

103 West Eighty-First Street.

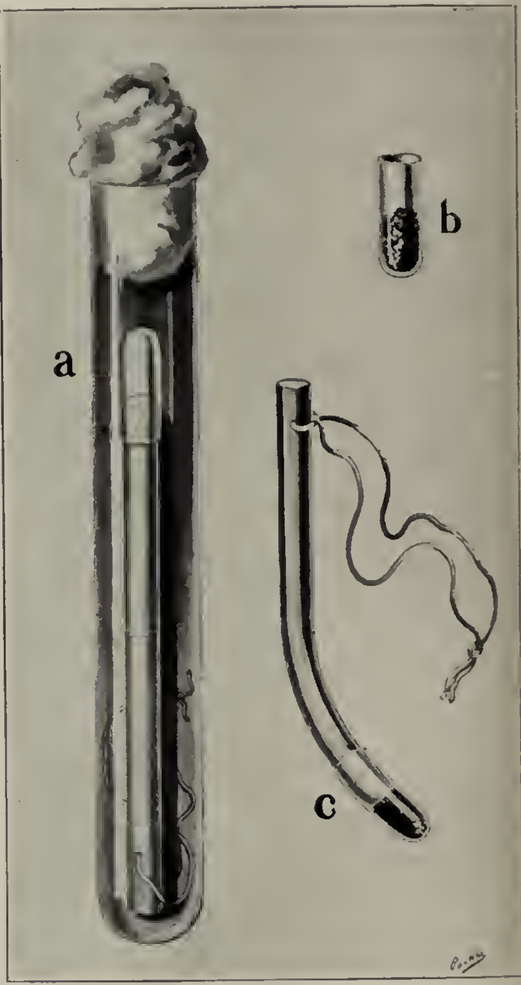
Heredity, Growth and Decay.—"Heredity is a reality, but is not so definite or so mechanical as is generally supposed. Nutrition is responsible for much that passes for heredity. Only after its effects have been definitely ascertained can the real mechanism of heredity be understood. Why, for example, does each organism reach maturity and finally sink into old age? Is there a determent in the germ cell that when active checks growth? Does the mechanism of life run progressively to a certain point and then refuse to act? Or is maturity merely a state of maximum nutrition and old age a running down because nutrition fails? To state the problem in another way: Does a given organ cease to grow because the possibilities of its inherited mechanism have become exhausted, or does growth end because nutrition fails when the energy of the organism is turned in other directions? The latter is, I believe, the sounder view." (From Patten's "The Social Basis of Religion," New York, 1911.)

THE COMBINED USE OF TENTS AND INTRA-UTERINE MEDICATION

E. C. DUDLEY, M.D.

CHICAGO

Dilatation of the uterus by means of tents and treatment by intra-uterine applications made up a very large part of the gynecologic therapeutics of a former generation. Both of these measures have fallen into almost universal disuse; the tent, although of great diagnostic and therapeutic value, having been discarded because of the frequent disabling, not to say, fatal metritis, salpingitis, and peritonitis, which, even under the most careful and judicial handling, occasionally followed its use. The old routine intra-uterine applications as used in the office or in the patient's house were condemned, not only because they were generally useless, but also and more especially because they were dangerous and sometimes destructive. Since these measures have been relegated to the dark ages of gynecology, we have for the most part put in place of them forcible dilatation by means of steel instruments, and curettage under anesthesia. Forcible dilatation popularized by our late fellow, Goodell, and others, undoubtedly has wide usefulness when used with care and judgment. Even in the hands of the incompetent and careless practitioner it will be less hazardous than the old routine treatment, because it rises to the dignity of a surgical operation and is, therefore, presumably always undertaken with aseptic conditions and because it is not so frequently repeated. Forcible dilatation is transient in its effect, and, therefore, not always adequate; furthermore, if carried far enough to permit intra-uterine digital touch, which is often desirable, serious rupture of the uterus might result. The intra-uterine application of iodin or other substances usually, since it does not reach thoroughly the uterine mucosa, especially the uterine glands, gives disappointing results. Any measure, therefore, that will safely prolong the dilatation and bring the application effectively in contact with the mucosa and muciparous glands should be of value.



Device for prolonged dilatation of the uterus in conjunction with thorough intra-uterine medication: *a*, a tupelo tent with gelatin half-capsule attached kept sterile in a test-tube; *b*, a gelatin half-capsule, containing two parts of potassium iodid and one part of iodin crystals; *c*, a curved tent on the distal end of which has been placed the half-capsule containing iodin one part and potassium iodid two parts, this being soluble in water.

The sole purpose of this paper is to describe a simple means which has the double purpose of relatively safe prolonged dilatation of the uterus by means of tents and in conjunction therewith thorough intra-uterine medication. The device consists in the use of a tupelo sponge or sea-tangle tent over the distal end of which has been attached half of a gelatin capsule filled with whatever medicinal substance may be desired for intra-uterine application.

The diagram, with its explanation, shows, first the sterile tent over the end of which has been placed the gelatin half capsule. The tent should be kept sterile in a test-tube stopped with cotton until used. The drawing shows also another tent slightly curved to facilitate introduction and a half-capsule partly filled with a medicinal substance. Any form or size of tent may be used.

It is perhaps well to lay stress on the necessity of thorough disinfection of the tent and of keeping it aseptic until used. In my service at St. Luke's Hospital the tents are exposed to a heat of 240 F. on two consecutive days and again to the same degree of heat before using.

There is a possible defect in the iodin tent as above described, that is, in the gelatin capsule which, although subject in the manufacture to considerable heat, is not aseptic and may be a source of infection. The difficulty may be practically and perhaps wholly obviated by placing the half-capsule filled with iodin on the end of the tent two days before it is to be introduced; then the iodin permeates the capsule and renders it probably safe.

The only medicinal substance I have used so far is a combination of iodin crystals, one part, and potassium iodid, two parts, this being a proportion which dissolves readily in water. Therefore, after introduction, the expanding tent stimulates uterine secretions which dissolve, first, the capsule, and second, the iodin and potassium iodid, making at once a prolonged application to the endometrium; at the same time the iodin permeates the tent and renders it continuously antiseptic. Should the half-capsule not hold enough iodin other half capsules may be filled and placed each over the end of the preceding capsule until a sufficient quantity has been secured.

This iodin combination dissolves readily in less than one-half its weight of water; therefore, the uterine secretions stimulated by the tent are quite sufficient to effect a solution. The solution, like Churchill's caustic solution, undoubtedly would have a very escharotic effect and might, if applied, cause stenosis of the uterine ends of the Fallopian tubes. It is also possible that if the tubes were open uterine contractions might force it into the tubes with possible disastrous cauterization. Such an accident evidently would be more likely to occur in consequence of the cervical canal being tightly plugged by the tent. I have not applied more than three or four grains of this combination and would hesitate to increase this amount except in case of a very flabby hemorrhagic uterus. Manifestly it might be desirable to dilute the iodin combination in such a way as to insure the mucosa against destructive action. Such a dilution could be made with magnesium silicate, that is, talcum powder, this being comparatively an inert substance with which the iodin combined would have no chemical reaction.

This procedure is more efficacious than the obsolete one of passing an applicator armed with medicated cotton into the uterus. The explanation is, first, in the conjunction of prolonged dilatation and the continuous application of the medicinal substance; second, this application is made during a period when the uterine wall is thinned by dilatation, and the muciparous glands are correspondingly shortened and opened, and, therefore, are more accessible to treatment.

I suggest a trial of this method in such cases of uterine catarrh, uterine hemorrhage, dysmenorrhea, and sterility as may furnish an indication for dilatation and intra-uterine application. For obvious reasons it should not be undertaken at the office, but should be surrounded by all the safeguards of a surgical operation in the patient's house, or preferably in the hospital. The iodized tent may be introduced as a supplement to the forcible dilatation with steel instruments under anesthesia, in which case a somewhat larger tent may be used. If no general anesthetic is given, I suggest the following technic:

1. Cleanse the vagina to a degree as near sterilization as may be practicable.
2. Introduce into the uterus an applicator wound with absorbent cotton saturated with a 10 per cent. solution of cocain. Ten minutes usually will suffice for practical local anesthesia.
3. Carefully and moderately dilate the uterus by means of a Palmer or very small Goodell dilator.
4. Introduce the tent.
5. In about twelve hours remove the tent and follow it by a larger one if additional dilatation is desired.

In the older experience of dilatation by means of tents the dangerous infections usually followed the use of the second or third tent, seldom the first. Under aseptic conditions one might safely apply two tents in immediate succession; but if more dilatation were required I would advise it to be begun forcibly under anesthesia and then continued by one or two tents.

My estimate of the value of the device is based for the most part on general principles. I have used it only a few months and, therefore, cannot report the remote results in concrete cases. In one case a moderate pelvic inflammatory reaction followed which subsided in a few days apparently without serious results. This case serves to emphasize the necessity for extreme care in the use of any method of uterine dilatation and intra-uterine application.

I make no extreme claim relative to the value or safety of the method I have described. So far I have found it quite satisfactory. I offer it in a tentative way, hoping it may prove useful in selected cases as a supplement or a substitute for the more radical forcible dilatation. At any rate, it is about all I have been able to rescue from the ancient wreck of routine intra-uterine therapeutics, which filled a large and melancholy place in the gynecologic therapeutics of the last century.

Uterine dilatation by means of tents fell under merited condemnation before the time of antiseptic and aseptic surgery. Perhaps under modern conditions it may be found that the danger was dependent not on the tent itself, but on the unclean conditions in which it was applied. Comparing the relative value of the earlier tent dilatation with the later forcible dilatation by means of steel instruments, and eliminating the septic results which so frequently followed the use of the tent, which now possibly we may avoid, it is more than possible that forcible dilatation might suffer by comparison; clearly, it might be well to give the latter method a fair trial under the favorable conditions of antisepsis and asepsis.

1345 Astor Street.

TRAUMA AS A CAUSE OF AMYOTROPHIC LATERAL SCLEROSIS

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The following cases have been studied with a view to estimating the correct relation of the trauma which in each case preceded the symptoms of amyotrophic lateral sclerosis.

Case 1.—I examined a mechanic, aged 44, in the dispensary of the University Hospital in 1909. Five years before that date he had fallen 12 feet and injured his back sufficiently to keep him in a hospital for two months. After four years of normal health he caught his right hand in the machine which he tended, badly tearing the soft tissues, and again was forced to spend two months in a hospital. On resuming work, he immediately felt that the injured hand was weak, awkward and easily fatigued. The lameness and ensuing atrophy spread up the limb to the shoulder, so that within twelve months the right upper extremity was nearly useless, while the left hand had begun to show the early symptoms of the disease. The picture of amyotrophic lateral sclerosis rapidly developed and the patient died early this year with bulbar paralysis.

Case 2.—A railroad engineer recently in Professor Soiller's service at the University Hospital attempted just a year ago, after a day's work, to jump on a moving train. He lost his grip and for a moment was in danger of being killed; but by a great effort he regained his hold and managed to get on the car. He lay for the rest of the two-mile run much agitated and violently trembling in his legs. Next day, however, he was able to walk and returned to work, and for two weeks all went well. Then he felt stiff and sore in the muscles of the lower limbs, and this condition progressed as time passed. Five months later, again while returning home from work, he tripped on a cross-tie and fell on a bridge, striking his left shoulder as he passed through, finally lighting on a girder five feet below. He was able, nevertheless, to draw himself back to the track and to walk home. The next day he felt dizzy and nauseated. After a few days, weakness and lameness developed in the left arm, followed by atrophy, the symptoms increasing from day to day until by October, 1910, the patient was forced to give up work. He has now the cardinal symptoms of amyotrophic lateral sclerosis.

Among the records at the Philadelphia General Hospital I find but few case histories in which the diagnosis of this disease has been made. Among the symptoms in several cases of spinal muscular atrophy are recorded spasticity of the legs, and some cases of lateral sclerosis showed muscular wasting in the arms. In two out of the whole list accident had preceded the disease:

Case 3.—Two years before onset the patient had fallen from a moderate height. His first discomfort was a stinging paresthesia in the toes, felt several months after the injury. Later general muscular wasting appeared, together with spasticity of both legs.

Case 4.—The patient five months before the onset had fallen from a height of 25 feet and been rendered unconscious.

Case 5.—The case reported by Dr. George Price[1] happens to be exactly apposite. A middle-aged acrobat made a false step and sprained one ankle. Shortly afterward he sustained a slight injury from a fall. Within a short time muscular wasting appeared with some stiffness and slightly exaggerated tendon reflexes in both legs.

Gelma and Stroehlin in a report[2] on this subject tell of a workman who received a severe strain of the vertebral column while trying to support a 700 kg. stone which was slipping from the hold of a derrick. He felt weakness at once. Stiffness and atrophy succeeded and the disease went on to bulbar paralysis within three years.

Kirk Mendel[3] discusses the etiologic relation of trauma to amyotrophic lateral sclerosis, and reviews the cases reported up to that time. A patient of his, a woman, had fallen from a height of ten feet, striking her left side. Seven months later she again fell, this time from a hay-wagon, bruising her left breast. Two months later marked fatigue was felt, followed by numbness of the left upper extremity and atrophy. The symptoms were earliest and throughout most marked in the left upper extremity.

Valentiner's patient showed symptoms shortly after a fall during a violent athletic effort. Goldberg tells of a workman who fell on his buttocks from a scaffolding, and whose right foot was crushed by an after-falling tool-box. The symptoms started in the right foot and were always more severe in the right leg. Hauck's patient received a deep cut in the left forearm and right leg, and here also the injured limbs showed earliest and most severe signs of the disease. The man reported by Ottendorf had hung suspended by arms and chin for several minutes from a beam. Seven months later the disease commenced in the arms and progressed to bulbar palsy. Pagenstecher almost duplicates this history, except that his patient showed immediate symptoms. An electric shock preceded the onset in a 6-year-old boy examined by Hoehl. Oppenheim, in his text-book on nervous diseases, tells of a man who after an accident on the water was compelled to row violently to save his life.

Gowers[4] deals with spinal muscular atrophy and amyotrophic lateral sclerosis without distinction. In a few cases, he says, he has known the complex to develop after a concussion "as if it had set up a perverse nutrition of the nerve elements. Still more rarely a fall injuring one limb has been followed by muscular atrophy commencing in this limb."

Amyotrophic lateral sclerosis has been reported as following parturition.

It thus appears that many patients in whom this relatively rare spinal degeneration has occurred refer it back to some kind of trauma. If these accidents had been of the slight kind which most workmen suffer every year or so, the question of causal relation might be dismissed. But the injuries were in each case unusual, so that it is difficult to dismiss them as mere incidental antecedents. Mendel calls attention, as did Gowers, to the fact that the disease often develops first and persists most markedly in the injured member, or if not in the same limb, then on the same side of the body. In Mendel's opinion the interval elapsing between injury and early symptoms is sufficiently constant to merit consideration.

Many writers on this disease do not even mention trauma as an etiologic factor. Winterscheid thinks it possibly a proximal cause, and this is Mendel's conclusion, who feels that some congenital defect must be invoked to explain the tendency to the degeneration. The question comes up, What is there about the circumstances attending such accidents that could thus operate on the spinal cord? Two possible mechanisms suggest themselves. If the blood-supply to certain tracts and cells were congenitally precarious, a severe concussion might completely cut off part or all the nutrition of the parts involved. It must also be remembered that violent exertion usually accompanies the accidents above described, and, as Edinger has suggested in regard to tabes dorsalis, overfunctioning might undo an already weakened tract. In the various forms of professional neuritis overstimulation of nervous cells is the most obvious cause of the changes in structure.

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[1] At the session of the Philadelphia Neurological Society at which this paper was read.

[2] Gelma and Stroehlin: Gaz. d. hôp., March 23, 1911.

[3] Mendel, Kirk: Umfall in der Actiologie der Nervenkrankheiten, Berlin, 1911.

[4] Gowers: Text-Book on Nervous System, 1, 473.

Before attempting to reach a conclusion from these cases as to the causative value of trauma, there is another possible relationship between the disease and the accident that is worthy of consideration. The accident might be the result of the disease. A mechanic whose hand was gradually losing its wonted deftness through an incipient central degeneration in the cervical cord one day fails to remove his hand in time from his machine; an engineer, unconscious as yet of weakness in hand and leg, tries the muscles too far in the effort to jump on a moving train. The workman whose stiffness has not shown itself in ordinary walking has the defect painfully emphasized when a slight misstep throws him from a beam in midair. Siccard in discussing one of the cases above reported took a non-committal position because he could not decide from the evidence that the preexisting disease had not caused the trauma.

Patients suffering from any insidious disease are apt to overlook the early dawning of their trouble. Close questioning often enables the physician to place the onset weeks or months earlier than the patient had dated it. Very often, too, the patient assigns some unusual event as the starting-point, or even as the cause, of his illness—explaining malaria as a result of a wedding; or apoplexy, of a comet. If patients with half of each retina totally blind can walk the streets and do daily work for months oblivious of the defect until a collision with a street-car calls it to their attention, it is not hard to believe that slight, incipient lateral tract disease may escape notice until it produces sufficient awkwardness of movement to cause an accident.

The gradually developing maladroitness would be accentuated by weariness and thus increase the liability to mishap at such times. Furthermore, rest, such as is enforced for a period after the accident, would render the beginning motor defect less noticeable, while resumption of work after the immediate effects of the injury had disappeared would fix attention on the injured member and call into prominence its defect in power and dexterity. This accounts for a somewhat definite period that elapses between the trauma and the early symptoms supposed to result from it.

But after giving due weight to this reversal of causative relationship, and having subtracted all cases in which uncertainty remains, a certain number of cases lie before us in which no agency in producing the accident can be charged to the patient himself. The trauma acting on parturient women, the electric shock received by the boy, and the injuries received by the member first striking the ground, in patients who fell from buildings, cannot be charged to preexistent disease in the sufferers. Here we must conclude either that the trauma called forth the disease, or that the trauma preceded it merely as a chance antecedent. The attendant circumstances in some of the cases are such as to make the theory of chance improbable, though a much larger number of cases must be presented before it can be definitely eliminated.

The histories here presented admit, therefore, of one conclusion: A reasonable presumption exists, but no definite proof, that trauma is a proximate (evoking) cause of amyotrophic lateral sclerosis. If previously weakened cells and tracts exist in the spinal-cord, severe concussion or over-innervation (strain) can become the last straw that shatters the structure. Possibly congenital defect will some day be shown to be the ultimate cause (*causa sine qua non*) predisposing to the breakdown.

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SALVARSAN

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BIRMINGHAM, ALA.

I. PREPARATION FOR INTRAVENOUS ADMINISTRATION

The cells of every living organism are adjusted to a certain osmotic tension and any variation of this tension in the fluids surrounding the cell injures it; therefore, the concentration of solutions of salvarsan injected intravenously is a matter of some importance. The practice seems to be to dissolve the salt in a variable amount of water and then to neutralize with sodium hydroxid, the exact osmotic tension of the resulting solution being a neglected factor. This is then brought up to a volume of 200 or 300 c.c. by adding, in some cases, physiologic salt solution, and in others distilled water. The statement is frequently made that 0.6 gm. of salvarsan neutralized and dissolved in 250 c.c. of distilled water approaches closely the osmotic tension of the fluids of the body. The fallacy of this can easily be shown.

We ordinarily accept a solution of sodium chlorid containing 9 gm. of the salt to one liter of distilled water as most nearly approaching physiologic osmotic pressure. The molecular weight of a given salt expressed in grams is said to be one "gram molecule." The molecular weight of sodium chlorid being 58.5, that amount of this salt, expressed in grams (58.5 gm.), dissolved in one liter of water is one "gram molecule," or, as suggested by Ostwald, 1 "mol." Any fraction of 58.5 gm. of sodium chlorid dissolved in a liter of water is that fraction of a mol. Consequently physiologic salt solution has an osmotic pressure of $9 \div 58.5$, or 0.15 mol. Thus we see that any solution intended for intravenous administration in order to be physically harmless must have a concentration of 0.15 mol.; the number of grams to the liter must be expressed by the formula, "0.15 × molecular weight of the dissolved salt."

Salvarsan as an acid salt ($HCl.NH_2.OH.C_6H_3.As:As.C_6H_3.OH.NH_2.HCl$) has a molecular weight of 421. For its complete neutralization with NaOH two HCl radicles are dropped and two atoms of Na are substituted for two atoms of H, thus giving a salt of less molecular weight—412. When a given amount of a salt with a molecular weight of 421 is changed to another salt with a molecular weight of 412, a proportionate loss in grams must at the same time take place. When 0.6 gm. of the acid salvarsan is used, 0.58 gm. of the sodium salt results. In this reaction, however, two molecules of NaCl are liberated. Using the above figures it can be seen that the amount of NaCl in this solution is 0.16 gm.

Supposing this reaction takes place in a liter of water, the osmotic tension of the resulting solution can be summed up as follows:

$$\text{For salvarsan } \frac{.58}{410} = .0014 \text{ mol.}$$

$$\text{For NaCl } \frac{.16}{58.5} = \frac{.0027 \text{ mol.}}{.0041 \text{ mol.}}$$

Knowing the molecular concentration of a given amount of these two salts dissolved in a liter of water to be .0041 mol., we compute the amount of water necessary to hold the same salts in a solution of 0.15 mol. (the osmotic tension required) as follows:

$$\frac{.0041}{.15} = .027 \times 1000 = 27 \text{ c.c.}$$

As isotonic solutions have the same freezing-point, this solution should theoretically freeze at 0.56, the freezing-point of the blood.

An ampulla of salvarsan was dissolved in distilled water, 4.4 c.c. normal sodium hydroxid added, and the resulting clear solution brought up with water to a volume of 27 c.c. The freezing-point of this was found to be 0.50. This variation from the theoretical can perhaps be partly explained by dissociation of the salt, and by the fact that, purposely, as is commonly the practice, the ampulla was not washed out to remove the small remaining powder adhering to it.

This error, however, becomes negligible when the volume is increased to 200 or 300 c.c. by the addition of an isotonic fluid such as physiologic salt solution.

Thus, the volume of a solution containing 0.6 gm. of salvarsan prepared for intravenous administration should approximate 25 to 35 c.c. in order to approach physiologic osmotic pressure. This considers only the physical, not the pharmacologic properties of the drug, and a consideration of the latter causes us to greatly increase the volume by the addition of an isotonic solution of some other salt.

II. THE IDENTITY OF THE WATER-SOLUBLE SODIUM SALT

It is commonly supposed that the following reactions take place in the preparation of salvarsan for intravenous administration:[1]

1. $HCl.NH_2.OH.C_6H_3.As:As.C_6H_3.OH.NH_2HCl + 2\ NaOH = NH_2.OH.C_6H_3.As:As.C_6H_3.OH.NH_2 + 2\ NaCl + 2\ H_2O.$

2A. $NH_2.OH.C_6H_3.As:As.C_6H_3ON.NH_2 + 2\ NaOH = NH_2.ONa.C_6H_3.As:As.C_6H_3.ONaNH_2 + 2\ H_2O.$

For 0.6 gm. of salvarsan in Formula 1, 0.114 gm. of NaOH would be required; that is, 2.8 c.c. normal sodium hydroxid solution.

To redissolve the salt, as expressed by Formula 2A, it is manifest that the same amount of sodium hydroxid would be required, using 5.6 c.c. for the entire process (1 and 2A). As a matter of fact, less is found to suffice.

Notwithstanding the known unstability of such a monosodium salt, it would appear that in place of 2A, the following occurs:

$H_3.As:As.C_6H_3OH.NH_2 + H_2O.$

2B. $NH_6.OH.C_6H_3.As:As.C_6H_3.OH.NH_2 + NaOH = NH_2.ONa.C_6$

Supposing that Formula 2B expresses the true reaction, one-half the amount of alkali used in Formula 1 would be required for this second reaction, i. e., 1.4 c.c. normal sodium hydroxid, or 4.2 c.c. in all. In practice 4.3 c.c. to 4.5 c.c. normal sodium hydroxid is actually used to precipitate the neutral and redissolve the sodium salt; which suggests the formation of a monosodium salt as in Formula 2B.

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[1] The Journal A. M. A., Dec. 31, 1910.

THE PRODUCTION OF ANTIBODIES TO PNEUMOCOCCI IN AN INSUSCEPTIBLE HOST *

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CHICAGO

With the pneumococcus, as with most bacteria, the bulk of immunologic studies has been made with animals possessing a relatively high susceptibility to that organism. On the other hand, the general studies concerning the formation of antibodies have shown that specific antibody production is not directly dependent on any pathogenic value of the substance injected: Thus the precipitins to innocuous proteins; the agglutinins and hemolysins, to red blood-corpuscles; and, indeed, certain antitoxins themselves, namely, those resulting from toxoid injections, are all produced by the employment of antigens having no disease-producing power.

Starting from this point, I have tested the possibility of obtaining antibodies to pneumococci and their products, by the systematic inoculation of a relatively insusceptible animal with extreme doses of virulent pneumococci. The animal selected for this purpose was the common barn-yard fowl, birds in general being insusceptible to pneumococcus infection.

The pneumococci employed in the following experiments were from a human lung involved in acute lobar pneumonia. Throughout the period of immunization, the pneumococci were transferred each third day to fresh blood-agar (rabbit) slants. From time to time, the organism was passed through mice and rabbits, the virulence not being allowed to drop below the point at which a single inoculation of rabbits produced death. For convenience in obtaining large quantities for inoculation, the organism was grown on blood-agar slanted in flasks, the twenty-four hour growth equalling by count the number of organisms growing on twenty test-tube slants in the same time.[1] From the surface of each twenty-four-hour slant the organisms were washed by employing 5 c.c. of 0.85 per cent. sodium chlorid and the several suspensions were brought together immediately prior to inoculation. In all instances the growths were checked for contaminations. All inoculations were made intramuscularly into the breast, very slowly.

The following protocol gives the history of the inoculation of Fowl D, a white Leghorn rooster, weighing 2,000 gm.

INOCULATIONS OF FOWL D.

I. July 9, 1910: Received 60 c.c. emulsion of pneumococcus R'M'', containing twenty-four hour surface growth of twelve flasks (= 240 tubes).

II. July 16: Received 60 c.c. emulsion from twelve flasks (= 240 tubes).

III. July 17: Received 30 c.c. emulsion from six flasks (= 120 tubes).

IV. July 26: Received 85 c.c. emulsion from seventeen flasks (= 340 tubes).

V. August 23: Received 80 c.c. emulsion from sixteen flasks (= 320 tubes).

VI. August 30: Received 80 c.c. emulsion from sixteen flasks (= 320 tubes).

VII. September 11: Received 40 c.c. emulsion from eight flasks (= 160 tubes).[2]

VIII. October 11: Received 90 c.c. emulsion from eighteen flasks (= 360 tubes).

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* From the Department of Pathology and Bacteriology, the University of Chicago.

[1] Direct counts showed approximately 1,000,000,000 organisms in each such tube and 20,000,000,000 in each flask. These figures correspond closely to those for the streptococcus given by Weaver and Tunnicliff, Jour. Infect. Dis., 1908, v, 589.

[2] Relatively small inoculation given because of marked progressive emaciation resulting from previous injections.

IX. November 12: Received 100 c.c. emulsion from twenty flasks (=400 tubes).

X. December 12: Received 100 c.c. emulsion from twenty flasks (=400 tubes).

XI. Jan. 15, 1911: Received 100 c.c. emulsion from 20 flasks (=400 tubes).

XII. February 3: Received 80 c.c. emulsion from fifteen flasks (=300 tubes).

As indicated above, Fowl D received twelve inoculations of pneumococci, the inoculations being distributed over a period of eight months, and representing 180 flask cultures (=3,600 tubes). Following each of the first two injections, there was a period of about twelve hours during which the animal was distinctly sick, and a similar but longer period (thirty-six hours) occurred immediately following the eighth injection. Throughout the immunization there was a progressive loss of weight. Other than for this, the animal appeared normal at all times.

February 20, or seventeen days subsequent to the final inoculation, the animal was bled to death, and the serum recovered for a series of tests as to its antibody content.

The bacteriolytic, agglutinating and bactericidal powers were tested as follows: An emulsion of the homologous strain of pneumococci was so made that each cubic centimeter represented the growth of two twenty-four hour blood-agar test-tube slants. One c.c. of the emulsion was added to each of five tubes of two series. To each of the tubes of one of the series, were added also decreasing amounts of normal fowl serum; to the tubes of the other series were added the corresponding amounts of the serum from Fowl D. The tubes were incubated at 39° C. for two hours, and then allowed to stand at 12° C. for eighteen hours. The readings given in Table 1 were made at the end of that period.

TABLE 1.—SHOWING RESULTS OF TESTS OF BLOOD-SERUM OF FOWL D FOR ITS BACTERIOLYTIC, AGGLUTINATING AND BACTERICIDAL POWERS, WITH CONTROL TESTS

1 c.c. of Serum Dilution Used.	1 c.c. of Pneumococcus Emulsion in Each Tube.—	
	(a) Serum of Normal Fowl.	(b) Serum of Fowl D.
1/5	Cloudy—no agglutination	Clear—no sediment.
1/25	Cloudy—no agglutination	Clear—agglutinated sediment.
1/50	Cloudy—no agglutination	Somewhat cloudy—sediment.
1/125	Cloudy—no agglutination	Cloudy — agglutination (?).
1/250	Cloudy—no agglutination	Cloudy—no agglutination.
Control without serum.	Cloudy—no agglutination	

Table 1 shows that Serum D, in contrast to the normal serum, produced distinct changes of the bacterial suspension. These changes are to be interpreted as caused by bacteriolysin and agglutinins. Immediately following the readings above recorded, the contents of each of the tubes of the two series was injected into a white mouse (15 gm.) to test the lethal action of the several mixtures. Table 2 gives the results of the inoculations.

TABLE 2.—RESULTS OF INOCULATIONS IN WHITE MICE WITH THE CONTENTS OF THE TUBES IN TABLE 1

Mouse Receiving Emulsion Containing Serum; Dilution Used.	(a) Normal Serum Series.	(b) Serum D Series.
1/5	† Within 36 hours.	Lived; no distress.
1/25	† Within 36 hours.	† Between 60 and 62 hours.
1/50	† Within 36 hours.	† Within 36 hours.
1/125	† Within 36 hours.	† Within 36 hours.
1/250	† Within 36 hours.	† Within 36 hours.
Control; emulsion containing no serum.	† Within 36 hours.	

In Table 2 and the following tables, the dagger (†) stands for "died."

Table 2 shows that in contrast to the normal fowl serum, the immune serum, when present in sufficient concentration, modified or destroyed the lethal action of the pneumococci for mice.

Following this demonstration of the action *in vitro* of the immune serum on pneumococci, tests were made as to its action *in vivo*. To standardize the dosage for these tests, preliminary experiments were made as follows: The twenty-four-hour growth of pneumococci from one blood-agar flask was suspended in 5 c.c. of salt solution and this suspension was tested in duplicate, as to its lethal action for mice (Table 3).

TABLE 3.—RESULTS OF INOCULATION OF MICE WITH PNEUMOCOCCUS EMULSION TO STANDARDIZE THE DOSAGE

1 c.c. Pneumococcus Emulsion; Strength.	Mice Weighing Approximately 15 Gm.	
	(a) Series I.	(b) Series II.
Full	† After 36 hours	† After 35 hours
1/10	† After 35½ hours.	† After 36 hours.
1/50	† After 36 hours	† After 38½ hours.
1/75	† After 39 hours	† After 40 hours.
1/100	† After 46½ hours.	† After 47 hours.
1/150	† After 95 hours	† After 104 hours.
1/300	Lived	Lived.
1/600	Lived	Lived.

These experiments indicated the approximate dosage for mice. The results showed that 1 c.c. of a 1/100 dilution of the suspension as prepared, served to kill mice within forty-eight hours; that the same amount of a 1/150 dilution killed only after four days; and that smaller doses were non-lethal. Further to test the forty-eight-hour lethal dose, however, a suspension similar to that used above was prepared from a second twenty-four-hour flask-culture of the same strain and this was tested on mice as follows: six mice were injected with 1 c.c. of a 1/100 dilution, and an equal number with 1 c.c. of a 1/150 dilution. All six mice receiving the 1/100 dilution died within forty hours, while all those receiving the 1/150 dilution survived three and one-half days or longer.

The above results showed that for the pneumococcus, as then growing, the forty-eight-hour lethal dose was approximately 1 c.c. of a 1/100 dilution of the standard suspension. On the basis of this dosage, the therapeutic value of the immune serum D was tested. This test was performed in triplicate, and consisted of two procedures. These procedures were, (1) the injection of the immune serum into mice coincidently with an inoculation with 100 times the forty-eight-hour lethal dose of pneumococci, and (2) the injection of the immune serum eighteen hours subsequent to the bacterial inoculation. All experiments in which there was an injection of the immune serum, were duplicated by controls in which normal fowl serum was substituted for the immune serum. In no instance did the normal serum display a protective action. The immune serum displayed a distinct protective action in all instances. Following is the protocol of the experiments:

Standard suspension of pneumococci was made as in previous experiments and employed undiluted in 1 c.c. doses, representing 100 times the forty-eight-hour lethal dose.

GROUP I (Control).—Each of two mice received 1 c.c. of the emulsion + 1 c.c. of salt solution, and each of two other mice received 1 c.c. of emulsion + 1 c.c. normal fowl serum; with results as shown in Table 4.

TABLE 4—RESULTS OF CONTROL INOCULATION OF MICE WITH PNEUMOCOCCUS SUSPENSION, NORMAL FOWL SERUM AND SALT SOLUTION

Mouse.	1 c.c. Pneumococcus Suspension + 1 c.c Normal Fowl Serum.
Red head	† In 20½ hours.
Red neck	† In 21 hours.
	1 c.c. Pneumococcus Suspension + 1 c.c. Salt Solution.
Red back	In 23½ hours.
Red tail	In 22½ hours.

Group II.—Coincidently with the above injections each of three mice received 1 c.c. of the suspension subcutaneously and at once 1 c.c. of immune serum D in same site. Three control mice received the same inoculation, but with normal serum in place of the immune serum. These controls all died within twenty-four hours. The mice receiving the immune serum survived as shown in Table 5.

TABLE 5.—RESULTS IN MICE RECEIVING 1 C.C. PNEUMOCOCCUS SUSPENSION AND AT ONCE 1 C.C. IMMUNE SERUM

	Time After Inoculations.				
Mouse.	10 Hrs.	23 Hrs.	42 Hrs.	67 Hrs.	3 Wks.
Red l. ear	Slightly sick	Normal	Normal	Normal	Normal.
Red r. ear	Slightly sick	Normal	Normal	Normal	Normal.
Red ears	Slightly sick	Normal	Normal	Normal	Normal.

Three controls distinctly sick; all three †.

Group III.—Coincidently with the above inoculations, each of three mice received 1 c.c. of the pneumococcus suspension subcutaneously and eighteen hours later, when very sick, received the first of a series of subcutaneous injections of immune serum D, three control mice receiving normal fowl's serum. All died within twenty-four hours after inoculation. The course of the infection in the mice receiving the immune serum was as shown in Table 6.

The above experiments show that the immune serum D in contrast to normal fowl serum possessed a distinct protective power against the pneumococci inoculated. In those instances in which the serum was injected coincidently with the organisms, the protection was complete (Group II). In those instances (Group III) in which the serum was injected after the mice were definitely sick, the protection was marked; and in the one instance in which the serum treatment was pushed in an attempt to actually save the mouse, the protection was complete. It is to be noted that the length of survival of the mice of Group III was directly proportional to the amount of serum injected: The three controls without serum, died within twenty-four hours; the mouse receiving 1 c.c. of immune serum died after thirty-two hours; the mouse receiving 3.5 c.c. of serum died after two and two-thirds days; and finally, the mouse receiving 6 c.c. of serum recovered completely. In all, four of the six mice receiving the immune serum, were saved; and the life of the remaining two was lengthened. Equally striking was the temporary, but almost immediately beneficial, influence of each injection of the immune serum. It must be realized that the mice of Group III were practically moribund (within six hours of death, as indicated by the controls) when given the first injection of serum; within a short time, after the initial injection of the immune serum, however, they were apparently normal, running about the jar, and jumping away when touched. The same rapid recuperation occurred in the case of the two mice receiving the second injection of serum.

I am well aware that contentions have heretofore been made concerning an efficient serum producing immunity to the pneumococcus under experimental conditions. In general, however, the evidence has been inconclusive, in that the dose of organisms used in the inoculation has been relatively small, or the serum has been injected before the infection was definitely established, or that the host employed in the test was one of relatively slight sus-

TABLE 6.—MICE RECEIVING 1 C.C. PNEUMOCOCCUS SUSPENSION AND SUBSEQUENTLY IMMUNE SERUM

	Time After Pneumococcus Inoculation								
Mouse.	18 Hours.	26 Hours.	30 Hours.	32 Hours.	44 Hours.	50 Hours.	64 Hours.	4 Days.	20 Days.
Red head and neck.	Very sick, flat on belly. Given 1 c.c. immune serum.	Running about jar and jumps when touched. Possibly a little slow in movements, but otherwise normal.	Now somewhat sick. Has been growing less active.	† Received in all 1 c.c. serum.					
Red head and back.	Very sick and stirs but little; flat on belly. Given 1 c.c. immune serum.	Same as mouse above; apparently normal.	Same as mouse above. Given 1.5 c.c. immune serum.	Again apparently normal; running about jar.	Seems somewhat sick; only fairly active. Given 1 c.c. immune serum.	Seems sick; flat on belly much of time and quiet.	† Received in all 3.5 c.c. serum.		
Red head and tail.	Very sick; flat on belly. Given 1 c.c. immune serum.	Same as mouse above; apparently normal.	Also has become sick again, as above mice. Given 2 c.c. immune serum.	Apparently normal; running about jar.	In very good condition, but possibly a little sick. Given 2 c.c. immune serum.	Not sick, but moving about jar; jumps when touched.	Not sick; is possibly a little sluggish, but seems normal and eats well. Given 1 c.c. immune serum.	Perfectly normal.	Has remained perfectly normal. Received in all 6 c.c. serum.
3 control mice..	All very sick. Given 1 c.c. normal serum.	All † within 24 hours.							

ceptibility to the pneumococcus, and the possibility of spontaneous recovery, therefore, not eliminated. In the present instance it is to be emphasized that a very highly susceptible species was inoculated with 100 times the acutely lethal dose, and that in the therapeutic test the animals protected were prostrated with the infection prior to the first injection of serum.

My conclusions are that it is possible by inoculation of fowls with extreme doses of pneumococci to obtain a serum with specific antibodies and possessing distinct protective action against pneumococci within certain hosts.

Work now in progress, which is corroborative of the above results, will be reported at a later date.

THE THERAPEUTIC EFFECT OF HIGH NITRATES IN DRINKING-WATER [*]

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In the course of an examination of the waters brought to this laboratory some are occasionally found which are suspected by the owners of the wells to have peculiar properties, from the fact that they seem to produce diuretic effects on strangers using the water. In every case these suspicious waters have been found to be high in nitrates.

Formerly it was supposed that the organic substances held in solution in water had an injurious effect *per se*, but at the present time nitrates in a water in the absence of nitrites and considerable amounts of free ammonia are considered to indicate that the agents in nature that purify a water have done their work, and that all nitrogenous organic matter has been oxidized to a harmless condition, so that an unfavorable environment for pathogenic organisms has been set up. From the observations which follow it seems probable that this process of oxidation in water may be carried on to such an extent that the nitrates themselves may reach such quantities as to have a disagreeable effect, to say the least, on the system.

The authorities[1] state that the diuretic action of potassium nitrate and sodium nitrate is well known, and a special diuretic action has been attributed by many writers on therapeutics to the nitrate ion itself. In summing up this subject Sollmann says:

> The action is essentially a salt-action. This appears to produce more specific irritation, which must be referred to the ion. The former is explained by its ready penetration and being foreign to the animal body; the latter is asserted on mucous membranes and results in gastritis at the place of entrance and in diuresis.

The dose prescribed by most writers is 0.30 gm., given as potassium nitrate in very dilute solution, an added action being affected by the potassium ion.

In well-waters which seem to have caused this marked diuretic effect, an excess of nitrate was found. The results of the examination of eight waters, the history of whose action was obtained at first hand, are given below.

TABLE 1.—EXAMINATION OF EIGHT WATERS FOR NITRATES

Specimen	Source	NO_3 equivalent to KNO_3 Gm. per liter
1	Tecumseh	0.288
2	LaCygne	0.346
3	Lawrence	0.433*
4	Lawrence	0.462*
5	Lawrence	0.382
6	Lawrence	0.361
7	Baldwin	0.346
8	Lawrence	0.505

* Complete analysis.

TABLE 2.—ANALYSES OF SPECIMENS 3 AND 4 *

Specimen 3		*Specimen 4*	
NaCl	0.0825	NaCl	0.2970
$NaNO_3$	0.3272	$NaNO_3$	0.2487
KNO_3	0.0438	KNO_3	0.1556
$NaHCO_3$		$NaHCO_3$	0.6978
$CaSO_4$	0.2813	$CaSO_4$	0.9301
$CaCO_3$	0.0916	$CaCO_3$	0.1167
$MgCO_3$	0.1031	$MgCO_3$	0.2157
SiO_2	0.0328	SiO_2	0.0178
Fe_2O_3 Al_2O_3	0.0036	Fe_2O_3 Al_2O_3	0.0042
Total solids	0.9659	Total solids	2.0836

*Results are expressed in grams per liter, and the constituents are calculated to the most probable combinations.

By a glance at the tables it will be seen that a person drinking one gallon of water a day, would, by a conservative estimate, receive approximately four doses of nitrate, and although the maximum diuretic effect might not be reached, it is possible that a marked irritation would be set up. It is true that the system might adjust itself to this continued irritation after a time, although in at least two of the cases in which this kind of water has been used for many years, the effect is still noticed.

Sample 1, Tecumseh, Kan.—In this case the patient always on returning home from a protracted stay noticed the very marked diuretic effect produced by the water.

Sample 2, La Cygne, Kan.—In this case the man after years of absence from home returned, and on taking up the drinking of this water noticed a marked diuretic action and at times gastritis.

Sample 3, Lawrence, Kan.—Four students attending the university had rooms where this water was used as the only source of drinking water. All noticed a marked diuretic action with almost constant irritation.

Sample 4, Lawrence, Kan.—An elderly woman who lived for two weeks at the place where this water was used, and alternately two weeks in the country, noticed that this water whenever she began to use it had a marked diuretic action, sufficient, in fact, to make it decidedly inconvenient. This woman's husband has also had kidney trouble for years.

Sample 5, Lawrence Kan.—A physician stated that he suspected that this water, taken from a well at his home, might be the cause of a continual desire to pass urine.

Sample 6, Lawrence, Kan.—Two young men rooming at this place complained that the water was causing a marked diuretic action.

Sample 7, Baldwin, Kan.—A farmer moving to the farm where this well was located, complained that his whole family had, since beginning the use of this water, been afflicted with "kidney trouble."

Sample 8, Lawrence, Kan.—A family of six persons who were continually using this water complained of the great inconvenience which it caused, on account of the difficulty experienced in retaining their urine. Two members of the family were afflicted with chronic kidney trouble. After an examination of the water was made, on the advice of their family physician, they were immediately placed on distilled water, and a marked improvement was shown within a very short time. One member of this family is afflicted with chronic gastritis. After the city water was used in the house the whole family soon reached a normal condition.

In this paper I have not attempted to claim definitely that the amount of nitrates present was the absolute cause for the physiologic conditions mentioned above.

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[*] Read before the American Chemical Society, Kansas City Section.

[1] Sollmann: Action of Nitrate Ion, Text-Book of Pharmacology, p. 565. Patten: Materia Medica—Diuretics, KNO_3; Butler: Materia Medica and Therapeutics—Diuretics, KNO_3; Cowperthwaite: Materia Medica, p. 385.

The evidence, however, seems to point very strongly to this conclusion. I very much hope that these facts will be brought to the attention of some one who has an opportunity for physiologic experiments on water-drinking, and that this may lead the way to experiments that will show definitely whether or not nitrates in water can reach a proportion sufficiently great to be in themselves harmful.

THE DIAGNOSTIC SIGNIFICANCE OF THE URINARY METHYLENE-BLUE REACTION WITH SPECIAL REFERENCE TO MALIGNANCY

PRELIMINARY REPORT

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In searching for the presence in the urine of abnormal products of elimination in cases of malignant disease, we observed that methylene-blue was decolorized by the urine taken from these patients. Repeated examinations and more extensive investigations demonstrated that urines in cases of rheumatism, nephritis, meningitis, etc., were also sometimes decolorized, but generally to a minor and variable degree. In most instances the latter conditions could be easily differentiated and eliminated, so that it appears as if this reaction may have considerable value in the diagnosis of malignant disease.

It is for this reason deemed justifiable, at this early stage, to make this brief preliminary report, so that other observers may investigate the value of this test by experimenting on a larger number of cases.

So far, this test has been positive in every well-established case of malignant disease. Many of these cases have been corroborated by operations and post-mortem and pathologic diagnosis. Though this test is not specific for malignant disease, occurring as it does with great constancy, particularly in pregnancy, also sometimes in nephritis, rheumatism, meningitis and in other conditions, it has proved already of considerable practical value in the diagnosis of malignant disease. As this test is extremely simple, and as no special apparatus or skill is required, it can be readily and quickly carried out by anybody anywhere. The decided and striking change of color leaves no doubt as to the presence or absence of the reaction.

TECHNIC OF TEST

Methylene-blue—we generally use 3 to 5 drops of Löffler's methylene-blue—is added to a test-tubeful of fresh urine; sufficient anilin dye is used to give it a decided blue color. The urine is shaken and then allowed to stand at room temperature for from twelve to twenty-four hours. A control fresh specimen of normal urine similarly treated is made. At the end of said time the blue color of the urine disappears; the upper layer, however, which is in contact with the air, still remains more or less blue. The control specimen, on the other hand, remains unchanged, retaining its uniform blue color.

More detailed investigations have already been instituted so as to further augment the scope of this test. For many tests made we have to thank the interns of the following hospitals: Dr. C. Breitman of the Brooklyn Jewish Hospital, Dr. W. Phipard of the Long Island College Hospital and Dr. C. R. Hutchins of St. Catherine's Hospital.

The accompanying table illustrates the above points.

URINARY METHYLENE-BLUE REACTIONS

No. of Cases.	Diagnoses.	Positive.	Negative.
34	Carcinoma (well established)	34	0
1	Sarcoma (well established)	1	0
5	Tumor (type unknown)	5	0
1	Fibroid?	0	1
1	Intraligamentous cyst	0	1
1	Hydatid cyst of liver	0	1
1	Small glandular swelling of breast	0	1
2	Hodgkin's disease	2	0
1	Banti's disease	0	1
23	Pregnancy (all cases in late stage)	22	1
1	Incomplete abortion	0	1
16	Post partum	6	10
3	Miscarriage	2	1
2	Complete abortion	0	2
2	Pyelitis of pregnancy	0	2
1	Post-partum sepsis	0	1
5	Nephrolithiasis	3	2
11	Nephritis	4	7
4	Hematogenous infection of kidney	3	1
3	Uremic coma and chronic nephritis	1	2
3	Chronic catarrhal gastritis	0	3
7	Gastric ulcer	0	7
2	Pyloric ulcer with induration	1	1
4	Duodenal ulcer	0	4
1	Intestinal ulcerations	0	1
1	Amebic dysentery	0	1
2	Enteroptosis with excessive peristalsis	0	2
1	Peritonitis	0	1
2	Chronic catarrhal colitis	0	2
2	Appendicitis	0	2
1	Catarrhal jaundice	0	1
11	Cholelithiasis	0	11
1	Acute cholecystitis	0	1
1	Chronic cholecystitis	0	1
1	Cholecystitis and mitral stenosis	0	1
4	Acute endocarditis	2	2
4	Pericarditis	0	4
3	Senility with arteriosclerosis	2	1
1	Acute bronchitis	0	1
17	Lobar pneumonia	1	16
3	Empyema	1	2
22	Articular rheumatism	1	21
1	Gonorrheal rheumatism	0	1
6	Typhoid fever	0	6
2	Brill's disease	1	1
2	Influenza	0	2
1	Pyemia	0	1
4	Diabetes (two with gangrene)	2	2
1	Gout	0	1
1	Encephalitis	1	0
5	Tuberculous meningitis	2	3
1	Anterior poliomyelitis	1	0
1	Temporal neuralgia with mitral stenosis	1	0
2	Acute salpingitis	0	2
1	*Bilharzia hæmatobia* (bladder)	0	1
1	Hernia	0	1
2	Hemorrhoids	1	1
5	Lacerated cervix and perineum	1	4
70	Various surgical conditions other than malignancy	0	70
19	Disease not determined	4	15
26	Normal urines	0	26
363			

In most cases other than those of malignancy in which the test was positive, it became negative usually in subsequent examinations, as the condition from which the patient was suffering improved.

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A CASE OF STRANGULATED HERNIA PRESENTING UNUSUAL SYMPTOMS

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HONOLULU, HAWAII

Patient.—A Chinaman, aged 64, a laborer, for the past fifteen years had been troubled by a rupture which had gradually increased in size. On several occasions there had been difficulty in reducing the contents, but he had always finally succeeded. He had never used a truss. Four days previous to his admittance to the hospital, the swelling had increased in size and he had been unable to reduce it. He had suffered considerable pain. The bowels had moved once. According to the patient's statement, which was corroborated by that of his friends and relatives, he had not vomited at all.

Physical Examination.—The patient was a fairly well-nourished man; pulse was 120; temperature 101; respiration embarrassed. The abdomen was greatly distended and tympanitic. The right inguinal region showed a tense, tender swelling involving the right side of the scrotum. The skin over the swelling was reddened and edematous. There was no impulse on coughing. Rectal examination was negative.

Operation.—The usual incision disclosed a tense sac adherent to scrotum and containing a loop of gangrenous intestine, and the cavity of the sac filled with fluid feces. Gas and fecal material were seen to be escaping from two openings in the bowel. The sac was irrigated, the constriction relieved, and the gangrenous bowel wrapped in moist gauze. The loop of intestine was then brought well outside of the abdominal cavity and the distended bowel divided at a safe distance above the gangrenous area. This division allowed the escape of a large quantity of fluid feces and considerable gas. The gangrenous intestine 12 cm. in length was removed, together with a wedge-shaped piece of mesentery, and an end-to-end anastomosis effected with sutures. The spermatic cord was found to be flattened out by pressure and pulsation was absent in the vessels. The right testis was greenish-black in color and did not bleed on incision. Accordingly the cord was ligated off and removed together with the testis. The sac, very much thickened and adherent, was removed and the neck sutured at the internal ring. The closure of the inguinal canal was then effected in the usual manner. Drainage was provided for at the lowest end of the wound.

Except for a slight discharge from the drainage tract, the wound healed by primary union. The patient made an uneventful recovery and was discharged in three weeks in good general condition and with a firm wound.

COMMENTS

Vomiting has long been regarded as an essential symptom of intestinal obstruction caused by strangulated hernia and is so taught to students. A review of the literature at my disposal produces the following opinions: Vomiting at first of stomach contents and later of fecal material is evidently considered as an essential symptom in the following systems: Keen's "Surgery," "International Text-Book," "American Text-Book," Dennis' "System of Surgery," Von Bergmann's "System"; also in the surgical works of Ashhurst, Erichsen, Jacobson, Pick, Walsham, Tillmann, Spencer and Gask, and DaCosta. Sir James Paget in his "Clinical Lectures" says, "If I were asked which of the signs of strangulation I would most rely on as commanding the operation, I should certainly say the vomiting." The only exception made is by Treves who writes in his System, "Vomiting appears early, is a marked and *almost* constant symptom. . . ."

The gangrenous condition of the testis was evidently caused by pressure of the sac and contents on the spermatic cord. This must be a very unusual occurrence, as no mention is made of it in any of the above text-books.

HUGE HYDRONEPHROSIS (TWO GALLONS CAPACITY)

H. J. WHITACRE, B.S., M.D.
CINCINNATI

Hydronephrosis is not an unusual lesion, and a distention of the pelvis of the kidney to a capacity of one or even two pints is perhaps not rare. A distention of the pelvis, however, to produce a cyst occupying the greater part of the abdominal cavity and containing more than two gallons of fluid is sufficiently unusual to justify a record of the case.

History.—Mrs. W., aged 68, gives a report of very good health previous to her present trouble, which began about twenty years ago. Her first symptom was a very peculiar sensation in the right leg, while walking, which extended from the thigh downward, and within half an hour she could not raise the foot from the floor. There was no pain elsewhere. One month later she had a second attack of sharp pain which commenced in the back on the right side and extended downward into the lower abdomen and into the thigh and leg in precisely the same manner as the first attack. There was very great nausea at this time, but no urinary symptoms. Similar attacks recurred until sixteen years ago, when she suffered from a severe attack of "gastric disturbance," which was characterized by very intense pain in the lumbar and right iliac region. Her physician diagnosticated her condition at the time as one of gas accumulation and obstruction. (It seems to me that a stone must have become lodged in the ureter at this time to cause a permanent total obstruction of the ureter.) The acute symptoms promptly subsided, but the swelling remained as a soft tumor mass in the right side of the abdomen. During the next several years the patient suffered frequently from stomach and liver attacks, as she designates them. The tumor remained about stationary in size during this period and could always be felt. Four years ago she had a very severe attack of abdominal trouble associated with gastric irritability and severe pain in the right side, particularly in the region of the liver. During the past four years the tumor has increased greatly in size and she had many attacks of pain. She has never suffered from bladder irritability, passes a normal amount of urine, and has never noticed anything abnormal in the appearance of the urine. Her main symptoms seems to be referable to the stomach. There have been no symptoms referable to the genitalia.

Physical Examination.—When seen for the first time on March 20, 1911, the patient appeared to be very well nourished and in fairly good health. The examination was negative, except for the abdomen, which showed a symmetrical enlargement equal to that of a seven or eight months' pregnancy. On palpation a distinct cystic tumor occupying the greater part of the abdominal cavity could be easily made out, but the right half of the abdomen and the right flank was distinctly more tensely filled out than the left. A fluid wave was easily determined. The middle of the abdomen—indeed the greater part of the abdomen—was flat on percussion and a tympanitic note was given on the left side and above the cyst. (No great importance was given before operation to the fact that a tympanitic note was not elicited on the right side because all other physical signs seemed to point so definitely to a large ovarian cyst.) Bimanual examination showed the uterus to be normal and the fluid wave was easily communicated from the tumor above to the examining finger below. A diagnosis of ovarian cyst was made.

Operation.—A midline incision below the umbilicus demonstrated at once that the cyst was not attached to either ovary and that it was retroperitoneal. The peritoneum was then divided over the cyst, and a large ovarian cyst trocar inserted to draw off the fluid. Two gallons of fluid were withdrawn and perhaps one pint remained in the cyst, which was not measured. The cyst was then delivered by a blunt dissection, which extended as far upward as the liver, without much hemorrhage. A large artery and a large vein were cut between clamps and later found to be the renal artery and vein. An examination now revealed no kidney on this side and a hurried examination demonstrated no special lesion in this ureter. The incision in the peritoneum was closed by continuous suture and abdomen closed without drainage. When the cyst was filled out with cotton the kidney could be easily demonstrated flattened out to a brown-paper thinness on one side of the cyst and the ureter, renal artery and vein could be seen.

This patient made a perfect recovery and is now entirely well.

108 East Auburn Avenue.

Aneurysm and Edema.—An aneurysm may compress and obstruct the flow of blood through one of the large veins and thereby produce edema.—J. B. Murfree, in *Southern Medical Journal.*

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SATURDAY, JUNE 24, 1911

SALICYLATES IN ACUTE ARTICULAR RHEUMATISM

That there is a prevailing tendency in medicine of late years to minimize the empirical use of drugs, and to rely more largely on intelligent aid to Nature by physical means, cannot be denied. But even the most ardent "therapeutic nihilist" as a rule acknowledges the value of certain drugs at times, and among these the salicylates as a remedy in acute articular rheumatism have occupied a prominent place. Recently, however, Menzer[1] has published an article, based on his experiences as a German army surgeon, which contradicts quite forcibly our prevalent conceptions on this subject. He does not dispute the fact that the judicious administration of salicylates may alleviate the symptoms to a marked degree, and so furnish relief to the sufferer and satisfaction to the physician. But in his experience, patients so treated were much more subject to recurrences, and in particular to deforming arthropathies, than were those handled without the use of salicylates. In all, he summarizes the results of his personal observation on 141 patients, of whom eighty-six were given the drug, and fifty-five treated without. Of the former group, eighteen, or 21 per cent., were incapacitated for further military service, and of the latter, four, or only 7 per cent. On the other hand, severe cardiac complications were about half again as frequent in the absence of salicylate treatment, pleuritis was almost four times as frequent, and the average length of treatment was increased from forty-six to seventy-four days. In addition to his own figures, Menzer cites those of several others, notably of Badt[2] (324 cases), which support to some extent his position.

Menzer's explanation for the greater frequency of recurrences and persisting deformities is as follows: Acute articular rheumatism, according to his conception, is the result of the localization on various serous surfaces of a generalized streptococcus infection, and the inflammatory processes giving the symptoms of the disease are curative reactions, and purely beneficial in character. The salicylates, he believes, act by producing a general vasodilatation, thereby relieving the local hyperemia and alleviating the suffering of the patient, but incidentally delaying the prompt absorption of the toxic products, and so increasing the liability of permanent damage.

The figures given by Menzer, and quoted above, would seem to indicate that such permanent damage does occur more frequently after the use of salicylates than without them. But neither the number of his cases, nor of those of Badt is sufficient to establish such a point beyond reasonable doubt; and it may be pointed out that Menzer found that cardiac and pleuritic complications were considerably more frequent when salicylates were not used, which by a style of reasoning similar to his might be interpreted as showing the beneficial action of the salicylates in preventing these complications—an action that is almost universally acknowledged not to exist. It is true that Menzer maintains that all the serous surfaces that may present inflammatory symptoms are already infected at the time of onset of the disease. But there is absolutely no way of proving or disproving such a contention.

The article serves to illustrate admirably a method of reasoning more frequently demonstrated on the converse proposition—the advocacy of new remedial agencies—than on the condemnation of old. *Post hoc, ergo propter hoc* has long been a stumbling-block to medical progress; and while it is quite possible that Menzer's assertions may be fully confirmed by farther observation, it would be as yet somewhat premature to discard agents as efficacious in affording relief as are the salicylates in rheumatism, on the strength of the evidence so far presented.

THE PRESENT STATUS OF ANTITYPHOID VACCINATION

The last report of the Surgeon-General of the Army adds more evidence to the already overwhelming testimony in favor of the protective value of antityphoid vaccination. The figures given for the fiscal year ending June 30, 1909, showed an incidence of typhoid fever sixteen times greater among the unvaccinated than among the vaccinated troops.[1] Up to Oct. 1, 1910, only five cases had developed among the immunized, as against 418 among the non-immunized. Moreover, of these five cases four were so mild as to leave doubt as to the diagnosis, and there were no bad effects of any kind as a result of the vaccination.[2]

The practice was introduced into our army in March, 1909, and although the taking of the treatment is entirely voluntary, over 17,000 officers and enlisted men had availed themselves of the opportunity to become immunized before the present mobilization of troops on the Mexican border.[3] Since that time the evidence concerning the procedure has been increasingly favorable. With the memory of Camp Chickamauga still fresh in our minds we are the better able to appreciate the great strides which have been made in preventive medicine

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1. Menzer: Ztschr. f. Hyg. u. Infectionskr., 1911, lxviii, 296.
2. Badt: Vergleichende Statistik der Salizyl- und indifferenten Behandlung beim Gelenk-Rheumatismus: Diss., Berlin, 1883.

1. Annual Report, Surgeon-General, U. S. Army, 1910.
2. Keefer, F. R.: Mil. Surg., March, 1911.
3. Naval Med. Bull., April, 1911, p. 195.

since the days of the Spanish war. During that campaign there were 20,738 cases of typhoid with 1,580 deaths, and all within three and a half months. One man in every six had the disease and this was increased to one in every five among those regiments which were left in the United States.[4] Now, among the 18,000 men who have been mobilized on the southwest border for over two months, living under the usual camp conditions where rain and mud prevail, the only case of typhoid fever which has developed has been that of a single teamster who was unprotected by vaccination.[4] The results of vaccination practiced in the Army (12,000 cases up to Oct. 1, 1910) have been more fully described in THE JOURNAL by various army officers.[5]

Like most medical discoveries, the final perfection of the practice of antityphoid vaccination has resulted only after years of experimentation and apparent failures. To Prof. A. E. Wright of the British Army Medical School at Netley is due the honor of having first conceived and put in practice the idea of antityphoid vaccination.[6] This was before the Boer war. The results were rather unsatisfactory in South Africa during that campaign and it was only after further experimentation that the technic was finally perfected. One of the chief troubles had been in the fact that it had not yet been fully demonstrated that the best results were to be obtained only after the repetition of the process three times at intervals of ten days. The German army next took up the investigation and as a result the medical officials succeeded in cutting the typhoid fever rate in half by vaccination of a portion of the troops in Southwestern Africa in the campaign against the Hereros in 1904 and 1907. By this time the English were beginning to get better results, and in India, in 1908, among 12,000 soldiers stationed there, 6,000 were vaccinated, and 6,000 under similar conditions were left unvaccinated and maintained as controls. They found that seven times as many of the controls contracted typhoid and eleven times as many died of it.[2]

The trial has now been made long enough and with such uniformly good results that it is time the procedure should be seriously considered in civil life. A step has already been taken in this direction by the Public Health and Marine-Hospital Service. According to instructions recently issued, officers are required to practice antityphoid vaccination on all beneficiaries of the service who may desire it.[7] Speaking in general terms, these beneficiaries include all seamen or persons employed in any capacity on any licensed vessel of the United States except enlisted men in the Army and Navy. Sailors on both inland waters and the high seas are, from the roving nature of their calling, especially liable to exposure to typhoid infection. Thus they frequently become carriers of the disease and a menace to the general public. In view of these facts the recent action of the Public Health and Marine-Hospital Service should be regarded as a measure directly calculated to preserve the public health. It would seem as though the next logical move would be to place the antityphoid vaccine at the disposal of the civilian practitioner, as has been done already with the vaccine for the treatment of rabies.[8]

EXPERIMENTAL MEASLES IN THE MONKEY

No recent experimental work has been reported on measles, but the almost universal prevalence and high mortality of the disease in the first two years of life on account of complications render any new facts regarding it of interest and importance.

Up to the present time, it has been believed that only human beings are susceptible to measles, and in recent text-books, the statement is made that attempts to transmit the disease to monkeys have never been successful, although Hektoen[1] has reported the successful inoculation of human beings with measles. Grünbaum experimented with chimpanzees but got apparently negative results.[2]

Anderson and Goldberger of the Public Health and Marine-Hospital Service, working in the Hygienic Laboratory, have just reported the successful transmission of measles from human patients to rhesus monkeys, and conclude that they have demonstrated the susceptibility of the rhesus monkey to inoculation with human measles through blood drawn from the general circulation early in the eruptive stage.[3]

A rhesus monkey inoculated by them April 28, 1911, had a slight rise of temperature on the tenth day after inoculation, and a sparse papular eruption which faded four days later, being accompanied by a fine branny scaling. This experiment was successfully repeated, other monkeys being used, and experiments were also made to test the immunity of a monkey that had previously been inoculated.

Not only have these workers succeeded in transmitting the infection from human beings to monkeys, but they also report the successful transmission of the infection from monkey to monkey.[4] The blood from each human patient was tested for sterility, as was also the monkey blood used for passage, and in no instance was a growth obtained. The transfers of the infection from monkey to monkey excluded the possibility of the symptoms observed being due to a toxin, and demonstrate that the symptoms noted were caused by a living virus. This work is another evidence of the rapid advances being made in investigations of contagious and infectious diseases generally, and while the reports referred to are only of a preliminary character, it is presumed that detailed reports will appear later and include the results of further experimental studies of the disease. In connection with this work on measles it is interesting to note that recent experiments by Cantacuzène[5] and Bernhardt,[6] and possibly also those by Hektoen and Weaver,[7] indicate that scarlet fever as well is transmissible to monkeys. Landsteiner and Levaditi[8] appear to have transmitted scarlet fever to chimpanzees. It would seem then that we are on the verge of advances in our knowledge as to the etiology and nature of these two diseases that so long have refused to yield up the secret of their causation.

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[4] Address of President Taft, delivered to the Medical Club of Philadelphia, THE JOURNAL A. M. A., May 13, 1911, p. 1399; Current Comment, p. 1399.

[5] Hartsock, Frederick M.: Antityphoid Vaccination; Result of 1,100 Inoculations, THE JOURNAL A. M. A., June 25, 1910, p. 2133. Gosman, George H. R.: The Present Status of Antityphoid Inoculation, ibid., Oct. 1, 1910, p. 1169. Foster, George B.: Antityphoid Vaccination; an Instance Illustrating Its Efficacy, ibid., Nov. 19, 1910, p. 1808.

[6] Smith, F.: Jour. Trop. Med., Sept. 1, 1904.

[7] Pub. Health Rep., P. H. and M.-H. S., May 19, 1911.

[8] Ann. Rep. Surgeon-General, P. H. and M.-H. S., 1910, p. 24.

[1] Hektoen, L.: Jour. Infect. Dis., 1905, ii, 256.

[2] Grünbaum: Brit. Med. Jour., April 9, 1904.

[3] Public Health Reports, June 9, 1911.

[4] Public Health Reports, June 16, 1911.

THE INDEX

The index to the first volume of The Journal for 1911 will be found in this issue. Again we wish to call attention to a few of its valuable features. The index consists of three parts—the General Index, the Index to Current Medical Literature Subjects and the Index to Authors. In the General Index will be found all the matter, original and otherwise, including the abstracts, which appear in all of the various departments of The Journal (except ephemeral news matter), indexed by subjects and analytically, with numerous cross-references. In this department, also, will be found under the head of "Deaths" a list of the physicians who have died during this period, and under the head of "Book Notices" the titles of all books, with the names of their authors, which have been reviewed during the six months.

In the Index to Current Medical Literature will be found the titles of all articles appearing in nearly four hundred of the leading medical journals of the world; in this index also appear in a separate list the names of all authors of papers appearing in these various periodicals, as well as in The Journal.

This index is also bound in separate enlarged pamphlet form, called the "Guide to Current Medical Literature." It may be had from the Association office, either in single copies or by annual subscription. In this convenient form the physician or author desiring to look up the literature that has appeared during the previous six months has an almost complete index medicus of the literature relating to medicine. We urge our readers to give more attention to this index and to accustom themselves to depend on its aid. They will be surprised to find how completely it will fulfil their needs in looking up current literature.

Current Comment

THE INDEPENDENT PRESS

We have before us a news item from which we learn that Mrs. Murray of Roxbury, Mass., is asking $2,000 damages for the loss of her hair. About a year ago, so the newspaper says, the lady had auburn hair that reached to her waist; she used Birt's Head Wash and now has to wear a wig. We have before us, also, a large advertisement of Birt's Head Wash. These two facts considered individually would hardly be worth comment; the element of interest lies in their relation. The news item and the advertisement both appeared in the same issue of the newspaper—the Boston *Herald!* In these days when it is commonly reported that news is modified, softened or repressed to meet the real or supposed wishes of the big advertisers it seems worth while to call attention to what might otherwise be but uninteresting facts. Such episodes help to restore public confidence in the press; they also make for optimism and hopefulness. Verily, "the world do move."

THE DECLINING BIRTH-RATE IN RURAL NEW YORK STATE

Some rather unwelcome facts are brought to view by recent statistics[1] from New York state. During the month of March of the present year, there were altogether 18,693 births in an estimated population of 9,273,954. During the same period there were 14,227 deaths. It should be added, however, that during the month of March of this year, New York had the highest death-rate that it has had in a long time. The number of deaths for the month has never before been approximated in any month except March, 1904 and 1910, and even then not exceeded or even equaled. Of the births, 11,643 occurred in New York City, while there were only 8,353 deaths. In second-class cities from 50,000 to 175,000 inhabitants there were 1,104 births and only 847 deaths. In third-class cities down to 10,000 inhabitants there were 1,398 births and 1,237 deaths. As population becomes scantier, births and deaths approximate in number until in third-class cities (those under 10,000) the births and deaths are exactly equal, forty-five each. In the country places away from cities, however, there were 3,745 deaths and only 3,275 births. The reason for the more favorable balance of births and deaths in the cities is doubtless that the young people are moving into the cities rapidly, leaving the sterile older population in the country. Even taking into account this factor, however, it would appear that the number of births varies directly with the proportion of the foreign population. In New York City, where the foreign-born population is most numerous, the births exceeded the deaths by 4,617. In the other cities of the state the excess of births over deaths was only 313 for an estimated population of about a million and a half. In the country, however, where the native population is the largest and where there are the greatest opportunities for healthful living, in an estimated population of nearly 2,500,000 there were actually 470 more deaths than births. Outside of New York City, in a population of about 4,500,000, there was a net loss of more than 150 in population during the month. While, of course, it would be rash to draw sweeping conclusions from the figures for a single month, these statistics certainly invite study of the problem thereby presented. The birth-rate, of course, must be studied over an extensive field and a considerable period of time, and in connection with many other factors, some of which cannot be found in statistical tables. Meanwhile, a safe deduction seems to be that we should give our attention most seriously to developing the attractions of rural life for young people. A land where the rural population cannot hold its own, and the only increase is in the cities, comes very near being one "where wealth accumulates and men decay."

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[5] Cantacuzène: Compt. rend. de la Soc. biol., 1911.

[6] Bernhardt: Deutsch. med. Wchnschr., 1911, xxxvii, 791.

[7] Hektoen, L., and Weaver, G. H.: The Journal A. M. A., June 17, 1911, p. 1795.

[8] Landsteiner and Levaditi: Presse méd., May 3, 1911, p. 357.

[1] Bull. New York State Department of Health, April, 1911, New Series, vi, No. 4.

Observations on Low Blood-Pressures.—W. Edgecombe (*Proc. Roy. Soc. Med.*, March, 1911) has seen a number of patients suffering from no particular disease, but complaining of general slackness and want of tone, in whom the blood-pressure was abnormally low, the systolic reading being frequently below 100 mm. of mercury. In the majority of such cases there was no heart lesion discoverable, but the first sound at the apex was usually lacking in vigor; in others there were definite signs of dilatation. Improvement in the subjective sensations and objective physical signs almost always followed a rise in blood-pressure, and this led Edgecombe to seek for the most certain means of procuring this result. He therefore made a long series of observations, extending over two years, on a subject aged 40, normal in other respects, but with a persistently low blood-pressure, supplemented by serial observations on another subject and by routine observations on patients. Among the types of disorder in which he found low blood-pressures were subjects with cold hands and feet, with poor circulation, neurasthenia, tobacco poisoning, dilated heart, fibrositis, phosphaturia and arthritis deformans. Edgecombe made observations to find the effect on the blood-pressure of exercise, mental work, excitement and worry, altitude, constipation and various drugs, as aperients, alcohol, tea, caffein, tobacco, calcium chlorid and lactate, strychnin, digitalis, pituitary extract, glycogen, several proprietary preparations, including one of ergot and one from opium. He found three forms of baths that produced satisfactory results in raising the blood-pressure—the Vichy douche, the aerated Nauheim bath at temperatures on or below the indifferent point (90 F.) and the needle bath graduated from warm down to cool or cold. The Vichy douche consists of a needle douche projected downward on the patient throughout the duration of the bath while massage is administered to the whole body by attendants. After about twenty minutes' rubbing a separate needle douche is given in the erect posture and the bath terminates. The immediate effect is a rise of from 10 to 15 mm. pressure, and after a series of baths the rise in pressure becomes permanent. These measures, together with diet, exercise, change of air, etc., are to be preferred to drug treatment. As to diet, an excess of meats should be prescribed, with a corresponding diminution of the starchy elements. If drugs are required pituitary extract has the most powerful and rapid effect. Edgecombe has had no experience in giving it over long periods of time and would hesitate to continue such a powerful drug. Next in potency would be caffein, given only if the patient were not an excessive tea or coffee drinker. Calcium lactate appears to be only moderately effective; strychnin is disappointing; digitalis should be reserved for cardiac cases. The other drugs experimented with are apparently of little value.

Medical News

COLORADO

New Building for Hospital.—St. Joseph's Hospital, Denver, announces that it is about to erect a new building with capacity for fifty patients.

Nurses' Association Opens Day Camp.—The Visiting Nurses' Association of Denver has opened a day camp for babies on the grounds of the Bryant school. The undertaking is financed by the *Rocky Mountain News*.

Boulder Offers Sanatorium Site.—The city of Boulder has offered a 40-acre site for the national sanatorium for consumptives contemplated by the Foresters of America. The sanatorium, as planned, will cost $250,000.

ILLINOIS

Isolation Hospital for Sheridan.—Contract has been awarded for the erection of an isolation hospital at Fort Sheridan, to cost $21,000.

Memorial to Dr. Craig.—Members of the Rock Island County Medical Society honored the memory of the late Dr. George Gorgas Craig of that city, June 13, by holding a memorial meeting at the Manufacturers' Hotel, Moline. The program of the evening was in charge of a committee consisting of Drs. E. M. Sala, Carl Bernhardi and Joseph De Silva.

Personal.—Dr. and Mrs. Merritt C. Bragden, Evanston, have started for Europe.——Dr. George Steely has been transferred to the surgical staff of St. Elizabeth's Hospital, Danville; Dr. Raymond L. Hatfield has been appointed a member of the surgical staff, and Dr. Fred A. Baumgart has been made a member of the medical staff of the hospital.——Dr. Clinton Helm, Rockford, who is more than 80 years of age, saved his granddaughter from drowning in Rock River, June 2, diving for the body and resuscitating her after he brought her to shore.——Dr. Lee Smith, Bloomington, a member of the McLean County Medical Society for fifty-six years, has been appointed a life member.

Chicago

Class Reunion.—The class of 1899 of Rush Medical College held its annual reunion and dinner at the Bismarck Garden, June 15. Dr. William D. Byrne, the president, and Dr. John D. Ellis, the secretary, announce that they will be glad to hear from out-of-town members of the class who may be visiting Chicago.

Personal.—Dr. George E. Shambaugh, secretary of the Section on Laryngology, Otology and Rhinology, who has been ill with typhoid fever for three weeks, is reported to be improving, but he will not be able to go to the Los Angeles Session.——Dr. Thomas J. O'Malley was cut by broken glass in the hands and arms, June 13, when a runaway team ran into the platform of a car on which he was riding.

Memorial to Dr. Hyde.—Memorial services in honor of the late Dr. James Nevins Hyde were held at Rush Medical College, June 12, and a tablet presented by the alumni of the institution, and commemorating the work of Dr. Hyde, was unveiled. Charles Cheney Hyde made the presentation speech on behalf of the alumni, and the gift was accepted in the name of the student body by the dean, Dr. Frank Billings. Dr. James B. Herrick delivered the memorial address.

Diarrheal Diseases.—The health department, in its *Bulletin*, requests the cooperation of the medical profession and the hospitals of Chicago in the matter of reporting statistics of diarrheal diseases which come to their notice. The application of effective measures for prevention must be guided by statistical data which can be obtained only through this cooperation. Unless specially requested, it is not the purpose of the department to visit a patient under a physician's care, but, if the physician indicates that inspection should be made of the surrounding sanitary conditions of the foodstuffs, including milk furnished the family, the department will give immediate attention to the situation. Postal cards for these reports will be furnished free to physicians and hospitals.

INDIANA

Tent Colony for Terre Haute.—The tuberculosis committee of the Terre Haute Society of Organizing Charity has opened a tuberculosis colony on the Deming Camp, southwest of the city and on the river. Several shacks are now on the site and other shacks will be erected to accommodate the patients.

Personal.—Dr. Tilman O. Armfield, Ellwood, asks for information regarding his son Jesse T. Armfield, sometimes known as "Jack" Armfield, who is reported to be in the northwestern states and is most likely located on a claim or ranch or at a mill or lumber plant. He suggests that some of his friends who go to Los Angeles might perhaps learn something of the lad while in the West.——Dr. James V. Nelson, Logansport, has been appointed coroner of Cass County.——Dr. Charles Rea, Falmouth, who was recently operated on for the removal of gall-stones at the Sexton Sanitarium, Rushville, is much improved.——Dr. Calvin W. Burket, Warsaw, sustained painful injuries in a fall down stairs, June 7.——Dr. Leida Powers Leasure, Auburn, has been appointed superintendent of schools of De Kalb County.——Dr. T. Victor Keene has qualified as a member of the Indianapolis Board of Health.——A verdict of $5,000 has been given Dr. Ernest E. Wishard, Noblesville, in his suit for damages against the Central Indiana Railroad Company.

KENTUCKY

Personal.—Dr. J. T. Wallingford, health officer of Covington, is reported to be seriously ill with rheumatism, and Dr. Cleon C. Owens is temporarily in charge of the department. ——Dr. William M. Dwyer, Louisville, was struck by a street car while driving recently, and suffered a dislocation of his right arm.

Equipment of Sanatorium.—Provided there are no legal obstacles in the way, the Louisville Hospital Commission will appropriate $25,000 for use in equipping Waverly Hill Sanatorium for the treatment of all tuberculosis patients. In order to convert the present buildings into a permanent institution, it is estimated that $27,000 will be required, and it is planned to build four additional wards, each to accommodate sixteen patients. Work will be begun in a few days on the building selected by the commission for use as a temporary city hospital.

LOUISIANA

Health Exhibit Train to Los Angeles.—The Health Exhibit Train of the Louisiana State Board of Health is to be taken to California to be exhibited at the meeting of the American Medical Association, Los Angeles. The train will go via El Paso and will return via Ogden, Omaha and Chicago.

New Parish Society.—The physicians of West Carroll met in Pioneer recently and organized a parish medical society, electing Dr. Thomas N. Pulley, Floyd, president; Dr. Charles W. Smith, Oak Grove, vice-president; Dr. I. R. Fowler, secretary and treasurer, and Dr. John J. Flake, Pioneer, delegate to the state medical society.

Seeking Leprosy Serum at Tulane.—At a recent lecture Dr. Charles W. Duval, professor of pathology at Tulane University, described the experiments that he and his assistants had been making in leprosy and spoke of the preparation of a serum, which, it was hoped, might prove beneficial in the disease as it has already proved successful in test cases.

The Picayune Cup Presented.—The *Picayune* loving cup, given to Dr. Sarah Tew Mayo because of her splendid activities in behalf of the Woman's Dispensary, New Orleans, was presented May 26, in the presence of members of the Progressive Union, the Orleans Parish Medical Society, various women's clubs, etc. The presentation was made by Mr. M. J. Saunders.

Councilors of State Society.—The Louisiana State Medical Society, at its thirty-second annual meeting, elected, in addition to the officers mentioned in The Journal of June 10, the following councilors: First district, Dr. Paul E. Archinard, New Orleans; second district, Dr. Hermann B. Gessner, New Orleans; third district, Dr. Henri L. Ducrocq, La Fayette; fourth district, Dr. Randall Hunt, Shreveport; fifth district, Dr. Isaac J. Newton, Monroe; sixth district, Dr. Louis G. Stirling, Baton Rouge, and seventh district, Dr. Ladis Lazaro, Washington. Dr. Clarence J. Edwards, Abbeville, is the new chairman of the House of Delegates, and Dr. Laurence R. DeBuys, New Orleans, was reelected secretary. The House recommended to the governor the names of Drs. Homer Dupuy or Edward L. McGehee, New Orleans, for appointment to the State Board of Medical Examiners.

MAINE

State Society Meeting.—The Maine Medical Association will hold its annual meeting in Augusta, June 28-30.

Subscription for Children's Hospital.—The Children's Hospital, Portland, has raised by popular subscription more than $25,000 for maintenance expenses.

Personal.—Dr. William L. Cousins, Portland, has sailed for Europe.——Dr. and Mrs. Gustav A. Pudor leave for Germany next month.——Dr. Alfred Mitchell has resigned from the faculty of the Medical School of Maine, after forty-two years' service, and Dr. Frederic Henry Gerrish has resigned from the chair of surgery after a service of twenty-nine years.——Major Bial B. Bradbury, M. C. N. G., Me., Norway, has been relieved from duty with the coast artillery and assigned to the second infantry.——Captain Charles L. Cragin, M. C. N. G., Me., Portland, has been promoted to major and Lieutenants Harry W. Sampson and William L. Haskell, M. R. C., Me., have been commissioned first lieutenants in the medical corps of the state ——Dr. James B. Cochrane, Dover, has been appointed a member of the local board of health.

MARYLAND

Bequests.—By the will of the late Dr. Charles M. Ellis, Elkton, $18,000 is bequeathed to the Medical and Chirurgical Faculty of Maryland and $5,000 to the Union Hospital of Cecil County.

Baltimore

Emergency Ward.—The Methodist Hospital Association, which is now in charge of the Maryland General Hospital, will establish on the first floor a ward for accidents and emergencies.

College to Move.—It is announced that the Maryland Medical College will be moved to buildings which it owns adjoining the Franklin Square Hospital, and that the old college building on Park Street will be sold.

MISSOURI

Compulsory Vaccination.—Beginning with next September, by order of the board of curators, all students in the University of Missouri, Columbia, will be required to be vaccinated.

Home for Physicians Planned.—At the recent meeting of the Missouri State Medical Association, the president, Dr. Herman E. Pearse, Kansas City, recommended that a committee be appointed to consider plans for either a home or pensions for indigent, infirm and aged physicians, and their wives or widows.

Southwest Missouri Physicians Meet.—The annual meeting of the Southwest Missouri Medical Association was held in Springfield, May 25-26, and the following officers were elected: president, Dr. Oscar N. Carter, Republic; vice-presidents, Drs. Francis S. Stevenson, Aurora, and Theodore A. Coffelt, Springfield; secretary, Dr. Herbert S. Hill, Springfield, and treasurer, Dr. Lee Cox, Springfield.

Ambulance Surgeons in Kansas City.—At a joint meeting of the police commissioners of Kansas City with the members of the hospital and health board, it was agreed that Dr. Eugene Carbaugh, Kansas City, the new police surgeon, is to have no authority whatever over the surgeons attached to the automobile ambulances. It was also agreed that these surgeons shall be called, not police surgeons, but ambulance surgeons.

NEW JERSEY

Personal.—Dr. Berthold S. Pollack, medical director of the Hudson County Tuberculosis Sanatorium, Snake Hill, has been reappointed for a term of five years.——Dr. Gordon K. Dickinson, Jersey City, visiting surgeon to the city hospital, has been given leave of absence and is going abroad. Dr. Charles H. Finke, Jersey City, has been promoted from assistant visiting physician to visiting physician.——Dr. Robert R. Armstrong, Passaic, sustained a fracture of the right arm in a collision between his automobile and a wagon, May 31.——Dr. Stewart Maul, intern in the Atlantic City Hospital, has resigned.

Society Meetings.—At the annual meeting of the Salem County Medical Society, held in Salem, Dr. Henry Jackson, Salem, was elected president; Dr. Frank B. Husted, Quinton, vice-president; Dr. Henry Chavanne, Salem, secretary and treasurer; Dr. John F. Smith, Salem, reporter, and Dr. Wm. H. James, Pennsville, censor.——Hunterdon County Medical Society has elected the following officers: president, Dr. Isadore Topkins, Califon; vice-presidents, Drs. Henry H. Miller and Samuel B. English, Glen Gardner; secretary, Dr. Obadiah H. Sproul, Flemington, and treasurer, Dr. Edw. W. Closson, Lambertville.——Camden County Medical Society at its annual meeting held in Camden, April 25, elected Dr. Aahab Haines Lippincott, Camden, president; Dr. John K. Bennett, Gloucester City, vice-president; Dr. Daniel Strock, Camden, secretary; Dr. Alexander S. Ross, Camden, assistant secretary. ——A meeting was held, May 12, in the lecture room of the Newark Free Public Library, under the auspices of the New Jersey State Pediatric Society. The evening was devoted to a symposium on the "Hygiene of Childhood" which was divided into the hygiene of development, environment and school life, and prophylactic hygiene.——At the annual meeting of Sussex County Medical Society, held in Newton, May

10, Dr. Albert N. Jacobs, Sparta, was elected president; Dr. Edward A. Ayers, New York City, vice-president; Dr. Frederick P. Wilbur, Franklin, secretary; Dr. Ephraim Morrison, Newton, treasurer, and Dr. Harvey D. Van Gassbeek, Sussex, reporter.——Bayonne Medical Society at its annual meeting elected Dr. Ernest Thum, president; Dr. J. Stucky Smith, vice-president, and Dr. Frank, secretary-treasurer.——The Society for the Relief of Widows and Orphans of Medical Men of New Jersey, at its annual meeting held in Newark, elected the following officers: president, Dr. Archibald Mercer; vice-president, Dr. Edward J. Ill; secretary, Dr. Charles D. Bennett, and treasurer, Dr. Harold A. Tarbell, all of Newark. ——The Physicians' and Surgeons' Club of Jersey City held its eighth anniversary meeting in New York City June 6. Dr. Daniel B. Street was elected president; Dr. John M. B. Wainwright, vice-president, and Dr. James G. Enright, secretary and treasurer.

NEW YORK

Alumni Meeting.—The annual meeting of the Alumni Association of the medical department of the University of Buffalo was held May 30 and the following officers were elected: president, Dr. Charles L. Preisch, Lockport; vice presidents, Drs. Nellie V. Chappell, Buffalo; Eugene B. Horton, Niagara Falls; Edgar A. Forsyth, Buffalo; Jacob E. K. Morris, Olean, and Benjamin F. Rogers, Buffalo; secretary, Dr. Descum C. McKenney, Buffalo; treasurer, Dr. William F. Jacobs, Buffalo, and trustee, Dr. Marshall Clinton, Buffalo.

New York City

Cornell Commencement.—The thirteenth annual commencement of Cornell University Medical College was held at the college, June 14.

Epidemic Diseases on Steamer.—On the arrival of the steamer *Carpathia* at quarantine, June 6, fifty cases of measles were reported on board, and the passengers were detained at quarantine until those affected had been transferred to Hoffman Island.——*La Bretagne* from Havre was detained at quarantine several hours June 7 on account of a case of small-pox on board.——The Italian steamship *Europa*, which arrived from Genoa and Naples June 14, reported that a steerage passenger was suffering from cholera, and the steamer, with its passengers, was detained at quarantine.

Infants' Milk Station.—The health commission announced on June 6 the formation of an association of infants' milk stations of the borough of Manhattan, consisting of all the agencies engaged in this particular work. The objects of the association are to avoid duplication of effort and overlapping of territory, to establish an identical system of records, to provide full cooperation of existing forces, and educational publicity, and to gain the fullest efficiency in results. Dr. Sara J. Baker, director of child hygiene of the department of health, has been elected chairman of the association and the following have been selected as members of the executive committee: New York Milk Committee, Mr. Paul E. Taylor; New York Diet Kitchen Association, Miss M. L. Daniels; Nathan Strauss Laboratories, Dr. Arthur R. Green; Nurses' Settlement, Miss Lillian Wald; Babies' Dairies, Dr. Renel A. Benson, and Morningside Milk Dispensary, Mr. Allen McCurdy. At present there are sixty-five stations in the borough of Manhattan and this number will, probably, be increased during the summer. In practically all of them nurses are in attendance every day to instruct the mothers in the proper modification and care of milk, and physicians hold conferences at stated intervals during the week, at which the mothers are given general instruction as to the care of babies, and sick babies are treated.

NORTH CAROLINA

Society Meeting.—At the annual meeting of the Rockingham Medical Society, held in Wentworth, May 26, the following officers were elected: president, Dr. Thomas G. Taylor, Leaksville; vice-president, Dr. Andrew F. Tuttle, Spray; secretary and treasurer, Dr. John W. McGehee, Reidsville; delegates to the state association, Drs. Charles R. Wharton, Ruffin, and R. C. Matheson, Madison, and alternates, Drs. Samuel G. Jett, Reidsville, and Samuel Ellington, Wentworth.

New Hospitals.—Drs. James K. Hall and Paul V. Anderson, physicians on the resident staff of the State Hospital for the Insane, Morganton, N. C., with Dr. E. M. Gayle of Burna Brae Sanatorium, Philadelphia, have purchased the Westbrook Place near Richmond, Va., and will open it as a hospital for the treatment of mild cases of insanity and drug habits about September 1, 1911.——The Forsyth County Medical Society is said to contemplate erecting a hospital at Winston-Salem, to cost from $75,000 to $100,000.

NORTH DAKOTA

Personal.—In honor of Dr. Archibald L. McDonald, instructor in the College of Medicine, Grand Forks, for the last seven years, who is about to sever his connection with the institution, a banquet was given by the Gamma Phi fraternity recently.——Dr. Homer A. Smith has succeeded Dr. George A. Carpenter as health officer of Fargo.——Dr. Albert M. Fisher, Bismarck, sailed for Europe, May 19.——Dr. Fred A. Bordwell, Marmarth, sustained severe injuries to the spine in a runaway accident recently.——Dr. and Mrs. Charles L. Chambers, Bismarck, have returned from Europe.

PENNSYLVANIA

Statue to Physician Unveiled.—A bronze statue of Dr. Traill Green, Easton, first president of the American Academy of Medicine, was unveiled May 30. The statue was erected by the Eastern Cemetery Company, of which Dr. Green was first president, as a tribute to his memory, his great service to the association, to science, education, medicine and Christianity. The statue is designed by an Easton sculptor, Harry Lewis Raul.

State Milk Law.—By the terms of the Piper Pure Milk bill, approved by the governor June 8, the state is given the same standards for milk as those of the United States Government. The bill prohibits watering of milk, and provides that no substance may be added to increase its consistency, but allows the sale of skimmed milk under that name. The standard for milk is fixed at 3¼ per cent. butter fats and 12 per cent. solids, and for cream 18 per cent. butter fats, with the proviso that cream which is treated, condensed or evaporated may be sold as such if so labeled. The penalty for violation is a fine between $25 and $50, or imprisonment from 30 to 90 days, either or both. The Dairy and Food Commissioner is charged with the enforcement of the act.

Philadelphia

Free Lunches Beneficial.—The luncheon committee of the Home and School League completed on June 9 its experiment, which had been carried on for ten weeks with fifty children of the Woods School for the purpose of proving that the 3-cent lunch was beneficial as well as economical. Tests show that the children have gained in weight, that their hand grip has increased from 50 to 100 per cent. and that they have gained in lung capacity from 20 to 40 per cent.

Typhoid at State Institution.—For over two months the Health Department of this city and the state health authorities have been working to locate the source of typhoid contagion in the Pennsylvania Institute for the Deaf and Dumb, Mount Airy. Two new cases have just been reported, making a total of thirty cases and two deaths during the last two months. Tests have been made of the milk supply, butter and other foods, also a careful examination of the inmates and attendants to learn if there were typhoid carriers among them, but all without result.

Pure Food Crusade.—It has been announced by the agent of the State Dairy and Food Commission, that exposure of meat, chickens, cakes and other foodstuffs of like character to contamination from flies and dust will be followed by prosecution of the dealers under the pure food laws of Pennsylvania.——On June 6, warrants for over a dozen bakers, charged by Harry P. Cassidy, special agent of the commission, with using coal-tar dyes and bad eggs in their cakes and pies, were served by constables from Magistrate Beaton's office. A chemical analysis of the pastry sold by these bakers was made by Professor LaWall and in one pie enough yellow dye was found to stain a yard of cotton cloth.

Catholic Physicians' Guild.—The Roman Catholic Physicians of Philadelphia have organized a branch of the Guild of St. Luke, St. Cosmos and St. Damian. The first meeting was held May 26, in the hall of the American Catholic Historical Society and the following temporary officers were chosen: president, Dr. Lawrence F. Flick; vice-president, Dr. Ernest La Place; secretary, Dr. William T. Dempsey, and treasurer, Dr. Austin O'Malley. The aim of the guild is to facilitate intercourse between Catholic members of the medical profession for the discussion of medical questions relating to philosophy, morals, ethics, theology, histology and law, and the upholding of the principles of Catholic morality as against an unscientific materialism.

TENNESSEE

Medical Department Moves.—It was announced June 1, that the Vanderbilt medical and dental departments would be transferred to the old Peabody College grounds at the beginning of the next session.

Donation Toward Hospital.—It is reported that Mr. Andrew Carnegie has agreed to give $10,000 toward the completion of the new Hubbard Hospital of the Meharry Medical College, Nashville, Tenn., on condition that the college secures $10,000 additional. The work of raising this amount has already commenced.

Hospital Staff Named.—At a meeting of the Nashville City Hospital Commission, June 7, the following hospital staff was named: general surgeon, Dr. Frank P. Head; obstetrics, Dr. McPheeters Glasgow; medicine, Dr. C. Bailey Bell; genito-urinary diseases, Dr. William F. Glenn; diseases of the eye, ear, nose and throat, Dr. Marvin M. Cullom, and abdominal surgery and gynecology, Dr. Rufus E. Fort.

VIRGINIA

Epileptic Colony Opened.—The new State Epileptic Colony in Amherst County, opposite Lynchburg, has been formally opened. Ninety patients have been admitted and there is still room for ten more.

Hospital Chartered.—Grace Hospital corporation, Richmond, has been chartered with a minimum capital stock of $50,000 and ground has been broken for the building at Grace and Monroe streets. Dr. Robert C. Bryan is president of the company and Dr. H. Stuart McLean, secretary and treasurer.

Medical College Elects Officers.—At the annual meeting of the faculty of the Medical College of Virginia, Richmond, June 3, all the officers were unanimously reelected, with the exception of Dr. J. McCaw Tompkins, librarian, who was made professor of diseases of children, vice Dr. Charles A. Blanton. Among the changes in the adjunct faculty are the promotion of Dr. St. George T. Grinnan, from senior lecturer on pediatrics to chief of clinics in the practice of medicine, and the succession of Dr. Douglas Vanderhoof to Dr. Grinnan as senior lecturer on pediatrics.

Child Welfare Conference.—A child welfare conference was held at Richmond, May 22-25, under the auspices of the State Conference of Charities and Correction, and presided over by Dr. R. K. Flannagan, Charlotteville. The work of the conference was taken up under the three general heads of philanthropy, education and health and civics. The main topics of discussion were "Infant Mortality," "The Normal Child," "Education," "The Dependent and Neglected Child," "The Need of Vocational Training for Girls," "The Dependent Child in Placing-Out Work," "The Delinquent Child," "Instruction of Children in Sex Hygiene," "Cooperation and Education."

WASHINGTON

Hospital Note.—Dr. Hiram M. Johnson, mayor of Toppenish, has disposed of his interest in the Toppenish Hospital.

Personal.—Dr. Edward R. Northrup, Spokane, is convalescent after a surgical operation.——Dr. Mary A. Latham is critically ill at the home of her son in Spokane.——Dr. James H. McDonald, Puyallup, is recovering after an operation performed at the Fannie Paddock Hospital, Tacoma, recently.

WEST VIRGINIA

Antituberculosis Work.—The members of the Ohio County Antituberculosis League have received $6,000 in pledges toward the erection of a sanatorium for tuberculosis.

College of Medicine Closed.—The 1910-11 catalogue of the West Virginia University contains the statement that the college of medicine of that institution has been discontinued.

WISCONSIN

Tuberculosis Commission.—The mayor of Milwaukee has appointed a commission to decide on preventive and relief measures against tuberculosis. The commission includes H. A. Wagner, Miss Katherine R. Williams, Drs. Hoyt E. Dearholt and Alfred N. Baer, and Mrs. Thomas Spence.

State Society Meeting.—The sixty-fifth annual meeting of the Wisconsin State Medical Society was held in Waukesha June 7-9, and the following officers were elected: president, Dr. John M. Dodd, Ashland; vice-presidents, Drs. Theodore J. Redelings, Marinette; Charles A. Armstrong, Boscobel, and Hoyt E. Dearholt, Milwaukee; secretary, Dr. Charles S. Sheldon, Madison (reelected); assistant secretary, Dr. L. Rock Sleyster, Waupun (reelected), and treasurer, Dr. Sidney S. Hall, Ripon. The next meeting of the society will be held in Wausau.

GENERAL NEWS

Personal.—Jefferson Medical College conferred on Dr. Victor G. Heiser of the Philippines, the degree of doctor of science, at the recent commencement exercises.

Railroad Hospital System Planned.—The Illinois Central Railroad and its allied lines announced that the Illinois Central Hospital department will be inaugurated July 1. The proposition is to build up the hospital system, slowly, on an extensive basis until it has reached such proportions as to make it possible to establish division hospitals along the lines of the roads interested, with the entire medical staff under the control of the chief surgeon of the road.

Genito-Urinary Surgeons Hold General Meeting.—At the twenty-fifth annual meeting of the American Association of Genito-Urinary Surgeons, held in New York City, May 31-June 3, Philadelphia was selected as the next place of meeting and the following officers were elected: president, Dr. Edward Martin, Philadelphia; vice-president, Dr. Edward L. Keyes, Jr., New York City; secretary and treasurer, Dr. J. Bentley Squier, New York City, and councilors, Drs. Charles L. Gibson and Robert H. Greene, New York City.

Albany Alumni Meet.—The thirteenth annual meeting of the Albany Medical College Alumni Association of New England was held in Springfield, Mass., May 23, under the presidency of Dr. Walter G. Murphy, Hartford Conn. The following officers were elected: president, Dr. Aaron L. Newton, Northfield, Mass.; vice-president, Dr. George H. Janes, Westfield, Mass.; secretary, Dr. Edgar C. Collins, Springfield, Mass.; treasurer, Dr. Harvey W. Van Allen, Springfield, Mass.; members of the board of governors, Dr. Elmore S. Allbee, Bellows Falls, Vt.; the treasurer, Dr. Creighton W. Skelton, Providence, R. I.; Dr. Frederick T. Clark, Westfield, Mass., and Dr. C. W. Crowthers, Springfield.

Tropical Diseases.—Dr. John R. McDill, Manila, professor of surgery in the College of Medicine and Surgery, University of the Philippines, announces that the institution is contemplating the publication of a work on the most common and frequent diseases in the tropics, and asks physicians to forward any reports or statistics of institutions, reprints or publications and personal observations for use in this work. To this request is appended a numbered list of the subjects on which information is desired. An especial request is made for information concerning the relative frequency or absence of certain diseases among the native population, as compared with diseases familiar to the observer in his home land; as, for instance, hypertrophy of the prostate which is common in the United States but has not been observed in a single instance in Manila, and Hodgkin's disease, which is comparatively rare in the United States but is very common in the Philippines. Varicose conditions are relatively uncommon in the Philippine Islands. Ludwig's angina is regularly encountered there, and unless treated early and promptly is very fatal. Photographs of interesting cases, with data, are requested; the English, German, Spanish or French language may be used.

Gynecoiatry and Gynecology.—According to its derivation, gynecology signifies the science that treats of the normal functions peculiar to women and it does not include pathologic conditions and treatment for them. For the science of treating the affections peculiar to women, the scientific term is "gynecoiatry," constructed like the term "psychiatry." At the recent South American medical congress a resolution presented by A. d'Alessandro, of Buenos Aires, advocating the use of the term gynecoiatry as the name for the specialty, was formally adopted. The *Semana Medica* reproduces the resolution as written out, with the signatures of all the members of the congress present, including Pozzi, Dührssen and Doléris from Europe, all going on record as favoring "gynecoiatry." The resolution stated in its preamble that men of science should reject terms that are the products of empiricism and should adopt rational terms, and that the ending "iatry," meaning treatment, is more suitable for the specialty than "ology," which means merely the science or physiology of women.

Congress of Tropical Medicine.—The Far Eastern Association of Tropical Medicine announces that the Second Biennial Congress will be held at Hongkong, China, Jan. 20-27, 1912, under the presidency of Dr. J. Mitford Atkinson, Hongkong. The general classification of the work of the congress is included in the following groups of subjects:

1. Protozoology—helminthology.
2. Cholera—plague—leprosy—tuberculosis.
3. Tropical Fevers—malaria—beri-beri—dysentery.
4. Surgery—obstetrics—infantile diseases.
5. Climate—hygiene—sanitation.

It is requested by Dr. Francis Clark, secretary-treasurer general, Hongkong, that abstracts in English or papers be forwarded to him as soon as convenient. Papers may be read in English, French or German.

FOREIGN NEWS

Chinese Aids University Hospital.—The University of Pennsylvania Medical School and Hospital in Canton, China, has received a gift of $500 from a Chinese patient who had been treated in that institution. This is the first large gift from a native resident to the work of the university in China.

Damages for Misuse of Plaintiff's Name.—The proprietors of a German patent medicine sent a package of their product. Rad-Jo, to the physician of the Queen of Holland with a guarantee that it would facilitate her impending accouchement. The physician in question. Professor Kouwer of Amsterdam, paid no attention to the package, but when the newspapers announced the normal childbirth of the queen, the proprietors of Rad-Jo at once advertised extensively that it was responsible for the satisfactory accouchement and cited an alleged interview with Professor Kouwer to that effect. He at once sued the firm for damages for this false statement, and the last mail brings word that the German court has decided in his favor, also imposing a penalty of $375 for each of the circulars distributed in future with possibly six months' imprisonment additional.

LONDON LETTER

(From Our Regular Correspondent)

London, June 10, 1911.

Onchocerciasis

Dr. A. W. J. MacFadden, inspector of the local government board, has made an important report on onchocerciasis—nodules recently found in the frozen quarters of Australian meat, due to a parasitic worm formerly called *Spiroptera reticulata*, which occurs in Australian cattle. The nodules were at first thought to be merely a surface affection and easily capable of removal, but later they were found more deeply situated, especially in the intermuscular fat. Careful examination of many quarters showed that to secure freedom from the nodules, it would be necessary either to examine in detail every forequarter or else cut off from it those parts, namely, the briskets, to which they are chiefly confined. As the first course was impracticable, the second was adopted. The meat was kept in cold storage until all the flanks and briskets had been sawn off. These alone were detained for further examination, subject to the wish of the importer to utilize them further. If he gave notice that they were required only for industrial purposes, they were allowed to be removed after being rendered unfit for food. If on the other hand, they were to be used for food, they were thawed out, cut up and examined. As hindquarters were affected only around the stifle-joint, all that was necessary was to make an incision into it while frozen to pass or reject the pieces.

A report on the structure and bionomic characters of the parasite has been made by Dr. R. T. Leiper, F.Z.S. He considers that it should be included in the genus *Onchocerca* and not in that of *Spiroptera*. He has therefore proposed the name onchocerciasis. The parasite was first observed by Morris of Sydney in 1880 and since then has been found in different parts of Australia. It has also been observed in cattle from the United States, the Malay States. Java and India. The parasites are long thread-like worms and, so far as is known, cannot develop to sexual maturity within the body of the host in which they are born, without passing outside. At present nothing is known of their extra-corporeal life or of the mode of entry or exit from the host, but analogy with other members of the Filariidæ suggest that they take up their abode in some arthropod, probably a biting insect. The worms and their young do not appear to survive the death of the cattle more than a few hours. The health authorities do not agree with the view expressed by some that the nodules are of no importance to the consumer and merely interfere with the appearance of the meat. They are the product of changes in the tissues, resulting from some active toxin excreted by the worms.

Paper-Bag Cookery

Considerable attention is being given in the press to a new method of cookery in paper bags which has been devised by a well-known chef, M. Soyer. The food, whether meat, fish, fowl, vegetables or even stews, is inserted into a specially prepared paper bag, which is generally greased and placed in the oven. It is claimed that the result is simply perfect, as the natural flavors of the food are preserved, and that a great saving of time and trouble is effected, as the cleansing of numerous pots and pans becomes unnecessary. Moreover, the objectionable smell of cooking throughout the house is avoided.

Japanese Mice for Cancer Research

Three hundred and sixty waltzing mice have just arrived for the National Cancer Research Fund. They were sent to Dr. E. F. Bashford, the director, by Professor Higuchi of Tokio, who recently completed a course of research work in the Fund's laboratories. The mice will be used to determine the effects of acclimatization and dieting in increasing or decreasing the susceptibility of mouse-tissues to mouse cancer. It has already been found in the laboratories that if living cancer tissues from English mice are implanted on recently imported foreign mice, there is a certain amount of resistance to growth. Only a small percentage of the inoculated mice develop tumors, but after a time this protection wears off and finally foreign mice become as susceptible as English mice.

The Mine Accidents Act

In a previous letter to The Journal the recent act to prevent accidents in mines has been described. The Home Secretary has now issued the following order. Rescue brigades consisting of not less than five persons employed at the mine who have been selected on account of their knowledge of underground work, coolness and powers of endurance, and who have been trained in first aid. shall be maintained at every mine. Where the number of workers is less than 250, one brigade is to be formed; when from 250 to 500. two brigades; when from 500 to 800, three brigades; and when over 800, four brigades. Where the total number of underground workers is less than 100 the manager of the mine shall have the privilege of calling for a brigade from a central rescue station. No person unless authorized by the management or by the official present at the surface, shall be allowed to enter a mine after an explosion of firedamp and coal-dust, or after the occurrence of a fire, for the purpose of engaging in any rescue work. No rescue brigade shall be deemed competent unless it undergoes a course of training approved by the secretary of state. At a mine which maintains a rescue brigade there shall be kept two or more small birds or mice for testing carbon monoxid. two electric hand lamps for each brigade. one oxygen reviving apparatus. a safety lamp for each member of the brigade for testing for firedamp, and an ambulance box. At each central rescue station not less than fifteen complete sets of breathing-apparatus shall be maintained with the necessary number of hand-lamps and oxygen reviving apparatus, and a motor car in constant readiness. Special rules for sidings and for the installation and use of electricity in mines are also proposed. The use of electricity is to be prohibited in any part of a mine where it would be dangerous on account of the risk of explosion of gas or coal-dust. Provision is also made for cutting off the supply of current to the mine at the surface. in order to prevent danger.

Disease as an Aid to Natural Selection

At the Eugenics Education Society the new president. Major Leonard Darwin. one of the three sons, all eminent in science, of the great evolutionist, said that disease produced beneficial results in preventing sickly stock from reaching maturity and reproducing. Any improvement in environment of mankind lessened disease, and every success in the efforts toward its curb would tend to prevent natural selection. The campaign against disease, of which all warmly approved, was in some ways having anti-eugenic effects. and it was necessary to see that it was accompanied by other reforms tending to counteract its evil influences. There was an inevitable temptation of social reformers to concentrate the attack on those points where the results seemed to be most obvious and immediate. The misery and disease which surrounded us seemed to demand immediate attention and it needed a distinct effort to divert our thoughts to the no less real needs of unborn generations. A less creditable loadstone, the voting power of the people. acted in the same direction. Both the philanthropist and the politician always found themselves under the temptation, if not actually to turn a deaf ear to the eugenic reformer, at all events to devote their whole energies to securing immediate results. He urged that one group of societies should be maintained which was pledged to put aside all other objects, in order to improve the racial qualities of future generations. The most obvious and crying need for reform was the segregation of the feeble-minded. with a view to diminish their now alarming rapid reproduction. A similar need existed with regard to lunatics, criminals, habitual drunkards and the unemployable. but the difficulties were greater because segregation, to be effective. involved the imprisonment of those apparently in possession of their faculties. The need for some action, however, was urgent. Another method of benefiting future generations was the introduction of further safeguards, with the object of lessening the probabilities of marriages being contracted with one party ignorant that the life-history of the other contained heritable defects capable of appearing in the next generation. Another important subject for the consideration of the eugenist was the incidence of taxation so far as it tended to force the intelligent and thrifty to support the mentally feeble and wastrel. It was probable that every increase of rates or taxes tended to diminish reproduction. The more the self-respecting and prudent sections of the community were hit by taxation, the greater the anti-eugenic effect produced. Every increase in the burden thus thrown on the nation must harm the race, unless those who were not exposed to it, because considered incapable of bearing it, were prevented from reproducing. Arrangements are being made for an International Congress on Eugenics in London next year.

PARIS LETTER

(From Our Regular Correspondent)

Paris, June 9, 1911.

First Annual French Medicolegal Congress

This congress was held in Paris, May 29 and 30. Up to the present, medical jurists have had no other organization to bring them together than the Société de médecine légale, which is attended especially by Parisians, and the international medical congresses, in which the little section of legal medicine was almost lost among the sections representing the more numerous and more prominent other branches of medicine. The annual congress of legal medicine will admit as members, in the first place, physicians of France or French-speaking countries who are interested in any way in legal medicine, also physicians of foreign non-French-speaking countries, French, the official language, being used exclusively. In exceptional instances, scientists who are not physicians, but whose researches apply to legal medicine, may be admitted as members. In the second place, the members will be jurisconsults (magistrates, lawyers, etc.) of France or French-speaking countries, or foreigners of non-French-speaking countries under the previously defined conditions. Questions of exclusively national interest may be voted on only by members of the congress who are physicians of the country in question. The congress will hold its annual session at the end of May in a city of France or some French-speaking country, to be designated at the session of the previous year. The next congress will be held at Paris under the presidency of Dr. Lacassagne, professor of legal medicine at the Faculté de médecine de Lyon. The question which will form the subject of a paper at the next congress is "Cerebral Traumatic Hemorrhages," by Dr. Etienne Martin, *agrégé* professor at the Faculté de Lyon, and Dr. Paul Ribierre, physician of the hospitals of Paris.

Vacant Chairs at the Paris Medical School

The minister of public instruction has just declared vacant the chair of history of medicine and surgery at the Faculté de médecine de Paris, which was occupied by Dr. Chauffard, recently appointed professor of clinical medicine.

This makes three chairs at the Faculté de médecine which are vacant at present, including the chair of medical physics, vacant through the retirement of Professor Gariel, and that of medical pathology through the nomination of Dr. Dejerine as clinical professor of diseases of the nervous system.

Subscription for the Beyrouth Medical School

The Syndicat de la Presse parisienne has just opened a national subscription for the French hospital and the Faculté de médecine de Beyrouth to obtain the necessary funds for the working and the development of the services of the two institutions which have become insufficient (The Journal, April 15, 1911, p. 1122). More than $20,000 (100,000 francs) have already been subscribed.

The most eminent professors of Paris, Lyons, Bordeaux, Toulouse, Montpellier, Lille and Nancy, without distinction of party or creed, have called attention to the situation of the Faculté catholique et française de Beyrouth.

Personal

On May 30, the Académie de médecine elected Dr. Lermoyez, who is a physician of the Hôpital Saint-Antoine, and especially well known as a specialist in diseases of the larynx, nose and ears, as a member in the section of therapeutics and medicine, in place of Dr. Huchard, who died last December.

M. Lapicque has been appointed professor of general physiology at the Muséum d'histoire naturelle in place of Dr. Nestor Gréhant, who died March, 1910.

Dr. Chauffard, professor of the history of medicine and surgery at the Faculté de médecine de Paris, has been appointed, at his request, professor of clinical medicine at the same institution.

Inauguration of the Institute of Infantile Hygiene

On March 8, at the Hospice des Enfants-Assistés, the new Institut de puériculture (The Journal, Jan. 28, 1911, p. 283) was inaugurated, Dr. Variot being the initiator and director.

Altitude in the Treatment of Infantile Eczema

Dr. Marfan, professor of therapeutics at the Faculté de médecine de Paris, on May 30 called attention before the Académie de médecine to the good results which he had obtained in certain serious forms of infantile eczema, which were resistant to all the usual means of treatment, by sojourn in the mountains at a height of over 3,000 or 4,500 feet (1,000 or 1,500 meters). Having observed, empirically, such results, Dr. Marfan employed altitude in the treatment of fifteen serious cases of infantile eczema, and the treatment failed completely in only one case. The course was uniformly favorable in all the others. During the first four or five days, the situation does not change. Sometimes the pruritus and insomnia even seem to increase, then in a week or less, improvement sets in, the eruption grows pale and becomes drier, the pruritus diminishes, agitation disappears and sleep returns. After a couple of weeks there remain some spots of dry and somewhat squamous eczema and the pruritus is almost gone. Then the weight increases and growth resumes its normal course. This improvement continues during the entire sojourn in the mountains. The return to the lowlands takes place usually after a month or six weeks. In three cases the improvement or cure was maintained without relapse. In seven infants there were slight relapses but the disease never attained the intensity it had before the treatment. In three cases there were, after return, rather serious attacks which did not last long and were not accompanied by serious disturbances of the general condition. Sojourn in the country or by the seaside undoubtedly may have a favorable influence on infantile eczema, but in its serious forms this influence does not seem comparable to that of altitude. The latter treatment may, however, be reserved for serious and inveterate forms of infantile eczema with loss of sleep and weight and should not be employed until after the failure of ordinary means. It should be understood that all the general rules for the treatment of eczema should be observed during the altitude treatment. The latter may be carried on in all seasons; it is, perhaps, more effective in winter than in summer.

The Determination of Sex

At one of the last sessions of the Académie des Sciences, Dr. R. Robinson made a report on observations tending to establish a relation between insufficiency of the adrenals and determination of sex. Fifteen women presenting evident signs of insufficiency of the adrenal glands gave birth to fifteen daughters. Robinson believes that this fact has a scientific bearing on the theory or law of crossed heredity, according to which sex is determined, not by the more vigorous of the parents, but oppositely. Schenk, who has published a work on the means of influencing the sex of the embryo at will, attributes the inferiority or the difference of the two parents to the incompetency of organic metabolism in one or the other of the latter. Robinson believes that, at bottom, Schenk is right, but that there remains to be shown to what the disturbances of the nutritive metabolism are due and what are the means of regulating them. Robinson thinks that the ductless glands, in general, and the adrenals, in particular, are the only causes of these functional disturbances. Since a woman who presents disturbances of nutrition, vomiting, pigmentation, etc., is rendered inferior by her adrenals, and since such women have given birth to daughters fifteen times out of fifteen, there is only one means of producing a different sex. That is opotherapy by epinephrin.

Cremation

The Société pour la propagation de l'incinération has just held its annual meeting presided over by M. Barrier, member of the Académie de médecine. The secretary-general reported that the number of cremations in 1910 was 473, an increase of 20 per cent. over the number of 1909. The total number of cremations since 1899 when the crematory furnace was opened in the cemetery of Père-Lachaise in Paris amounts to 106,096. This number includes the bodies from the hospitals.

Gift to the Academy of Medicine

Lieutenant Kelsch, son of the *médecin inspecteur* of the armies, who recently died, has donated to the Académie de médecine the medical library and scientific papers of his father.

Measures Against Opium

One hundred and fifty senators, belonging to all political groups of the senate, have just offered a bill for the regulation of the importation, the sale, the storage and the use of opium and its extracts. The bill emphasizes the extent of social danger present from the use of opium. There are, at present, in Brest, Toulon, Marseilles and Paris, opium-joints like those in China and Cochin-China, frequented every night by a constantly increasing clientele.

The Stature of French Women

Up to the present there have been no definite data furnished in regard to the average characteristics of the French woman. The women measured by anthropologists have been, according to their own statements, organically inferior; in fact, they were the subjects used for dissection at the Faculté de médecine. Certain classes of the population do not come to the dissecting tables. Therefore, Dr. A. Marie, physician of the Asile Villejuif, and Dr. Leon Mac-Auliffe have studied about 250 Frenchwomen, aged from 21 to 50, coming from various parts of France, and belonging to all social classes, as far as possible in equal proportion. Fifty were agricultural laborers, fifty Parisian working women, fifty women of the bourgeoisie without professions, and fifty belonging to the old aristocracy, some of whom were members of liberal professions; fifty were measured at the Asile de Maison-Blanche. These measurements, of which Drs. Marie and Mac-Auliffe have just communicated the results to the Académie des sciences, show that the stature of the French woman is not 1.54 meters (about 5 feet ½ inch), as has been thought hitherto, but 1.57 meters (about 5 feet 1½ inches).

The tables drawn up by Drs. Marie and Mac-Auliffe seem likely to be serviceable, not only to anthropologists, but to criminologists and medical jurists. They will make it possible, in fact, by the measurement of a segment of a member to estimate the approximate height of the body and the principal dimensions.

BERLIN LETTER

(From Our Regular Correspondent)

Berlin, June 1, 1911.

Personal

The well-known neurologist, Professor Eulenburg of Berlin, celebrated the semi-centennial of his doctorate May 31.

Professor v. Esmarch of Göttingen has resigned the direction of the hygienic institute on account of illness and has been relieved from giving lectures.

The Imperial Insurance Bill

At the final third reading of the national insurance bill the majority party at the last moment adopted two amendments which involve a deterioration of the economic status of the medical profession and consequent injury to the hygienic conditions of the country districts. The first amendment provides that the provisions of the insurance law shall extend to those whose incomes amount to $625 (2,500 marks) instead of $500 (2,000 marks), that is, $12 a week, instead of under $10. By this vote hundreds of thousands of employees will be withdrawn from private practice and transferred to contract practice, and in this way the field of the general practitioner will be still further restricted and his income reduced. It is easy to understand, therefore, that the German medical profession will raise a vigorous protest against this measure and will try so far as is possible by legal means to avert the damage that is likely to arise from it. The amendment affecting the hygienic status of the rural districts consists in a provision which permits the Krankenkassen in the country to allow assistance to a lying-in woman for only four weeks instead of eight, as is required of the Krankenkassen in the cities. The danger of illness and death for both mother and child are thus increased by the shortening of the time during which the mother can devote her time to the care of herself and the child, on account of the lack of state aid. This is the more to be regretted since the infant mortality is much higher in the country districts than it should be. The attempt to induce mothers to nurse their offspring receives little encouragement from this measure, which is also of importance since an investigation reported by me last year has shown that the peasants often sell the good milk and save milk of inferior value for their own use. It will require the aid of private charity to compensate for the damage that will result from this resolution of the Reichstag.

Vacation Open-Air Schools in Charlottenburg

The marked success which has attended open-air public schools in the lower grades has led to the establishment of a similar school for pupils able to pay, during the long vacation. The children remain during the day under the care of their teachers, but return at evening to their parents. For care which consists of lunch, dinner and milk in the afternoon, each child pays 50 cents per day.

Prize for Essay on Racial Hygiene

A popular periodical published in Frankfurt a. M. has offered a prize of $250 (1,000 marks) for the best essay on the theme, "What is the Cost of the Degenerate Elements of the Race to the State and to Society?" In the announcement the following interesting observations are made: The laboring, wealth-producing portion of the population is obliged to support not only itself, but also all those who either cannot or will not work. In this way a heavy burden is laid on their shoulders. From a part of this burden they can never be freed. Always those who are at an age in which they are able to work must expect to replace in the care of the aged and the upbringing of children the amount which their own upbringing has cost. But the laboring population could be freed from a large part of this burden. For they must devote their efforts not only to the support of the children and the aged, but also to the support and care of the sick and defectives who are temporarily or permanently unfit for work or are unwilling to work. Immense sums in money, time and labor could be saved if by improvement of the environment in the widest sense the production of sick, crippled, insane, criminals and paupers unable to work could be prevented. But all efforts at betterment of our surroundings will fail so long as there are congenital and inherited disease and defectiveness, and the workers can be freed from this avoidable burden only by preventing the production of the sick and defective as far as possible. They are not harmful merely because they produce nothing, but also from the actual damage that they do to persons and property either consciously or unwittingly. Hindrance of the production or reproduction of those below par (*Minusvarianten*) is becoming a constantly more pressing demand in our time which is devoting itself constantly more conscientiously and more successfully to preserving the life of those who have been already born.

In all publications that have to do with the improvement of the race, reference is made to the sums which the state, the community and the private citizen must expend directly and indirectly for persons who had much better never have been born. How many thousands of worthy citizens must leave useful labor in order to devote themselves to the care of these individuals as nurses, physicians and officials! Unfortunately no critically examined, numerical data have hitherto been available in this matter which have been collected by a thorough investigation of a smaller or larger territorial division, such as a country or municipal district, a governmental division or even a province. It is only by the collection of such statistics that other communities can be aroused to the importance of this matter. An estimate of the entire cost of the defectives in a large government district should first be secured. Then the part which is contributed to this sum by the care of those affected by congenital and hereditary defect can be determined so far as the available material permits.

The competition for the prize is open to every one, but the article must be written in the German language or be accompanied by a translation into German.

Flower Tag Days

The flower days of which I have spoken have been very successful in some of the cities in which they have been held. In Bremen, $21,000 (82,000 marks), in Hanover, $22,500, in Breslau, $42,500, and in Hamburg, $100,000, were received in one day. These facts substantiate the prediction which I made in a previous letter, and I believe that a similar success will be achieved in Berlin.

Tuberculosis as a Housing Disease

The investigations carried out by the tuberculosis hygiene station in our neighboring city, Schöneberg, have confirmed the fact emphasized by Robert Koch that tuberculosis is largely dependent on the housing conditions. From April to June of last year, 400 unselected dwellings in which 439 tuberculous patients lived, were systematically inspected. Fifteen of the affected families occupied merely a kitchen and in 245 cases the dwelling consisted of a kitchen and bedroom only. In 7 per cent. of all the dwellings the space of the room occupied by the patient as a bedroom was not equal to 10 cubic meters per person; 386 patients slept in the same rooms with 749 persons not recognizably tuberculous, 570 of whom were children. Only 46 persons had a bedroom separate from the healthy; in 13 of these cases the kitchen was used as the bedroom. On the ground of these results the director of the tuberculosis dispensary (*Fürsorgestelle*) comes again to the conclusion that the removal of patients with open tuberculosis to hospitals and sanatoriums is the best way to counteract the evils arising from the conveyance of infection by the dwelling. At least the severely sick should be removed. Gratuitous disinfection is necessary after death and also periodically during the life of the patient—measures which are not enforced by law in Prussia.

VIENNA LETTER

(From Our Regular Correspondent)

VIENNA, June 6, 1911.

Gifts for a Cancer Hospital and a Scarlet Fever Ward

The newly formed society for cancer research in Austria has just now received a substantial grant of 1,000,000 kronen ($250,000) for the purpose of pursuing its scientific research on human cancer. A lady in private life, who was during her lifetime an anonymous benefactor of numerous charitable institutions in this city—the municipality of Vienna conferred on her a special mark of distinction as "an anonymous benefactor of mankind"—devoted her large estate and residue to the benefit of the poor sick. Her trustees convoked a jury of medical men, and it was decided, after some discussion, to hand over the above-mentioned sum to the society for cancer research, while half that sum has been given to the children's hospital in the tenth district. There a large pavilion or two will be erected solely for cases of scarlet fever, and in various other children's hospitals similar wards will be established as long as the funds permit. The cancer society, of which Professor von Eiselsberg is the president, will erect a hospital for 100 beds, for neoplasmas alone. This most welcome addition to the research outfit of science will no doubt prove a most valuable and indispensable weapon in the fight against malignant disease. Like Czerny's cancer hospital, it will form a center of learning and investigation, and perhaps of renewed hope. In this country we are not used to wealthy persons giving such large gifts for charity or science; the more one must appreciate the clear insight of a woman.

A Fresh Case of Cholera

Owing to the strict measures taken against cholera in Austria-Hungary last autumn, the disease was stamped out half a year ago from our empire. But a few days ago a person in Graz, the capital of mountain-bound Styria, 100 miles from Vienna, was taken to a hospital in a most suspicious condition and died there. Asiatic cholera was diagnosed beyond doubt. The infection of the victim was traced to Venice. Strictest disinfectant and prophylactic measures were adopted at once; a quarantine was imposed on all persons known to have been in touch with the deceased man within the last week. At present there is every reason to hope that the outbreak will be suppressed very quickly. There has been no case of cholera reported on in Italy for several months, and in spite of the International Cholera Convention nothing was known of any such case being reported in Venice. It remains to be seen how it was possible for this patient to contract the disease in Venice.

Scarcity of Dwellings and Decline of Consumption of Meat in Vienna

Within the last few years the cost of living has increased in this city by more than 25 per cent. as a consequence of two facts pointed out in the report of the health bureau of Vienna. These are: the increase of the rent for lodgings and the general increase of the price of food, chiefly of meat. These two facts tend to hamper seriously the hygienic progress of the poorer classes. The report shows that the number of empty dwellings (including those in new houses, for which permission for inhabiting had not yet been given) was 5,420 in the year of 1906, while last year only 2,900 such dwellings were counted. The rent has gone up from 10 to 15 per cent. for the larger flats and tenements (four to eight rooms), from 15 to 25 per cent. in the medium-sized lodgings (two to four rooms), and to more than 30 per cent. for the smaller lodgings—the workingmen's lodgings. The price of meat has gone up from 30 to 40 per cent. during the last five years, and the consumption has promptly declined. The average consumption of this proteid food per head was 75 kilos (150 pounds) yearly some twelve years ago. It was between 75 tnd 72 kilos until 1905, and since then a constant fall was noticed until in 1910 it stood at 66 kilos (133 pounds), indicating a decrease of 9 per cent. in five years. In vain the medical circles and also the military authorities pressed for permission to import frozen meat. The influence of the agrarian landowners has kept the duty on meat so high as to make importation impossible. The effect on general health and on national physique will not be marked until some more years pass; meanwhile the deterioration will go on until public investigation compels a change of legislation.

Dentistry for Women

With the increase in the number of female medical students, the question of appropriate employment of the women physicians had to be answered. In our country people are not yet accustomed to calling on a lady in case of illness, and the majority of those women who are practicing hold appointments in a club or a "Krankenkasse." A memorandum by a private medical association requests the faculty of the Austrian universities to point out to female physicians and students that dentistry would be a good field for their abilities. The exactness and neatness of the work required from the standpoint of a dental treatment, the openings in medium-sized towns, where hitherto only dental technicians are working on and in the patients' mouths, and, perhaps, the lesser trouble make this branch of our art really advisable for the female physicians. In this country, each dentist must be a fully qualified M.D., and a law is in preparation which will do away with the dental technician of the present times who is no doctor, but still practices dental surgery. A number of ladies are now employed by some of our well-known dentists, and it must be stated that, for instance, in the dentistry schools, the female physicians are preferred by the patients of their own sex. Therefore, the recommendation of dentistry has been received with great approval by those interested in the question.

The Public Service

Medical Department, U. S. Army

Changes for the week ended June 17, 1911.

Kellam, F. C. A., M.R.C., ordered to active duty and will proceed to the Walter Reed General Hospital, Takoma Park, D. C., for duty.

McCaw, Walter D., lieut.-col., detailed as instructor in hygiene and sanitation at the school for officers of the Medical Corps, National Guard of New York, Pine Camp, N. Y., Aug. 5 to 13, 1911.

Reynolds, Charles R., major, detailed as instructor in map reading, sanitary units and allied subjects, at above camp, at Pine Camp, N. Y.

Norman, Seaton, M.R.C., relieved from duty in the Department of Texas on return of Major Robert B. Grubbs, Medical Corps, and then return to Fort Leavenworth, Kan. Lieutenant Norman will proceed to his home and on arrival will stand relieved from duty in the Medical Reserve Corps.

McMillan, C. W., lieut., left Base Hospital, Fort Sam Houston, Texas, on fifteen days' leave of absence.

The following named officers, Medical Corps, are relieved from duty in the Philippine Islands and will then proceed, November 15, to San Francisco, and on arrival report to the adjutant general of the Army for further orders: Major A. W. Morse, First Lieut. J. R. Barber, First Lieut. E. G. Huber, First Lieut. A. D. Parce and First Lieut. J. A. Wilson.

Cullen, C. W., M.R.C., returned to Fort D. A. Russell, Wyo., from temporary duty at Fort Duchesne, Utah.

The following named officers, Medical Corps, are relieved from duty in the Philippine Islands and will proceed, December 15, to San Francisco, and on arrival report to the adjutant general of the Army for further orders: Lieut.-Col. C. E. Woodruff, Major C. C. McCulloch, Major W. E. Purviance, Captain J. R. Bosley and First Lieut. J. B. H. Waring.

The following named officers, Medical Corps, are relieved from duty in the Philippine Islands and will proceed, December 15, to San Francisco, and on arrival report to the adjutant general of the Army for further orders: First Lieuts. V. E. Watkins, A. M. Guittard and F. J. Conzelmann.

The following named officers of the Medical and Medical Reserve Corps will proceed to the Philippines Division for duty on the transport sailing from San Francisco, Nov. 5, 1911: Major R. N. Winn, M.C.; Major F. C. Baker, M.C.; Captain H. F. Pipes, M.C.; First Lieut. E. G. Worthington, M.C.; First Lieut. J. P. Fletcher, M.C.; First Lieut. E. A. Anderson, M.R.C., and First Lieut. G. Newlove, M.R.C.

The following named officers of the Medical and Medical Reserve Corps will proceed to the Philippines Division for duty on the transport sailing from San Francisco, Dec. 5, 1911: Major J. H. Ford, M.C.; Major J. W. Van Dusen, M.C.; First Lieut. L. S. Hughes, M.C.; First Lieut. A. S. Bowen, M.C.; First Lieut. J. A. Burket, M.C.; First Lieut. F. R. Hill, M.C.; First Lieut. H. Priest, M.R.C.; First Lieut. A. H. Eber, M.R.C., and First Lieut T. S. Lowe, M.R.C.

Thomason, H. D., captain, will proceed to Nashville and Memphis, Tenn., for purpose of assisting in reorganization of sanitary troops of state, and on completion of this duty return to his proper station.

Clayton, George R., M.R.C., ordered to duty with Battery F, 5th Art., camp instruction, Sparta, Wis.

Birmingham, H. P., lieut.-col., Straub, P. F., major, and Darnell, Carl R., major, appointed members of board to meet at San Antonio, Texas, to consider defects in field organization for the Hospital Corps and to make recommendation for their betterment and to prepare a provisional manual for the management of field hospitals and ambulance companies.

Hall, James F., captain, ordered to Fort D. A. Russell, Wyo., for temporary duty.

Worthington, Joseph A., lieut., ordered to the Presidio of Monterey, Cal., for temporary duty.

Snyder, Howard M., lieut., left Fort D. A. Russell, en route to Fort Leavenworth, Kan., on detached duty.

Clayton, George R., M.R.C., ordered to duty with Battery F, 5th Artillery, camp at Sparta, Wis.

Ruddy, William P. J., M.R.C., reported for temporary duty at Washington Barracks, D. C.

Purnell, Harry S., captain, left Madison Barracks, N. Y., with troops en route to Pine Camp, N. Y., for duty.

Connor, C. H., captain, left San Antonio, Texas, en route to Fort Sill, Okla., to accompany troops to San Francisco.

Skelton, Robert, M.R.C., left Fort Jay, N. Y., en route to target range, Rensselaer, N. Y., for duty.

Lynch, Charles, M.C., is ordered to proceed to Los Angeles, Cal., thence to San Francisco, thence to Chicago, on official business pertaining to the American Red Cross.

Woodbury, Frank T., major, relieved from further duty at Fort Assinniboine, Mont.

Davis, William T., captain, left Washington, D. C., on ten days' leave of absence.

Appel, D. M., colonel, relieved from duty at Atlanta, Ga., to take effect July 1, 1911, and will report for duty to commanding officer, Fort Sam Houston, Texas.

Perley, Harry O., colonel, relieved from duty at Denver, to take effect July 1, 1911, and will report to the commanding officer, Fort D. A. Russell, Wyo., for duty.

Gray, William W., colonel, relieved from temporary duty at Omaha, and further duty at St. Paul, Minn., to take effect July 1, 1911, and will proceed to San Francisco and assume charge of the medical supply depot, that city.

Davis, William B., colonel, order to report to commanding general, Department of Texas, revoked, and on expiration of leave of absence to proceed to Fort Leavenworth, Kan., and report in person to commanding officer for duty at that post.

The following named officers of the Medical Corps are relieved from further duty at the Army medical school and will comply with orders from the commanding general of troops, San Diego, Cal.: First Lieuts. William T. Cade, Jr., Herbert H. Sharpe, Francis X. Strong, Alleyne von Schrader, Robert C. McDonald, Harry G. Ford, James F. Johnston, Paul W. Gibson, Bert R. Huntington.

Medical Corps, U. S. Navy

Changes during the week ended June 17, 1911.

Harlan, T., asst.-surg., detached from the *Quiros* and ordered to duty at the naval hospital, Canacao, P. I.

Pratt, L. L., and Omelvena, F. G., asst.-surgs., ordered to duty at the naval hospital, Canacao, P. I.

O'Malley, J. J., asst.-surg., ordered to the *Quiros*.

Reed, T. W., P. A. surgeon, detached from the *Wolverine* and ordered to the *Maine*.

U. S. Public Health and Marine-Hospital Service

Changes for the seven days ended June 14, 1911.

Oakley, J. H., surgeon, granted seven days' leave of absence from June 7, 1911, under paragraph 191, Service Regulations.

Lumsden, L. L., P. A. surgeon, directed to proceed immediately to North Yakima, Wash., and investigate an outbreak of typhoid.

Wille, C. W., P. A. surgeon, granted seven days' leave of absence from June 13, 1911.

McCoy, G. W., P. A. surgeon, detailed to attend the annual meeting of the American Medical Association to be held in Los Angeles, Cal., June 27-30, 1911.

Ridlon, J. R., asst.-surg., granted thirty days' leave of absence from June 12, 1911.

Hotchkiss, S. C., asst.-surg., detailed to join "mine rescue car" for duty in Colorado in connection with Bureau of Mines.

Stiles, C. W., professor of chemistry, directed to proceed to Wilmington, N. C., on special temporary duty.

Brice, J. W., A. A. surgeon, granted thirty days' leave of absence from July 1, 1911, with pay, and two months' leave of absence from Aug. 1, 1911, without pay.

Light, S. D. W., A. A. surgeon, granted thirty days' leave of absence from June 6, 1911.

Wetmore, W. O., A. A. surgeon, granted nine days' leave of absence from May 22, 1911, on account of sickness.

Medical Education and State Boards of Registration

COMING EXAMINATIONS

Alabama: Montgomery, July 11. Chairman, Dr. W. H. Sanders.

Arizona: Phoenix, July 5-6. Sec., Dr. Ancil Martin.

Colorado: Denver, July 5. Sec., Dr. S. D. Van Meter, 1723 Tremont Street.

Connecticut: Regular, City Hall, New Haven, July 11-12. Sec., Dr. Charles A. Tuttle, 196 York St.; Homeopathic, Grace Hospital, New Haven, July 11. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave.; Eclectic, Hotel Garde, New Haven, July 11. Sec., Dr. T. S. Hodge, 19 Main St., Torrington.

Indiana: Room 120 State House, Indianapolis, July 11-13. Sec., Dr. W. T. Gott, Crawfordsville.

Maine: State House, Augusta, July 6-7. Sec., Dr. Frank W. Searle, 806 Congress St., Portland.

Massachusetts: State House, Boston, July 11-13. Sec., Dr. Edwin B. Harvey.

New Hampshire: State House, Concord, July 6-7. Regent, Mr. Henry C. Morrison.

New Mexico: The Capitol, Santa Fe, July 10-11. Sec., Dr. J. A. Massie.

New York: June 27-30. Mr. Harlan H. Horner, Chief of Examinations Division, Department of Education, Albany.

North Dakota: Grand Forks, July 5. Sec., Dr. H. M. Wheeler.

Oklahoma: Ione Hotel, Guthrie, July 11. Sec., Dr. John W. Duke.

Oregon: Portland, July 4. Sec., Dr. E. B. McDaniel, 704 Electric Building.

Pennsylvania: Regular, Homeopathic and Eclectic, Philadelphia and Pittsburg, June 27-30. Secretary of the Medical Council, Mr. Nathan C. Schaeffer, Harrisburg.

Rhode Island: State House, Providence, July 6-7. Sec., Dr. Garner T. Swarts.

South Dakota: Mitchell, July 12-13. Sec., Dr. F. W. Freyberg, Mitchell.

Texas: Austin, June 27-29. Sec., Dr. J. D. Mitchell, Fort Worth.

Utah: State House, Salt Lake City, July 5-6. Sec., Dr. G. F. Harding, 310 Templeton Building.

Vermont: Burlington, July 11-13. Sec., Dr. W. Scott May, Underhill.

Washington: Tacoma, July 4. Sec., Dr. F. P. Witter, Traders Block, Spokane.

West Virginia: Capitol Building, Charleston, July 10-12. Sec., Dr. H. A. Barbee, Point Pleasant.

Wisconsin: Madison, July 11-13. Sec., Dr. John M. Beffel, 3200 Clybourn St., Milwaukee.

Massachusetts March and May Reports

Dr. Edwin B. Harvey, secretary of the Massachusetts Board of Registration in Medicine, reports the oral, practical and written examinations held at Boston, March 14-16 and May 9-11, 1911. The number of subjects examined in was 13; total number of questions asked, 70; percentage required to pass, 75. At the examination held in March the total number of candidates examined was 64, of whom 42 passed, including 2 undergraduates and 22 failed, including 9 undergraduates. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
Georgetown University	(1907)	76.5
Howard University, Washington, D. C.	(1907)	75
Yale University (1908) 75;	(1910)	80.2
Medical School of Maine (1886) 75; (1898) 75;	(1908)	75
Johns Hopkins University	(1903)	77.8
College of Physicians and Surgeons, Baltimore	(1909)	77.9
Harvard University Medical School (1908) 84.2; (1909) 75, 75, 84.5; (1910) 75, 78.2, 79.4; (1911) 75, 76.1.		
Tufts College Medical School (1906) 75.2; (1910) 75.2, 77, 77.5.		
College of Physicians and Surgeons, Boston (1908) 75, 75; (1909) 75; (1910) 75.8.		
Dartmouth Medical School	(1909)	83.5
New York University Medical College	(1884)	80
Albany Medical College	(1910)	76
Columbia University, College of Physicians and Surgeons (1908) 76.9; (1909) 83.2.		
Cornell University Medical College (1910) 78.3, 78.6, 82.1.		
University of North Carolina	(1910)	76
University of Vermont (1908) 77.1; (1909) 81;	(1910)	75
McGill University, Canada	(1910)	79.3
University of London, England	(1905)	80.6
Undergraduates		75.6, 75.8
FAILED		
Kentucky University	(1904)	60.6
University of Maryland (1909) 72.1;	(1910)	69
Maryland Medical College	(1906)	69.9
Baltimore University	(1906)	71.8
Tufts College Medical School (1910) 69.4, 71.3, 72.9.		
College of Phys. and Surgs., Boston (1908) 64;	(1910)	72.2
Harvard University Medical School	(1910)	72.7
University College of Medicine, Richmond	(1907)	68.2
University of Naples, Italy	(1909)	60.7
Undergraduates, 16.7, 32.5, 42.8, 50.5, 60.4, 69.7, 71.7, 71.8, 73.6.		

At the examination held in May, the total number of candidates examined was 31, of whom 19 passed, including 5 undergraduates, and 12 failed, including 2 osteopaths and 3 undergraduates. The following colleges were represented:

College	Year Grad.	Per Cent.
PASSED		
University of Maryland	(1909)	75
Tufts College Medical School (1910) 75, 75, 75.8.		
Harvard University Medical School (1908) 76.2; (1909) 80.2; 1910) 75.5, 80, 81.2.		
College of Phys. and Surgs., Boston (1909) 75.7;	(1910)	75
Dartmouth Medical School	(1910)	81.9
Columbia University, College of Phys. and Surgs.	(1905)	86.1
University of Helsingfors, Finland	(1907)	78
Undergraduates, 75, 75, 75.3, 77.1, 78.		
FAILED		
College of Physicians and Surgeons, Boston (1908) 68.2, 69.5; (1909) 71.6; (1910) 70.6, 72.		
Columbia University College of Phys. and Surgs.	(1900)	70.7
University College of Medicine, Richmond	(1907)	72.2
Undergraduates, 68.5, 71.1, 72.3.		

Marriages

Francis Hamilton Redewill, M.D., Phoenix, Ariz., to Miss Helena Munn of Ann Arbor, Mich., in Paris, France, May 18.

Francis Marion Murray, M.D., Delaware, O., to Miss Jessie Gertrude Browning of Columbus, O., May 24.

Edmund E. Ryan, M.D., Ashland, Wis., to Mrs. Amy Carlin Shores of Welcome, Wis., at Ripon, June 5.

Herbert Edward Wheeler, M.D., to Miss Beulah Madailene Smith, both of Spokane, Wash., June 7.

James Allmond Day, M.D., Jacksonville, Ill., to Miss Frances E. Wilmot of Chicago, May 6.

George R. Carson, M.D., San Francisco, to Miss Grace M. Northgraves of Chico, Cal., June 17.

Alfred Roy Warner, M.D., to Miss Anna Zeh Flansburg, both of Gallupville, N. Y., June 14.

Henry Sherry, M.D., Pasadena, Cal., to Miss Gertrude Paine of Redlands, Cal., June 22.

Harry Taylor Marshall, M.D., to Miss Nancy Lee, both of Ivy, Va., June 9.

Henry B. Erdhaus, M.D., to Miss Louise Sebastian, both of St. Louis, March 15.

Eli A. Miller, M.D., to Miss Ethel Block, both of Cincinnati, June 6.

Deaths

Carl Beck, M.D., a prominent surgeon of New York City; died at his summer home, Pelham Heights, N. Y., June 8, from pneumonia, aged 55. He was born at Neckargemuend, Germany; received his academic education at the universities of Heidelberg and Berlin, and his medical degree from the University of Jena in 1879. Three years later he came to the United States and soon became prominent as a specialist in surgery. He was a member of the American Medical Association, Society of Medical Jurisprudence, New York Academy of Medicine, and had been president of the American Therapeutic Society and German Medical Society of New York. He was also an active, honorary and corresponding member of many scientific societies, both here and abroad. He was visiting surgeon and, at one time, president of St. Mark's Hospital and surgeon to the German Polyklinik, and professor of surgery at the New York Post-Graduate Medical School and Hospital. He was the author of several monographs on surgical subjects. He had been in failing health for several months and on that account had resigned the presidency of St. Mark's Hospital.

Charles Manly Ellis, M.D., of Elkton; one of the most widely known practitioners of Maryland; died in Johns Hopkins Hospital, Baltimore, June 3, several weeks after an operation for appendicitis, aged 73. He was born at Elkton; entered the University of Pennsylvania and graduated in 1861. During the Civil War Dr. Ellis served as assistant surgeon of the Sixth Pennsylvania Volunteer Cavalry (Rush's Lancers). He was taken prisoner and his devoted attention to the wounded soldiers of the Confederate Army won for him the esteem of the South. In 1863 Dr. Ellis resigned and returned to Elkton to take up practice. He was a member of the American Medical Association; a member and former president of the Medical and Chirurgical Faculty of Maryland; president of the Cecil County Medical Society; a director of the Union Hospital of Cecil County and, until his health failed, local surgeon of the Pennsylvania Railroad.

Thomas Davis Strong, M.D. University of Buffalo, N. Y., 1851; a member of the American Medical Association; in 1894 president of the New York State Medical Association, and formerly president of the Chautauqua County and Fourth District Medical Associations; a member of the American Academy of Medicine; for twenty-five years curator of the medical department of the University of Buffalo; surgeon of the Sixty-Eighth New York Volunteer Infantry throughout the Civil War; one of the commissioners who located the present state hospital, Buffalo; died at his home in Westfield, June 6, aged 88.

Charles Henry Dixon, M.D. Missouri Medical College, St. Louis, 1878; of St. Louis; a member of the American Medical Association, Association of Military Surgeons of the United States, and St. Louis Obstetrical and Gynecological Society; clinical lecturer on surgery and professor of rectal surgery of the medical department in Washington University; consulting surgeon and chief of staff to Bethesda, and surgeon to the St. Louis City and St. Louis Female hospitals; died at his home, June 5, from carcinoma of the liver, aged 55.

John Quincy Adams, M.D. New York University, New York City, 1853; of Los Angeles; surgeon of the One Hundred and Seventy-Second New York Volunteer Infantry during the Civil War; who, while a resident of Pasadena, presented his medical library of 700 volumes to the public library of that city; died at the Good Samaritan Hospital, Los Angeles, May 23, aged 84.

Michael Thomas Pendergast, M.D. University of Pennsylvania, Philadelphia, 1882; of Philadelphia; a member of the Medical Society of the State of Pennsylvania; consulting physician to St. Joseph's Hospital; a fellow of the College of Physicians of Philadelphia; died in Ocean City, N. J., June 3, from paralysis of the throat, aged 57.

Harris Howey, M.D. St. Louis Medical College, 1845; a physician of Louisa County, Ia., since 1841; one of the California Argonauts; surgeon of the Twentieth Iowa Volunteer Infantry during the Civil War; for several years a member of the local pension board; United States gauger in 1873 and 1874; died at his home in Wapello, May 13, from senile debility, aged 94.

William Edgar Lindley, M.D. Cooper Medical College, San Francisco, 1885; of Miami, Ariz.; a surgeon of Arizona Volunteers during the Spanish-American War; formerly demonstrator of anatomy in the medical college of the University of Southern California, Los Angeles; died in Globe, Ariz., Nov. 20, 1910, from rheumatism, aged 48.

Julian E. Wood, M.D. Washington University, Baltimore, Md., 1869; for many years acting assistant surgeon U. S. P. H. and M.-H. Service, and surgeon of the Norfolk & Southern Railroad; health officer of Pasquotank County, N. C.; died at his home in Elizabeth City, June 1, aged 66.

Frederick Lemuel June, M.D. University of Buffalo (N. Y.), 1876; a member of the American Medical Association; for several terms coroner of Orleans County, N. Y., and for ten years postmaster of Waterport; died at his home in that village, June 6, from heart disease, aged 56.

Edwin Ray Humiston, Jr., M.D. University of Minnesota, Minneapolis, 1903; a member of the American Medical Association; for several years a member of the Minnesota State Board of Pharmacy; died at his home in Worthington, Minn., May 10, from lobar pneumonia, aged 43.

Henry Humphries (license, Twenty-Seventh Judicial District Board, Texas, 1896); for several years a member of the Santa Fe System hospital force with headquarters in Temple; later physician of the State Convict Camp, Bonus; died at the home of his sister in Temple, June 4.

William Smeltzer Derrick, M.D. College of Physicians and Surgeons, Atlanta, Ga., 1908; a member of the Mississippi State Medical Association and president of the Holmes County Medical Society; died at his home in Goodman, May 27, from typhoid fever, aged 28.

Henry Conant Prentiss, M.D. Berkshire Medical College, Pittsfield, Mass., 1857; for forty-five years an employee of the Massachusetts State Board of Health, Lunacy and Charity; died at his home in Somerville, May 26, from heart disease, aged 79.

Joseph J. Selbach, M.D. College of Physicians and Surgeons, Chicago, 1888; of Eau Claire, Wis.; formerly secretary and treasurer of the Intercounty Medical Society; died in the Sacred Heart Hospital in Eau Claire, May 25, from heart disease, aged 46.

Paul L. Bellenger, M.D. Memphis (Tenn.) Hospital Medical College, 1896; a member of the Louisiana State Medical Society; of Lake St. John; died near that place from the effects of gun-shot wounds received in an altercation with a tenant, aged 42.

Edmund Montgomery, M.D. University of Würzburg, Germany, 185—; for six years a practitioner in Madeira, Mentone and Rome; since 1873 a resident of Hempstead, Tex.; died at his home near Hempstead, April 17, from paralysis, aged 75.

Austin B. Chamberlin, M.D. University of Nashville (Tenn.) 1869; of Galveston; secretary-general of the Supreme Council of the Southern Jurisdiction of Scottish Rite Masons; died in Washington, D. C., June 7, from cerebral hemorrhage.

William T. Rose, a practitioner of Wichita, Kan. in the early seventies; a veteran of the Mexican and Civil Wars; coroner of Sedgwick County from 1885 to 1887; died at the home of his daughter in Wichita, May 28, aged 90.

William Henry Bertram, M.D. College of Physicians and Surgeons, Boston, 1891; Tufts College Medical School, Boston, 1895; of East Boston; died in the East Boston Relief Station, June 4, from cerebral hemorrhage, aged 61.

David W. Thompson, M.D. Eclectic Medical University, Kansas City, 1902; of Kansas City, Kan.; a member of the Kansas Medical Society; died in Seattle, Wash., January 12, from endothelioma of the cerebrum, aged 53.

William Henderson Nickles, M.D. Ohio-Miami Medical College, Cincinnati, 1910; an intern in the Cincinnati City Hospital; died in that institution, May 29, six days after an operation for appendicitis, aged 23.

Alfred Thorley Hamilton, assistant surgeon of the 148th Pennsylvania Volunteer Infantry during the Civil War, and health officer of Lewistown, Pa.; died at his home, May 9, from chronic nephritis, aged 75.

George Hazard Perry, M.D. New York Medical College, New York City, 1865; a member of the Riley County (Kan.) Medical Association; died at his home in Manhattan, April 20, from senile debility, aged 81.

Bolivar Antrobus, M.D. Medical College of Cincinnati, 1876; a veteran of the Civil War; coroner of Mitchell County, Kan., from 1890 to 1892; died at his home in Beloit, June 3, from pneumonia, aged 75.

Orlando M. Edwards, M.D. Medical College of Ohio, Cincinnati, 1859; a member of the Neosho County (Kan.) Medical Society; died at his home in Chanute, April 26, from heart disease, aged 74.

Benjamin F. Stultz, M.D. College of Physicians and Surgeons, Keokuk, Ia., 1888; a member of the American Medical Association; died at his home in Moweaqua, Ill., May 24, from nephritis, aged 56.

Oliver Broadbent, M.D. Cincinnati College of Medicine and Surgery, 1868; for forty years a resident of Madison County, Ind.; died at his home near Anderson, June 3, from heart disease, aged 69.

William A. Reid, M.D. University of Louisville (Ky.), 1890; of Muskogee, Okla.; was instantly killed in a collision between his automobile and a Frisco passenger train near Muskogee, May 11, aged 41.

David Lewis Walmsley, M.D. University of the Victoria College, Coburg, Ont., 1866; of Detroit; formerly a member of the American Medical Association; died, January 22, aged 69.

Henry M. Fowler (license, Illinois); a practitioner for forty-five years; for several years postmaster of Scales Mound, Ill.; was found dead in his room in that place, June 2, aged 77.

Allen H. Galloway, M.D. Tulane University, New Orleans, 1874; a member of the State Medical Association of Texas; died at his home in Laneville, June 4, aged 61.

Alexander Bethune, M.D. Queen's University, Kingston, Ont., 1858; a member of the Ontario Medical Council from 1869 to 1880; died at Emo, Ont., April 8, aged 77.

John Thompson Biggs (license, Indiana); who retired from active practice in 1884; died at his home in Mitchell, May 16, from valvular heart disease, aged 86.

Edward Galbraith Darling, M.D. University of Maryland, Baltimore, 1882; died at his home in Lauraville, Md., June 6, from pulmonary tuberculosis, aged 52.

Julius Patterson Trotti, M.D. Atlanta (Ga.) College of Physicians and Surgeons, 1910; died at his home in Atlanta, May 9, from heart disease, aged 23.

Walter T. Sanders, M.D. Medical College of Georgia, Augusta, 1886; of Bluffton, S. C.; died in a hospital in Savannah, Ga., May 26, from paralysis.

Homer Lee Woldridge, M.D. Washington University, St. Louis, 1901; died at his home in Breckenridge, Mo., May 27, from tuberculosis, aged 33.

Richard Daniel King, M.D. University of Nashville (Tenn.) 1853; died at his home in Whiteright, Texas, April 22, from senile debility, aged 83.

Charles J. Foscue, M.D. Medical College of Alabama, Mobile, 1900; died at his home in Walnut Springs, Tex., June 5, aged 35.

William Wallace Holloway (license Tenn., 1889); died at his home in Union City, February 5, from pneumonia, aged 69.

David F. Knott, M.D. Southern Medical College, Atlanta, Ga., 1883; died at his home in Carrollton, Ga., May 12.

Stephen E. Hazen (license, Vermont, 1896); died at his home in East Wallingford, May 5, aged 68.

The Propaganda for Reform

In This Department Appear Reports of the Council on Pharmacy and Chemistry and of the Association Laboratory, Together with Other Matter Tending to Aid Intelligent Prescribing and to Oppose Medical Fraud on the Public and on the Profession

CONVICTIONS UNDER THE FOOD AND DRUGS ACT

The government officials continue to bring to task those exploiters of drugs that are guilty of adulterating or misbranding their products. We have, at different times, given brief abstracts of the Notices of Judgments which the government issues in all cases of convictions under the Food and Drugs Act. A few more of the latest violations of this law are here appended.

Some of these decisions take on an added interest in view of the fact that the Supreme Court of the United States has recently so interpreted the Food and Drugs Act as greatly to limit its scope. The court holds that the law does not apply to statements, false or otherwise, regarding the curative effects of medicinal preparations but that it governs only misstatements regarding composition or place of manufacture.

Under the new interpretation it is a question whether the government could again—on the same grounds—secure a conviction of the exploiters of Londonderry Lithia Water, for instance. This water, as the Notice of Judgment makes clear, contains such an infinitesimal quantity of lithia as to be absolutely valueless for producing any of the therapeutic effects of lithium. The officials entrusted with the enforcement of the pure food law held that a water containing an amount of lithium so small as to be therapeutically negligible was misbranded if it was called a "lithia water." Probably under the new interpretation, the exploiters of this pseudo-lithia water could operate unmolested.

In the case of the "California Waters of Life," there is no question that under the new interpretation of the law no conviction could be secured. "California Waters of Life" is simply ordinary spring water; no more, no less. Yet it has been advertised as a cure for nearly every disease in the calendar. As it is not a cure, a conviction was obtained—but this was before the Supreme Court had limited the meaning of the law. The case against "Hair's Asthma Cure" would also have fallen to the ground had the Supreme Court's decision been rendered earlier.

LONDONDERRY LITHIA WATER

This product was sent out by the Londonderry Lithia Spring Water Company, Nashua, N. H., and was recommended "for Rheumatism, Neuralgia, Dyspepsia, Eczema, Malarial Poisoning, Gout, Gravel, Bright's Disease, Diabetes, Dropsy and all diseases of the Kidneys and Bladder." While labeled a "lithia water," the government chemists found it to contain "only a faint spectroscopic trace, insufficient to give a therapeutic action of lithia when a reasonable quantity of the water was consumed." The attorneys for the government claimed that the product was misbranded in that, while it was sold as a "lithia water" it "did not contain any appreciable amount of lithium and was not a lithia water."

The government chemists found that the amount of lithium in 4 quarts of this water was so small as to be unweighable. As chemical balances will register weights as small as 1/1200 of a grain, there was evidently less than that amount of lithium in 4 quarts. The average therapeutic dose of the salt of lithium said to be in this water is 6 grains. A person who wished to get one average dose of lithium, therefore, would have to consume, at the very lowest estimate, more than 225 barrels of Londonderry lithia water.

The government analysts also found in some of the samples examined that sodium chlorid (common salt) and sodium bicarbonate had been added to the water. As the presence of neither of these added substances was mentioned on the label and as the purchaser would believe that he was getting a natural water, the addition of these two substances was deemed misbranding. The product was condemned and forfeited and the United States marshal was ordered to destroy it. The cost of the proceedings was assessed on the company. [*Notice of Judgment No. 822.*]

KICKAPOO COUGH CURE

This nostrum was shipped in interstate commerce by the Kickapoo Indian Medicine Co., Clintonville, Conn. Samples of the shipment were analyzed by the government chemists and found to be a "solution of sugar, glycerin, vegetable extractive, aromatic bodies, inorganic salts and undetermined matter" in water and alcohol. The stuff was declared misbranded, first, because although it contained a certain percentage of alcohol, the package or bottle failed to bear a statement on the label to that effect; second, in that while it was labeled a "cough cure," it was not a cough cure, and, third, in that while it was claimed to possess properties recognized by the medical profession as necessary to the proper treatment of diseases of the lungs, it did not, in fact, possess such properties. A fine of $25.00 and costs was imposed. [*Notice of Judgment No. 826.*]

CALIFORNIA WATERS OF LIFE

This impudent fake was shown up by Mr. Adams in the "Great American Fraud." After a period of retirement it is, apparently, again being brought to the attention of the gullible. Several hundred bottles of this stuff were shipped by N. C. and E. J. Foster of La Pressa, Cal., to Tennessee. The labels bore the following statements:

> "Original California Waters of Life, formerly known as Isham's Sweet Water Springs, San Miguel Mts., San Diego, Calif. The most salubrious spot on earth. Just as it flows from nature's laboratory. Famous for its miraculous power to destroy diseases and actually rejuvenates humanity by dissolving and evacuating calcareous old age matter and microbes. The worst form of kidney, stomach, blood and skin diseases yield to its marvelous power. Cures rheumatism, Bright's disease, diabetes, gallstones, acute dyspepsia, insomnia, and gives new life. Makes the blood pure and postpones old age. No other water performs such wonderful cures. Requires less than one-half the amount of other medicinal waters to derive the desired results. Some physicians have requested that the precipitation, if any occurs, be saved for their own use as it is pronounced by chemists to be iron and silica and in no manner is the value of the water lessened or deteriorated."

Samples of the product were analyzed by the government chemists and the "California Waters of Life" was found to contain no ingredients beyond those found in ordinary spring water. The government attorneys insisted that the stuff was misbranded under the Food and Drugs Act and the courts, of course, upheld their contention. [*Notice of Judgment No. 830.*]

"TEMPERINE," "DOCTOR FIZZ," AND "CREAM ALE"

These three products were alleged to be temperance drinks and were shipped from Paducah, Ky., to Tennessee by one H. Friedman, who does business as A. M. Laevison & Co. These products were labeled respectively:

> "Drink Laevison's Temperine Special Brew, The great Temperance Drink; Guaranteed under the Food and Drugs Act non-intoxicating. A. M. Laevison & Co., Paducah, Ky."
>
> "The Great Temperance Beer, Laevison's Original Doctor Fizz Special Brew; Guaranteed by A. M. Laevison & Co., Paducah, Ky., under the Food and Drugs Act, June 30, 1906."
>
> "The Great Temperance Beer, Laevison's Original Cream Ale Special Brew; Guaranteed by A. M. Laevison & Co., Paducah, Ky., under the Food and Drugs Act, June 30, 1906."

Samples were analyzed in the Bureau of Chemistry and each was found to contain approximately 4 per cent. of alcohol. As ordinary beer contains about the same amount of alcohol, the government officials declared these "temperance" drinks misbranded. In the case of the "Cream Ale" it was declared to be not only misbranded but adulterated in that fermented beer had been substituted in part for the "cream ale." The defendant pleaded not guilty to the charges, but the jury disagreed with him and he was fined $50 and costs. [*Notice of Judgment No. 834.*]

HAIR'S ASTHMA CURE

This nostrum was shipped by Margaretta R. Cochran and Westanna McClelland—who are known to the public as Dr. B. W. Hair—and by Robert Cochran, their agent and manager from their headquarters at Hamilton, O., to the District of Columbia. It was labeled and sold as a cure for asthma. Analyzed by government chemists, it was found to contain:

Alcohol
Potassium iodid
Glycerin
Water

As such a mixture is not a cure for asthma, the product was declared misbranded. A plea of guilty was entered and a fine imposed. [*Notice of Judgment No. 837.*]

BRUNNER'S GREASELESS PEROXID CREAM

John Brunner and Fred T. Barrett, who do business as the Peroxid Specialty Co., shipped from their headquarters at Cincinnati, O., into Indiana, a drug product labeled in part as follows:

> "Brunner's Greaseless Peroxid Cream."
>
> "An ideal bleach for the skin."
>
> "Brunner's Peroxid Cream produces a rich white skin and a complexion admirably fair."
>
> "There is nothing more beneficial to the skin where blemishes or impurities exist than peroxid of hydrogen."
>
> "Only the purest and best of this product is used in making Brunner's Peroxid Cream."

The stuff was analyzed by the government chemists and while, borax, glycerin and spermaceti were found, no peroxid could be discovered. As the purchaser would doubtless believe that in purchasing "peroxid cream" he was getting something containing peroxid of hydrogen, the absence of this substance from Brunner's preparation was deemed misbranding. A plea of guilty was entered and a fine imposed. [*Notice of Judgment No. 840.*]

GERMAN SEIDLITZ SALTS

This stuff was made by the American Granule and Tablet Co. of Cincinnati, O., and was sold under the following claims:

> "Promotes longevity, strengthens the nerves, cures headache after over-indulgence."
>
> "Purifies and decarbonizes the blood."
>
> "Cures chronic and sick headache."
>
> "Genuine Seidlitz must not be confounded with Seidlitz powders."
>
> "The salt is the same as the salts from Seidlitz Springs, Germany."
>
> "Cures hemorrhoids, constipation, bad breath, weak stomach . . ."
>
> "Positively prevents appendicitis, varicocele, apoplexy, tendency to paralysis."
>
> "Old age can be attained by taking small doses daily."

When analyzed by the government chemists, the product was found to contain the following composition:

Sulphur trioxid	41.49
Magnesium oxid	21.18
Water	37.22

As the label and the statements on the label were evidently intended to give the impression that this drug was of German origin and was derived from the Seidlitz Springs in Bohemia, it was declared misbranded for, as a matter of fact, it was manufactured in Cincinnati. The falseness of the therapeutic claims also constituted misbranding. The defendant pleaded guilty and was fined. [*Notice of Judgment No. 843.*]

EGYPTIAN DEODORIZER AND GERM KILLER

This was sold by the Paul Manufacturing Co., of Boston, Mass., as a "perfect fumigator and destroyer of disease germs." When analyzed it was found to consist of wood, apparently cedar, perfumed with essential oils. Experiment showed that the burning of this "germ killer" in a small, closed room did not kill germs after four hours exposure. The stuff was declared misbranded and a fine imposed. [*Notice of Judgment No. 856.*]

PAINEASE

The Jordan Company, which is the style under which Louis W. Jordan does business in Boston, sold a product called Painease. Some of the virtues assigned to this nostrum were:

> "Stops all pain such as rheumatism, neuralgia, periodicals, backache, headache, etc., in fact it is for aches and pains of every description."
>
> "It is a sure and very effective remedy for excessive dissipation of any kind."
>
> "Contains no poisonous drug or opiate of any nature."

As this nostrum *would not* stop all pains and as it was *not* a sure, safe and effective remedy for excessive dissipation of any kind and as, further, it *did* contain a poisonous drug, namely, acetanilid (5 grains in each powder), Painease was declared misbranded. The defendant pleaded guilty. [*Notice of Judgment No. 860.*]

PHILLIPS' FACE LOTION

Phillips' Face Lotion was shipped by the Phillips Medical Company, Omaha, Neb., into Colorado. It was labeled in part as follows:

> "A radical cure for any or all diseases of the skin."
> "Restores it to its natural condition."
> "Imparts a feeling of freshness."
> "Cures Pimples, Blackheads, Barber's Itch, Eczema and any itching or burning of the Skin."

Analysis showed it to contain:

Methyl (wood) alcohol..	11.2	per cent.
Ethyl (grain) alcohol...	38.56	per cent.
Ash	0.03	per cent.
Resins, etc.	1.17	per cent.
Water	49.04	per cent.

The claims for curative effects made for this preparation being falsehoods and the fact that the amount of alcohol it contained was not correctly given on the label, caused the government officials to declare it misbranded. Under the Food and Drugs Act as it now stands, unfortunately, no cognizance can be taken of the fact that this preparation contained so dangerous a product as wood alcohol. A plea of guilty was entered and a fine imposed. [*Notice of Judgment No. 862.*]

H. H. H. MEDICINE

"D. Dodge Tomlinson's Celebrated H. H. H. Medicine" was the name of a nostrum shipped from Philadelphia into the District of Columbia. The number of diseases that this "celebrated" medicine was said to cure was remarkable. Not only would sprains, bruises, headache, toothache, rheumatism, neuralgia, sore throat, cholera morbus and cramps yield to its power, but spavins, windgalls, sweeny, contracted hoof, ringbone and poll-evil would disappear like magic. Analyzed by the government chemists, the product was found to be "a dark-colored liquid containing 52.30 per cent. of alcohol by volume, free ammonia, ammonium salts, camphor, salicylic acid, iodin in combination, soap and alkaloid-bearing drug extractives resembling cinchona, volatile oils and water." The labels on the bottles of this stuff stated that it contained 68 per cent. of alcohol; in the circulars that accompanied it, it was said to contain 57 per cent. of alcohol; as a matter of fact it contained only 52.30 per cent. of alcohol. According to the label, also, "it is entirely vegetable;" according to the government analysis, it is not. As the claims for therapeutic effects were false and the claims for the composition also were false, "D. Dodge Tomlinson's Celebrated H. H. H. Medicine" was declared misbranded. A plea of guilty was entered and a fine imposed. [*Notice of Judgment No. 863.*]

Morbidness and Its Relation to Disease.—Morbidness is primarily an overflow of energy; senility a loss of vital power. The one leads to disease, the other to decay. They are both found in abnormal persons, because an overflow of energy in one direction leads to its diminution in others. The marks of the two, however, are so distinct that they can be readily separated and studied. Of the two, morbidness is more closely allied to defective heredity, and hence the stigmata of the two are practically the same. Defective heredity is the more deep-seated; the morbidness of overnutrition shows itself in a stunted development of the higher faculties. Its cause is an arresting of the normal diversion of surplus energy from the lower to the higher organs. Morbidness ends in disease when the local surplus becomes unmanageable; it creates mental abnormalities through indirect effects on the higher powers. Disease, hysteria and insanity are its most pronounced manifestations; but it has so many minor symptoms that its abnormal effects cannot be related to their cause without the most careful study. (From Patten's "The Social Basis of Religion," New York, 1911.)

Correspondence

Sanitary Features of the Maneuver Camp at San Antonio

To the Editor:—Since President Taft has given prominence to the excellent health report of the maneuver camp (here at San Antonio, Texas, where I am at present), the reasons for it have been sought. The antityphoid inoculation undoubtedly stands preeminent. This is given in three inoculations, ten days apart; 0.5 c.c. the first time and 1 c.c. at each succeeding dose.

The results have been marvelous. Never in the history of the world has a military camp been so free from typhoid fever —only a civilian teamster and a mild case in a recruit, both incurred before reaching here. The reaction from the inoculation is nominal; merely a sore arm as though one had been vaccinated and it was taking.

The other contributory causes for the excellent health have been the pure water, the intense sunshine and the elimination of flies. The latter was the hardest problem of all, but was solved by Colonel Birmingham, the chief surgeon, by destroying the larvæ of the flies, burning off the picket lines with hay and oil once per week, the daily burning out of the latrines with crude oil and hay, the use of fly-proof box-seats to the latrines and the discontinuance of the old garbage-cans. Immediately in the rear of each kitchen an open incinerator was built, according to plans furnished by the medical department, by sinking a shallow trench which was filled up with small boulders and rock; this was banked on three sides by rock and the outside plastered with mud. Here a continuous fire from 6 a. m. to 7:30 p. m. consumes 23 cubic feet of solid garbage, and 100 gallons of liquid slops dripped along the sides for each one-sixteenth of a cord of wood consumed. Garbage is not allowed to stand, but is consumed at once as soon as produced. At some of the incinerators, as at Field Hospital No. 3, Major H. L. Gilchrist commanding, the heat of the burning garbage is utilized for boiling all the water used by the hospital, as well as for sterilizing the bedding and clothing of the patients. At the same hospital the kitchen is double-screened, a vestibule being screened at both ends so that if a fly enters it can be killed in transit without getting into the kitchen proper.

Though an average of over 12,000 troops have been encamped on the same ground for over three months, yet the sick report is about one-half what it was at their home stations. Of the eight deaths here but two have been from diseases developed here, both appendicitis of the fulminating type with general peritonitis. The remaining deaths were: two from drowning, one from pneumonia following measles, the patient dying before being brought into camp; one from cerebral hemorrhage following traumatism incurred before arriving; one from empyema, the patient being already sick on arrival here, and one case of chronic Bright's disease.

In an experience with military camps extending back to 1894 through the Spanish-American War, the Philippine insurrection and the Boxer rebellion in China, this is the first large maneuver camp that I have seen that can be called sanitary in the fullest sense of the word.

Frank W. Foxworthy, Indianapolis.

Queries and Minor Notes

Anonymous Communications will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

TREATMENT OF HIP-JOINT DISEASE

To the Editor:—It is strange how two persons reasoning from the same facts can reach conclusions diametrically opposite. This apropos of Dr. Nutt's very interesting description of a case of adult hip-joint disease (The Journal, June 10, p. 1718). To one who studies his joints in the laboratory this case teaches, not the advisability of prolonging conservative treatment through many long, tedious years, but the absolute futility of conservative treatment of joint tuberculosis in the adult. Three "different surgeons, all excellent men of high standing," had attempted the impossible task for perhaps ten years, the fourth tires of it, the fifth now tries it again, and expects "that frequent examinations will determine a disappearance of the signs." I venture the prediction that No. 5 will have as good success as the other four.

Leonard W. Ely, Denver.

POSTGRADUATE STUDY ABROAD

To the Editor:—Can you give me any information in regard to visiting hospital clinics in Ireland, England, Germany, Italy and France? Where can I spend time with the most profit? If you can direct me to any sources of information it would greatly accommodate me.

E. H. Ross, St. Johnsbury, Vt.

Answer.—This subject was taken up at some length and detailed information was given for various countries in The Journal, April 8, 1911, p. 1056.

MOTHERSILL'S SEASICK REMEDY IN THE INDEX

To the Editor:—Will you kindly inform me if any report has been made by the Chemical Laboratory of the American Medical Association concerning "Mothersill's Seasick Remedy," which I have frequently had brought to my notice by patients returning from abroad.

W. O. J., Indiana.

Answer.—Mothersill's Seasick Remedy was the subject of a contribution from the chemical laboratory that appeared in The Journal, July 2, 1910. This article is indexed both under the word "Mothersill" and under the word "Seasick," not only in the General Index but also in the Index to Current Medical Literature. We do not wish, in calling attention to this matter, to discourage our readers from writing to us for information. This we are always glad to supply. We receive so many inquiries of the character of the one just answered, however, that we feel it incumbent on us to remind our readers that they may often find a desired item of information more expeditiously by consulting the index of The Journal than by writing to us.

ABDOMINAL MASSAGE IN CONSTIPATION

To the Editor:—Please refer me to literature on abdominal massage for the cure of constipation.

L. J., Arizona.

Answer.—We find the following references in which the title indicates that massage is one of the remedies discussed. There is a considerable number of other articles on the treatment of constipation, many of which undoubtedly consider the subject of massage, although it is not indicated by the title.

Teachnor, W.: The Mechanical Treatment of Habitual Constipation, *Ohio Med. Jour.*, 1908, vi, 268.
Juettner, O.: Physical Treatment of Constipation, *St. Louis Med. Rev.*, 1908, lvii, 187-190.
Gant, S. G.: Treatment of Mechanical Constipation and Obstipation, *New York Med. Jour.*, September, 1909.
Hazzard, T. L.: Abdominal Massage as a Means of Relief in Chronic Constipation, *Proctologist*, St. Louis, September, 1909.
Von Akerhielm: Local Massage of Rectum in Treatment of Habitual Constipation, *Therap. d. Gegenw.*, November, 1909.
Barnes, G. E.: Treatment for Chronic Constipation, The Journal, Dec. 25, 1909, p. 2161.
Dowse, T. S.: Mechano-Therapeutics for Constipation, *Practitioner*, May, 1910.

BACTERICIDAL EFFECTS OF ALCOHOL

To the Editor:—I note that in The Journal, June 10, page 1740, in reply to a query concerning the bactericidal effects of alcohol, you say that it would require several hours for 94 per cent. alcohol to kill pus-producing organisms, and that the stronger the alcohol the more efficient it is. May I call your attention in this connection to the experiments of Harrington and Walker (*Boston Med. and Surg. Jour.*, May 21, 1903), who found that 95 per cent. alcohol was no more bactericidal than 70 per cent., and in the absence of moisture was distinctly less efficacious. This conclusion is in accord with that of numerous other authors, for instance: Rideal ("Disinfection and Preservation of Food," third edition, page 322) quotes the experiments of Minervini, in which it was shown that with 70 per cent. alcohol the *Staphylococcus pyogenes aureus* was killed in ten minutes, but survived three days' exposure to 99 per cent. alcohol. Similar figures were obtained with other organisms.

Horatio C. Wood, Jr., Philadelphia.

To the Editor:—On page 1740 of The Journal, June 10, 1911, are statements indicating that the strongest solutions of alcohol have greater bactericidal effects than solutions of moderate strength, e. g., 60 per cent., and that the strong solutions are the most efficient bactericides both on the skin and in glass containers. This opinion differs from statements in our recent text-books and certainly is at variance with the following quotations from Harrington and Walker (*Boston Med. and Surg. Jour.*, cxlviii, 548-552, May 21, 1903):

"Against dry bacteria, absolute alcohol and ordinary commercial alcohol are wholly devoid of bactericidal power, even with twenty-four hours' direct contact, and other preparations of alcohol containing more than 70 per cent. by volume are weak in this regard, according to their content of alcohol—the stronger in alcohol, the weaker in action."

"The most effective dilutions of alcohol against the strongly resistant (non-sporing) bacteria, such as the pus organisms, in the dry state, are those containing from 60 to 70 per cent. by volume, which strengths are equally efficient against the same organisms in a moist condition."

"The stronger preparations of alcohol possess no advantage over 60 to 70 per cent. preparations, even when the bacteria are moist; therefore, and since they are inert against dry bacteria, they should not be employed at all as a means of securing an aseptic condition of the skin."

W. A. Sawyer, Berkeley, Cal.

TREATMENT OF BROMIDROSIS

To the Editor:—Please give me some treatment for bromidrosis. Some time ago I saw an article in reference to the treatment of this condition and was under the impression it was in The Journal, but cannot find it.

D. E. Little, Eufaula, Okla.

Answer.—We find no references to this subject in recent current literature. The treatment should be the same as for hyperidrosis to check the sweating. Appropriate regulation of diet and treatment for general conditions should be instituted. Salicylic acid in 5-grain doses has been used internally with success. Locally the following may be used: Chromii trioxidum (40 parts in 500) or liquor formaldehydi (10 parts in 500) or potassium permanganate (1 to 3 parts in 500) or equal parts of salicylic acid and starch as a dusting powder. (See "Physicians' Manual of the Pharmacopeia and National Formulary," p. 180). Applications should be made twice daily, and should be followed by thorough dusting of the parts with boric acid, which also should be dredged on the stockings and into the shoes if the feet are the parts subject to the perspiration. Stockings may be soaked in a saturated solution of boric acid and dried. Radiotherapy is reported efficient.

LITERATURE ON FLIES

To the Editor:—Please inform me of any literature respecting the house-fly.

V. F. Marshall, Appleton, Wis.

Answer.—Pamphlets for the instruction of the public regarding flies have been published and distributed by the state boards of health of California, District of Columbia, Idaho, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Michigan, Mississippi, Montana, New York, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, South Carolina, Tennessee, Utah, Virginia, Washington and Wisconsin. Copies can be secured by writing the secretary of the State Board of Health of any of these states, addressing him at the capital city. Pamphlets and leaflets have also been issued by the Merchants' Association's Committee on Pollution of the Waters of New York, of which Edward Hatch, Jr., is chairman, and by the Anti-Fly Crusade of Detroit. Dr. S. J. Crumbine, secretary of the Kansas State Board of Health has been especially active in promoting this campaign. The Chicago Department of Health has also taken the subject up in its bulletin.

One of the most comprehensive surveys of the subject yet published is contained in "The House-Fly—Disease Carrier." by L. O. Howard, chief of the Bureau of Entomology, U. S. Department of Agriculture. The book is published by Frederick A. Stokes Company, New York; price, $1.60.

The following references to original articles appearing in The Journal and elsewhere will be found of special interest on various phases of the subject. The subjects of the articles given include flies of a few other species than *Musca domestica.*

Orton, S. T., and Dodd, W. L.: Transmission of Bacteria by Flies with Special Relation to an Epidemic of Bacillary Dysentery, *Boston Med. and Surg. Jour.*, Dec. 8, 1910; abstracted in The Journal, Dec. 24, 1910, p. 2267.
Ficklen, E. P. A.: Bacteria Carried on the Appendages of the Domestic Fly, *New Orleans Med. and Surg. Jour.*, November, 1907; abstr. in The Journal, Jan. 4, 1908, p. 74.
Newstead, R.: The Habits, Life-Cycle and Breeding-Places of the Common House-Fly, *Ann. Trop. Med. and Parasitol.*, February, 1908; abstr. in The Journal, May 16, 1908, p. 1656.
Flexner, S., and Clark, P. F.: Contamination of the Fly with Poliomyelitis Virus, The Journal, June 10, 1911, p. 1717.
Gilbert, N. C., Chicago: Infection of Man by Dipterous Larvæ, *Arch. Int. Med.*, October, 1908, p. 226. (This article contains an especially full bibliography on myiasis.)
McCampbell, E. F., and Corper, H. J.: Myiasis Intestinalis Due to Infection with Three Species of Dipterous Larvæ, The Journal, Oct. 9, 1909, p. 1160.

The following articles may also be consulted:

The Contaminated Fly, Correspondence, The Journal, May 27, 1911, p. 1593.
Miller, R. T., Pittsburg, Pa.: Myiasis Dermatosa Due to the Ox-Warble Flies, The Journal, Dec. 3, 1910, p. 1978.
Pease, H. D.: Relation of Flies to the Transmission of Infectious Diseases, *Long Island Med. Jour.*, December, 1910.
Overton, F.: Eradication of the House-Fly, *Long Island Med. Jour.*, December, 1910.
Flies and Typhoid Fever, Editorial, The Journal, Nov. 19, 1910, p. 1812.
Gudger, E. W.: Yaws Transmitted by a Fly, *Science*, Nov. 4, 1910; abstr. in The Journal, Dec. 3, 1910, p. 1951.
Flies as Carriers of Disease, London Letter, The Journal, Oct. 15, 1910, p. 1390.
Abating the Fly Nuisance, Current Comment, The Journal, Aug. 20, 1910, p. 700.
Nicholson, J. L.: Myiasis, The Journal, May 21, 1910, p. 1686.
Earlier References to the Relation of Flies to Disease, The Journal, March 10, 1910, p. 982.

Palmer, J. W.: Relation the House-Fly Bears to Typhoid and Other Infectious Diseases, *Atlanta Jour. Rec. Med.*, August, 1910.

Felt, E. P.: Methods of Controlling the House-Fly and Thus Preventing the Dissemination of Disease, New York *Med. Jour.*, April 2, 1910; abstr. in The Journal, April 16, 1910, p. 1335.

Nash, J. T. C.: Bacterial Contamination of Milk: the Connection Between Flies and Epidemic Diarrhea, *Lancet,* London, Dec. 5, 1909.

Dutton, W. F., Pittsburg, Pa.: Blue-Bottle Flies as Carriers of Infections, The Journal, Nov. 6, 1909, p. 1561.

Cleland, J. B.: Flies in Dissemination of Disease, *Australasian Med. Gaz.,* September, 1909.

Lincecum, A. L.: The Musca Domestica as a Carrier of Disease: The Improvement of Sanitary Conditions in Country Homes and Villages, *Texas State Jour. Med.*, September, 1909.

Coward, F. A., Columbia, S. C.: Musca Domestica: The Common House-Fly, *Jour. South Carolina Med. Assn.*, August, 1909.

The Fly and Typhoid Fever, Editorial, The Journal, Aug. 28, 1909, p. 720.

Hop Vines to Exclude Flies, Query and Minor Note, The Journal, July 10, 1909, p. 132.

Osmond, A. E.: The Fly—An Etiologic Factor in Intestinal Disease, *Lancet-Clinic,* April 10, 1909.

Klein, E.: Flies as Carriers of the Bacillus Typhosus, *British Med. Jour.,* Oct. 17, 1908.

Smith, T.: The House-Fly as an Agent in the Dissemination of Infectious Diseases, *Am. Jour. Pub. Hyg.,* August, 1908; abstr. in The Journal, Sept. 26, 1908, p. 1108.

Robertson, A.: Flies as Carriers of Contagion in Yaws, *Jour. Trop. Med. and Hyg.*, July 15, 1908; abstr. in The Journal, Aug. 22, 1908, p. 712.

Efficient Means to Exterminate Flies (Queries and Minor Notes), The Journal, April 18, 1908, p. 1288.

Flies and Intestinal Disease, Editorial, The Journal, Jan. 18, 1908, p. 210.

Yount, C. E., and Sudler, M. T.: Human Myiasis from the Screw-Worm Fly, The Journal, Dec. 7, 1907, p. 1912.

Spoon, A. A.: Infection with Fly Larvæ, The Journal, Nov. 23, 1907, p. 1775.

Buchanan, R. M.: Carriage of Infection by Flies, *Lancet,* London, July 27, 1907; abstr. in The Journal, Aug. 24, 1907, p. 721.

LEGAL DEFINITION OF THE PRACTICE OF MEDICINE

To the Editor:—Please inform me if there has been given an authoritative judicial opinion as to the definition of the "practice of medicine." There has been much discussion on this subject in our county society A. I. Lawbaugh, Calumet, Mich.

Answer.—There are a great many supreme court decisions on this point, but they are mainly decisions interpreting the definition found in the medical practice act in force in the state at the time the decision was rendered. This question is one of the most important questions to be considered in framing a medical practice act.

There are two alternatives. One is to include no definition whatever in the law and to leave the courts to determine what is the practice of medicine in accordance with common usage, standard dictionaries, etc. The other is to include a definition of the practice of medicine in the law and thus make the definition a part of the statute. This, of course, has the advantage of being explicit; but, on the other hand, if the definition is a part of the statute, then the courts will refuse to recognize anything as being the practice of medicine that is not included in the definition found in the law.

The laws in the different states vary greatly. There are also a great many supreme court decisions involving the definition of the practice of medicine, probably forty or fifty in all. These decisions, however, bear principally on the question whether a certain specific act on the part of a person accused of violating the medical practice act is or is not included in the definition. For instance, the law in Michigan makes the use of the letters "M.B." or "M.D." or of the title "Doctor" or "Dr.," or any other sign or appellation, prima facie evidence of practicing medicine and surgery within the meaning of the law. In Illinois the practice of medicine is defined as "treating or professing to treat, operating on or prescribing for, any physical ailment or any physical injury to or deformity of another person." Here the courts have held (People *v.* Lehr, 196 Ill. 361; 63 N. E. 725) that the sale of a device or mechanical appliance is not the practice of medicine. The supreme court has also held (People *v.* Smith, 208 Ill. 31; 69 N. E. 810) that the sale of spectacles for a visual defect is not the practice of medicine; that nursing an invalid is not the practice of medicine. (Oswald *v.* Nehls, 233 Ill. 438; 84 N. E. 619). On the other hand, the supreme court has held (People *v.* Gordon, 194 Ill. 560; 62 N. E. 858) that manipulation and rubbing is the practice of medicine. These examples might be multiplied indefinitely. Unfortunately, there is no uniformity on this point. For instance, in fifteen states the courts have held that osteopathy is the practice of medicine, while in twenty they have held that it is not.

These illustrations show that it is impossible for the courts to render an "authoritative" decision on this question, since the courts exist to interpret the laws which are enacted by the legislatures but cannot go beyond them. If the state legislature passes a medical practice act without a definition of the practice of medicine in it, then the courts can use their own discretion in deciding what is or what is not the practice of medicine; but if the legislature includes a definition in the law, then the courts must confine their decisions to an interpretation of such a definition; and naturally their decisions vary in accordance with the terms of the definition as it is found in the law. As we have something like forty-eight different state laws and as each one has a different definition of the practice of medicine, it will readily be seen that the decisions on this question are somewhat varied.

Medical Economics

This Department Embodies the Subjects of Postgraduate Work, Contract Practice, Legislation, Medical Defense, and Other Medicolegal and Economic Questions of Interest to Physicians

OPTOMETRY BILL DEFEATED IN PENNSYLVANIA

The optometry bill introduced into the legislature in Pennsylvania has been indefinitely postponed by unanimous vote of the committee to which it was referred. In a letter to the Westmoreland County Medical Society, published in the bulletin of the society for June, Dr. James Thorington, chairman of the state committee on optometry, calls the attention of the physicians of Pennsylvania to the necessity of having more physicians to do refraction work. He says, "If physicians in certain counties do not prescribe glasses for their patients then the patients will naturally drift into the hands of the jeweler or optician. If one physician in each one thousand population in any community would take a postgraduate course in ophthalmology and have the assurance of other physicians in his town or city that they would refer their patients for refraction, then the . . . so-called optometry question would be solved and the eyesight of the citizens would be correctly cared for."

LEGISLATION IN ILLINOIS

Since the last notice regarding Illinois legislation appeared in this department, Governor Deneen has signed the bill appropriating $60,000 a year for the medical department of the University of Illinois. By this act the College of Physicians and Surgeons of Chicago becomes the medical department of the state university. The law also provides a fixed rate of taxation for university purposes, thus making the University of Illinois, with its various departments, to a certain extent independent of the legislature, as the amount of the income for educational purposes is now definitely fixed by law.

Governor Deneen has vetoed House Bill 608, which provided for the appointment by local boards of education or school directors of one or more school nurses to have general oversight and supervision of the health of the pupils in public schools. This bill was introduced by Representative Carter of Champaign. In vetoing the bill, Governor Deneen says, "Under this measure the superintendency of the general health of pupils of public schools and the fitness of school buildings for occupancy may be placed in the hands of persons lacking knowledge of the anatomy of the human body and the conditions existing in disease and ignorant of the rudiments of sanitary science, as no qualifications whatever are required in the school nurses to be appointed. If these matters are to be entrusted by school directors to nurses it should be demanded at least that the nurses appointed should possess qualifications which will enable them to perform intelligently the duties with which they are charged as is required of school teachers."

While the intent of this bill may have been praiseworthy, the bill itself was open to many objections and its passage was opposed by the State Board of Health, which asked Governor Deneen to veto it. The bill was never approved by the physicians of the state and the action of the governor in vetoing it is entirely satisfactory to them.

Medicolegal

Admissibility in Malpractice Case of Evidence of Conveyance of Property to Wife—Damages Recoverable

The Appellate Court of Indiana, Division No. 1, in Harrod vs. Bisson (93 N. E. R. 1093), an action brought to recover damages alleged to have resulted from the negligent and unskilful manner in which the defendant reduced and treated the plaintiff's fractured and injured wrist and hand, where it affirms a judgment for $1,000 in the plaintiff's favor, holds that it was admissible to ask the defendant, on cross-examination, whether he conveyed his real estate to his wife after this action was brought or just before. The court says that, as an independent fact, this conveyance by the defendant of his real estate to his wife was foreign to any issue in the case, and it could be competent and material, if at all, but for one purpose, namely, it might disclose inculpatory facts and circumstances, or an admission by way of acts and conduct proper to be submitted to a jury, as tending to show that the defendant himself was conscious of having failed and neglected to treat the plaintiff's injured arm in that skilful and careful manner which the law required under such circumstances, and feared that he might be required to respond in damages on account of such neglect and lack of skill. The court assumes that it was on this theory that the court below admitted the evidence. The defendant testified in chief to his treatment of the broken arm, and in effect denied any act of omission or commission that in any way tended to show any lack of professional skill, care or attention, but said in effect that he did everything that a careful, attentive and skilful surgeon would have done under the same circumstances. This being the effect of his testimony, it was proper on cross-examination for the plaintiff to elicit from him any admission, by way of words or conduct, that tended to contradict, destroy, weaken or discredit his said evidence in chief, and the court thinks the evidence, or admission elicited by the question objected to, tended, in some degree, to have that effect, or at least was a question necessarily preliminary to other questions which might elicit answers having such tendency and effect, and that for that reason the evidence, if competent and proper at all, was proper in cross-examination. There seems to be some conflict in the authorities in different states as to the admissibility of this character of evidence, but the court thinks the weight of authority and the better reasoning of the same favors its admission. However, after this question and an affirmative answer, the defendant was entitled, on a redirect examination, to a full explanation and statement of all the facts and circumstances of the conveyance to the end that the jury might draw no improper inference from the admitted evidence. He also had the further protection that the law affords of defining the application and purpose of the admitted evidence by tendering an instruction on the same.

It was objected that an instruction authorized the jury to take into account, in estimating damages, the worry and annoyance of the plaintiff, on account of contemplation of her deformity. There was no doubt but that counsel were supported by the weight of authority in their contention that any annoyance, worry or mental pain resulting merely and solely from the contemplation of a deformed member of the body, and the humiliation of going through life in such a crippled condition, were too remote to be considered as elements of damage. On the other hand, it is well settled in Indiana that personal disfigurement or deformity resulting from negligent injury is a proper element to be considered in estimating damages, and such "anxiety and distress of mind as are fairly and reasonably the plain consequences of the injury complained of" are proper elements of damages. And it was entirely proper that the jury, in estimating the damages in this case, should take into account any personal deformity resulting to the plaintiff from her injuries, and it was proper also that they might consider any mental pain, suffering, "worry" or "anxiety" experienced by her in the actual use of the injured wrist and hand that was the direct result of the deformed condition. It was in this sense that the jury were authorized by the instruction to take into account such elements of "worry" and "anxiety," and not that the jury should consider any "anxiety" or "worry" resulting from the humiliation that came from the contemplation of the deformed condition.

What are Covered by Questions as to "Former Illnesses"—Tuberculous Laryngitis

The Supreme Court of Minnesota holds, in Gruber vs. German Roman Catholic Aid Association of Minnesota (129 N. W. R. 581), that a general question, in an application for life insurance, calling for information concerning "former illnesses" of the applicant, does not require the disclosure of an illness or ailment of a trifling, temporary or unimportant nature, but only those of a serious, dangerous or permanent character, although the rule no doubt is otherwise where the questions are specific.

The insured in this case in January, 1907, made an application for membership in the defendant association. His answer to the question: "Former illnesses and injuries?" was, "Small-pox in 1904. Complete recovery." But the evidence tended to show that during parts of the year 1905-06 he was treated by his physician for a throat trouble, the nature and character of which did not seem to have been disclosed to him. He was advised to make a change of climate, in the expectation that the difficulty would disappear. Acting on that advice, he went to Colorado in the spring of 1906, and remained there until August of that year, when he returned to his home in Minnesota, being pronounced cured, by the physician. He was about 24 years of age. In January, 1907, he made the application and answer therein stated above. In the fall of 1908, he was again taken ill, and died of tuberculous laryngitis in the spring of 1909. The association contended that the evidence was practically conclusive that he was suffering from that disease during the time of his treatment in 1905 and 1906, and that his failure to disclose it was fatal to his beneficiary's right to recover the insurance. Not so, however, is the legal decision.

In affirming a judgment in favor of the plaintiff beneficiary, the court holds that the jury were properly instructed that if the illness was of a serious, dangerous or permanent character, or of a nature continuous and not readily recovered from, it was the applicant's duty to make it known, and if he failed to do so no recovery could be had; but if the illness was merely temporary in its character, something that was unattended with any serious consequences, or from which serious consequences were not to be apprehended, something that passed away, from which he recovered and which was forgotten, the failure to disclose it would not avoid the contract. It is also held that the question whether the application in this case failed to disclose a prior serious or permanent illness was one of fact for the jury, and that the evidence sustained the verdict that it did not. Controlling effect was not to be given the advice of the physician. Suggestions that a change of climate would be beneficial are often made by physicians, when no serious ailment or disease is present. It was clear from the evidence that the man had no thought that he was suffering from a serious ailment, fully believed that his throat trouble had disappeared, and had apparently forgotten about it, while the physician also testified that the disease resulting in death might well have originated and come on after the man had become a member of the society.

Death from External Injury by Accidental Means—Susceptibility to Disease

The Supreme Court of Minnesota, in Ludwig vs. Preferred Accident Insurance Company (130 N. W. R. 5), affirms a judgment for the plaintiff for indemnity for the death of her husband, on a policy of accident insurance. It appeared that during the fifth or sixth inning in a game of baseball, in which the insured was engaged, he attempted to "steal second," and slid head foremost on his stomach the last nine or ten feet of the distance, stopping with his stomach over and on the second base, which consisted of a piece of a cement sidewalk paving block or slab, about 2 inches thick and 12 inches square, rough on one edge and smooth on the others. He indicated that he was hurt, and where; but continued to play until the end of the game. A day or two later he called a physician. His condition grew gradually worse, until he was taken to a hospital and operated on for appendicitis. His death was caused by septic peritonitis. The autopsy revealed a gangrenous condition of the appendix. Two enteroliths or concretions of the stony formation composed of a hardened fecal matter were found to be where the appendix was ruptured. His written application for insurance stated that he never had had physical infirmities or defects, and had not received medical or surgical attention within seven years immediately preceding. But it appeared that he had consulted a physician once or twice somewhat more than a year previous to his death; that the physician found some tenderness over the region of the appendix on pressure, and some soreness, and that he was suffering from a mild case of appendicitis, catarrhal in nature; that the physician prescribed a laxative, and never heard him complain after that.

The court holds that the evidence was sufficient to justify the jury in finding that the insured was injured by accidental means, and that the injury so received was the proximate cause of his death. It also holds that there was no reversible error in instructing the jury: "If you find that Ludwig had at some previous time suffered from an attack of appendicitis, and he had fully recovered therefrom, so that immediately before the external accidental injury at the ball game, if you find that there was such an injury received by him, there was then no appendicitis present, but because of such previous attacks Ludwig was more susceptible to the disease, and such an injury started it, there may be a recovery, although the external accidental injury would not have produced the appendicitis if his appendix had never been previously impaired by disease. . . . But if, because of the former attack, there was not merely a susceptibility to a further attack, but the actual disease itself existed, liable to be rendered active and virulent by Mr. Ludwig, in that event the active disease which resulted in death would not be regarded as the result of the fall alone, but as joint result of the fall and the latent disease, and there can be no recovery."

Essentials to Conviction of Rape on Insane Person

The Supreme Court of Missouri, Division No. 2, says that in the rape case of State vs. Warren (134 S. W. R. 522) there was ample evidence to support a finding that at the time of the defendant's alleged act of intercourse with the prosecutrix she was so mentally deranged as to be incapable of understanding the moral nature of the act, or of giving assent thereto. To sustain the conviction, however, the state must go further, and give some evidence tending to show that the defendant knew of and took advantage of this mental infirmity of the prosecutrix, or that he intended to have carnal knowledge of her body by force, if necessary, and regardless of her consent. As to the latter proposition, there was no evidence that such was his intent. All that the defendant did was with her apparent assent and approval. Whether there was any testimony from which knowledge of her incapacity to consent could be imputed to the defendant was a question not free from difficulty. Reason and authority suggest the following principles as guides in the solution of this question: (1) Carnal intercourse with a woman incapable from mental infirmity of giving consent is rape, unless the man is ignorant of her infirmity and its extent, believes he has her consent, and has no intention to have intercourse without her consent. (2) Where the woman in point of fact yields an apparent assent to the act, the burden is on the state to prove that at the time of the act she was incapable, because of mental disease, of assenting to or dissenting from the act, and that the defendant knew of such incapacity. It was therefore error to instruct the jury that mere insanity of a character to be recognized by a person of ordinary intelligence was enough to convict. There were two objections to this instruction: (1) Mere insanity, even if known, does not make the act rape. The insanity must totally destroy the capacity to consent. (2) The defendant must know that there is no capacity to consent. This knowledge may be inferred from facts and circumstances in evidence, but the jury must find as an ultimate fact that the defendant did know.

Remedy for Refusal of License is Appeal, Not Mandamus

The Supreme Court of Washington says that it was conceded in State ex rel. Brunn vs. State Board of Medical Examiners (112 Pac. 746) that no appeal was taken from the order of the board refusing the relator a license, and the controlling questions before the court were whether the relator had a complete and adequate remedy by appeal from the order of the board, and, if he had, whether mandamus would lie to compel the issuance of a license. There could be no doubt but that the first question must be answered in the affirmative. The right of appeal was expressly granted by section 8399 of the Code, the same to be taken within thirty days after the filing of the decision of the board. Then, it is a well-established doctrine, repeatedly recognized and announced by this court, that mandamus will not lie in favor of a relator who has an adequate remedy at law, by appeal or otherwise. Section 8399 above mentioned provides for a trial *de novo* (anew), on appeal from the order of the board, and such a trial *de novo* would secure to a complaining party as complete an investigation and as adequate a remedy as could possibly be obtained in a mandamus proceeding. It is manifest that the relator was afforded an adequate remedy by appeal, had he sought the same within the statutory period. This being true, he would not obtain relief by mandamus. Nor does the court agree with the contention that because the time for appeal had expired, and no remedy by appeal remained to the relator, he should obtain a writ, he insisting that his license was illegally refused. The adequacy of his remedy by appeal could not be affected by his failure to avail himself of such remedy within the statutory period.

Consent Required for Delivery of Bodies to Medical Colleges

A trial term of the Supreme Court of New York, New York County, says, in Newman vs. Stewart (127 N. Y. S. 866), that, under section 2213 of the New York Law, dissection of a human body may be performed with the consent of the husband, wife, or next of kin. This is extended, by section 316 of the Public Health Law, so as to permit hospitals to deliver corpses to medical colleges with the assent of "relatives or friends." A reasonable construction of this provision is that the consent of relatives must be obtained if they can be found, and that reasonable inquiry must be made to find them. Only in case they cannot be found will the assent of "friends" suffice. The evidence in this case did not disclose what, if any, effort was made to discover the relatives of the deceased, beyond the fact that the name of a woman was entered as "friend" in the hospital records. Her consent was obtained, and the post-mortem examination made in reliance on it. This was not a compliance with the law.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

Journal of Michigan State Medical Society, Battle Creek

June

1 Hospital Construction with a View to Economy in Maintenance. J. N. Holcomb, Grand Rapids.
2 Etiology of Anterior Poliomyelitis. T. Klingmann, Ann Arbor.
3 The Short Anesthetic, the Least and the Shortest Operation. B. Holmes, Chicago.
4 Genu Valgum, with Observations on Corrective Osteotomy. S. C. Graves, Grand Rapids.
5 *Diagnosis of Incipient Pulmonary Tuberculosis, with Special Reference to the Use of Tuberculin. T. D. Gordon, Grand Rapids.

5. **Tuberculin.**—Of forty-one patients, seen by Gordon, giving negative cutaneous tests, only one reacted to a subcutaneous injection, while of forty cases positive to the skin reaction thirty-six reacted to a subcutaneous injection; four were doubtful, due partly to the fact that it was not possible to

give subsequent injections. The patients who gave definite cutaneous reactions almost invariably proved very sensitive to subcutaneous injections. As an indication of sensitiveness to tuberculin, Gordon believes that the use of graded strengths of tuberculin applied by the technic of von Pirquet is as sensitive as any other test, and shows fairly well the cases that would react to the subcutaneous test. In view of the fact that a certain proportion of apparently healthy adults react to all the tests and that some of the worst cases fail to react, we should not allow any test of this sort to interfere with a careful history and examination of every case in which tuberculosis is suspected. Tuberculin alone cannot give a diagnosis A patient who fails to react to a series of tests carefully made with a good fresh preparation very probably does not have incipient tuberculosis. A patient who gives a reaction may have a latent or healed lesion, or the lesion which caused the reaction may be in a part of the body far remote from the disease which is causing the signs and symptoms of the patient's present trouble.

New York Medical Journal

June 3

6 Practical Treatment of Nervous People. J. J. MacPhee, New York.
7 *Tuberculosis of the Kidney in Women. H. N. Vineberg, New York.
8 Acute Hematogenous Infections of the Kidney and Pyelitis of Pregnancy; Their Medical Treatment. L. Louria, Brooklyn.
9 *Influence of Pregnancy on Diseases of the Eye. D. K. Shute, Washington, D. C.
10 *Immediate or Deferred Operation in Tubal Pregnancy? E. McDonald, New York.
11 *Relation of Uterine Myomata to Heart Disease. J. A. McGlinn, Philadelphia.
12 Acetone in Inoperable Cancer of the Uterus. A. Samuels, Baltimore.
13 Carcinoma of the Abdominal Wall in a Boy of 17 Years. J. P. Grant, New York.
14 *The "Liquor Bellostii" Test in Paresis. G. S. Amsden, White Plains, N. Y.

7. **Tuberculosis of the Kidney.**—According to Vineberg's observations, operative renal tuberculosis is more frequently met with in women than in men.

Renal tuberculosis in women is seldom or never associated with tuberculosis of the genital organs.

It is frequently overlooked in women and wrongly diagnosticated as catarrhal cystitis.

From the fact that it is oftener unilateral in women than in men, and that it is seldom or never associated in the former with genital tuberculosis, the prognosis of operative interference is much better in women than in men.

Nephrectomy for a tuberculous kidney in women is no bar to marriage or to bearing children.

9. **Pregnancy and Eye Diseases.**—Shute pleads for systematic and careful examination of the eyes of pregnant women by obstetricians with the view of safeguarding their vision and even their lives. He has found that albuminuric retinitis may exist for weeks, and even months, without pregnant women complaining of impairment of vision. The retinitis can exist for some time independently of, as well as in association with, symptoms of renal disease; also, independently of, as well as in association with, albuminuria. The presence of this retinal inflammation indicates a far advanced condition of the toxemia of pregnancy; or of that manifestation of the toxemia known as the kidney of pregnancy. The presence of this disease, in a larger number of cases than is realized, indicates a very grave prognosis as to the life of the patient, for the kidney of pregnancy may be followed by chronic interstitial nephritis. As long as the albuminuric retinitis lasts there is danger of vision being irretrievably ruined at any moment and in any month. The ophthalmoscope is the only means by which the earlier and relatively much less serious stages of toxemic retinal involvement can be detected. Also, it is the only means by which we may know that albuminuric retinitis even exists. Should the earlier stages of retinal involvement be detected, as they can, by the use of the ophthalmoscope, such remedial procedures can be adopted as may prevent the development of so sinister a disease as albuminuric retinitis; and, also, the necessity of inducing premature labor, in order to safeguard vision, may be obviated. When uranalyses are negative, the presence of pathological arterial tension and pathologic leukocytosis are invaluable symptoms of the toxemia of pregnancy. If increased arterial tension is persistent, as indicated by an abnormally accentuated second sound of the heart in association with a tense and wiry pulse, or as revealed by the sphygmomanometer, an ophthalmoscopic examination of the eyes ought by all means to be made at stated intervals.

10. **Operation in Tubal Pregnancy.**—The best treatment according to McDonald seems to be immediate operation without precipitation.

11. **Uterine Myomata and Heart Disease.**—From McGlinn's report a definite entity of a fibroid heart cannot be sustained. He found in a study of 113 post-mortem records of women dying with uterine myomata that such tumors occurring during middle and advanced life, are practically always associated with sclerotic heart lesions. These lesions are part of a general process and bear no relation to the fibroid. McGlinn is positive that many of the symptoms referable to the cardiovascular system found in fibroids are due to secondary anemia and occur just as frequently in anemia due to other causes. He notes that in fibroids there were found twelve normal hearts whereas in the cases without fibroids there were eighteen normal hearts. Again in the fibroid cases there were 195 lesions of the heart which were purely sclerotic in character and the same number of like lesions were found in the cases other than fibroids. These lesions expressed in percentage of the total lesions found were for the fibroids 80.9 and for the other cases 84.1.

While the total heart lesions in the fibroid cases were practically double those found in the non-fibroid ones, the normal hearts found in the latter exceeded the former by one. The sclerotic lesions found in the fibroid cases numbered fifty-one while those found in the non-fibroid cases were twenty-three. This would seem to show that fibroids did produce sclerotic changes in the cardiovascular system. This inference, however, is not justified, says McGlinn. He had no difficulty in collecting an equal number of cases, all under the age of 30 years, in which the total sclerotic lesions far outnumbered those found in the fibroid cases. Such a comparison would, he believes, be justified, as one must consider the fibroids selected cases as far as heart changes are concerned. In view of these considerations the verdict of not proved is a proper one.

14. **"Liquor Bellostii" Test in Paresis.**—Liquor Bellostii is prepared by dissolving mercury nitrate ($Hg_2(NO_3)_2$) in water slightly acidified with nitric acid. Pulverize 10 gm. of the salt in a mortar and very gradually add to this 86.6 c.c. of water to which 24 drops of a 25 per cent. solution of nitric acid has been added. If the acid water is not added slowly an insoluble precipitate results. The solution when right should be clear. The test is done as follows: To a few cubic centimeters of acid urine, which has been boiled, add 10 to 15 drops of liquor Bellostii. The urine is then boiled again two or three times. In negative cases there is a heavy white or chalky yellow precipitate formed; in positive results the precipitate is gray, almost black, and the supernatant fluid is yellowish. Of the urines thus examined by Amsden at Bloomingdale, thirty are included in the following note, of which fifteen were from cases of unquestioned paresis. The remaining fifteen control cases included the normal, paranoid, dementia præcox, manic depressive insanity and Bright's disease.

Of the paretics, four were positive, five so nearly negative that they were doubtful, and six frankly negative. Of the positive cases, three were clinically active; one stationary, bed ridden and entirely demented. In one of the active cases, two days before death, the reaction changed from doubtful to very positive. Of the doubtful cases, two were in the early stages of the disease and excited; the other three were in excellent states of remission and very intelligent. Of the negative cases, two were active and the others stationary, but decidedly demented.

Of the fifteen remaining cases, certainly not paretics, four were positive, three doubtful and eight negative. These results, says Amsden, need no comment as to the trustworthiness of this test as a diagnostic measure, whatever value it may have from a metabolic standpoint.

Journal of Minnesota State Medical Association and Northwestern Lancet, Minneapolis

June 1

15 *Abnormal First Dorsal Rib Simulating Cervical Rib. J. Hvoslef, Minneapolis.
16 Polio-Encephalitis. E. King, Fulda.
17 Appendicitis with Complications. J. W. Little, Minneapolis.
18 Anatomic and Clinical Relationship of Nasal Accessory Sinuses to Diseases of the Eye. W. R. Murray, Minneapolis.
19 Hay Fever; Its Name and Nature. W. N. Porteous, Minneapolis.

15. **Abnormal First Dorsal Rib Simulating Cervical Rib.**—In Hvoslef's case a young man, employed in a railway freight office, complained of pain and disability of his left arm, which had commenced the previous summer. It was mainly the elbow that troubled him. He had a steady pain there, radiating to his forearm and hand. He also had some difficulty in extending his forearm, and complained of a tingling sensation in his fingers. The pain was almost steady, both night and day. He had also noticed that his left hand would become very cold and pale, almost white at different times. Otherwise he was in good health. On examination of the arm the elbow-joint was found normal, with the exception of a spasmodic contraction of the biceps muscle, preventing complete extension of the forearm. Some atrophy of the muscles of the forearm was also present. There was a bony prominence slightly above the clavicle, about at the junction of its inner and middle third. The skiagram showed that the abnormal rib was not a cervical rib, but an abnormally developed first dorsal rib, originating, as its normal mate on the other side, from the first dorsal vertebra and ending with a jointed attachment to the second rib. The end of the rib was found articulating with the inner upper surface of the second rib, and the cervical plexus rested on top of this joint which, with its capsule, formed the bulk of the prominence felt above the clavicle before the operation.

Boston Medical and Surgical Journal

June 8

20 *Classification of Diabetes Mellitus. A. E. Austin, Boston.
21 *Prognosis and Treatment of Tuberculosis of the Ankle in Adults. M. H. Rogers, Boston.
22 Problems of School Inspection. W. P. Coues, Boston.
23 *Tuberculous Meningitis with Leukocytosis and a Purulent Exudation Containing Many Bacilli. I. C. Walker, Boston.
24 The Public Health Laboratory. B. L. Arms, Boston.
25 Pregnancy as a Possible Relief for Visceral Ptosis. L. T. Brown, Boston.

20. **Diabetes Mellitus.**—From a number of instances of varied sugar metabolism studied by Austin, he thinks that a plus utilization indicates a hopeful outcome of the disease and though the patient may have to maintain a moderate deprivation of carbohydrate food for a long period, and possibly for life, yet after a time a diet in which sugar alone is eliminated may be possible. In a restricted diet, however, he says, too strong a warning cannot be given against the so-called gluten breads, which are always exploited as containing a large protein content, but nothing is ever stated in regard to the amount of starch contained, or at least the term "practically starch free" is used. If the amount of protein is worthy of being accurately stated in terms of per cent., certainly the starch is worthy of the same treatment and such breads could then be much more intelligently employed, for it would be easy to add the amount of carbohydrate ingested in this way to that taken in other ways, so that a basis for our calculation of utilization could be had. It has been Austin's experience in the use of every diabetic bread, but one, and that not particularly palatable, that even their restricted use causes an increased elimination of sugar when the utilization factor is 0, which can be determined either by the collection of the urine after twenty-four hours fasting or comparing elimination with the intake; three possibilities are always present, either that the tolerance will remain stationary, that it will increase, or that it may diminish. By complete removal of starch and sugar for a period during which the urine should be carefully watched for sugar and particularly for diacetic acid, we can soon determine in which direction the indications with reference to tolerance point and govern ourselves accordingly. If the utilization is minus and the body cannot even oxidize the amount of sugar that theoretically ought to be derived from proteid containing not more than 10 gm. of nitrogen daily, then tolerance has reached its lowest ebb and there is very little likelihood that restoration will take place. Such individuals usually die from steadily increasing acidosis.

21. **Tuberculosis of the Ankle in Adults.**—This paper is a study of the results in the treatment of tuberculosis of the ankle-joint in adults, and is based on the cases (23) at the Massachusetts General Hospital during the last seven years. From a study of these cases it is clear that fixation is not sufficient to control tuberculosis of the ankle-joint in adults in a large percentage of cases, and even in mild cases it requires a long period of time. Chronic invalidism, meaning by that a certain mental condition that these people are sure to reach, when they are of no use to society, should be avoided. This can be done by an early diagnosis, and by outlining the treatment so that the end-result is obtained within one or two years. Rogers holds that a complete operation, a radical removal of the focus, should be performed before there is much involvement of the various joint-surfaces, and it should not be undertaken only because fixation has failed. Better results can, undoubtedly, be obtained if this is done as soon as the diagnosis is established, and seems justifiable since fixation is not sufficient.

Amputation has been necessary in over 50 per cent. of these cases. Rogers would advise it when the process has invaded several joint-surfaces especially posterior to the astragalus. The results of amputation are good from the patient's point of view, and an artificial leg is preferable to long-continued dressings and sinuses. The length of time of treatment should be diminished to within two years.

23. **Tuberculous Meningitis with Leukocytosis.**—A young adult with physical signs of meningitis, fever and leukocytosis showed on lumbar puncture turbid spinal fluid, containing 98 per cent. of polymorphonuclear leukocytes and very many bacilli, with the morphologic and tinctorial peculiarities of the tubercle bacilli, yielding by animal inoculation the typical lesions of tuberculosis. The case is reported by Walker to emphasize the fallacy of diagnosing meningitis as due to pyogenic cocci from obtaining a turbid spinal fluid containing a large excess of polymorphonuclear leukocytes.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London

May 27

1 *Points of Clinical Interest Connected with the Exanthemata. S. Phillips.
2 *Fifty-Six Cases of Cleft Palate Treated by Operation. J. Ulrich.
3 *The Pressor Bases of the Urine. W. Bain.
4 *Nature of Connection Between Erythemata and Lesions of Joints. A. E. Garrod.
5 Salvarsan in Syphilis. G. Stopford-Taylor and R. W. Mackenna.
6. A Case of Spontaneous Fracture of the Leg Bones, Possibly Due to Mycotic Infection. E. W. H. Groves.
7 Acute or Paroxysmal Pulmonary Edema. A. E. Carver.
8 *A Case of Gastro-Enterostomy After Fifteen Years. R. Bevan.
9 Pneumothorax Complicating Bronchopneumonia in a Child Aged 2 Years. A. E. Sanderson.

1. **Exanthemata.**—The decrease in mortality of all the exanthemata in Great Britain is shown by Phillips to have been 73 per cent. in fifty-eight years. Of the individual diseases typhus has all but completely disappeared; small-pox occurs only occasionally as an epidemic, and is trivial in mortality as compared with that of by-gone years. As to scarlet fever, the mortality has fallen from 890 deaths annually per 1,000,000 persons living in the decade 1861-70 (1861 was the first year in which scarlet fever was classified by the registrar separately from diphtheria), to 80 deaths per 1,000,000 living in 1908—a decrease of 91 per cent. in forty-eight years. The deaths from measles per 1,000,000 living fell from 412 annually in the decade 1851-60, to 362

annually from 1901 to 1905. Measles is still, however, the most fatal of exanthems, causing three deaths to every one from scarlet fever, and to every two deaths from diphtheria; whooping-cough alone approaches it, causing 300 deaths to every 380 from measles. Since typhoid was first separated from typhus in the registrar's returns in 1870, the annual mortality from it has fallen from 390 per 1,000,000 persons living to 75 per 1,000,000 in 1908, a reduction of 80 per cent. Comparing the notifications of the disease with the number of deaths annually since the year 1890, the case fatality has fallen very little, if at all, from 16.9 per cent. to about 16 per cent. (it was 16.8 in 1908). It would, therefore, appear that the lessened number of deaths from typhoid is due in far greater degree to its lessened frequency of occurrence than to its lessened danger in individual cases.

2. **Cleft Palate.**—In the worst cases of cleft palate Ulrich operates, if necessary, on the alveolar process by the unilateral method with a Duplay's operation, by the double method after Bardeleben, and prefers to operate as early as possible. He operates subsequently for harelip at the age of from 4 to 6 months. The cleft in the palate will then, as a rule, diminish successively; but if it is, at the age of from 2 to 3 years, still very broad, he abandons the patient to the prothesis treatment. Ulrich thinks that there are cases in which a prudent squeezing of the jaws of the newly-born child will make the operation easier later. In the other cases, in which the cleft is narrower, he operates, if necessary, on the alveolar process also as soon as possible; on the harelip at the age of from 4 to 6 months, and for the cleft palate, he prefers Langenbeck's operation at the age of about 2 to 3 years, with a preference for the latter age.

3. **Pressor Bases of Urine.**—Pressor bases were found by Bain to be absent from the urine of children between 10 and 12 years of age, and apparently begin to be excreted about the age of 14. A vegetable diet considerably reduces the amount formed. Eggs and fish reduce the quantity to some extent, but if chicken is taken the amount is but little less than one obtains on an ordinary mixed diet containing butcher's meat. The bases are either absent or considerably diminished in cases of high blood-pressure. Doubtless the diminution in some cases is partially attributable to low dietary, but in most of the cases recorded in this paper the only possible explanation is that the bases are retained in the system and produce the rise in pressure. In gouty patients with normal blood-pressure the pressor bases are excreted in normal amounts.

4. **Erythemata and Joint Lesions.**—There is little doubt in Garrod's mind that erythematous and urticarial rashes are usually of toxic origin, as witness their development in some individuals after taking certain articles of diet or drugs, or as the results of stings of insects or of nettles, or of contact with caterpillars of certain species. One must suppose, therefore, that the lesions of joints which accompany them are likewise due to toxic influences working at a distance rather than to bacterial invasion of the articular structures.

8. **Gastro-Enterostomy.**—Commenting on his report, Bevan says it is pretty obvious that for at least the last five years the operation opening has more or less ceased to act, compelling food once more to find its way through the pyloric opening as best it could. Judging by the symptoms, although there has been more or less pain accompanying the passage of food through the pylorus into the duodenum, yet compared with the urgent symptoms in the pre-operated period of fifteen years before, digestion and nutrition were carried on with comparative ease and efficiency. This must by inference be due to some alteration in the capacity or patency of the pyloric orifice. No doubt, Bevan says, during the time that the operation orifice was patent, the lack of irritation allowed of the subsidence of a good deal of the inflammatory swelling, and, possibly, spasm around the sphincter. He suggests that possibly some alteration may have taken place in the character and situation of the original contraction scar. Again, in the vertical position, the shadow of the greater curvature in the stomach showed far below the umbilicus, and although peristalsis was seen it was ineffectual in reaching the pylorus. No adhesions were found at the subsequent operation.

Australasian Medical Gazette, Sydney

April

10 The Medical Profession in New South Wales. J. A. Dick.
11 Conductive and Spinal Anesthesia. C. MacLaurin.
12 *Endothelioma at the Base of the Brain, Producing Symptoms of Acromegaly. C. Reissmann.
13 *Bacteriology of Typhoid. H. Tebbutt.
14 Use of Thyroid Extract in Dementia Præcox. A. Danvers.
15 Outbreak of Arsenical Poisoning at an Isolated Farm Near Mullewa, Western Australia. J. H. L. Cumpston.

12. **Endothelioma at the Base of the Brain.**—The pituitary body with its stalk appeared to be healthy in this case, but the stalk arose from the lower surface of a large cystic swelling of grass-green color, which occupied the base of the brain and extended into the right optic thalamus. The swelling had almost completely severed the optic chiasma, and had thus caused blindness in the temporal field of vision. It bulged into the lateral ventricle and no doubt caused such great intraventricular tension that this led to the observed dementia. It pressed likewise on the lateral capsule, and thus gave rise to the spastic gait. Reissmann thinks that the circulation within the pituitary body was probably interfered with by the pressure of the cyst, and if so, the symptoms of acromegaly may have arisen from deficient internal secretion of the active principle of this gland. In the forward portion of the swelling, immediately in front of the pituitary body, was a hard nodule. In the transverse section of the brain this appeared to be a malignant growth. On microscopic examination the solid portion of the cyst was seen to be composed of round cells which clustered most densely round the small blood-vessels. There was no stroma. In many parts of a section it could clearly be seen that these round cells formed the actual walls of the small blood-vessels, from which it cannot be doubted that they arose. In some places the appearance presented was as if the capillary walls had been blasted and endothelial cells were scattered in all directions. The growth was, therefore, in Reissmann's opinion, an endothelioma. It contained much mucoid substance, some of which was structureless; in other parts it was confined within the bodies of cells, some of which it had distended to the point of bursting. The more solid part of the growth was arranged in circles or probably spheres, which carried the mucoid substance in the center. The growth may, therefore, be named a myxo-endothelioma annulare.

13. **Bacteriology of Typhoid.**—In all, fifty cases of enteric fever were examined by Tebbutt by the blood-culture method: thirty-six were positive, fourteen negative. In thirty-five the *B. typhosus* was found; in the remaining one an unidentified Gram-negative, feebly motile bacillus, with feeble fermenting properties. In a fifty-first case, Schottmuller's paratyphoid bacillus was found in both blood and urine. The average day on which both culture and Widal were done was the fourteenth day, and thus it is found in this series that, on an average, about 70 per cent. of cases still show bacilli in the blood-stream on the fourteenth day. Of course, the percentage is much higher in the first week of the disease (90 per cent. according to some writers). In only four cases were the bacilli found after the twenty-first day, and a bad prognosis may usually be given in these cases. Three of the four died, two from perforation and one from toxemia. In only one undoubted case were bacilli absent from the blood when the culture was made before the tenth day. This was a case which began very mildly, so that paratyphoid was suspected, the Widal developed slowly, but the temperature fell quite early, only to be followed by a much more severe relapse. In no case of relapse were bacilli found in the blood-stream, though no special attention was paid to this point. Recovery was more delayed in those cases in which bacilli were found after the fourteenth day than when they were found before this day associated with a positive Widal reaction. The early appearance of agglutinin is undoubtedly of good omen. Some cases suggest that the different reactive and immunizing substances produced by the infection are not always developed *pari passu*. For example, several cases showed an absence of blood infection at a stage of the dis-

case when the Widal reaction was negative or only partially positive. This seemed to Tebbutt to be explained in some cases by the occasional production of bactericidin in much larger amount than agglutinin.

Journal of Obstetrics and Gynecology of the British Empire, London

April

16 Pathology of Tumors of the Corpus Uteri. R. F. C. Leith.
17 *Method of Radical Extirpation of the Cancerous Uterus Based on a Series of Forty-Nine Cases. E. H. Tweedy.

17. **Radical Operation for Uterine Cancer.**—The point of greatest interest in these cases of uterine carcinoma centers around the question of operability and inoperability. It is apparent from the description given that Tweedy does not consider fixation of the uterus, pain, purulent discharge, infiltration of the broad ligaments, and cachexia, contra-indications to operation. In patients with serious involvement of the rectum and involvement of the bladder with pyuria, recovery from immediate operation is not likely to give relief to symptoms or prolong life. These alone are the cases Tweedy refused to operate. Extreme fatness is a hindrance but not an absolute contra-indication to the abdominal operation. Cachexia may point to involvement of the liver, but not necessarily, and even were the liver involved to a slight extent he does not see that it constitutes an insuperable barrier to the removal of a cancerous growth. Contrary to the popular belief cancer may be almost the least painful of mortal ailments. At necropsies, he has seen most extensive malignant disease undiagnosed during life and causing an absolutely painless death. When cancer ulcerates it causes pain, horrible fetor and destroys the appetite by absorption of toxins. The result is the most dreaded form of disease. To save such pain and distress is to Tweedy a justification for operation even if metastases are already present. Tweedy is a strong advocate for the use of buried fine silk ligatures and sutures prepared after Kocher's method. He says they are perfectly safe in early cases but have no place whatever in advanced cancer. Catgut should be used here even for the abdominal wall and in the latter situation he reenforces by silkworm gut mattress sutures through the skin and aponeurosis, tied on the skin over buttons at each side of the incision.

Archives Générales de Chirurgie, Paris

March, V, No. 3, pp. 241-360

18 *Rational Operative Treatment of Breast and Superficial Cancers. (La thérapeutique chirurgicale rationelle du cancer du sein et des cancers cutanés en général.) P. Nadal.
19 *Industrial Electric Burns. A. Besson.
20 Cystic Epitheliomas of the Breast. F. Jacoulet and P. Moure. Commenced in No. 2.

18. **Treatment of Cancer of the Breast.**—Nadal remarks in regard to the propagation of cancer that mechanical laws propose but the soil disposes, and that some of the mechanical laws involved have been overlooked hitherto. Among the points to which he thinks greater attention should be paid is the traumatism from the preparation of the field for the operation. The lymphatic circulation in the region is affected by these preliminaries and the diffusion of cancer cells promoted by the mechanical injury before the operation is even commenced. Cancer cells are not closely coherent to each other and by the manipulations before and during the operation are actually forced out into the efferent vessels. They are thus carried in suspension in the blood and lymph and when blood and lymph exude into the wound they bring cancer cells back with them, even when the actual cancer has been removed in a single mass into sound tissue. The retraction of the tissues after they are cut forces out the blood and lymph bearing the cancer cells, forcing them both outward into the wound and inward into the efferent veins and lymphatics. Before the patient reaches the surgeon he has felt of his cancer innumerable times, and the neoplasm should be covered with a protecting dressing and even the surgeon should refrain from all but the lightest palpation and the skin should be prepared for the operation without friction. Nadal advocates removing the cancerous focus alone, and only after this wound has healed, that is, not until fifteen to twenty-five days later does he cut out all the scar and adjacent tissue forming the bed of the tumor. In a cancer of the breast, for instance, he cuts out the nipple, the cancer focus and the intervening tissue in one mass in the first operation. At the second operation, he removes with the bed of the tumor all the cancer germs that have been poured out into the wound. An additional advantage of thus operating at two sittings is that if the supposed cancer proves to be non-malignant, there is no need for further mutilation of the patient. In case of recurrence, he emphasizes the fact that even advanced cancer is merely a multilocal affection and the surgeon should attack every accessible metastasis as if it were the only localization of the disease.

19. **Industrial Electric Burns.**—Besson reports two severe cases and gives the details of eight others from French literature. They confirm the assumption that in an electric accident there is first primary inhibition of the respiration; the arrest of the heart action is secondary. The burning of the tissues serves as an "interrupter" and allows the organism to gain time before succumbing to the effect of the current, so that artificial respiration in time will resuscitate the patient just as after apparent death from drowning or under chloroform. Instead of the Silvester technic, he compresses the chest with his hands applied flat on each side, then suddenly releasing the pressure. The tongue should be drawn out and occasionally the depths of the throat may be touched with a tampon wound on a forceps. He quotes in conclusion Jellinek's advice in regard to cold enemas, venesection, lumbar puncture, possibly brief reapplication of the same current, and keeping the head high, as supplementary measures. But artificial respiration is the main reliance.

Bulletin de l'Académie de Médecine, Paris

May 16, LXXV, No. 20, pp. 553-576

21 *Prophylaxis of Hereditary Transmission of Syphilis. (L'Hérédosyphilis.) C. Leroux and A. Pinard.
22 *Radium Ions in Therapeutics. (Introduction de l'ion radium dans les tissus pathologiques, sans effraction de l'enveloppe tégumentaire.) A. Béclère.

21. **Inherited Syphilis.**—Leroux has been studying conditions in 136 syphilitic families; there were 413 pregnancies, with only 207 children born alive. He has charge of a dispensary and he urges careful search for signs of inherited syphilis in every infant seen at a dispensary. From the infant it is easy to trace out the syphilis in the parents which would otherwise escape detection. It should be sought for as tuberculosis is now hunted out, and the parents should be educated in their duty to their offspring, especially the four things which they should avoid, as Fournier has proclaimed, namely, begetting children at all, failing to watch over the health of their offspring from birth, failing to institute treatment for the inherited syphilis, and failure to keep up this treatment in the same way and for as long a period as for acquired syphilis. Pinard corroborated Leroux' statement in regard to the necessity for keeping continuous moral and therapeutic control over the family, but he emphasized still more the preponderant part played by the father in the transmission of syphilis to the children. When derived from the mother, the inherited syphilis is more harmful and more tenacious, but in his experience the infection is derived from the father in the majority of the cases, and the mother may escape. He adds that no person having contracted syphilis, whatever the interval since or the courses of treatment, is ever absolutely certain of being cured, from the standpoint of offspring, and physicians should impress on their syphilitic male patients that to have healthy children they must take a special, additional systematic course of treatment, *la cure de l'hérédité.*

22. See Paris Letter in THE JOURNAL, June 10, page 1735.

Journal de Chirurgie, Paris

March, VI, No. 3, pp. 249-364

23 Technic and Indications for Decortication of the Lung, According to Delorme, for Chronic Empyema. R. Piequé.

April, No. 4, pp. 365-468

24 Treatment of Crushing Injuries of the Legs. (Les écrasements du membre inférieur.) L. Impert.

May, No. 5, pp. 469-616

25 *Rhizotomy for Tabetic Gastric Crises. (L'opération de Förster dans le traitement des crises gastriques du tabes.) R. Leriche and G. Cotte.

25. **Resection of Posterior Spinal Roots for Tabetic Gastric Crises.**—Leriche and Cotte report a case and summarize ten others from the literature, giving an illustrated description of the technic. Two of the eleven patients died from infectious complications, but in all the other cases the operation seems to have conquered the gastric crises. In six of the surviving nine patients the result was a complete success and the others were cured for a time at least. Study of the cases shows that the operation should be reserved for cases in which the gastric crises are due to a lesion in the sympathetic nerve, with little inflammation of roots and meninges. When the latter are involved there is liability of some recurrence of symptoms after a few months, as occurred in the case reported. One of the eleven operations cited was done in Holland, two in France and the others in Germany.

Lyon Médical, Lyons

April 9, CXVI, No. 15, pp. 633-676

26 Absorption of Sugar by Kidney Tubules. (Résorption du sucre par les tubes du rein.) R. Lépine.

April 16, No. 16, pp. 677-732

27 Interpretation of Radiologic Findings in Lungs, Bronchi and Adjacent Vessels. F. Barjon.

April 23, No. 17, pp. 733-776

28 Abdominal Hysterectomy for Uterine Myoma; 400 Cases. Albertin.
29 *Analogies Between Epidemic Pneumonia in Institutions and Pneumonic Plague. (Analogie entre la peste mandchourienne et les épidémies hospitalières de pneumonie. Traitement. Prophylaxie.) H. Rondet.

29. **Fixation Abscess in Pneumonic Plague.**—Rondet has been impressed with the analogies between the pneumonic plague as it is described in reports from the Orient and epidemics of pneumonia which he has observed in an institution at Lyons. Cold, dampness, lack of sunshine and overcrowding favored the spread of epidemic pneumonia, but it did not spread outside the institution. Rondet does not think there is danger of the spread of the plague in Europe. His experience with fixation abscesses in pneumonia has been so favorable that he urges a trial of Fochier's aseptic turpentine abscesses as liable to be useful in plague. It is stated that the disease generally runs a milder course when a bubo suppurates.

Presse Médicale, Paris

May 13, XIX, No. 38, pp. 385-400

30 *Distribution of Cancer in France. (Statistique du cancer d'après des documents nouveaux.) J. Bertillon.
31 *Traumatism and Tuberculosis. J. Ribera y Sans.

May 17, No. 39, pp. 401-408

32 *Subarachnoid Meningeal Hemorrhage. A. D'Espine.
33 *Fixation of Tube in Larynx. (Fixation des tubes d'O'Dwyer dans le larynx par le procédé de Polverini et Isonni.) A. Bonain.

May 20, No. 40, pp. 409-424

34 *Albumin Reaction in Pulmonary Tuberculosis. H. Roger and Lévy-Valensi.
35 Streptothricosis. (Quelques remarques sur les oosporoses.) L. Bory.
36 Mucilaginous Laxatives. A. Mathieu.

30. **Distribution of Cancer.**—Bertillon's article was summarized in the Paris Letter in The Journal, April 8, page 1050. The diagrams and maps show further that among forty-nine French cities with over 30,000 inhabitants, of the sixteen in which comparatively little meat is consumed per capita, only two of the cities are in regions where cancer is prevalent. His tables also show the relative rarity of cancer among Jews, in Algeria and at Amsterdam, and the increasing frequency of cancer of the stomach and rectum, according to the French statistics; the number of cases of malignant disease of other organs has kept about stationary year after year since 1876.

31. **Traumatism and Tuberculosis.**—Ribera has been paying special attention to the coincidence of trauma and development of tuberculosis in a joint in his 606 operative cases. In sixty-four of the 141 cases of tuberculous processes of the larger joints there had been some preceding local trauma. This coincidence is too frequent to be merely casual, and he reports experiments on over 135 rabbits or guinea-pigs to determine the connection between the trauma and the following tuberculous process. The results show that the synovial membrane protecting the joints is endowed with remarkable resisting powers, so that it proved impossible to induce a primary tuberculous synovitis in the animals by intravenous or direct injection of tubercle bacilli into the joint. On the other hand, the experiments demonstrated that the tubercle bacilli have a special predilection for the bone marrow. In the various inoculation experiments they seemed to pass constantly into the bone marrow; even when they did not induce any lesions, inoculation of guinea-pigs with the bone marrow gave positive results. In man, from some minute focus in a gland the bacilli may pass to the bone and be ensconced there, without giving rise to any pathologic process; then if a joint near by is injured in some accident the synovial membrane is no longer able to protect the joint against the invasion of the bacilli. In his experiments he was never able to induce a tuberculous joint process except when the joint had been previously injured by direct injection of staphylococci; then, when tubercle bacilli were injected into a vein or into a joint, they were liable to locate in the joint and set up a white swelling. Mixed infection is thus probably the explanation for the positive results obtained in experimental research by others which have been accepted as proving the possibility of pure primary tuberculous joint lesions.

32. **Subarachnoid Meningeal Hemorrhage.** — In D'Espine's case a boy of nearly 11 had an attack of apoplexy with unconsciousness, convulsions, left hemiplegia and other symptoms indicating considerable hemorrhage in the lower subarachnoid space. The next day 16 c.c. of turbid and hemorrhagic cerebrospinal fluid under strong pressure was evacuated by lumbar puncture and the child regained consciousness. Exacerbation of symptoms prompted a second and third puncture the sixth and fifteenth days, after which all the symptoms gradually subsided. Nine days before the stroke the boy had fallen on the back of his head while skating, but he had not seemed to suffer from the fall. Bollinger has related a similar case of tardy post-traumatic apoplexy in a girl of 13 who died in less than two hours after the onset of the apoplexy which occurred a few weeks after a fall while skating. Others have reported similar cases, but D'Espine's is the only one of which he knows in which the patient recovered, and he is certain that the three lumbar punctures contributed to the favorable outcome.

33. **To Fasten the Laryngeal Tube in Place.**—Bonain commends from practical experience the Polverini and Isonni method of holding the tube in place by a stout silk thread introduced through the thyrohyoid membrane with a curved needle passed out through the pharynx. The thread is tied to the tube and the upper end of the thread is brought out through the mouth while the lower end, where it projects from the neck, is fastened around a roll of gauze.

34. **Albumin in Tuberculous Sputum.**—Roger and Lévy-Valensi reiterate that the presence of albumin in the sputum is the best means to trace the course of pulmonary tuberculosis, to determine when the process has been arrested and finally to affirm the cure. A few drops of acetic acid are added to the diluted sputum; it is then filtered, a little salt added and the whole heated to coagulate out any albumin that may be present. They tabulate the findings in 1,374 tuberculous patients or suspects from their own practice and that of eighteen other clinicians. The findings were negative in twenty-five of the forty clinically cured patients and in five of their own series of 141—their negatives including three suspects, one patient with acute miliary tuberculosis and one cured patient. The findings were negative in only seventy-six of the total 1,374 cases.

Deutsche medizinische Wochenschrift, Berlin

May 18, XXXVII, No. 20, pp. 913-960

37 *Prophylaxis and Treatment of Scarlet Fever. J. Lange.
38 Reciprocal Relations Between Lung and Chest with Emphysema. (Wechselbeziehungen zwischen Lunge und Thorax bei Emphysem.) H. Loeschcke.
39 Tincture of Soap and Alcohol in Disinfection of the Hands. W. Schumburg.
40 Serodiagnosis of Syphilis. (Auswertung des Antigen-Extraktes.) H. Hecht.
41 Elimination of Diastatic Ferment in the Urine. A. Rosenthal.
42 Treatment of Hay Fever. (Heufiebertherapie.) R. Hoffmann.
43 Experimental Syphilis. (Syphilitische Allgemeinerkrankung beim Kaninchen durch intrakardiale Kulturimpfung.) J. Schereschewsky.
44 *Glycerin Treatment of Pernicious Anemia. Muktedir Effendi.

45 Water-Jet Massage. (Die Verwendung der Wasserdruckmassage in der Gynäkologie, Odontologie, Rhinologie, Otologie, Neurologie, internen Medizin, Dermatologie und Urologie.) W. H. Dreuw.
46 Tests for Milk. (Die Säurebestimmung und die Labhemmprobe der Milch.) K. Schern.

37. **Scarlet Fever.**—Lange declares that isolation is necessary for at least five weeks in case of scarlet fever, up to ten weeks or more. No child should return to school without a certificate from a physician that desquamation is over. It seems evident that scarlet fever is not contagious during the first twenty-four hours; this permits isolation in time. He insists that every case belongs in the hospital. In treatment, cautions tepid baths are of advantage but even more important is it to keep the mouth, nose and throat thoroughly cleaned without irritating the mucosa. Weak salt solution is perhaps the best rinsing water for the purpose, syringing out the mouth and nose. Even if this does not prevent the dreaded mixed infection, it is an advantage to have the child accustomed to such measures when mixed infection does develop. The scarlatinal diphtheria once installed, he injects 0.5 gm. of 3 per cent. phenol. twice a day, into the pillars of the fauces. He has often seen children with the severest general symptoms of sepsis with purulent discharge from mouth and nose and enormously swollen glands, with bad, rapid pulse, somnolency and cool feet and hands, recover completely under the influence of these systematic injections. The diet should be carefully regulated for weeks after a severe scarlet fever. He reviews the various complications, and remarks in conclusion that the old saying is still true that a mother can never be entirely happy in her child until it has successfully passed through scarlet fever.

44. **Glycerin in Pernicious Anemia.**—In Muktedir's case the patient was a man of 30 infected with syphilis four years before; the anemia continued to progress even under mercury and iodid until there were only 970,000 red and 4,000 whites, with 20 per cent. hemoglobin. Death seemed impending when a course of glycerin was commenced last February. A tablespoonful of glycerin was given three times a day at first, and later up to 70 gm. The man began to improve at once and by the end of a month the reds numbered 4,200,000, the whites 5,300, with 100 per cent. hemoglobin. This confirms Tallquist's experience in a similar case. Both patients seem to be permanently cured. Muktedir's patient is still taking a little glycerin and seems strong and well. It is possible, he adds, that the glycerin may benefit only in the cases of anemia of intestinal origin. The only by-effect in his case was a brief transient diarrhea.

Medizinische Klinik, Berlin

May 21, VII, No. 21, pp. 801-838

47 *Treatment of Tuberculosis of Joints. (Die moderne orthopädische Behandlung der Gelenktuberkulosen.) E. Klose.
48 The Electrocardiogram. H. Winterberg. Commenced in No. 20.
49 *Treatment of Gastric Ulcer. (Kritisches zur Behandlung des Magengeschwürs.) H. Strauss.
50 Determination of Temperature of Infants' Food. (Die Wärmemessung der trinkfertigen Säuglingsnahrung.) H. Roeder.
51 The Glycerin Tampon in Gynecology. F. Kermauner.
52 Radium Emanations in Therapeutics. A. Fürstenberg.
53 Case of Acute Hemorrhagic Encephalitis. M. Ulrich.
54 Colored Glass Wedges for Hemoglobinometer. (Verwendbarkeit von Goldrubinglaskeilen zu kolorimetrischen Bestimmungen von Hämoglobin und Eisen im Blute.) Charnass.

47. **Joint Tuberculosis.**—Klose regards conservative treatment as indicated in every case of tuberculous hip joint disease, except where there is direct vital danger, as with neglected suppuration with high fever and anemia. Under all other conditions conservative treatment is to be preferred and no considerations, such as the length of the course of treatment or the poverty of the patient, should deter from it. The poor functional results speak strongly against resection. In over 21 per cent. of his cases, the conservative immobilization of the hip joint in a cast, permitting the patient to be up and about, restored an ideal function to the joint with normal gait. Alapy has reported a similar outcome in over 21 per cent. of his 122 cases. The same applies to tuberculous knee lesions. General measures to supplement the local are indispensable, and the walking casts are very valuable in this respect, the patient not being confined to bed or room. Klose also advocates systematic tuberculin treatment, as this has a marked curative action on the local process, besides the benefit on the general health. The combination of tuberculin treatment with orthopedic measures for joint tuberculosis is one of the greatest triumphs of modern medicine, he thinks.

49. **Gastric Ulcer.**—Strauss cites some recent statistics which show that only about 50 per cent. of patients with gastric ulcer are permanently cured by internal treatment. It was formerly assumed that fully 90 per cent. of the non-hemorrhagic ulcers heal. He does not approve of some of the later diagnostic measures advocated as he makes it a principle to avoid all mechanical or other irritation of the interior of the stomach. He urges the importance of a course of internal measures when there is the slightest suspicion of an ulcer, as it can scarcely ever do harm, while the lack of it may do irreparable damage in case of an actual ulcer. He advocates prolonging the course of dieting even after the patient has apparently recovered. After considerable hemorrhage, he permits no food by the mouth, believing that the blood thus poured out into the gastro-intestinal tract will serve to nourish the patient for a time; even were this not the case he would be deterred from feeding by the mouth through fear of detaching some thrombus and thus starting the hemorrhage again. Hunger is borne better than thirst, and by proctoclysis, the "drop enema," the patient can be supplied with fluids besides the nutrient enemas, which he likes to give also by the drop method. Radioscopy has shown that the empty stomach keeps contracted, which is an aid in the healing of an ulcer. Operative treatment is the only means of cure for callous ulcer, but it is not indicated with ordinary simple ulcer unless the latter is refractory to repeated and prolonged internal courses or there is recurring hemorrhage. In the last year he has had three cases in which symptoms of ulcer recurred after an apparently successful operation. This confirms the importance of internist care long continued after every operation on the stomach, to prevent recurrence. The question now is to determine the other factors inducing ulceration, besides the factor of excessive secretion.

Münchener medizinische Wochenschrift

May 16, LVIII, No. 20, pp. 1057-1112

55 *Self-Infection in Obstetrics. (Zur Frage der Selbstinfektion in der Geburtshilfe.) M. Hofmeier.
56 Volvulus of Sigmoid Flexure and Hirschsprung's Disease. A. Heller.
57 Importance of the Etiology in Estimating Mild Melancholia. (Bedeutung der Aetiologie bei der Beurteilung leichter Depressionszustände.) G. L. Dreyfus.
58 *Fatalities After Injection of Salvarsan in Cardiovascular Disease. (Ueber Todesfälle nach Salvarsaninjektionen bei Herz- und Gefässkrankheiten.) K. Martius.
59 Technic for Intravenous Injection of Salvarsan. H. Ploeger.
60 Source of Error in Serodiagnosis of Echinococcus Disease. A. Brauer.
61 Plastic Operation for Prolapse of Rectum. (Zur dauernden Beseitigung des Mastdarmvorfalles mittelst Beckenbodenplastik.) P. T. L. Hackenbruch.
62 *Functional Hypersecretion of Glands in Bladder Mucosa. (Funktionelle Hypersekretion der Blasenschleimhautdrüsen.) R. Oppenheimer.
63 Treatment of Uncomplicated Breech Presentation. J. Rothschild.
64 *Pessary Treatment of Prolapse of Rectum. A. Hofmann.

55. **Self-Infection in Obstetrics.**—Hofmeier has recently had two cases of acute sepsis after a normal and spontaneous delivery in previously healthy women of 17 and 28. These are the only cases of sepsis after normal delivery in his service during twenty years with over 11,500 obstetric cases. The necropsy in both revealed purulent plugs in the tonsils and the glands in the neck were enlarged in one case, but there had been no signs of tonsillitis at the time in either patient. He ascribes the sepsis to the arousing of virulent germs in the throat by the stress of the birth process, and their flocking to the wound left by separation of the placenta; they also evidently passed into the intestines and set up a local inflammatory process at various points. In the first case hemolytic streptococci could be cultivated from the lochia and the following day from the blood and yet the uterus wall was found normal throughout, the interior merely coated with a turbid secretion, the surface a reddish gray. In the other case the slight reaction in the cellular tissue of the uterus and the lack of inflammation in the veins and lymphatics seemed to exclude the possibility of infection from without; otherwise

the typical local reaction would have been much more serious. One tube contained pus and the fatal peritonitis had developed from this. He adds that it is evident that hysterectomy would have been useless in both cases, although everything at the time seemed to point to the uterus as the seat of the infection. If the cases had occurred outside of a well equipped and well managed maternity, the physician or the midwife might have been assumed to be responsible for the infection. Hofmeier ascribes it to self-infection from some practically latent focus elsewhere.

58. **Fatalities After Injection of Salvarsan in Syphilitics with Cardiovascular Disease.**—This communication issues from Ehrlich's institute and in it are analyzed all the cases of this kind on record, with those that have occurred in the institute, and those of which Ehrlich has been informed personally by letter or telegraph. Eighteen cases are thus listed, including three from his own experience and seven from the literature. The other eight fatalities have never been published. Martius concludes from his analysis of the cases that in only seven can there be any question as to the connection between the fatality and an injurious action of the drug on the heart. He states that in five of this group of seven, necropsy revealed the triad: syphilitic aortitis, coronary sclerosis and myocarditis or myodegeneration of the heart. In the sixth case there was hypoplasia of the heart and aorta, and in the seventh, in which the patient died in collapse, such severe changes were found in other organs as to offer a plausible explanation for the fatality, aside from the medication. In four of the total seven no objective signs of trouble in the heart or vessels had been apparent on clinical examination, and in three of these four there had been nothing to call attention to the heart in any way. The experiences related demonstrate, he says, that the above triad of aortitis, coronary sclerosis and myocarditis should absolutely contra-indicate the use of the drug. No unfavorable influence on the sound heart from salvarsan need be anticipated, he says, even with intravenous administration, if the dose is small, not over 0.3 gm., and if it is copiously diluted and care is taken that the reaction of the solution is not acid. Other experiences which he relates show, he adds, that angina pectoris, without complications on the part of the heart, is influenced by the salvarsan in the most favorable manner.

62. **Nervous Hypersecretion of Bladder Mucosa.** — Oppenheimer has encountered five cases in which tenacious masses of mucus were seen in the bladder and the patients complained of a smarting during micturition and unusually frequent desire to urinate during the day—not at night. The cystoscopic findings were approximately normal but the patients were extremely nervous and easily fatigued, and distressed by their symptoms which suggested chronic cystitis. Treatment should aim to convince the patients that the trouble is merely a harmless functional hypersecretion of the mucous glands. No local treatment is required; the aim should be to divert the attention away from the bladder and tone up the nervous system in general.

64. **Pessary Treatment of Rectal Prolapse.** — Hofmann's patient was a woman 70 years old, with extensive prolapse both of rectum and vagina. He introduced a pessary into the rectum and another into the vagina, fastening them together with a wire through the septum between. The prolapse was cured and the patient has worn her pessaries for several months without disturbance.

Gazzetta degli Ospedali e delle Cliniche, Milan

May 11, XXXII, No. 57, pp. 603-610

65 Oculomotor Paralysis from Peripheral Trauma. T. Di Guiseppe.

May 14, No. 58, pp. 611-626

66 *Cacodylic Poisoning from Medicolegal Standpoint. E. Di Mattei.

May 16, No. 59, pp. 627-634

67 *Pelvic Fixation of Uterus for Retroflexion. (Retroflessione uterina e cura alla Pestalozza.) U. Ragnsa.

May 18, No. 60, pp. 635-642

68 Fixation of Complement in Pellagra. (Ricerche sulla fissazione del complemento nei pellagrose.) L. Lucatello and M. Carletti.

66. **Cacodylic Acid from Medicolegal Standpoint.**—Cacodylic acid and salts are said to be free from toxicity, but Li Mattei's experiments with ten guinea-pigs, four rabbits and four dogs showed that sodium cacodylate is liable to induce symptoms and lesions showing great analogy with those from poisoning with mineral arsenic, both in the acute and chronic cacodylic poisoning. There was evidently an inflammatory process in both, differing only in its course, the parenchyma of the different viscera suffering the most. The liver and kidney parenchyma showed fat degeneration and necrotic lesions but the suprarenal capsules suffered most, the multiplicity and gravity of the lesions testifying to the fact that the suprarenals have less resisting power than the other organs to the injurious action of the drug. The conditions of the experiments were made to resemble those of the therapeutic administration of the cacodylic acid in the chronic cases, while the other animals were given from 0.15 to 3 gm. of sodium cacodylate at one time, which always proved fatal in less than twenty-four hours after the subcutaneous injection. The symptoms of the acute poisoning corresponded to those from poisoning with organic arsenic.

67. **Intrapelvic Fixation of the Uterus for Retroflexion.**—Ragnsa reviews fifty-seven cases in which Pestalozza's technic has been applied to correct retroflexion, and with the best results, by half a dozen gynecologists in Italy and at Pestalozza's clinic. The main feature of the technic is fastening the uterus in its normal position by suturing to the fundus a flap of peritoneum slit from the reflection on the inferior segment of the uterus. The flap includes, besides the strip of peritoneum and the connective tissue connected with it, a few muscular fibers from the external musculature of the bladder. The uterus is thus held in normal position without interfering with its physiologic expansion. All the patients on record have been free from disturbances since, and a number have passed through normal pregnancies.

Policlinico, Rome

May 14, XVIII, No. 20, pp. 617-648

69 *Lumbar Puncture in Treatment of Trauma of the Head. (Terapia dei traumatismi cranio-encefalici per mezzo della puntura lombare.) B. Prampolini.

70 Salvarsan in Syphilis. I. Ullmann. Commenced in No. 19.

71 Intravenous Mercurial Injections in Septicemia. S. de Rossi and others.

May 21, No. 21, pp. 649-680

72 Frambesia. (Frambœsia tropicale, buba brasiliana e malattia del Breda.) F. Rho.

73 *Influenzal Ear Lesions. T. Mancioli.

69. **Lumbar Puncture After Trauma of the Head.**—Prampolini reviews twenty-six cases on record in Italian literature in which lumbar puncture was applied in treatment of traumatic lesions of the head, and then reports a case from his own experience which illustrates anew its advantages. His patient was a man of 30 who had fallen on his back, hitting the right parietal-temporal region of the skull. Periods of great agitation alternated with extreme drowsiness and the pupils did not react to light or in accommodation, while the mind did not seem quite clear. There was intense headache in the right parietal region and the spine was tender, but there were no signs indicating fracture of the skull. Lumbar puncture released about 20 c.c. of a turbid, cherry-red fluid, under high pressure, and benefit was soon apparent. A second and third puncture were made the following and the third day, and by the end of nine days after the accident the patient was entirely restored. The trouble had evidently been a contusion of the brain with hemorrhage inducing abnormally high pressure on the brain. The headache and symptoms of irritation subsided completely after the second puncture, and by the third the cerebrospinal fluid was clear and colorless, showing that the extravasated blood had been reabsorbed.

73. **Influenzal Ear Lesions.**—Acute catarrhal otitis media was remarkably frequent, Mancioli states, during the epidemic of influenza at Rome this year, but it generally subsided without suppuration. Primary mastoiditis without involvement of the middle ear was also frequent; he operated in thirty cases of the kind. In each the trouble was a diffuse osteomyelitis rather than an abscess, and in nearly all healing was by primary intention after complete evacuation, removing all the bone involved.

Society Proceedings

COMING MEETINGS

American Medical Association, Los Angeles, June 27-30.

American Academy of Medicine, Los Angeles, June 23-26.
American Ophthalmological Society, New London, Conn., July 11.
American Otological Society, Atlantic City, June 26-27.
American Proctologic Society, Los Angeles, June 26-27.
Arizona Medical Association, Los Angeles, June 26.
Conf. of Bds. of Health of N. America, Los Angeles, June 30-July 1.
Maine Medical Association, Augusta, June 28-29.
Oregon State Medical Association, Los Angeles, Cal., July 10.

AMERICAN GYNECOLOGICAL SOCIETY

Thirty-Sixth Annual Meeting held at Atlantic City, N. J., May 23-25, 1911

(Continued from page 1747)

The Frequency and Clinical Significance of Funnel Pelves

Dr. J. Whitridge Williams, Baltimore: In typical funnel pelves the distance between the tubera ischii is reduced to 8 centimeters or less, while the usual measurement remained unchanged. Such pelves were noted in 6.1 per cent. of 2,215 consecutive full-term labors, are of equal incidence in white and black women, and sometimes give rise to serious dystocia. The funnel pelvis is the most common abnormality in white women, in whom it constitutes 44 per cent. of all deformed pelves. In colored women on account of the incidence of the more usual types, it is relatively less important, and stands forth in order of frequency. The prognosis depends not so much on the actual narrowing of the pubic arch or on the distance between the tubera ischii, as on the relation between it and the posterior sagittal diameter. Moderate degrees of dystocia can frequently be overcome by placing the patient in an exaggerated lithotomy or an exaggerated Sims' position. In either event, the antero-posterior and posterior sagittal diameters undergo an average increase of 1.62 cm., which so increases thé available space as to make spontaneous labor possible. Such an enlargement affords an explanation for the successful outcome of certain low-forceps operations which appear theoretically impossible from the measurements taken in the usual position. Pubiotomy is the operation of choice in cases of pronounced dystocia, as it not only affects the delivery of the child, but leads to a permanent increase in the size of the outlet, which may be further enlarged by the softening of the fibrous union under the influence of the hyperemia incident to pregnancy, and thus make possible the spontaneous termination of subsequent labors.

DISCUSSION

Dr. Edward Reynolds, Boston: The inferior strait of the pelvis is of vastly more importance than the gynecologist has supposed, and is probably of more importance than the superior strait.

Dr. Edward P. Davis, Philadelphia: In cases of dystocia from funnel-shaped pelvis, when the obstetrician is called in consultation because the family physician cannot secure expulsion of the child, or finds it difficult to extract it, the instrument slipping, and the head of the child being low down, it is the duty of the practitioner to perform craniotomy, as the patient cannot be treated safely in any other way.

Diagnosis and Treatment of Contracted Pelves

Dr. J. M. Munro Kerr, Glasgow, Scotland: The diagnosis of contracted pelvis is not difficult, and the greater the deformity the easier the diagnosis. A careful measurement of the pelvis both by the hand and by a pelvimeter should be made. An estimate of the size of the child's head should be attempted both by palpation and cephalometer. The relative size of the head and pelvis should be estimated, and that should be the basis of treatment. Whenever possible this examination should be made in the thirty-sixth week, and again at the beginning of labor, if the pelvic deformity is of medium degree. One of the most striking features in connection with the treatment of contracted pelvis is the prominence given by all recent writers to spontaneous delivery. Spontaneous delivery is quite frequent with a conjugata vera of 9.3 cm. I have twice seen a child born spontaneously even with a pelvis of 7.5 cm., but no such case has occurred in my clinic during the last two and a half years. In 130 cases of contracted pelvis treated by forceps, the fetal mortality was 50 per cent., with a conjugata vera of 7.5 cm., 33 per cent. with a conjugata vera of 8.1 cm., and 15 per cent. with a conjugata vera of 8.7 cm. I have performed craniotomy seventeen times in the last two and a half years. I have done a pubiotomy three times, and symphyseotomy once. All these patients did well, and all the children did well. I consider pubiotomy an excellent operation, but it has a very limited field. Cesarean section is dangerous in suspect cases. In these cases the maternal mortality is 17.3 per cent., and if frequent examinations have been made it runs up to 34 per cent. If Cesarean section is performed in the suspect cases, undoubtedly the best results have been obtained by removing the uterus. What will lower the mortality and morbidity, both maternal and fetal, more than anything else is a more thorough training of students and young graduates to appreciate the importance of an early diagnosis of pelvic deformity and the limitations of every operation which may be employed.

DISCUSSION

Dr. J. Whitridge Williams, Baltimore: In the 2,200 cases which I discussed in my paper on funnel-shaped pelves, there were 16 per cent. of spontaneous deliveries in all classes of inlet contractions in white women as compared with 81 per cent. in black women.

Dr. A. Lapthorn Smith, Montreal: The tendency to hurry matters in these cases is a curse rather than a blessing, and it comes about very largely from conditions peculiar to this country. In America the doctor is told to hurry up or the woman will get somebody else, and it is this hurry-up spirit which makes it difficult to instill into the mind of the young doctor the important point that he must not hurry delivery until the time comes for it to be effected.

Dr. Richard C. Norris, Philadelphia: My attitude toward inducing labor in properly selected cases not more than two or three weeks before the calculated term will add to the table of spontaneous deliveries of the essayist. It is in this class that induced labor should be considered. The question of transperitoneal and intraperitoneal Cesarean section has never appealed to me. I believe that craniotomy is yet a conservative operation, which must be used in certain instances. I have twice in the past year been called on to perforate the head of the living child.

Dr. Henry D. Fry, Washington, D. C.: In Washington we have a large colored population, and I have noticed in examining a large number of pelves that fully 50 per cent. of the women have justo minor pelves. It is rather unusual for me to find in colored women a rachitic flat pelvis. In the white woman the justo minor pelvis is rather unusual, and the simple flat and rachitic flat pelves are more common. As to spontaneous labor, in the cases I have seen it has occurred in 60 or 70 per cent. of them.

Dr. John O. Polak, Brooklyn: My results from premature labor have been unsatisfactory. The fetal mortality has been considerable, and it has subjected my patients to the possibilities of infection. My associate and I have done Cesarean section in sixty-one cases without a death, and many of these patients were handled and brought in off of the ambulance after several attempts at delivery with forceps had been made. We have had no difficulty in delivering these women, and they have had no marked morbidity, and no mortality.

Dr. Robert L. Dickinson, Brooklyn: There is a large field for the induction of labor. I do not allow primiparæ to run overtime unless they have been well starved. Starvation and early delivery have given me successful results so far as the fetal death-rate is concerned.

Dr. Edward P. Davis, Philadelphia: With reference to Cesarean section, when a woman has had the test of labor and has a contracted pelvis, one need not necessarily wait for labor, but should resort to Cesarean section and in clean cases one will get good results.

Salpingostomy in Pregnancy

Dr. George Gellhorn, St. Louis: The occluded tubes are extirpated by the majority of operators. In a minority of instances, however, where the patient desires offspring, salpingostomy may be performed with safety. I operated in a case removing the left adnexa and splitting open the right tube. The patient gave birth to a healthy child three and a half years later and is about to be confined for the second time. To prevent the recurrence of occlusion after salpingostomy, appropriate after-treatment is necessary, mainly the use of high degrees of dry heat. If the plastic operation is thus restricted, the patient will suffer no ill effects, even though a certain percentage of the tubes may again become sealed.

DISCUSSION

Dr. Thomas J. Watkins, Chicago: I have recently been interested in the technic of salpingostomy, having had trouble in making an artificial opening in the tube to avoid constricting it. Even in cases where the incision is made parallel, where the mucous membrane is turned over into the serosa and stitched, after the operation is completed, the opening is surprisingly and disappointingly small. Of late I have modified the technic, making a longitudinal incision, beginning at the distal end of the tube and suturing the mucous membrane on either side of the ovary, and in that way offering hope of not constricting the tube and of its not becoming occluded. I recall one case of opening the tube where pregnancy took place. This was a case of infection due to induced miscarriage. Gonorrhea was excluded. Examination of the husband proved there were spermatozoa. These tubes were both opened through an anterior vaginal incision. The woman bore a child afterward, and had a tubal pregnancy later, and at the time of the tubal pregnancy the opposite tube was found normal, except that there were a few adhesions about the fimbriated end.

Dr. Franklin H. Martin, Chicago: For three or four years, instead of doing salpingostomy in these slightly sacculated cases, I have been in the habit of employing a method of opening the tubes and rendering them patulous by means of hydrostatic pressure. Any tube that will hold from ten minims to half an ounce of fluid should be treated in this way. The tube is brought to the surface, and, after being liberated from adhesions, is placed on a thick laparotomy gauze sponge, and then the tube is milked in the direction of the fimbriated end. Almost every one of these tubes will rupture at the fimbriated end, opening up the tube along the fimbria, and at the same time causing evacuation of the tube.

Dr. J. Wesley Bovée, Washington, D. C.: I have done several salpingostomies. I have had one case of pregnancy, and this was ectopic.

Dr. Robert L. Dickinson, Brooklyn: I have spread the tube on the ovary in sixteen or eighteen cases and dropped it.

Salpingitis

Dr. Frank T. Andrews, Chicago: Salpingitis is not a disease by itself. It is a part of a general pelvic inflammation. The field of action is not the pelvis alone. Pelvic inflammation, in the majority of cases, begins as an acute vulvar or vaginal or uterine infection with a tendency to spread through the tubes to the pelvic peritoneum. The infecting agent may be the gonococcus, streptococcus, members of the colon bacillus group, pneumococcus and staphylococcus. Each variety has many grades of virulence and varies in the intensity of its virulence. Patients differ in their power to resist or combat infection, and this resistance is not a fixed state, but changes constantly during the progress of the disease. If, with reasonable certainty, within a reasonable time, we can cure by vaccines, then operation is criminal. It is understood that vaccines are contra-indicated in the acute stages of this or any other pyogenic process. The toxins are already in excess in the tissues, and to add more would be folly. Furthermore, no efficient antitoxin has as yet been produced for the toxins of the pyogenic organisms. This leaves, then, the chronic form to be considered, and it is known that chronic gonorrhea and other pyogenic infections are often cured by vaccines. Then why may we not use autogenous vaccines in cases of salpingitis? One limitation to their use is to be found in the anatomic relations of the Fallopian tube to the pelvic peritoneum. Each injection is followed by a decided reaction. Such reaction is marked by an increase in the intensity of inflammation in every infected part, meaning much local peritonitis with its usual results, and perhaps a diffuse peritonitis with death. Another danger in cases such as these in which spontaneous auto-inoculations are taking place is that the spontaneous inoculation or rupture of the tube may occur soon after an inoculation with autogenous vaccine. The effect of this will be the same as of a greatly increased dose of the toxin in a patient with acute exacerbation of the pelvic trouble. That is, the effect of the vaccine will be greatly to increase the severity of the acute attack. I believe that treatment by immunization has almost infinite possibilities for the future, but that the present state of our knowledge does not warrant us in experimenting on our patients. The battle will be won only when we can produce immunity with impunity.

DISCUSSION

Dr. Seth C. Gordon, Portland, Me.: Pyosalpinx was very much more common years ago than it is now. I operated on most of these cases through the vagina, making a thorough incision and establishing drainage, and nearly all those patients got well.

Dr. Edward Reynolds, Boston: In many cases of chronic vaginal discharge, as soon as the tubes are dealt with, the vaginal discharge decreases. I am inclined to believe it is due to the probability that in chronic salpingitis there is a passage downward of small quantities of discharge or of a ferment, which, on emerging into the uterus or vagina, keeps up a much more profuse discharge in the larger passages, the tubes acting as reservoirs for the ferment, and that increasing the vaginitis, and after its removal the tubes are clear. It is difficult for me to see how we can expect any very large percentage of cures in these chronic cases of salpingitis by vaccination, when one remembers the physical state in which most of these tubes are left.

Dr. T. J. Watkins, Chicago: Dr. Andrews' paper is along the line of developing immunity, and he has said that a patient does not get well because the local disease gets better, but the local disease gets better because the patient develops a general immunity. And this has been the idea in the treatment of pelvic infections. Now, the gynecologist does everything he can to develop immunity. He has found that if he drains a pus tube or takes it out in the most surgical manner without spilling the pus, the patient's temperature is not shortened. The patient runs a fever for two or three weeks, probably a little longer with an operation than without it, because the amount of bacteria and poison removed by the operation is less than the amount of physiologic resistance cut down as the result of the operation. So in these cases the surgeon has very much to be thankful for in this contest between physiologic resistance and bacterial invasion.

Double Ovarian Dermoids in Pregnancy

Dr. Walter P. Manton, Detroit: In the total number of cases collected there were twenty-seven double tumors noted in the non-gravid, and seventy-three single, and nineteen double, associated with pregnancy. In the non-gravid, twenty-three tumors were situated on the right side, and sixteen on the left. In the pregnant, of the single growths, eleven were on the right and ten on the left side. From the fact that, even with double tumors, menstruation is unaffected, or shows only slight disturbances late in the disorder, it appears that these growths have little influence on that function, and from the number of reported pregnancies do not, as a rule, prevent conception. On the other hand, their existence is always a menace to the health and even life of the mother during pregnancy, and especially following delivery, from the peculiar liability of dermoids to twisting of the pedicle, and in occasional instances during gestation, to the pressure caused by the size and position of the associated cyst. The coincidence of other new growths of the pelvic organs and dermoid cysts adds still greater danger to the maternal host, the two morbid products not infrequently becoming formidable complications in pregnancy, labor, or the puerperium. In thirty-one selected cases, there are noted as associated conditions: ovarian cyst in seven; par-ovarian cyst in two; ovarian fibroids of the opposite side in one, and uterine fibroids in seven. Malignancy was found present in the walls of the dermoid itself in twenty-four cases, a number sufficient to warrant a more careful investigation of these growths in the future. Moreover, suppuration is exceedingly liable to occur in these cysts, and fatal termination from infection has been reported in not a few cases.

DISCUSSION

Dr. George Gellhorn, St. Louis: I know of an interesting case which occurred in the practice of Dr. Ehrenfest, which I would like to relate briefly. A young married woman, during her first pregnancy, had to be examined, and the presence of a tumor was determined. Laparotomy was performed during the fourth month of pregnancy, and a cyst removed, which was found to be a dermoid. On the other side there was a smaller cyst of exactly the same nature. But, as experience has taught that the removal of both ovaries during pregnancy threatened to terminate pregnancy, the second smaller ovarian dermoid was left behind. The family desired more children, and so the second ovary was not removed. The first pregnancy terminated normally, but the woman is kept under constant control. This woman has borne a second child since, and is now being watched closely to see if she may possibly have a third child, after which the dermoid cyst will be removed to prevent the possibility of carcinomatous degeneration.

Dr. T. J. Watkins, Chicago: With a double dermoid it would seem very feasible simply to leave a part of the tumor which retains the corpus luteum, and this probably will prevent the interruption of pregnancy.

Dr. Brooks H. Wells, New York: The removal of these ovaries during pregnancy does not interrupt pregnancy. I recall a case in which there were two dermoid cysts of both ovaries, which were removed, the patient being advanced four months in pregnancy and went on to term.

Dr. W. P. Manton, Detroit: I have never had a case in which I have operated on both sides during pregnancy, removing the dermoids. In all reported cases in which the dermoid s on one or both sides, pregnancy has gone on uninterrupted. he majority of operators advocate leaving behind a portion f an ovary.

The Blood-Supply of Uterine Myomata

Dr. John A. Sampson, Albany, N. Y.: The main intrinsic terine arteries, to which the name areling may be given, enetrate the anterior and posterior uterine walls and lie etween the outer and middle third. Their course is horizontal the lower portion of the body of the uterus and obliquely orizontal (upward), as one approaches the fundus. Each rcling artery terminates in a medial, radial or centripetal nd peripheral branch, the latter often anastomosing with a milar branch of the opposite areling artery, thus establishing communication between the two main arteries. All along the ourse of each areling artery, radial branches arise which erminate in the endometrium, and also peripheral branches ise which nourish the myometrium. Sections of injected eri containing myomata show that all tumors of an appreable size have an arterial blood-supply which varies greatly different specimens and in the larger tumors is frequently eater than that of the myometrium. The same sections il to demonstrate any veins in many of the tumors; in hers a few small veins may be seen throughout the mor or about its periphery, while occasionally they are ite evident, but never as abundant as in the myometrium. e extrinsic and intrinsic arterial supply of these tumors plains many of the clinical phenomena. I can readily understand why these tumors may be shelled out from the uterine ll with slight bleeding occurring only in a few places. mors in which veins are found in their substance and about e periphery suggest that the change between arterial and nous blood occurs within the tumor; in those in which veins e not found it is impossible to demonstrate where this takes ce. The regressive changes in these tumors, calcareous posits, and necroses, are in many instances due to alterans in the vascularity of the tumor as a whole or a portion it.

(*To be continued*)

Book Notices

Puerperal Infection. By Arnold W. W. Lea, M.D., Lecturer in Obstetrics and Gynecology, the University, Manchester. Cloth. Price, $9. Pp. 384, with illustrations. New York: Oxford University Press, 1910.

The author has undertaken to describe the etiology, bacteriology and pathology of puerperal infection with as great scientific accuracy as possible and at the same time to keep in mind the practical and clinical aspects of the various types of infection, giving with clearness and fulness the modern methods of diagnosis and treatment. In this attempt he has succeeded in giving a clear picture of this complex subject and has inspired confidence in his practical direction for treatment by his conservative views. After a short historical review and a short chapter on definitions, follows a brief discussion on frequency, mortality and morbidity in England, Germany and the United States. Unnecessary operative interference is rightfully blamed for the continuance of a high morbidity and mortality.

The difficult subject of etiology is concisely but well handled. The bacteriology of the female generative tract, during both normal pregnancy and the puerperium and in infection, is followed by a discussion of the conditions predisposing to infection and the important question of heterogenous versus autogenous infection. The influence of examinations and operative procedures in increasing the danger from the vaginal organisms is spoken of, while the slight pyrexias in the early days of the puerperium following well-conducted labor is attributed to autogenetic infection. The chapters on general pathology and pathologic anatomy are brief but clearly written and profusely illustrated. The uncertain state of our knowledge concerning toxemia and septicemia and the importance to be attributed to the hemolytic function of streptococci is shown by the author in his treatment of this unsatisfactory subject in the chapter on symptomatology. He gives correctly what is known, but the impossibility of distinguishing clearly between toxemia and septicemia is shown. The localized infections are satisfactorily pictured.

In the important chapter on prophylaxis the subject of the disinfection of the vagina is thoroughly discussed and while the author agrees with the majority of teachers in omitting the vaginal douche in normal cases he advises it in prolonged labor, in cases of purulent vaginitis, in cases of intrapartum fever and in all operative deliveries. Good rules for hand disinfection are given. Unfortunately, he seems to discourage the general use of gloves by emphasizing the drawbacks attending their use. He gives observations of Ahlfield and Walthard concerning the favorable influences on the puerperium of a long third stage of labor, but unwisely admits that it is quite impossible to wait one hour in private practice for the delivery of the placenta. The advice to remove portions of retained placenta is not carefully enough limited to avoid risk from the dangerous manipulation. The recommendation of a 2 per cent. solution of liquor cresolis compositus for an intra-uterine douche is dangerous advice.

Nearly one-third of the book is properly devoted to treatment. The general principles of isolation, rest, drainage and non-interference, except when absolutely necessary, are inculcated. In carrying out the latter in local infection the author does not take a decided stand, but, after stating the position of Kronig, Winter and others who abstain from all local treatment, he describes the various means of using antiseptics by douche and other topical treatment, likewise the technic of tamponade, finger curettage, *écouvillonage*, which is favored by the author, and curettage is fully described. The conclusions reached concerning the latter procedure are in general fairly conservative. Hot vaginal douches and hot air are preferred to cold applications in localized pelvic inflammation.

Some criticism might be made of certain details of the measures of general treatment which are not free from exploded ideas that have been handed down from uncritical times. We cannot agree that beef teas and meat extracts are of great value. Enemas of milk, eggs and beef tea cannot be given every four hours for any considerable period of time. The term "high enema" is bad if it implies the common but often refuted error that the rectal tube can be inserted into the colon. "Firm pressure" to check the secretion of milk is not necessary and of doubtful efficiency.

In the section on methods of destroying organisms and neutralizing toxic products in the blood and tissues of the body, the author is favorable to the collargol treatment and advises its general use. He seems to be ignorant of the investigation of the Council on Pharmacy of the American Medical Association. Phagocytin is unnecessarily given some space, since at the end of the paragraph the author says that further experiments failed to show that it exerted any favorable therapeutic influence.

The present state of the therapeutic use of the abscess of fixation is given without any recommendation by the author concerning its value. The intravenous injection of dilutions of formaldehyd solution is mentioned as having been tried in America with apparent success. A little further investigation of American literature would have shown that this dangerous experiment had a very ephemeral success. Serotherapy is judiciously discussed and the conclusion reached that its value is very questionable. Immunization by vaccines is likewise described and a more favorable view of its value obtained.

The indications for and the method of operative treatment of localized pelvic infection and of peritonitis are given with sufficient fulness. Hysterectomy is found indicated in cases of injury with infection and in some localized infections with abscess, in infected myoma and rarely in retention of fetus or placenta. Ligation of the pelvic veins is rarely indicated.

The book closes with a summary of treatment of both localized and general infection. It is a concise statement of the views of the author and worthily closes a laudable undertaking.

The Dawn of the Health Age. By Benjamin Moore, D.Sc., M.R.C.S., L.R.C.P. Cloth. Price, $1.40 net. Pp. 204. London: J. & A. Churchill (Philadelphia: P. Blakiston's Son & Co.), 1911.

This book is another evidence of the growing popular interest in health topics. While written by an Englishman, it applies to conditions in the United States as well as in Great Britain. The author endeavors to demonstrate the necessity for an entire remodeling of the present system of medical service in the interest of the whole community, by showing that thousands of lives and millions of money can be saved every year if disease is attacked on scientific principles "instead of being dallied with as at present." Dr. Moore advocates a system of state medicine by which competent physicians are made officers of the state for the suppression of disease, as police officers are employed for the suppression of crime. The author has evidently a strong tendency toward state socialism. Great Britain is apparently farther advanced along this line than the United States, as is shown by existing British laws regarding invalidity insurance, employers' liability, care of the sick by the state, workingmen's insurance, etc. While one may not agree with all of the conclusions, the book is interesting and suggestive. Chapters on the follies of present public health service, the doctor and his patient in private practice and in state practice, the evils and abuse of hospital systems and the evolution of a national medical service contain the basic facts and theories from which the proposed system of the writer is developed. Evidently the advocates of public health reform in England have encountered the same opposition as that met in this country, as is shown by the comments of the author on the objection that such a plan would be an invasion of personal liberty. He says, "Let us next look at the matter from the point of view, so often called in evidence by opponents, of the sanctity of the home and the intrusion on it of an army of officials. This is an ancient bogey which was taken out of its cupboard, carefully dusted and filled with fresh straw to alarm the British workman and voter when free education was granted him for his children. He was then told that his hereditary castle was gone forever and that he would have no peace or quiet with his wife and family on account of the unwelcome and prying visits of the school attendance officer haling poor little Johnnie away to school as to some prison or torture chamber. Now is it so in fact, after a good many years of reign of the school board? Is this reign really a reign of terror? Is the school attendance officer an irksome person in constant attendance at the poor man's home? No; he is only a terror to those, and they are but a small percentage, to whom he ought to be a terror and to whom we would all wish him to be a terror, who would neglect their children in a wicked and criminal way. . . . These officers, although they visit homes, have no more terrors for honest people than either the policeman or the gas-meter inspector." In another chapter he says, "Under the new regimé, medical treatment will be as free to everyone as is the school and education to-day and everyone must accept medical treatment in his own interest and that of the community just as he must to-day accept education for his child whether he wants it or not." Dr. Moore has presented an interesting argument for advanced constructive health legislation.

Public Hygiene. By Thomas S. Blair, M.D., Neurologist Harrisburgh, Pennsylvania, Hospital. Assisted by Numerous Contributors. In Two Volumes. Volumes I and II. Cloth. Price, $10 net. Pp. 644, with 158 illustrations. Boston: Richard G. Badger, (1911).

The growing interest in public hygiene would seem to warrant the preparation and publication of a comprehensive work on this subject, adapted to the needs of the general practitioner and the lay worker in sanitation reforms. Such a book is greatly needed and on first inspection Dr. Blair's book seems to meet the indications. More careful examination, however, arouses the suspicion that the material for this work was hastily put together and that too little time has been given to the processes of digestion and condensation. Frankly, the impression left on the mind of the critical reader is that material for a single, compact volume has been padded out to form two and that much material has been given place in full, which could better have been summarized or abstracted and that undue haste has been used in getting the work out. The two volumes are copiously illustrated, the plates being well executed from a mechanical standpoint, but not always having a discernible connection with the text. For instance, it is difficult to see the value in a work on public hygiene of a photograph of the elevator entrance to the rest-room of the Waldorf Astoria Hotel. Large photographs of the exteriors of public and private institutions are also of no discernible value. The binding is lacking in stability.

A Brief Text of Physiology. For Dental, Pre-Medical, and College Students. By Carl J. Wiggers, M.D., Department of Physiology, University of Michigan. Cloth. Price, $1.50. Pp. 207, with 47 illustrations. Ann Arbor: George Wahr.

This manual was originally intended for the use of dental students at the University of Michigan. It is an effort to cover the essentials of human physiology within the limits of the physiologic course given in dental schools. Only subjects of the greatest general interest have been included and discussions on debatable questions have been largely supplanted by statements of that side which to the author seemed to have the preponderance of evidence. It is rather more elaborate than a quiz-compend and is really a digest of present physiologic knowledge. A supplement contains directions for a number of experiments of use in demonstrating physiologic principles, space being left between the directions for each experiment, for the student to use in writing up laboratory notes.

The International Medical Annual. A Year-Book of Treatment and Practitioner's Index. 1911. Twenty-Ninth Year. Cloth. Price, $3.50. Pp. 748. New York: E. B. Treat & Co.

This year-book, in its twenty-ninth year, is fully up to th standard of former editions. In it is given a comprehensiv review of the year's work in treatment, covering practicall the whole field of medicine and surgery in all their branche A new feature is an index of the matter contained in th section on "Therapeutics" under the names of diseases in th section "Dictionary of New Treatment." This prevents t reader from missing new remedies (largely proprietaries, the way) or a particular form of treatment which has found its way into general use. The book is well illustrat having a number of good colored plates.

GENERAL INDEX

All *reading matter* in THE JOURNAL from January to June, 1911, inclusive, is indexed here. (For Current Medical Literature Index see pages 1948 to 2000). "Deaths," "Book Notices," and "Society Proceedings" are indexed under these titles at the ends of the letters "D," "B" and "S." Matter pertaining to the Association is under "American Medical Association." With the above exceptions, all matter is indexed under the most important word of the heading that was used in THE JOURNAL, and also under the subject heading. For instance, abscess of brain will be found indexed under "abscess" as well as under "brain." Such titles as "ocular manifestations, etc.," have been indexed under "eye." Cross-references have been made wherever this was possible. It is also well to remember that, in looking up a certain subject, related words should be consulted, for example, chest, thorax; skull, cranium; bowel, intestines. The letters used to explain in which department the matter indexed appeared are as follows: "E" editorial; "O" original article; "C" correspondence; "T" therapeutics; "Ml" medicolegal; "P" pharmacology; "M. E." medical economies, and "ab" denotes an abstract of an article that has appeared in full elsewhere. *Names of authors* of original articles appearing in THE JOURNAL are not given in this index, but are included in the Index of Authors.

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Abbreviations:
  Acad.—Academy.
  Am.—American.
  A.—Association.
  Conf.—Conference.
  Cong.—Congress.
  Hosp.—Hospital.
  Internat.—International.
  M.—Medical, Medicine.
  Pharm.—Pharmaceutical.
  Phys.—Physicians.
  Ry.—Railway.
  S.—Society.
  Surg.—Surgical, Surgery, etc.

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CURRENT MEDICAL LITERATURE

INDEX TO SUBJECTS

Explanation: The *reading matter which appeared in* The Journal *is not indexed here*, except the original articles and the abstracts of original articles. This index refers to the titles and the subjects of original articles published in the leading medical journals of the world, including The Journal, during the past six months. The titles of the articles and the names of the journals in which they appeared were listed weekly in the Current Medical Literature Department, and it is to them that references are here made. The figure in parentheses refers to the paragraph; the number following to the page in The Journal. For instance, "Immunity, Studies on, in Cancers of White Rat, (76) 1512—ab," refers to page 1512 of The Journal, on which is found, in paragraph 76, the title of the paper and the name of the author, viz., "Studies on Immunity in Cancers of White Rat, I. Levin and M. J. Sittenfield." This title is listed under the journal in which the article appeared, the *Journal of Experimental Medicine*, May, 1911. When "ab" follows a page number it indicates that the article was abstracted in The Journal; for instance, "Pylorus, Congenital Stenosis of, (85) 697—ab." On page 697, paragraph 85, will be found an abstract of this article, which appeared in *American Journal of Diseases of Children*, February, 1911. Titles of articles which appeared originally in The Journal are indicated in the index by an asterisk (*) before the page number; for instance, "Breast, Cancer of, Operative Treatment of, *315," refers to page 315 of The Journal, on which is found the complete original article. The index to authors of all articles, both original and those listed under Current Medical Literature, appears separately on pages 2001 to 2016 of this Index.

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The Physician's Automobile

How to Choose One Suited to His Needs—How to Care for It—What to Expect from It

THE SMALL CAR FOR THE GENERAL PRACTITIONER

REPLACING the horse to a large extent in all lines of business, particularly in its use by physicians, the automobile occupies the place to-day, in the layman's mind, so far as medical practice is concerned, that the horse did ten or fifteen years ago. A horseless physician was not thought to be worth much, professionally, and two horses were considered to be better than one, as an indication of professional standing and prosperity. The physician who drove a spanking team of blooded horses, necessarily, must have been a much better doctor than he who drove a single horse, and very much better than the man who rode "shank's mare." That was the layman's point of view; the professional point of view, of course, was an entirely different one.

To-day, the physician without an automobile is regarded as not a very busy man, or for that matter, a not very successful one, although that, again, is from the layman's point of view. So far as the medical man is concerned, the automobile is a necessary luxury and a luxurious necessity. Taking for granted that the machine is always in condition, it saves time, enables him to make his calls more quickly and more comfortably, and gives him more time for reading and play.

PHYSICIANS BUY TOO LARGE CARS

Unfortunately the automania has possessed physicians as it has laymen, and they are buying expensive, elegant, big cars that are in no way suited to their needs—because their neighbors do it. The physician who a decade ago was satisfied with an ordinary horse and buggy, costing him not to exceed $250, does not hesitate today, under exactly the same circumstances to pay $1,500 for an automobile. A decade ago, a physician doing a good practice, with an income above the average, would have been regarded as "putting on style for effect" had he bought a closed carriage and a pair of horses and employed a driver. He could have done this, however, at an actual outlay of not to exceed $800 and for his driver, say $25 a month. The same man to-day does not hesitate to pay $3,000 to $5,000 for a limousine and employ a chauffeur at $75. Can he afford to do this? If so, well and good; but—

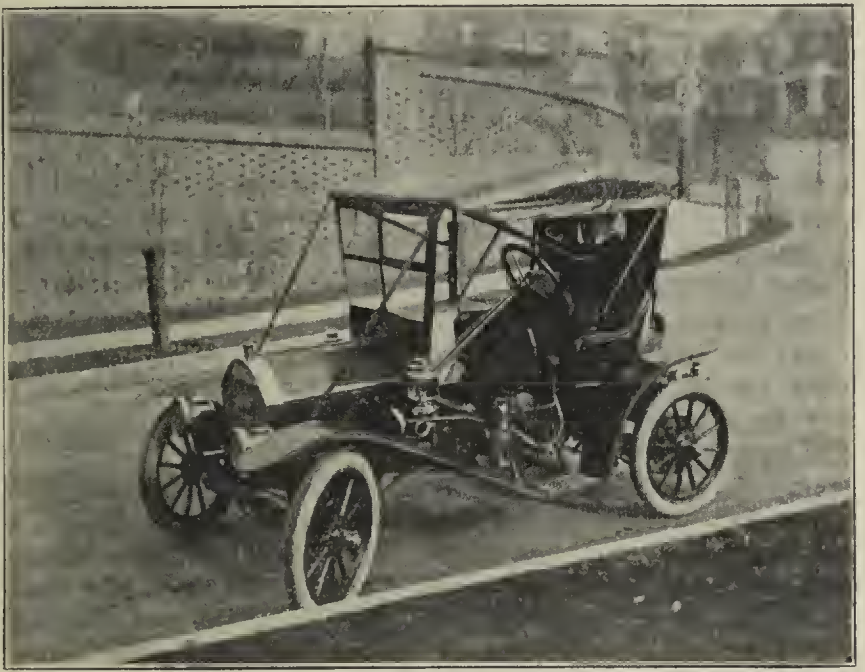

Fig. 1.—Dr. W. O. Bell, Seattle, Wash., in his little roadster described on page IV.

FEW NEED HEAVY CARS

What car should the ordinary physician buy—the ordinary practitioner in the towns and villages of the country, the man who was perfectly satisfied with a horse and buggy in the olden times? What he needs is a car which will ride easily, which is simple in construction, of sufficient power to do his work, one with a moderate upkeep expense, and yet a car which is pleasing to the eye. He does not need a heavy car; that means unnecessary power and wear and tear on the motor, and especially on the tires—all of which is added expense. There are on the market a large number of runabouts (95*) varying in price from $500 to $900, any one of which can be regarded as reliable. They will carry the physician practically anywhere that any large car will carry him, and certainly as fast as he ought to go. They will last practically as long as the $1,500 or $2,000 cars; the initial cost is reasonable; the upkeep is small; the tire proposition is almost insignificant and the gasoline used is hardly worth considering. Shall this average physician buy one of these cars or shall he pay $1,500 or $2,000? The common-sense man will do the former. He can afford to buy one of the cars mentioned, throw it into the junk heap at the end of one year, and get a new car, at a less annual outlay than if he had a car costing $2,000 or over.

Physicians who have owned high-priced and medium-priced cars, many of them men who could well afford to buy such cars, have learned by experience that they get a greater return for their investment—both in point of service and lessened upkeep—by buying one of the smaller cars every year than by buying a large, expensive car once every three or four years. In other words, it is not necessary to spend much money for a car in order to get good service. Here is a chance for a good investment, and returns will depend entirely on the price of the car.

Of course, we are not discussing the needs of the rich man, the man who has money or the prosperous surgeon or the consulting physician, but the man who needs a car for his business, and who also desires to get some pleasure from its use, aside from that which comes from being able to transact his business with more expedition and greater comfort.

If one goes out of the pale of efficiency into the realm of beauty, the initial expense will be very materially increased, and nothing added so far as service is concerned. We all know of physicians who have purchased cars that cost far more than they could really afford to pay, and who had to dispose of them because of the large upkeep expense. It is better to buy a low-priced car first and gradually work up to a high-priced car as one can afford it, than to buy a high-priced car and go into bankruptcy. The thought with which the physician should be concerned is, what can he afford, and which car will give him the best service. If he buys a small car, one of good make, he can run it for a year, get out of it all the good he can, and then trade it in at the end of the year at a good profit to himself. He will save money, and he will always have a new car, one which is in the best possible condition.

The road conditions for each individual must be considered. The clearance of a car must be borne in mind, especially where the roads are rough and full of ruts. The trouble with the cars referred to (95) is that they are hung rather low and have pneumatic tires. As a matter of fact, for rough, muddy roads, the only car for good service is the high-wheeled car with solid tires, but the number of these that are satisfactory is very limited. On the whole, however, the style of car is a matter that each man must decide for himself. The question to be considered in the purchase of a car is to get the best service for the least money.

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* For key to automobile names, see editorial explanation.

CAREFUL DRIVING

As a matter of fact, it costs less to maintain an automobile than a horse, if the owner drives it carefully and takes such care of it as he would of a horse and buggy. Most men drive carelessly, without any regard for the car. Few cars receive the same care and attention that is given a horse, or that the engineer gives his engine. Men expect to be able to indulge in fast and reckless driving, paying as little attention to the car as is necessary to keep it going, never looking it over to make those little repairs which mean so much if the car is to be kept going smoothly,—and when the breakdown comes, it means a large repair bill. Then the automobile is more expensive than the horse; otherwise not. Then, too, the physician must buy his car as he would his horse. He buys a horse that he can pay for and which will do his work. He doesn't buy him for pleasure. Likewise, he should buy an automobile that he can afford and which will serve his needs.

So that, all things considered, the automobile is an advantage to the physician. Every doctor can and should have one. What he can really afford to buy he can afford to keep, but he must treat it as he would a horse, give it the same consideration, and in return he will get more than his money's worth.

THE AUTOMOBILE AND THE SELDEN PATENT

Of interest to automobile owners everywhere, as well as to manufacturers, is the recent decision of the United States Circuit Court of Appeals, reversing the decision of the lower court rendered in September, 1909, which upheld what is known as the Selden patent on the automobile and the right of the owners thereof to recover for infringement. It has been known in a general way by those interested in the automobile that the manufacturers were divided into two groups—those who were licensed under the Selden patent and the so-called independents, but it is believed that the exact status of the controversy has not been generally known and, therefore, a history of this Selden patent may be appropriate.

A large number of automobile manufacturers have been operating under a license and paying a royalty to George B. Selden and the Columbia Motor Company, owners of the Selden patent. Independent manufacturers, however, continued to refuse to pay royalty and were subjected to infringement litigation.

A HISTORIC PATENT

The Selden patent claimed to cover the combination of the essential features of even the most modern automobile, viz., (a) a carriage with its body, machinery and steering wheel; (b) the propelling mechanism, clutch and gear; and (c) "a liquid hydro-carbon gas engine of the compression type." The original application for patent on this combination was filed in 1879, almost before the inception of the automobile industry, but the patent was not granted until November, 1895, and the patent rights begin from that date. During this long period of almost seventeen years, the application was kept alive by various delays. Selden was a patent lawyer and undoubtedly took advantage of all sources of delay allowed by the rules of the patent office. If the patent had been granted at once—that is, in 1879—it would have expired long ago. In the meantime, however, the automobile was developing toward its present perfection independently of Selden, who "amplified" his claims, as was said by one of the trial judges, until they apparently covered every essential feature of the present automobile. One loophole was left, however.

THE EVOLUTION

At the time Selden filed his application on the combination of vehicle, gears and engine, but two types of gas engine were in existence—the Brayton, a slow combustion constant pressure engine, and the Otto, an internal combustion engine of the explosive type, to which latter the modern automobile engine conforms. Brayton had applied his engine to a tram car but not successfully from a commercial standpoint. However, he applied it to boats and two of these were used on the Hudson river for some years. This was before Selden applied for his patent. Selden claimed to have improved the Brayton engine, making it a high-speed instead of a low-speed engine as it originally was. He also reduced the weight of the engine very materially and applied it to the front axle of his vehicle. He then sought the patent on this vehicle, its principal feature being the Brayton type of gas engine. It was on this type of engine, in combination with his other claims, that he secured the patent in 1895.

It is the Otto internal combustion engine of the explosive type which has been developed into the present automobile engine, while the Brayton engine has become entirely obsolete. Inasmuch as the claim in the application for patent was based on the Brayton type of engine, the Circuit Court of Appeals in reversing the decision of the lower court held that, while the Selden patent is valid, manufacturers of automobiles are guilty of no infringement in using the Otto type of engine.

AUTO MAKERS IN QUANDARY

The public first heard of the Selden patent about 1903 when suits for royalties for infringement were brought by Selden and the Columbia Motor Company, its present owners, in the United States Circuit Court for the southern district of New York, which court in September, 1909, upheld their contention. Following this decision the Association of Licensed Automobile Manufacturers was formed. It was composed of eighty-nine automobile manufacturers who accepted the decision and obtained licenses from the patentees, paying them a royalty which amounted to from $2 or $3 to $15 or $20 on each automobile. Independent manufacturers, however, resisted this payment of tribute to the owners of the patent and the decision of the higher court sustained the independents.

Contrary to the general belief, Selden has been a very small factor in the development of the automobile as it is to-day; and while he is at present engaged in the manufacture of one type of automobile it cannot be said that other machines are copied after Selden's work; they have been developed entirely independently of his efforts.

THE EMBARGO REMOVED

It will thus be seen that the refusal of certain manufacturers to pay royalty to Selden was not an effort to avoid the payment of a justifiable tribute, but that the legal right was with the protestants. The history of this patent is another illustration of the weakness of our patent laws: it seems absurd that the law would allow an application for a patent to be kept alive for fifteen or sixteen years and, when granted, to date it from the date of the issuance of the patent and not from the date of the application.

PERSONAL EXPERIENCES AND CONCLUSIONS

Nine years ago this coming summer, I owned the second automobile in our county (Livingston, Ill.). It was a single cylinder, 6 h.-p., stanhope body (52*), with rear seat that could be let down, wire wheels, and single tube tires. It did splendid service. It was a great advertiser, as my patients could hear me coming half a mile. It was powerful for a one-cylinder car, but is manufactured no more.

One day a young man, while hauling grain to market, fell under the wagon, breaking his thigh. The neighbors cared for him until I arrived in my auto. I set the bone, turned down the rear seat of the auto, making a bed of it, two men supporting the patient on the rear seat, my son and myself on the front seat, and drove the young man to his home, four miles distant, in twenty minutes.

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* For names of the automobiles, see explanation in the Editorial Department.

After a time, however, I had enough of automobiles to last me eight years, during which time I did without them. But I knew they were so perfected during the intervening years that last February I bought a new car (53). This 20-h.-p. gasoline roadster has four cylinders, shaft drive, and is very quiet running. It can be throttled down to five miles per hour, or fly over the road at a rate of thirty-five miles per hour, according to the speedometer. By the way, there is a great difference between guessing the speed and reading what the speedometer says. I had a man, a good judge of speed, with me one day and, when running a good clip, I asked him to guess how fast we were running. "Oh, forty, forty!" said he. The speedometer showed twenty-five.

This little car holds two persons. The tank at rear of seat holds eighteen gallons of gasoline; the car carries two and one-half gallons of water and one gallon of lubricating oil. With one filling it can run from 250 to 300 miles, as I have found, on good country roads. The car has a 100-inch wheel base, 32 x 3½-inch wheels, splendid springs, and good upholstering—making it a comfort in riding.

A generator for carbid and water is no good. When water is trickling down on the carbid the holes become clogged and the lights go out. I have had to drive home twice with the oil lights. I have since put on a gas tank, medium size (54), and it is perfectly satisfactory. I have run the car 2,088 miles, with three punctures. I used 126 gallons of gasoline, 5 gallons of lubricating oil; four sets of four-cell batteries, repairs, etc., totaling $42.40; or cost per mile for two persons 1 cent, or one person 2 cents. Tires (68) show but little wear. I have had over 100 different people ride with me. There is no fun driving in mud with chains on. It is better to use horses then and save the car for good roads. I let no one drive my car but myself. A driver and car learn to know each other just as easily as a good horse and a good driver learn the least movement of the lines. This car, equipped with top, speedometer, chains, gas tank, clock, etc., cost me about $900. It weighs 1,800 pounds, with tanks full and extra tools and baggage, just heavy enough to carry steadily when running rapidly. My car is a joy and a delight to drive.

G. C. Lewis, M.D., Fairbury, Ill.

THE LIGHT RUNABOUT AND LOW EXPENSE OF UPKEEP FOR TIRES

Since June 15, 1910, I have been driving a light runabout (75), weighing about 1,100 pounds when completely equipped for the road. The weight is a factor of some importance when the question of upkeep is considered. A machine may be too light to withstand the demands made on it, and in consequence break down, adding very much to cost of maintenance as well as shortening the life of the car. I do not believe this defect is to be found in the model I am now driving. The normal load of the car is two passengers, but I have carried four about the city streets easily. The tires are 28 x 3, another item of economy in first cost, yet they are abundantly heavy for the car and its load.

The car has been in daily service under all conditions of road and weather and has never failed me. Since its purchase in June, the car has been driven above 4,000 miles at a total cost of $42.14 for oil, gasoline and repairs, or a monthly expense of $6.02. I look after my own machine and I am sure I have saved considerable expense thereby, as I am not charged for unnecessary "tinkering" in the garage, as well as averting damage from neglecting to keep the car up to its maximum efficiency.

After seven and a half months' use, my tires (60) look as if they were good for 3,000 miles more service. I have had two punctures of inner tubes vulcanized, but the casings have received no attention whatever. The little cuts made by bits of glass and stone—and they are not numerous—I will vulcanize myself, as I have a vulcanizer (76) for that purpose.

If the physician does not actually take care of his car, he should exercise close supervision over it, and become familiar with every part of the machine. The knowledge thus acquired will save him money and road annoyance; besides he will be able to keep the car tuned up to its greatest efficiency.

The car best adapted to the needs of the physician is one of the light runabout type, because of first low cost and minimum cost of maintenance. They are generally of simple construction and as reliable, if put to the service they are intended to give, as the larger and more expensive machines.

I have kept an accurate account of the cost of maintaining my car and the expense of the seven months' service:

Gasoline, 180 gallons	$22.45
Oil, 20 gallons	11.00
Coaloil	.28
Wood alcohol	1.16
Two spark plugs	1.80
Eight dry cells	2.00
Brass polish	.75
Vulcanizing tubes	1.25
Small repairs	.45
Carbid	1.00
Total for the seven months of daily service,	$42.14

A. B. Davenport, M.D., Columbus, O.

THE AUTO BEATS THE HORSE

Computing my expense account as itemized below, I can show what it cost me to run my 20-h.-p. runabout (108), weighing 2,000 pounds and bought after it had been run about 1,800 miles. The tires on the car when I bought it were pretty well worn. I ran the car about 5,000 miles from the middle of April, running it practically every day. I was obliged to hire horses for a few days during and after heavy snow storms, costing me about $20. The car was not out of commission a single day. I am still running it. Some of the mileage was for pleasure and I did some work I could not have done with the horse. I had more time at home and found it much easier than driving, particularly at night.

Tire trouble on the road amounted to very little. It does not seem possible to do my work with horses after having used the auto.

Fire insurance	$ 15.00
Liability insurance	46.50
Certificates	7.00
Rent of barn	24.00
Tires and tire repair (three new shoes and one tube)	98.25
Gasoline	48.55
Oil	29.35
Greasing adjustments and repairs	58.86
Upkeep (as charging storage battery, gas for tank, washing and polishing)	48.73
Total	$376.24
Horse hire (snow storms)	$ 20.00

T. G. Sloan, M.D., South Manchester, Conn.

GRAPHITE IN OIL

One of the most important factors regarding any piece of machinery is that it should be kept well oiled. This is especially true of an automobile, which is not only a complicated piece of machinery, but a combination of pieces of complicated machinery. There are any number of oils on the market, each claimed to be the best. All are good, but some are better than others. However, we are not discussing oils here, but something to put in oil, to improve it, and to make it more efficient as a lubricant. There is on the market a so-called deflocculated graphite (98), the result of an invention by Dr. Edward G. Acheson. This deflocculated graphite is mixed in oil and this mixture is placed in any ordinary mineral machine oil—in the proportion of an ounce to a gallon of machine oil. It is not supposed to improve the quality of the oil itself, but the graphite with the oil, it is claimed, will accomplish three times the work of oil alone—the graphite, not the oil, being the lubricant. It is claimed that this makes a possible reduction of 50 per cent. in the oil consumption. The theory is that the minute particles of graphite carried in suspension in the oil fill in all irregularities in the surfaces, giving them a veneer of graphite which polishes the surfaces and produces a "fit" between the piston rings and cylinders that it is impossible to obtain in any other way. This graphite has been on the market only a short time. Theoretically it should be a good thing; it is well worth trying, as the expense is not great.

A SYMPOSIUM ON GARAGES

A THIEF-PROOF GARAGE WHEN LEFT OPEN

Returning to a garage, on a rainy day, it is agreeable to be able to drive directly into the building without having to leave the car, open the doors, re-enter the car and then go in. To arrange matters that I could leave the doors open and yet feel that no one would remove anything in my absence, I devised the accompanying plan, which enables me to fasten the doors open so that they enclose the shelves on which are my supplies.

Chiefly due to the careful reading of the three previous issues of the Automobile Number of The Journal, I became the owner of my first automobile last year. Most of the excitement incident to my entry into the honk-honk region occurred over the decision as to which of the various machines should be selected, and I believe that every physician should spend some time in personally investigating the merits and demerits of the different makes before deciding which one is best suited to his particular needs. I may add here that great aid in my decision was received from the personal letters from brother physicians using the make of car I finally decided on, whose names I secured from the Automobile Number of The Journal last year. In every respect I am glad of my choice as it has proved most reliable and satisfactory. The factors that governed me were (1) good local representation by a man who carried in stock a full supply of repair parts and who had the reputation of taking care of his customers; (2) accessibility, get-at-able-ness of the carbureter, crank case, inside of cylinder, valve lifts and transmission; all this adding to the expediency with which adjustments could be made; (3) speed, and this was partially settled for me by the local ordinances which called at that time for 20 miles maximum per hour (the rate has since been reduced to 16 miles per hour), and the fact that more experienced motorists stated that a car averaging over country roads 18 to 22 miles was fast enough. A number of cars answered all these requirements.

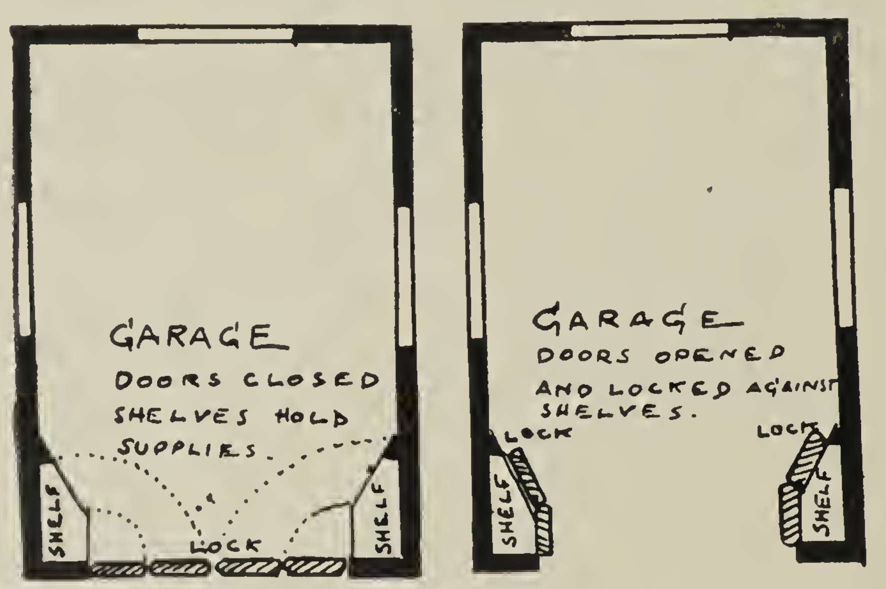


Fig. 2.—Dr. Bell's garage arrangement, whereby he may leave the doors open and protect the contents of the cupboards.

At this period of my investigation I began to wonder why it was necessary, in order to carry around a load of 160 pounds, that I must do it with a machine weighing 1,600 to 2,200 pounds, especially when added weight necessitated increased motor power and increased consumption of gasoline, as well as greater tire expense. When I decided, therefore, to purchase a light car, my friends at once urged the insufficiency of a light frame to bear the stress of hard usage. My choice was limited to three cars, two being four-cylinder cars (106) and one a single cylinder car (107), and to me the "one-lunger" seemed the sturdier. It complied with all my conditions and, as in the raising of children it is well to begin with a single and not indulge in quadruplets, I decided to begin my acquaintance with gasoline motors by dealing with a unit, which must do or die without the support of three others to cover up faulty working.

In this way I learned to detect the least loss of compression, and found the remedy, grinding the valves, putting some kerosene in the cylinder overnight to cut the gummy oil, which sometimes keeps the piston rings from working properly, etc.; in this way, aided by some reading, I learned to tune up the engine, and now when I get into my car I can tell in an instant whether all is just right or not, and a stop, with a second spent in adjusting, restores the car to her best self.

The machine has always had clean gasoline, plenty of oil and a half hour each morning spent in looking over the machinery and wiping it off, and seeing that it has plenty of gasoline, oil and water for the day's work. As a return for this the machine has never lain down, has never overheated, and I have never had any replacements or breakages.

Aside from the machinery of a car, the great expense is tires. In the 2,200 miles that my car has gone I have suffered from two punctures, and to-day, although I have purchased an additional casing and inner tube, the original tire-shoes and inner tubes are in first class condition and show little wear. I attribute this (1) to the light weight of the car, (2) that the seat is well back over the rear wheels, bringing most of the weight over the driving members, and (3) that I have been very careful to start gradually and to stop slowly, and have been careful in my driving. My entire expense, including gasoline, oil, carbide, waste, garage rent, insurance, washing car, etc., has been 4 cents per mile for the first 2,000 miles. Deducting the charge for rent of garage and insurance, the car has cost a trifle less than 2 cents per mile. I usually get better than 24 miles per gallon of gasoline, and this city is as hilly as any.

Looking back over my experience, I am sure I have made no mistake in purchasing the car I did (107, illustration on page I). It has always gone, has climbed every hill it has come to, has been economical as to upkeep and original investment, and is to-day sound and ready to start directly on the magneto.

W. O. Bell, M.D., Seattle, Wash.

ELECTRIC CAR CHARGED IN HIS GARAGE

My automobile is an electric (55), with a capacity for four persons. I am not a general practitioner but a specialist whose work takes him about the city in an indiscriminate manner. Cincinnati is a city of many steep grades and has always been considered an unfavorable place for the use of the electric automobile. For this reason they have been seen here in small numbers until recently. During the last two years it has been shown, however, that they may be used with success and great satisfaction, provided that moderate speed is sufficient and that the automobile owner is not expecting to do any country touring. The shortcomings of the electric in this regard seem to be more than counterbalanced by ease in operation as well as a sense of security, and by the absence of many unpleasant experiences which seem necessarily to attend the use of the gasoline car.

My own experience has been short and might be summarized as follows: I obtained possession of my car Nov. 1 1910. My car is cared for in my own garage and is charged from an alternating current by means of a mercury arc rectifier. The charging is nearly always done at night. My car has been on the road every day without exception since I obtained it, and the heaviest kind of winter weather has not prevented this. The consumption of current is naturally in excess under such adverse conditions. I have not run more than 40 miles on one charge, although I could on occasions have done so. I have usually charged my batteries on alternating nights in heavy weather, and in fair weather twice per week. It will thus be seen that the mileage which I demand for my purposes is not very great. The batteries (49) in my car consist of twenty-eight cells. I have been very well satisfied with this car and believe that the manufacturers could accomplish still more in the way of mileage capacity for this city if they made improvements in the battery equipment, even without resort to the expensive Edison type. I believe that they have taken steps now to accomplish this. I can only say that with my present knowledge I should proceed to meet my own wants, were the necessity to arise again, by the purchase of another electric.

Albert H. Freiberg, M.D., Cincinnati.

GARAGE ENTERED FROM BASEMENT OF HOUSE

OFTEN, in the Automobile Number of The Journal of March 6, 1909, the authors of articles praised a certain little car (77) on the following points: It will go anywhere that any automobile can go and where many cars cannot; will climb any hill with a road on it; will climb hills on high gear that most others take only on the low; will take sand, mud and snow better than most, and as well as any; will go thirty miles an hour if desired; uses less gasoline, oil and battery; is the lightest car built; will stand greater overloading and abuse; has the cheapest average of repair; is the easiest riding car.

These assertions seemed rather extravagant, but I bought one of these cars (77) and, after running it 5,064 miles, I can say that the statements are true. This little car has only refused once to go, and that only when this last winter, on one of the coldest days we had, the wire leading to the spark-plug was short-circuited. From a hard run the night before through a snow storm, this wire must have burned nearly off. It failed just as I had gotten into the garage.

EXACT COST OF REPAIRS

It cost me one dollar to repair this, and besides this I have paid out exactly $14.15 for repairs, not including oil, gasoline and batteries, as follows: One spring for hand lever bracket, made by a blacksmith, $1.00. (Since then I bought one from the factory for 10 cents, which I have not had put in yet); a set of low-speed gears from the factory, $3.15. (When the transmission was taken off and examined it was found not to need a new set, the trouble being that a slight adjustment was needed); two radius-rod tension-members from the factory at 25 cents each. None of these repairs delayed me from the use of the car, except the burned out wire to the spark-plug, as I backed through places too steep and too sandy and muddy for the high gear until such time as I could have the repairs made. This whole expense included labor, which constituted most of this amount.

I have traveled this 5,064 miles on a set of non-pneumatic tires (78) that are good for several hundred miles more before they need retreading. It is a great saver of time and worry not to be held up by the roadside with a puncture. These tires are fine. An outfit like this is ideal.

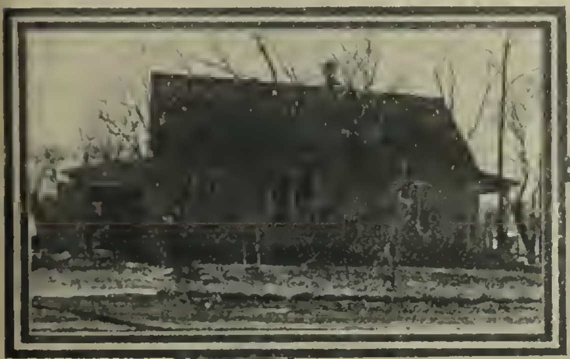


Fig. 3.—The garage of Dr. A. B. Overgaard, Fremont, Neb., at the rear of his house.

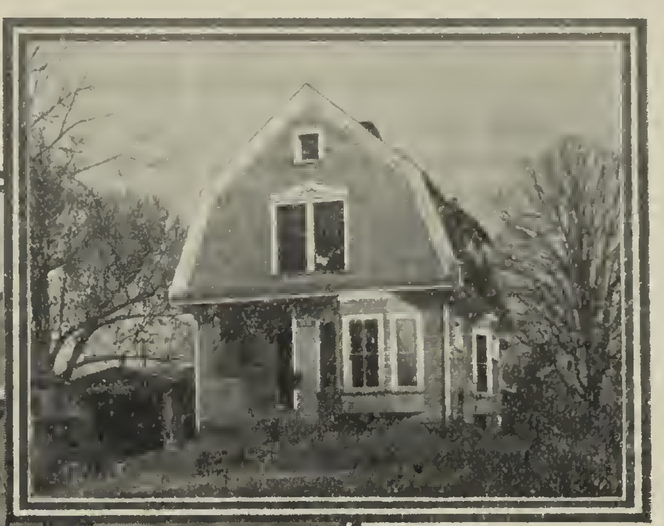


Fig. 5.—Above is the garage of Dr. Asay, as described.

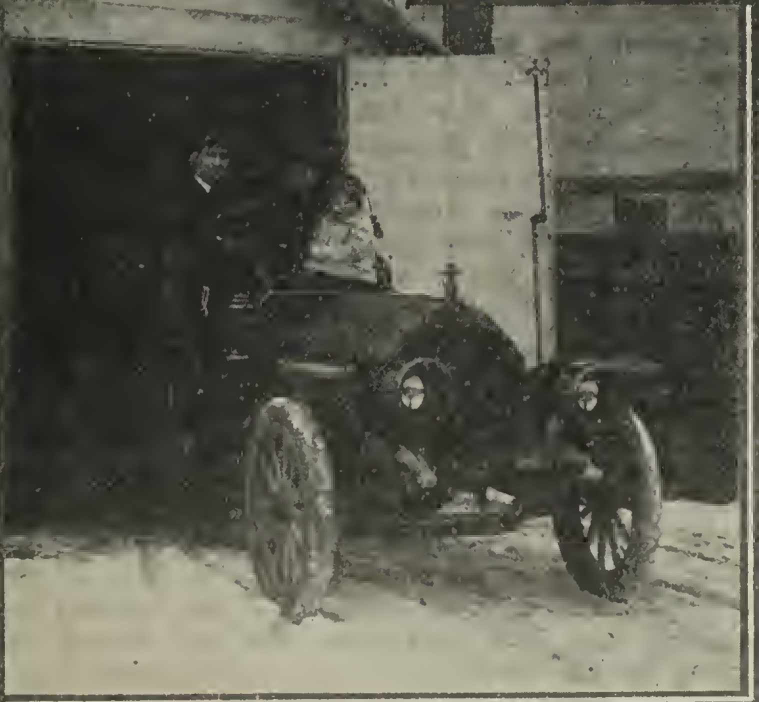


Fig. 6.—In the center is shown the car (82) and the fire-proof and lightning-proof garage of Dr. D. T. Quigley, North Platte, Neb., who says: "I have a sand floor, as I prefer sand to boards or cement; the sand absorbs the oil that drips from the car, so it has no chance to injure the tires. Oil-soaked boards become very inflammable and wood should never be used as a floor in a garage. The roof, sides and doors in this garage are absolutely tight, and the window is of wire glass. I hired many different makes of cars before buying, and decided to buy the one I have (82) because it seemed to have enough power and was built strong enough to stand the most severe strains. A year of running the car has justified my confidence in the machine."

Fig. 4.—Dr. C. P. Brown and wife, Spring Lake, Mich., leaving the garage in winter.

A GOOD GARAGE ARRANGEMENT

Late last fall I built a garage by the side of my residence with a door going into it from the cellar-way, but did not get the stucco work done on account of the freezing weather. This building will cost me $250 completed, and it did not raise the rate of insurance on my residence. The garage makes the whole place look more attractive and is a great convenience to me and is the only ideal place to keep an automobile.

J. E. Asay, M.D., Rock Island, Ill.

THE IMPORTANT QUESTION OF ROADS

A PLEA FOR THE HIGH WHEELER

JUDGING from reports from all parts of the country, and from the great number of physicians who use motor cars, this mode of getting around seems to be rapidly taking the place of "Old Dobbin." It seems out of place at this time to enumerate the many advantages the automobile has over the horse, as they are so well known and understood.

The main question at issue with the average doctor, when getting a machine to take the place of his horse outfit, is the initial cost and subsequent upkeep. That is, will it be economy to make the change? A great deal depends on the selection of a car, whether it will be a paying proposition or not. The ideal physician's rig has not yet been built, regardless of what the manufacturers' ads. say, but, in my opinion, the light buggy type, well built, is nearer the thing than any yet made. I have had eighteen months' practical experience with the high wheeler and for all round utility and cost of upkeep it cannot be excelled.

THE QUESTION OF ROADS

The roads of central West Virginia are not passable more than six months in the year to the conventional low-wheeled machine. In order to give some idea of the road conditions here, I will say that it takes four horses to pull 1,200 pounds over the road shown in the picture, still I went through it at eight miles per hour. I do not believe there is a low wheeler made, regardless of cost or horse-power, that can negotiate that road.

Take the question of tires: my runabout (83) is shod with 1⅜ solid rubber tires, costing about $6 per tire; they have had eighteen months of service; the front ones are scarcely worn at all, while the rear are good for this summer yet. I have never had any tire trouble during this time. My machine rides as easy with 38-inch wheels and solid tires as any pneumatic. Of course you cannot run as fast, but you can break the speed law without any trouble or go as fast as is safe over country roads. Compare a 32 x 3½ pneumatic with the above. A good casing and tube of that size costs in the neighborhood of $30. How long will it last? You cannot tell; it may go back on you before it is half worn out, blow out or cut to pieces. Then think of a flat tire in a road like the one here illustrated (Fig. 8) and a very sick patient a mile away.

The high wheeler has been neglected. It has not been improved and perfected by the makers as it should be. It could be made more quiet. The drive chains, if it be chain-driven, could be encased to keep out mud and make the sprockets and chains last indefinitely. But as it is, my car runs more days in the year over worse roads and with as little trouble or cost as any machine in this part of the domain. It is as stout as a road wagon and stands up to its work. Give us more and better light buggy type rigs, well made, and we can dispense with the horse the year round.

OSCAR B. BEER, M.D., Buckhannon, W. Va.

NOT A "PIKER'S" GAME

THAT the automobile is no longer an experiment is conceded by all physicians, I believe. Localities have their own problems to solve, however, and the ever present question as to expense is the most important one after all. After two and a half years' experience with a 24-30 runabout (71), I am satisfied that if a physician will only use his machine as he does his horse, that is, for his legitimate work alone, he can do it cheaper than with a horse and buggy. But there's the rub. The pleasure of riding on a good road with a perfect running machine is so great that no one can forego the pleasure, and thus he adds to his outlay and then unjustly charges it up to legitimate expense. Even so, if a physician can get pleasure in this way and really enjoy himself, why shouldn't he? His opportunities for pleasure are too often limited.

Now as to localities: With us in west Pennsylvania, where we have limestone mud during the three later months of the winter season, it is just impossible to use a machine off the paved street and road section, and that is rather limited as yet. But with all that, no man who ever owned a machine has to my knowledge abandoned it and gone back to the horse and cart. The auto has come to stay, and is and will be a big factor in making better roads all over this country. No man that is not a good loser should attempt to own a machine, and my advice is not to keep an expense account against it.

JOHN B. DONALDSON, M.D., Canonsburg, Pa.

MY EXPERIENCE WITH A MOTOR BUGGY

I HAVE owned a motor buggy for about fifteen months. In July, 1907, I owned a pair of ponies, pretty as pictures, but children of the devil, so I ordered a motor buggy (66), complete, the best the firm made. It came broken and without lamps or top. After waiting ten days for bill of lading, I started the machine. It ran about five miles when it stopped. The intake valve key was worn in two and the spring and washer were lost. I fixed it and went on another mile when the drive chain came off. After riding another mile it came off again. I finally got home with it. The next day was rather cold and it stopped about a mile from home and absolutely refused to run, so I had to walk home and get the horse. A few days later the chain came off while on a hill, and as the brake was on the differential drum on the jack shaft and therefore useless with the chain off, I coasted backward over a bluff. The stud heads were broken off the cover on the transmission case when the machine came, so it would not hold lubricating oil, but I did not know it. The intake valve keys would break about every three miles; both steering knuckles broke, high speed lever broke, top rail broke, all but the first showing deep flaws.

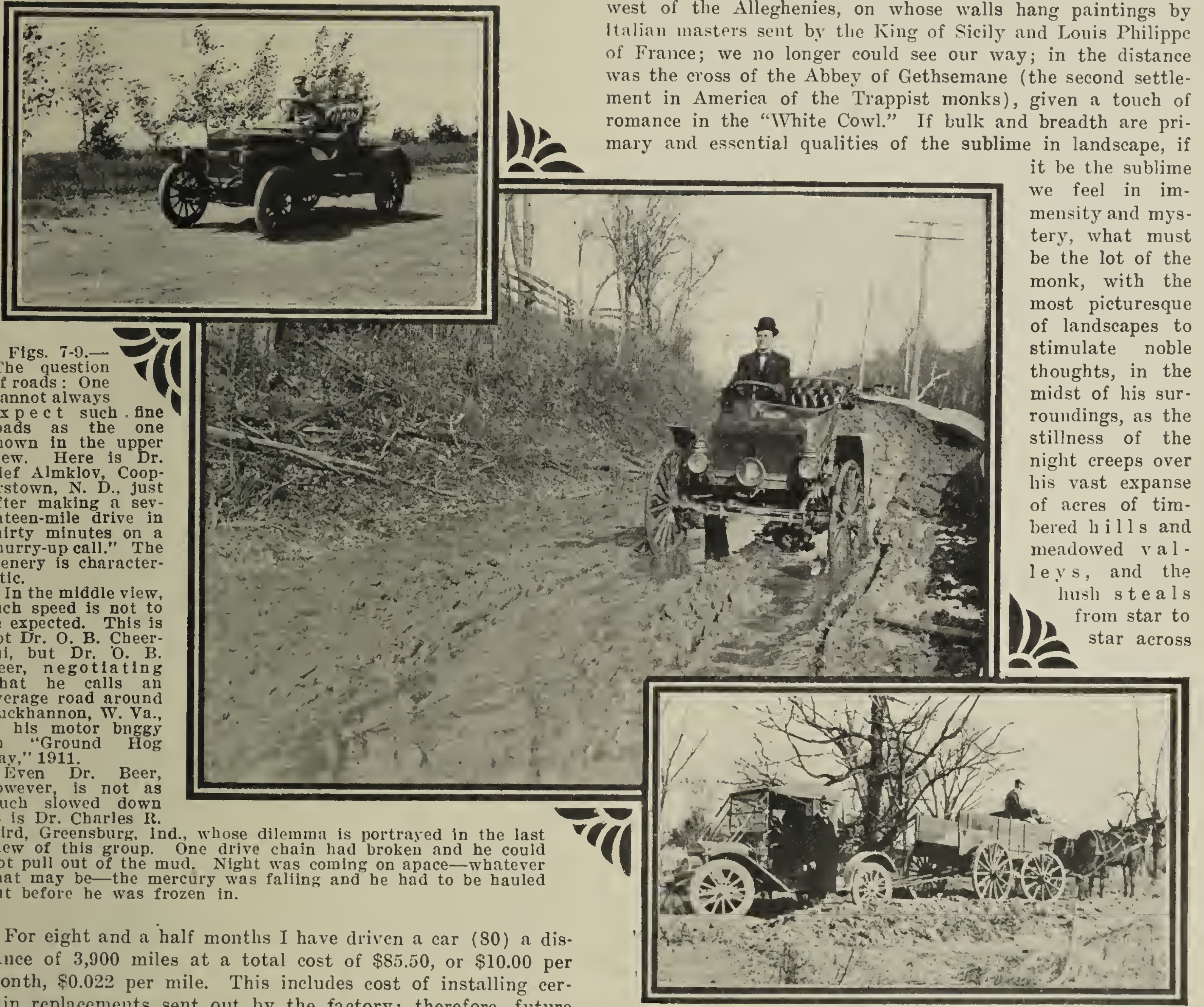
The maker warranted the car "perfect in workmanship and material," but all the satisfaction I could get was that it had been inspected and tried out at the factory and found all right though the spindles showed the wheels had never been on. I had not had it long when a connecting rod broke and jammed and broke the crank case and timing gears. The third day after being repaired, the other connecting rod broke, then the other timing gears stripped and the maker charged me just twice his published catalogue price for new parts and would give no explanation. Then the chain broke and tore things up, and the rear tires split in pieces, although they had run less than 350 miles (tire economy was a strong point in the advertising); in fact, I have now run this machine about 650 miles over good roads and it has cost me $138 in repairs. All the maker would do was to send me a new pair of connecting rods and a steering knuckle, on which I had to pay express charges and machinist's labor, and which would not have been necessary if they had been of good grade.

By my inventive genius I have corrected some of the imperfections of this machine. I know it so well that I can make the engine run almost any time, but I cannot trust it to take me over five miles without mishap. It usually requires attention about every three miles. I broke down the first three times that I attempted to run to Topeka, seven miles away. I have since gone four times by stopping every half to three miles. On one trip I borrowed the belts from three sewing machines to run my fans; they would come off and my cylinders would overheat. I know that good motor buggies are made. I believe in the principle, but I have yet to see one that is reliable. I know that while there were only about four makes on the market three years ago, there are at least thirty to-day, but I have not seen any that would prove out. Never again will I buy a machine unless the maker or his agent will bring it and demonstrate it under my own conditions.

My use of this motor buggy has shown me that the auto is a good thing for either city or country. Any machine will run on city streets, but it takes a better one to run on country roads. I hope some day to own a good one—a light machine of moderate power—for if you have not a good road excessive power will do you no good. Power enough is as good as excessive power. Most machines are geared for too much speed. Stephen E. Smith, M.D., Grantville, Kans.

COMPUTATION OF EXPENSE PER MILE

Experience has demonstrated the practical use and economy of the automobile. Available at all times and under all conditions, it has superseded the horse wherever road conditions permit. The day is not too cold nor too stormy, the night not too dark, nor the distance too great for the car; but the roads must not be too muddy. Affording more time for recreation, for the comforts of home, for study, it lightens burdens and restores the equilibrium of tired nerve cells.



Figs. 7-9.—The question of roads: One cannot always expect such fine roads as the one shown in the upper view. Here is Dr. Lief Almklov, Cooperstown, N. D., just after making a seventeen-mile drive in thirty minutes on a "hurry-up call." The scenery is characteristic.

In the middle view, such speed is not to be expected. This is not Dr. O. B. Cheerful, but Dr. O. B. Beer, negotiating what he calls an average road around Buckhannon, W. Va., in his motor buggy on "Ground Hog Day," 1911.

Even Dr. Beer, however, is not as much slowed down as is Dr. Charles R. Bird, Greensburg, Ind., whose dilemma is portrayed in the last view of this group. One drive chain had broken and he could not pull out of the mud. Night was coming on apace—whatever that may be—the mercury was falling and he had to be hauled out before he was frozen in.

For eight and a half months I have driven a car (80) a distance of 3,900 miles at a total cost of $85.50, or $10.00 per month, $0.022 per mile. This includes cost of installing certain replacements sent out by the factory; therefore, future repair bills will not exceed those to date. To this cost per mile I add 3 cents depreciation, bringing the total to $0.052, or about 5 cents per mile.

My depreciation has been less than above, $270 on 11,500 miles, or 2⅓ cents. Originally I had a car the cost of upkeep of which was slightly more—this being true generally of earlier models, so that on a total of 11,500 miles the cost has been $321.89, or $2^4/_5$ cents, to which is added 2⅓ cents depreciation, a total of 5.15 cents per mile. Expense divided about as follows: Tires 1 to 1¼, gasoline and oil about $^8/_{10}$, and sundry expense from ½ to 1 cent per mile. Most manufacturers take care of repairs now.

Half of my mileage is for pleasure; therefore, dividing by two, were I inclined to limit my driving to business purposes alone, the car would cost $5.00 per month.

"Man's limitations may be thus bounded: On the north by the northern lights; on the east by the rising sun; on the south by the south pole; and on the west by the day of judgment." His dreams prove eventualities; he had a dream: hearing the swish of the eagle's wings, he looked to behold the aeroplane; he had a dream: a flash from across the sea and wireless was a reality; he had a dream: he spoke into a pot of glue and the human voice was reproduced; once again he dreamed: the speed demon whizzed by—it was an automobile.

By this agent of man's creative genius we were lured from home through the beautiful blue-grass region of Kentucky; on and on the spirit of our dreams carried us; new experiences were in store for us; we were several days out. A short distance behind, we had left the home of the author of "My Old Kentucky Home"; a little farther on, the oldest cathedral west of the Alleghenies, on whose walls hang paintings by Italian masters sent by the King of Sicily and Louis Philippe of France; we no longer could see our way; in the distance was the cross of the Abbey of Gethsemane (the second settlement in America of the Trappist monks), given a touch of romance in the "White Cowl." If bulk and breadth are primary and essential qualities of the sublime in landscape, if it be the sublime we feel in immensity and mystery, what must be the lot of the monk, with the most picturesque of landscapes to stimulate noble thoughts, in the midst of his surroundings, as the stillness of the night creeps over his vast expanse of acres of timbered hills and meadowed valleys, and the hush steals from star to star across the firmament, with no discordant voice to break the unities of earth and air and sky; we were in a strange country; unfamiliar roads ahead; the western sun had sunk into night, and up from the east rose the moon; everywhere silence and stillness; above, the sky in its immensity and vastness of expanse was appalling in its mystery and beauty and magnitude.

A few days more and we had left behind James Lane Allen's country and by the aid of the automobile had added to our experience another summer's outing.

Charles R. Bird, M.D., Greensburg, Ind.

SOME CRITICAL DISCUSSIONS ON IMPORTANT POINTS

THE AUTOMOBILE EXPENSIVE BUT INDISPENSABLE

BEFORE a physician buys an automobile, he wonders how he will maintain it, but after he becomes an owner he cannot understand how he ever lived without it. There are, of course, a few exceptions to this state of affairs, but I am certain that when the exception is found a good explanation can often be forthcoming, in that the physician himself failed to study his car, or, perhaps, did not give the subject of purchase sufficient thought.

Automobiles do cost money to maintain; and the cost of maintenance outside of fixed charges is almost entirely proportionate to the mileage one drives, but I wish to add that any physician with a moderate practice and an income which is derived from the practice alone, must give his car study, otherwise the expense of upkeep will be so great that he will be prevented from making many other necessary expenditures which are essential to his practice and advancement, such as the purchase of good books, instruments, and the taking of trips for educational advantages.

BETTER BUY AN AUTO THAN POOR MINING STOCK

It is not the original purchase price of a car which is to be considered, as much as its maintenance. The usual savings of a physician can easily buy a car, if we consider how often these savings are flung at the kidgloved promoter who sells him worthless mining, oil or insurance stocks, from which he never derives any interest. These same savings are now diverted into the automobile fund and the physician will at least get a good rate of interest from the pleasure and comfort he derives from his car. His investment now would be more than paper. I am told that promoters who have always found doctors such easy marks have actually felt a great change since the advent of the automobile. So we note that the automobile industry has at least afforded the physician some protection.

A CAR MUST BE THOROUGHLY STUDIED

No one except one who drives his own car and is fairly familiar with its workings can appreciate what recreation and diversion it affords. Your engine simply talks to you all the time. The knowledge one obtains from the driving, the study of the operation and the construction of a car comprises so many allied and different sciences that a good collateral education one never had before is soon obtained.

By thorough study of his machine (and by that I do not mean that it is necessary for him to do all the manual labor), the physician will soon learn to diagnose his automobile troubles. He should know his car as he knows his patients, and then if the car is not running well, he can at least give an intelligent account of its trouble to his garage man and in a short time the wrong is righted. Consider how difficult it is and how disgusting it often becomes to be forced to handle an unintelligent, stubborn or surly patient, while the same illnesses in cheerful patients who offer intelligent cooperation are more easily and more successfully treated. Automobile men have the same aversion and disgust for the surly, uninformed kicker, who never knows anything except that his car won't run, and an examination will often show merely a loose connection, where a little brain work on his own part would have saved him much irritation.

IMPORTANCE OF DIAGNOSIS

In the automobile world, as in medicine, the big thing is diagnosis, and when this is properly made, the treatment and prognosis become simple. One can well imagine what dire results follow when a physician, ignorant concerning the running of his car, comes back to his garage and says "she won't run"—no logical explanation can be given, and the car is turned over to some garage hand. The first thing the mechanician does is to test the car, then repair it, then test it again until the car is in running order. The doctor pays for the repairs, and the joy rides as well. This may, perhaps, seem an exaggerated picture which I have portrayed (and out of justice to the men with whom I have dealt, I wish to say that I have never found them guilty of it), but if I can put faith in some of the statements of some of my colleagues, then I am certain that such a state of affairs does exist.

CLASSIFICATION OF ENGINES

The market today offers us four types of automobile engines:

1. The two-cycle motor.
   - A. Crank case compression.....
     - 1. Three port.
     - 2. Four port.
   - B. Without crank case compression.
2. Air-cooled motor.
   - A. Two cycle.
   - B. Four cycle.
3. Ordinary 4-cycle motor.
   - A. Poppet valves.
     - 1. Overhead.
     - 2. All on one side.
     - 3. On different sides.
   - B. Sliding valves.
4. Electric
   - Edison batteries.
   - Exide batteries, Etc.

I will not attempt to go into the details of car construction, outside of motor, for the variations here are great, but I believe I can safely say that it is in this part that high-grade cars especially excel. Many excellent motors are found in medium priced cars, but the car construction, rear axle, transmission, etc., cannot, on account of price, be expected to be of the same material and workmanship that you find in high-grade cars.

MOST OWNERS ARE PROUD OF THEIR OWN JUDGMENT

Each type of motor has distinct advantages, and while most of my experience has been with the two-cycle engine (69), I have just purchased a four-cycle car (70), and did it, not that I was dissatisfied with the two-cycle motor, but that the four-cycle car I bought had points in its construction, independent of the motor, which I believed would make the car, as a whole, superior. Time alone will tell whether this will overcome the great advantages of the two-cycle motor, and whether I am right. Most men, and physicians as well, think that the car they own is superior to any other make; this can easily be explained in the fact that each man wishes his neighbor to consider his judgment as superior; so it is not the car he fights for, but his own judgment.

I believe there are many good cars, and all have some objectionable features, and all have many good qualities. All individuals are different, and thus the good features in one car might become legitimate, objectionable features to one individual, while another individual would find this same objection a point of honest vantage. So the individual requirements, tastes and financial conditions all become important factors in the choice of a car.

Automobile agents, as a rule, are curious specimens, and the terrible and bad things which they tell you about a competitor's car are usually the good things. For instance, I was one of the first owners in my vicinity of a two-cycle engine with crank case compression; and all the terrible things which I was told would happen, such as lost crank case compression, carbon trouble, excessive consumption of oil and gasoline, never materialized in three years of constant use of my car. The only trouble I ever had with my car was independent of the motor. After traveling over 23,000 miles I had my connecting rods tightened and had two new wrist-pin bearings put in, and that is all the attention the motor ever received. The crank shaft bearings have never been exposed since it left the factory, and to-day the car has turned over 30,000 miles, and the power of the motor is just as good as the day it left the factory.

THE COST OF MAINTENANCE

Coming down to the cost of the maintenance of a car (and this is a subject which interests especially those who contemplate the purchasing of a car), we must consider four cardinal points: first, how the car is purchased; second, how it is driven, and how much it is driven; third, how it is maintained; fourth, how the cost is figured.

The first point is the one generally overlooked and is a very important one. Before a car is paid for it is well to have a written guarantee for one year, not only for defective parts, but for the free installation of those defective parts. I cannot see why during the life of a machine the manufacturer should not be held for defective parts, for we buy our cars supposedly free from defects, and we are not supposed to tear the car down and test the material. I do not, of course, wish to be extreme and blame the manufacturer for all mishaps which will occur after a long time, as the result of crystallization, for we all know that steel will tire.

THE HIGH COST OF REPAIRS

One should deal only with a reliable and truthful agent. I care not what car a man sells, if the man is not reliable and truthful your troubles will be many. A factory with a reputation for honesty is an important factor. It is well to ask for a price list of parts before buying. The sooner the unsuspecting public and physicians get together and through their local automobile clubs demand such things from the manufacturer, the sooner will normal prices for new parts prevail. The absurdity of charging $100 for a front axle of some of our high-grade cars cannot be satisfactorily explained. The argument that the manufacturer advances is, that each part of the car must cost in proportion so as to make up for the total price of the car, and if prices for parts were not maintained and were sold for less, people would buy the parts and assemble the cars for less than the original price. This argument could easily be met by having the consumer return the damaged parts and then receive a new one at a fair price. We are all willing to pay a good profit in the beginning, but do not believe in extortion after that. Modern cars, however, are now so constructed that repairs can be made with greater ease and with less expense; and methods of welding have helped to reduce the expense.

CAREFUL DRIVING SAVES THE CAR

The second factor, and one which will increase or reduce the cost of maintenance of a car, is how one drives a car, and how far it is driven. It is needless to say that careful driving, the avoidance of holes in the streets, will not only save your car, as a whole, but your tires, which are such a great expense. Do not keep chains on your tires after the streets have been dry for three days. Do not drive near the gutters and over sweepings, for nails are usually found in these vicinities. Do not hesitate to change gears and thereby save your engine and car. The distance one drives will, of course, regulate the expense. A moderately high-powered car, air-cooled excepted, consumes about one gallon of gasoline for every ten miles traveled, and one pint of oil and one-half pint of grease, counting all the oil and grease that is used in the engine, transmission and rear axle, to every fifty miles traveled. This is only approximate and may be less in some cars and more in others. The little oil a car uses is to my mind not a good talking point—for I am a believer in free lubrication, and that is one thing that keeps up the life of any motor.

The cost of tires can easily be estimated. Most tires are guaranteed for 3,500 miles, and if you run 7,000 miles a year you can safely say you will need two sets of tires, and the original cost of the tires varies with the size. Of course, now and then a tire will run 5,000 miles or more, but tire repairs from punctures and blow-outs even up the abnormal good service, so one can safely figure on tire cost only up to the guaranteed mileage and that is all, for after that the tire becomes a source of trouble and danger with which a physician does not wish to contend.

The third factor, the maintenance of a car, will vary with individuals just as different persons vary in the maintenance of their households, so do owners vary in the methods of maintenance of their cars; some being more extravagant than others. A poor chauffeur is, perhaps, the greatest curse and cause of increased maintenance. Good chauffeurs are a comfort and luxury for which, of course, one must pay. If a man can drive his own car, the services of a chauffeur can, of course, be dispensed with, and a contract can easily be made with a garage so that oiling, storing, adjustments and repairs are made at a certain figure. I have had this arrangement for years and find it entirely satisfactory. Just a little attention each day and your car will give you good service. Lubrication is the important factor. Under maintenance, one must figure repainting, new parts and necessary accessories, such as speedometer and odometer, new top every two or three years, automatic dash lighting system (saves gas), storage jacks (saves tires), tools, etc. Demountable rims, if not on the car, should be put on every doctor's car. Cost of storage or interest on cost of garage, if one constructs his own, must also be considered.

INTEREST AND DETERIORATION

The fourth point, how the cost is figured, is very important. (1) One must figure interest on the investment; (2) deterioration; (3) insurance—fire and liability, especially the latter, and I would advise that no one should drive a car unless he carries liability insurance, and collision insurance is especially valuable the first year; (4) taxes; (5) license fee; (6) special automobile clothes. When all these facts are carefully studied, it will be found that if a man drives a moderately high-powered car from 800 to 1,000 miles a month it will cost over $125 a month if he does not keep a chauffeur. A small car driven 300 to 500 miles can be driven for about $40 to $60 a month if the owner keeps the car himself. All these affidavits about low cost, etc., that one encounters in automobile journals must be given by men who certainly forget to figure many factors under sections three and four. In fact your fixed charges, insurance, storage and deterioration, interest on the investment, etc., are often greater than the expense of operation. But with all this expense I still regard the automobile as one of the greatest assets the physician possesses, and I am constantly urging busy young men to buy machines. I believe it is well to first buy a moderate priced car, as the first car is the one that will be abused through ignorance. A good instructor is a good aid, and should be insisted on when the car is purchased. Twice the amount of work can be done in less time than before, thereby giving the physician more time for study and development, which in turn develops another more valuable asset, a better trained physician.

WALTER R. GRIESS, M.D., Cincinnati.

HOW A CAR COULD BE IMPROVED

EXPERIENCES—There are many differences in the experiences of motor-car operators. I feel that when one is about to buy a car he ought to hear the reports from those who actually try out the cars rather than expect results such as are held out by the dealers.

I purchased a 1910 car (62), rated at 22 h.-p., which was delivered April 11, 1910, new from the shop. Up to March 1, 1911, I have driven it 3,795 miles, sufficiently near to calculate on 3,800 miles. It has not been used 75 miles for pleasure. Hence it was used as a service car in the work of a family physician in a locality that is fairly hilly. The car has many good points, especially its operative mechanism. The driver is not troubled with a multiplicity of pedals and levers. I have yet to see a car any simpler in this respect. Any agent will point out to you the other good points better than I. However, he will say little or nothing about the reverse—the things that can be bettered. Some of these I shall mention.

The using of the brakes, foot or emergency, throws the clutch out. It were better could one of the brakes (emergency preferably) be used without disconnecting the gears, for then with gears in and battery off one could control coasting, an excellent means of pumping cold air into the cylinders. These get quite warm in summer time in long drives or hill climbing, as the cylinders are cooled by water alone. The battery switch cannot be reached by the driver from his seat without considerable difficulty. This should be more accessible.

The horse-power, I feel, is rated too high. I have seen an 18-h.-p. car (63) take a hill on second speed which mine could not. As 20-h.-p. is the dividing line between a $5 and a $10 license in Pennsylvania, this point is worth considering. Should the recommendation of the legislative committee on taxation be accepted, the difference will be that of $25 and $50 per annum. Insurance likewise is based on horse-power.

The seat is fastened to a flange of thin sheet steel forming the side of the body. These fastenings tore out on both sides of my car. The front main bearing is oiled through a hole that scarcely holds ten drops of oil. In two months, even with much care, I had a worn bearing that required taking the engine apart. An oil lead now obviates this. The tool box is so poorly protected that every time the car is washed or is caught out in a rain water collects in it. Tools cannot be kept in it without rusting.

As to oil and gasoline, I have used 26 gallons of oil and 440 gallons of gasoline in the 3,800 miles. Both are purchased at a local refinery. The gasoline is rated at 76 degrees. This gives but 8 7/11 miles per gallon of gasoline. The highest mileage I was ever able to obtain out of ten gallons was 112 miles. The car was kept in dead storage and I did most of the work of caring for it, save washing and polishing. Two of the original tires (91) gave out at 1,993 miles. The company adjusted by replacement with two new ones at $13 each. Two new tires (92) were purchased pending adjustment. Two of the original tires are still in use. They may last 500 miles yet. One tire (92) has run 1,807 miles and is still good. Another tire (92) was used 547 miles when cut by glass and had to be vulcanized; otherwise good. Another tire (91) has run 1,260 miles and is still good. Sixth and last tire (91) has never been used. One inner tube has burst, requiring replacement. There have been about a dozen punctures.

Cost account April 11, 1910, to March 1, 1911, inclusive:

Total cost of equipment:		
Car	$900.00	
Freight and accessories	201.75	
		$1,101.75
Miscellaneous, such as state license (two years), $20, carbid, batteries, alcohol, etc.	$ 38.05	
Insurance	77.75	
Oil and gasoline	86.31	
Storage and cleaning	117.33	
Repairs other than tires	87.12	
Tire repairs and replacement	101.55	508.11
Total outlay		$1,609.86

The car has been overhauled just recently for a faulty clutch and a further trouble with the front bearing. Because of the first overhauling, the agency credited me with $28.30, and on the last gave me credit for $41.21, a total of $69.51; for which the agency assumed liability. I expect to run the car another year.

Jos. C. Ohail, M.D., Pittsburg.

INCREASES EXPENSES BUT ALSO INCREASES PLEASURE

Loath as I was to give up "man's best friend," the horse, I was compelled, in the evolution of progress, to get into the "band wagon," and become a motorist. As my work is largely confined to the office and hospital, however, my expense with the motor car (59) is largely restricted to its use as a pleasure vehicle, supplanting my life-long pleasure—the horse.

It is trite for me to say that which everyone admits, viz., the motor is here to stay; adding, as it does, the perfection of pleasure in locomotion, the greatest facility in meeting professional and social calls, annihilating time and space as nothing hitherto has done and, too, trebling the expense of enjoying these pleasures. Carefully kept accounts show that my motor bill is three times that of a pair of horses and equipment—however, doing three times the work. Not always necessary but done just the same. Truly, it can be said the automobile is an "expensive necessity" for those who keep apace with progress and the times.

My car is a touring car (59), five passenger, 36 h.-p., costing approximately, equipped with all up-to-date conveniences, $3,200. I have just made arrangements to turn in my car for a new one, the same make and model, and am allowed only 25 per cent. of the original cost, thus making the depreciation item (always to be estimated but rarely used in giving the net cost of automobiling) about $800 a year, or $75 a month, as I have been using my car a little less than three years. The balance, viz., $75 a month, is made up of maintenance items, tires, repairs, oil, gasoline, repainting and garage, not including chauffeur's hire; making in all about $150 per month, as compared with about $55 to $60 for a pair of horses and the maintenance of them and a carriage.

A. D. McConachie, M.D., Baltimore.

BEWARE OF THE SECOND-HAND MAN

While I understand the object of this number is principally to discuss the cost of operation and upkeep of the automobile versus the team and buggy, I desire to present to prospective purchasers a tip, for which I and doubtless lots of other "green-horns" have paid a good round sum. If you are going to buy an automobile, shun the second-hand dealer! Last spring I decided I wanted a car, and also decided that it was foolish to buy a new car when the second-hand dealer would sell one almost new and fully as good for half the price of a new one. I selected a 16 h.-p. car (96) under their binding guarantee! And it looked so good that a doctor from Kentucky offered me $25.00 for my bargain. This convinced me more than ever that I had a snap. So they filled the tanks and started me out. I hadn't gone two blocks when the thing stopped of its own free will and accord. I left it standing in the street and walked back for help. They sent a man back with me who was very insolent. He examined the car and informed me I had stripped the gearing in the differential; also, that he could do nothing for me as the car was in my care. But he kindly suggested a repair shop, where I could have the machine put in shape at a very reasonable cost. I thanked him and consulted a lawyer, who advised me to make the most of my bad deal. Then I selected my own repair man and found that the driving shaft was broken, differential ground all to pieces and carbureter worn out. It cost me a nice sum to have it repaired, and I still had a worn-out car, as the man who had owned it had taken absolutely no care of it.

I traded it in on a new car (56), which is a good car. I am in a country of hills and bad roads, but the car has never failed me yet. It will run on an average of 18 miles to the gallon of gasoline, which is not flattering for a car of this size, but considering our roads and hills I am content. The oiling system of this car, however, I consider poor. It is a gravity feed and has given me lots of trouble and at times consumes fully twice the amount of oil it should. The only repair bill I have had was a spring. I now have my car equipped with shock absorbers, which I would not do without for four times their cost. They not only save the driver many jolts, but save the engine, frame and tires to a remarkable degree. Were I buying a new car, I would get one with more power and seating capacity for four persons, with rear seat or tonneau detachable.

To start the motor in cold weather, if you will prime your cylinders with ether 1 part and gasoline 2 parts, you will be surprised at how quickly your engine will get busy. If you are using a low-proof gasoline, a few ounces of ether in a ten-gallon tank of gasoline will improve it wonderfully.

A. L. McNay, M.D., Pacific, Mo.

NO MORE HORSES FOR ME

Nineteen years I have used horses, with the exception of one summer, six years ago, when I ran an electric car, and this summer when I used a gasoline machine. Five months ago I bought a second-hand roadster (50), which, with top and gas tank, was listed at $2,350 at the factory. I paid more than a third of that for it and had a machine that had only run 7,000 miles. It is a 4-cylinder 25-h.-p. machine, with long wheel base; 32 x 3½-in. tires; two speeds forward and one reverse; two rumble seats; weighs 2,200 lbs. with only myself in it. I have run it over all sorts of roads, most of them very good, for over 3,200 miles, so I think I may venture to express an opinion on a gas machine.

I was prejudiced against autos and in favor of horses, as I had ridden and driven so much, especially the first few years in practice. The flexibility of the machine and the wonderful control surprised me, and I certainly will never go back to horses again for my work. Of course, one should have a runabout for city work. Mine is a fast roadster and I have found it to do very well. I have had very little trouble with my machine, except for a broken pin in the gear, which had to be replaced, and a broken casing, which had to be fixed.

Fig. 10.—Dr. Karsted's "classy" little runabout (58).

About tires: I had one puncture in 2,900 miles. I had a flat tire a few times through punctured inner tubes, which I immediately got vulcanized. It is a good plan to be particular about tires and inner tubes. Get the best, and give them fair treatment. Twenty to twenty-five miles an hour is fast enough for me, and a load of 2,600 pounds is plenty for 32 x 3½ tires; 33 x 4 on hind wheels would be better, but I have found that the 32 x 3½ stand up very well. I have had no ignition trouble. Use high tension (90) and have run 2,900 miles on two sets of six cells, and the last set registered 10 amperes when taken out.

I have not made a carefully tabulated list of expenditures, but the expenditure is much less than with a horse, and one does not have to worry about the flies biting it or the horse getting hungry. The chief expense is the depreciation of the machine. I expect to get at least one year's good work out of my machine. The engine is going better than when I got it, and is good for much longer than a year.

GOOD FOR ASTHMATIC AND NERVOUS PEOPLE

I have seen more of the surrounding country in the past five months than I have in the previous seven years, and so has my family. I have found it a perfect godsend in curing my small son's asthma. It quiets nervous people, and they get the air without exhausting themselves running around. The auto has cured many people suffering from nerves and boredom, and it has been splendid for great numbers of elderly people; it has kept them off the shelf and enjoying life as they should.

The bicycle was a great factor in the spread of temperance; the auto is an even greater factor, as rum and gasoline do not mix.

In concluding, I think only a low and a high speed not as convenient as when there is an intermediate as well, but even if I had to run the auto on low speed altogether, I would rather do it than go back to horses.

A. J. Anderson, M.D., Newport, R. I.

A GENUINE PLEASURE AND A PROFITABLE INVESTMENT

June 14, 1910, I began operating a new car and up to Feb. 1, 1911, I have run it (79) over the streets of Philadelphia 2,616 miles. I have consumed 157 gallons of gasoline; oil has cost me $3.30; I have used one pound of grease. One gallon of gasoline gives me seventeen miles of travel. I have spent on repairs $12.75, which includes one rear spring, one extra spring leaf, and an overhauling, which included grinding of valves, cleaning of cylinders, adjusting brake rods, etc. I keep my car in a first class garage and pay $10 per month for storage and cleaning. I use the car for business only. I have not had a moment's delay.

I believe that the secret of success with a car is in following the book of instructions that comes with it. Tire trouble we all have. I believe that any man or woman with an ordinary amount of common sense can successfully manage this car. For my part I find it a genuine pleasure and a very profitable investment.

W. T. Hamilton, M.D., Philadelphia.

THE AUTO AS NECESSARY AS THE STETHOSCOPE

Every year I have been watching with eagerness the Automobile Number of The Journal to find out the experiences of others. At last, however, I came in possession of a five-passenger car of 72 h.-p. (57). Butte being a hilly place, I was congratulating myself in being able to procure such a high-powered car.

Alas, however, after using it about five months, I looked over my expense account and found it had cost me about $60 a month for gasoline, oil and repairs. So two months ago I bought a second-hand runabout of 20 h.-p. (58). I have used this car daily for three months, and my expense averages about $18 a month, including $10 a month for garage rent. My advice is, do not get a high-powered car or more than a two-passenger car. A gasoline runabout of 25 to 30 h.-p. should be satisfactory for a physician in any part of the country. I do the minor work of repairing and keep the parts well oiled. As to punctures, of which I have had but two, I will repair them myself. I intend to invest in a small vulcanizer, which will soon pay for itself.

Having become accustomed to a car I do not think a doctor should be without one. I would just as soon think of practicing medicine without a stethoscope or thermometer as to do so without an automobile. My light runabout, which is equipped with a top, side-curtains and wind-shield, is conceded in this city to be the classiest thing out. I wash it about twice a month, thus keeping it neat and attractive. There are many ins and outs which one learns only through experience; if one buys a runabout, many of which sell for less than $1,000, he can with little expense gain much experience. His car will not only be a pleasure but a profit to him.

Alfred Karsted, M.D., Butte, Mont.

LOTS OF TROUBLE, BUT WORTH WHILE

Economy car, the manufacturers call my little $500 runabout (64). After it had been used about fourteen months and had traveled about 6,000 miles, they charged me at their factory $115 to overhaul it, so I understand the name "economy" meant that it teaches the owner to economize.

This, however, is not so bad as it might be, for my first year it cost only $21.05 per month for all expenses, and in the past eight months the cost has been $30.28 a month. I care for the machine myself, thus saving $300 a year that I used to pay a negro to look after my horses. The blacksmith and the plumber do most of my repairs when I cannot do them.

Brass trimmings and lamps have acquired the antique finish by long exposure to air without any cleaning. The mud on the body is seldom left on over a month, but the running parts are looked over daily and oiled or adjusted if needed. This daily survey of a car I find necessary in order to get at any trouble before it becomes chronic. A chronic trouble I find can only be cured by a major operation, paid for according to the fee bill of a "professor doctor." The cost of using a machine should, of course, include the reduction in value of the car. In my case I estimate this at $200 for my twenty months' ownership, which would make my expense just $10 more than the above figures for maintenance.

My first car (65), an old one-cylinder, cost me $47.62 a month, and it got the habit of being towed home. It went to the repair shop daily, and if by chance a day was skipped, the next day it went twice. With my present car I have been towed in once only and could then diagnose the trouble. Somebody has said that an automobile, like a wife, should not be bothered if things are going on all right. By keeping this in mind we can save money in both cases.

Gilbert Van Vranken, M.D., Passaic, N. J.

SOME FIGURES ON COST OF RUNNING AND UPKEEP

Automobiles have been used in my practice continuously for six and one-half years. My first venture was with an electric runabout (103) which I used for two years and then sold, being dissatisfied with the expense of upkeep and the limited speed, although I had little trouble with limited mileage. I then bought a two-cylinder car (104), which had been run about 500 miles, for four-fifths of its original cost. This car gave me good, but not excellent, service for two years; more trouble being caused by the type of engine than by faulty construction, judging from subsequent experience with a four-cylinder car.

In June, 1908, I bought a four-cylinder car (105), which had been very carefully used for a year and a half, for $1,800 (the first cost being $2,800), and was allowed $800 in the trade for my old car, $100 less than I had paid for it two years previously. This was a 20-h.-p. small touring car, fully equipped. After nearly three years' service in my work, or four and a half years in all, it is still responding to the daily demands made on it.

I have kept careful account of all expenditures, gasoline, oil, tires, repairs and improvements, and find that to date (March 1, 1911) the total for these items is approximately $2,100, or $64 per month for the thirty-three months of service. Fourteen per cent. of the amount went for gasoline and oil, 31 per cent. for tires and 55 per cent. for repairs and incidentals.

I have no accurate record of mileage, owing to several exchanges of speedometers, but I am sure that 25,000 miles would be a fairly accurate estimate. On this basis, the cost for upkeep per mile is, roughly, eight cents. This, of course, does not allow for interest on the investment or for depreciation. I buy gasoline in bulk, having a 60-gallon tank with pump attached. This reduces the cost considerably.

The wheels of my car are small, requiring a 30 x 3½-in. casing. By advice of a friendly dealer, I have used for two years a 31 x 4-in. casing, and the additional cost is more than counterbalanced by increased mileage and wear of tires.

I am now experimenting with a full set of unguaranteed cases, or seconds, costing a little more than one-half the price of the guaranteed. After a six weeks' trial, they are proving satisfactory. These are pneumatic, not solid tires, as I have had no experience with the latter.

I find it of advantage to have large cuts and sand-holes in treads vulcanized, as it adds greatly to the life of the tire. I have, however, long since given up retreading, finding that it does not pay. I use a case until it goes to pieces. Last fall I ran a case over 500 miles after the fabric became exposed. It is, no doubt, very important to keep the tires inflated to their full capacity, from the standpoint of wear, but as hard tires add greatly to the jolting of the car, it is a serious question which to choose, increased wear of tires or decreased wear of car.

I have long since learned by costly experience that it is a decided economy to patronize exclusively a repair man who thoroughly understands my particular car, as the unskilled can do damage as well as run up unnecessary expense. This is an important consideration in a large city, where there are innumerable repair shops.

In my opinion, the automobile is a large factor in eliminating a great deal of the drudgery in the practice of medicine, on account of its convenience and as a time-saver. The city doctor is able to enjoy many pleasant hours in the country, not alone because he owns an auto, but because it has saved him the time for pleasure rides.

J. J. Thomas, M.D., Cleveland, O.

A COUNTRY PHYSICIAN'S EXPERIENCE WITH THE AUTOMOBILE IN NORTH DAKOTA

Four years ago I purchased a 10-h.-p. two-cylinder runabout (86). I used this car for three years, driving it perhaps 15,000 miles. This car was entirely too light and too small horse-power for the work I had to do, and the upkeep was too strong for the returns. Its fragility was an easy prey to the heavy country driving, and in consequence I paid the manufacturer too high a royalty in the shape of extras needed by frequent breakdowns. In fact, this is the real source of revenue of the manufacturers of light cars with low first cost. Last year I sold the old car and purchased a 35-h.-p. four-cylinder runabout (87), with high tension magneto and selective sliding gear transmission. In comparison of the two cars in country service and upkeep, I will say that my preference is for the heavier car with the ample horse-power. The fact is, there is no true comparison.

The last car has been in constant service from May to Christmas, on all kinds of roads. I made a run of 5,000 miles with the following expense account, not counting the wear and tear on the car:

Gasoline	$ 84.83
Lubricating oil	26.17
Tires (repairing)	3.25
Dry cells	2.50
Brass polish	.60
Lights (gas and repairing)	5.20
Repairs on car	6.10
Total	$128.65

The gasoline averaged $16\frac{4}{5}$ cents per gallon, and my mileage per gallon was from 10 to 12½ miles. I have always used the best lubricating oil I could buy, and I regard it the poorest kind of economy to use anything but the best. It is also poor judgment to run short on oil. I have at all times used the maximum amount of oil. Good oil does not gum the bearings and it wears better than machinery lubricated with its own cuttings.

During the entire run I had four punctures, two of which resulted in tears of the inner tubes, and the tire expense mentioned above was for the repair of these tears. I have made no estimate of the wear and tear of the tires, but at the close of the run the inner tubes were practically as good as new and the casings were remarkably well preserved, one only showing the first canvas in two places on the tread. I believe the one great secret of long tire service is, first, to buy the best guaranteed tires; and, second, to keep them at all times inflated to the limit designated by their manufacturers. I have had poor success with revulcanizing, reliners and tire protectors.

One of the essential requirements of all cars driven in the night is a good light. This is especially true of the doctor's car, which is usually driven faster in the night than other cars. Many accidents and breakdowns are due to faulty illumination. I have found the tank charged with acetylene gas preferable to all kinds of generators. I have always cared for and driven my own cars. In this way only can a person become familiar with its finer parts. A few minutes spent in looking over the car before each run will be time well spent. With my last car I will say that it has not been necessary to tighten bolts each time I made a run for fear of sowing them along the highway. In purchasing any car, see that the bolts are equipped with patent spring washers, and such troubles will be done away with. My engine and sparking systems have worked perfectly. The original spark plugs are still doing service and only one was removed for inspection during the whole season's run.

Fig. 11.—Dr. J. J. Thomas, Cleveland, Ohio, and his little son, in his car (105). Note the 31 by 4 inch casings on wheels adapted for 30 by 3½ inch tires.

The children enjoy the motor car and it is good for their health. In the goggles above (Fig. 12) is a youthful chauffeur, the son of Dr. C. E. Spicer, Litchville, N. Dak., whose article is on this page. In the car below (Fig. 13) are Dr. J. A. Pringle and family, Bagley, Iowa, all on a pleasure trip—and it certainly looks like pleasure.

OIL IN THE COOLING SYSTEM

The engine cooling system is a problem confronting us all. I have never used an exclusive air-cooled motor, and I do not believe there is one on the market that will work perfectly in all temperatures. The water-cooled engine will be the one in general use for country work.

In the car I am now using there is a fan to facilitate the cooling of the water, thereby combining the air and water-cooling systems. In the hottest weather I use both, but as the temperature approaches the zero mark I disengage the fan and use the water cooling alone. I prefer the water pump to the thermo-syphon system used in my first car. With a pump other liquids may be used to advantage.

When the weather was coldest—say 10 to 30 below zero—I used a mixture of kerosene and lubricating oil for cooling purposes with perfect satisfaction. The motor may be cooled with water and wood alcohol, but we are never sure of the percentage of each because of the great range in the evaporation of the two liquids. I think the various cooling mixtures of chemical nature are too injurious to the radiator to be in general use.

After careful thought and accurate deductions, I have summarized my mature conclusions and advice to prospective automobile purchasers among my own profession in general country practice for practical and economic use in the following maxims:

1. Do not buy a cheap car.
2. Get one of the heavier cars, at least 30 h.-p., four cylinders, selective sliding gear transmission.
3. Personally take care of and drive your own car.
4. Use the best lubricant and plenty of it.
5. Keep your tires well inflated.
6. Be moderate in all things, especially in speed.
7. Have a good light for your night driving.
8. Study your car as you do your cases.
9. Buy a good speedometer, then you will know the distance.
10. Don't think you have the best car running. There are others.
11. Investigate the first signs of trouble and stop running until it is rectified.
12. Remember, "You're never too old to learn."

C. E. SPICER, M.D., Litchville, N. D.

A STITCH IN TIME

Of course, a doctor should have an automobile. We have settled that in previous issues of the Automobile Number of The Journal, but if there is the least doubt about it, ask your nearest dealer what class of citizens are his best customers, and his answer will convince you that the physicians have, themselves, long since settled this question.

There is another question, however, that is not settled, and it is one that deserves very careful thought and study. It is the method of keeping down running expenses and repair bills and, as I have had far more success in this respect than the average automobile owner, I feel that my suggestions may be of some value. Keeping a car in perfect condition is really more a question of trouble than expense. It is very much like raising a baby on a bottle—lots of trouble to heat milk at night, but not very expensive. If you enjoy this sort of thing—I refer to tinkering on a car and not to heating milk—it at once ceases to be a trouble and becomes a pleasant recreation, and this constant attention to small matters is the finest preventive of repair bills. My first advice is to do these things yourself, or to see them done. Take no man's word about anything connected with the car, and observe the following rules:

1. Run slowly, easing over bad places, and remember that when you are "burning the wind" you are also burning money.

2. Watch your gasoline and oil tanks, and use only the highest grade engine oil. Transmission oil, administered by mistake, will give your engine "paralysis agitans" in a few minutes.

3. See that your oil pump is regulated to maintain the proper amount of oil in your engine base, but don't expect this old oil to last indefinitely. Clean out your engine base once a month with kerosene, and be sure to renew your supply of lubricating oil by pouring the proper amount through the breather tube.

4. Get into the habit of injecting daily one tablespoonful of kerosene in each pet cock while the engine is hot. An ordinary oil can will enable you to perform this operation in half a minute. Try it a month, and then take a peep into your cylinders. If you use too much kerosene it will work down by your piston rings and dilute the lubricating oil in engine base.

5. Learn every hole and grease cup on your car, and remember that a hole is not a hole when it is filled with dirt.

6. Watch your transmission, universal joint, differential and wheel bearings. Clean these out occasionally, and renew with the proper oil or grease.

7. When you hear the slightest squeak about your car, you may know it is hungry for grease. Feed it.

8. At least once a week, have a wrench applied to every nut on the car and, when you find a loose one, place a split washer under it. This will generally keep it tight.

9. Tires are the most vulnerable, the most expensive, and the most annoying part of the car. Punctures are especially objectionable to a physician, and I have solved that part of the problem by using, constantly, some form of tire protectors; but they are expensive, as the best I have used only lasted 2,000 miles.

10. Be sure you have with you such little things as extra inner tubes, extra valves for inner tubes, inner tube patching outfits, blow-out patches, extra burner tips, spark plugs, rubber tubing, insulated wire, extra nut bolts, split washers, jack, tire chains, air pressure gauge, ammeter, talcum powder, adhesive plaster, cake of soap, an old pair of gloves, etc.

I have two cars, one (72) I have run 3,000 miles, with a repair bill of $1.75; the other (73) has run 2,000 miles without expense until last week, when I stripped a gear and had it replaced at an expense of $12. The careful, methodical physician will find the automobile a source of much pleasure and much profit, and when I quit this mode of locomotion it will be because I like the air machine better.

John Darrington, M.D., Yazoo City, Miss.

DICK AND I

Dick and I, for the past eleven months, have been inseparable companions by day, and too often by the gloom of night. We are mutually satisfied, since we became fully acquainted with each other's eccentricities and foibles.

Time was when a poet sat on a stool by the wayside and mused in sight of men, but conditions have changed and gasoline rolls on wheels over the thoroughfares and the chauffeur hums his tune through the purr of his engine. For forty-one years I have been engaged in the practice of medicine; four decades of which I have used a 1-h.-p. motor; but as the younger members of my profession whizzed by in their shining cars, seemingly an echo would convey to my ears "the doctor we left behind," then a reecho, "old boy, join the procession," followed by a refrain, "come, come, get—." It got on my nerves and I concluded to "get," but in getting, the question was what to get. All cars looked good to the eye, and read well on paper. Auto agents talked glibly and demonstrated to perfection. From this medley of literature and advice I must make the selection. Prior to this several important matters must be fully considered—road conditions, the type of car that would best meet the above, cost, and probable cost of maintenance. Last but not least, could I learn to drive a car successfully.

ROAD CONDITIONS

My home is in Spring Lake, Mich., situated on a lake by the same name (an arm of Lake Michigan extending inland about six miles). The surrounding country is loose, white sand, in many places of uncertain depth, with quite a few hills, some of which are long and heavy. The trunk roads for some distance from the business center of town are fairly graded and graveled. The country cross-roads are comparatively primitive. The drives leading from the improved highways to the many cottages and bungalows situated on the lake are down steep, sandy hills, through narrow, stumpy, winding and wooded trails or roads; not ideal conditions for autoing.

SELECTING A CAR

After duly weighing the pros and cons, I decided to purchase a machine (74) which in my judgment would best meet the above road requirements and so far as possible eliminate the troubles most common in auto service. The hard tires, air cooling, friction transmission, extra climbing power, ample clearance, reasonable speed and low cost ($410), seemed to meet these requirements. I determined that the carriage type, as a strictly business proposition, for strictly business purposes, would best meet my demands, having all of these requisites.

THE CAR ARRIVES

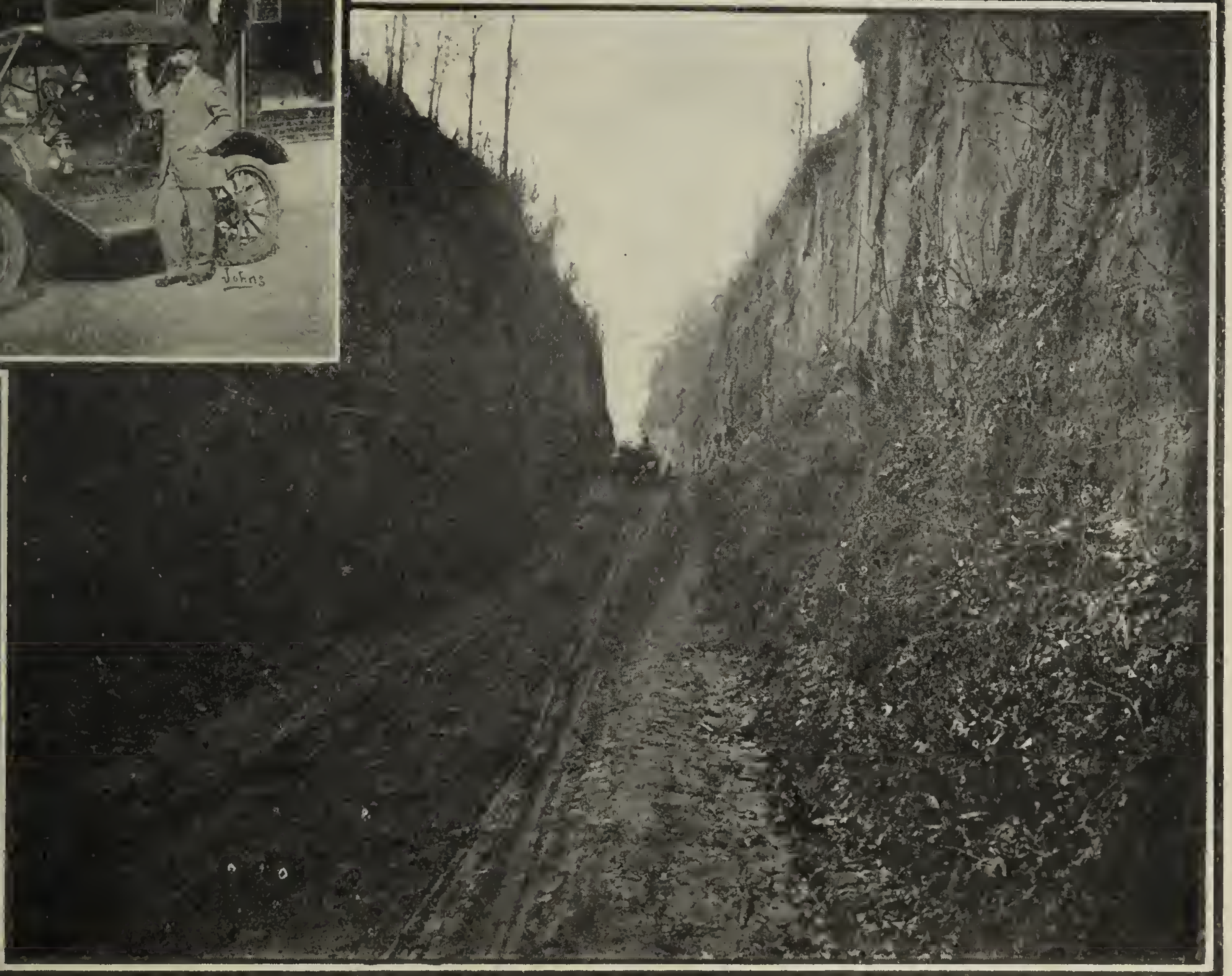
The car reached me April Fools' Day, 1910. After a simple ceremony, I broke a bottle of grape juice and christened it "Dick." An hour later the new arrival was in commission, and I the chauffeur, a yokel right off the grass, too fresh to locate the coil, point out the commutator, or know the difference between the transmission and the differentials, recognize the speed lever from the timer, the spark plug from the key.

A. R. B., an experienced auto doctor, had kindly volunteered to witness my entrée into the select circle of autoists, provided I would go it alone. Knowing that death must come sooner or later, I reluctantly consented. I listened to a brief lecture on the great responsibility I was about to assume, just what to do and, in particular, just what not to do, and under no condition was I to do both at the same time.

THE FIRST ATTEMPT

Being now fully instructed and greatly encouraged, I took my seat and made ready. My friend cranked, gave me the road, and cried out, "Left foot on pedal—Go." and I was gone. But for Dick's good sense, I might still be going. He suddenly bucked, backed and started from whence he came, fetching up in a shallow sand pit, coming to a halt, engine racing. I called wildly to the auto doctor for assistance. A laughing echo met my ears—"Close timer and throttle, remove spark key, cool your parched brow, then sit down and study your book of instructions; if you can't get out of the hole your fool ignorance has put you in, study and experiment until you can." I threw him a kiss and proceeded to the best of my want of knowledge to carry out his commands. I finally released Dick from his sandy shackles and drove a mile or so, returning safely home. I spent a goodly part of the night studying a treatise on auto anatomy and physiology—the balance in dreaming of spooks and broken bones.

In the morning I made a vivisection of Dick, located some of his organs, and learned something of their functions. I put him together, made ready for a start, and got a vicious kick. I studied my book of instructions; learning that Dick was not at fault, I forgave him and we started for further practice and acquaintance. This day was less tragic than the first. I made some unintentional spurts, stops, backs and balks, but kept my head. The third day was a great improvement. The fourth day I was able to smile a little, appetite returning, still studying and vivisecting.



Figs. 14 and 15.—"The kind of diet that gives your car "indigestion" is shown in the lower picture. Dr. John Darrington, Yazoo City, Miss., who is also shown in the upper corner, says that this road was worn through the hill by the attrition of traffic and weather.

DISLOCATION OF SPARK KEY

On the fifth day I drove down town in fine style, receiving congratulations on so speedily acquiring auto proficiency. I modestly accepted the compliments so generously paid me and excused myself to make a call. Dick was satisfied to remain where he was. All of my newly acquired auto knowledge was lost on him. Coaxing or cussing was of no avail. My glory suddenly vanished; laughter and advice from my false friends were freely given. Accidentally observing that the spark key was not in Dick's vest pocket, I quietly inserted it, announced that if the assembled multitude had no further advice to give I would take my leave, cranked, took my seat, and quietly left the gaping crowd behind.

A week later an experienced driver accompanied me to the country to try out the car fully over our most difficult roads and hills. The weather for some days had been hot, the roads dry, and the sand exceedingly deep. Under his guidance the task was accomplished without difficulty or delay, I at the same time receiving most practical instructions in the driving and care of a car.

WOMAN'S INTUITION WINS IN DIAGNOSIS

For the next thirty days everything was lovely. I was driving smoothly and with great pleasure, congratulating myself that my troubles were over, but one beautiful afternoon an emergency call was 'phoned from the country. My niece suggested that, as I was an accomplished chauffeur, she would accompany me. We made a splendid run of one hundred feet and then a sudden stop. My dander was up. I went for Dick rough shod. I went over him, under him, on top of him, looked in his mufflers, and finally my wife, watching my antics, asked me: "What can be the trouble?" I answered: "Pure cussedness." She then informed me that she had been reading one of my medical books and thought it might be acute congestion of the brain, and if I would turn on the gasoline it would probably relieve the pressure. A correct diagnosis and the prescription effective. Woman's intuition is beyond man's comprehension.

PSYCHOTHERAPY

Not so long after the above humiliation, on a sultry day, I was driving over a stretch of heavy sand three miles from home, when Dick gave a gasp and to all appearances suddenly expired. I tried all of my known remedies to revive him. Over a nearby telephone I got in communication with the auto doctor, telling him where I was and asked him to hustle his car to my aid, as I thought Dick was *in extremis* from solar apoplexy. Promptly responding, he gave the inert mass a knowing wink, pointed his finger at him, cranked—"presto change," the dead was alive. The learned doctor then informed me that the vibrator would sometimes stick and thus kill the car, that by touching the same it would be released and the dead restored to life. So easy when you know how!

Ninety days passed quickly and pleasantly, the latter part of which was rainy, cold and muddy. Dick was showing ill health, his gait uncertain; after a rest for a short time he would develop reasonable energy, soon to lag again. As his feet were constantly exposed to dirt and mud, I thought of hook-worm. The disease grew rapidly worse. He began to hop, skip and stop. I was suspicious that he might be a cross between an auto and a kangaroo, the latter strain prevailing. I decided I had better consult the auto doctor. He listened to my history of the case and asked me about his "amperage." That was a new one on me. He then took from his pocket something that looked like a gun metal watch and began nosing around his cells, talking aloud to himself: "Zero, five, eight, three, six, Mark Twain, etc.," concluding this performance by informing me that Dick had run out of juice and that new batteries would promptly restore him to health.

AUTO-INTOXICATION

Dick was again in prime condition and so continued until well into the tenth month, when he again showed languor; cranked more and more easily; lost the use of one side. I was satisfied that it was paralysis or the loss of a lung, possibly both. I coaxed the smitten creature down to the auto doctor's office for a careful examination. At the close he informed me that he found no evidence of paralysis and that Dick still possessed both lungs, but that he had lost his compression (from a large burr closing the exhaust chamber becoming loosened), and inasmuch as he had been steadily on the road for nearly a year, he should be thoroughly overhauled. This he at once proceeded to do. When all apart, I was asked to take a look at his internal organism. The doctor said he was full of carbon deposit. It looked to me like a bad case of auto-intoxication. This laid Dick up for two days, I supplying his place by livery hire, which was duly charged to him as lost time. The cleaning out he received was very effective and lasting.

In the middle of the eleventh month the poor boy went lame. Three months of steady driving through mud, slush, ice and snow, hampered with traction chains, had given him corns and worn his shoes (tires) to a frazzle. I sent his hind legs to a nearby city for a new outfit, he losing another day. On this occasion I gave my country patients a rest; in town acting the rôle of Mr. Walker from Walkerville. Before night I better appreciated the faithful work of Dick and entered no charge against him.

The above account of my experience in learning to drive a car, the causes and the care of apparent illness, is not drawn from imagination or highly colored to magnify difficulties, but from personal experience and in order of occurrence. I hope it may be of aid to some amateur who may be called on to travel the road over which I have just driven.

At the close of three weeks' driving, I was satisfied that it was only a question of a little time when I would master the art of handling a car. I sold my horse and driving outfit, moved and converted my barn into a well-paying cottage investment, and built a garage on modern lines with a repair shop part of the equipment. I go over the machine carefully twice each week, thus knowing it is in prime condition to meet any demands, day or night.

RUNS IN ALL WEATHER

Since that memorable April day, Dick and I have become a familiar pair on every street, highway and byway in our community. We are mutually familiar with all kinds of weather and road conditions. We have driven in the bitter winds of spring; in the hot sunshine of summer; in the rain, sleet and mud of autumn; in the frost, ice and snow of winter. Out of compliment to his prowess, I quote the following from the Grand Haven *Courier-Journal*, under date of February 11 (Spring Lake local column):

"On Tuesday morning, following the great blizzard of the previous night, our veteran physician, Dr. C. P. Brown, came down the street driving his auto car through the heavy drifts as calmly and unconcerned as though it were a balmy summer's day, storms or road conditions seeming all the same to the doctor and his machine. We see him making his daily rounds in town and country without trouble or mishap."

COST OF MAINTENANCE FOR ELEVEN MONTHS

I have endeavored to keep a careful memorandum of the cost of running my car, including the necessary upkeep. My work is largely in town and a neighboring village. Country calls are short, not exceeding three to four miles.

Gasoline, 239 gallons, at 11½ cents	$ 27.45
Cylinder oil, 24 gallons, at 55 cents	13.20
Kerosene oil	1.00
Batteries	9.00
Spark plugs	3.00
Two tires for drive wheels	15.00
Traction chains	3.50
Fiber ring	3.75
One set of roller bearings	2.25
Waste	1.50
Overhauling, grinding valves, etc.	19.30
Setting tires and transportation charges	3.00
$300 insurance against fire	9.00
Two days' horse hire	3.00
Total	$113.95

To verify the above I have been several times over my data to make sure there were no omissions. Taking into consideration the elimination of a most unpleasant kind of labor, such as care of stable, daily and regular hours of feeding, harnessing and unharnessing, blanketing and unblanketing, tying and untying, with many other annoyances, I would most certainly continue to use and recommend the auto for the busy physician, even if the expense had been considerably greater.

TO ELDERLY MEN OF THE MEDICAL PROFESSION

In conclusion, a few words to the elderly men of the medical profession: Don't deprive yourselves of the pleasure and exhilaration of driving a car on the ground of age. I was sixty-five when I entered the auto ring. My friends compliment me by saying that I am "daily growing younger." I certainly do my work and more of it with much less fatigue. I save two to three hours daily to myself for rest, study or recreation. Brown-Séquard recommends a special juice for the renewal of youth. Brown, C. P., has an infinitely more effective prescription: "Drive a Car." Then with me you will join in the refrain, "God bless the intrepid men who developed and gave to the world the automobile!"

C. P. Brown, M.D., Spring Lake, Mich.

ANOTHER ENTHUSIASTIC MOTORIST

Dating my experience with automobiles from the spring of 1906, I find that I have not once had a desire to go back to horses. My auto does the work of three horses and when my day's work is done neither my auto nor myself is tired out. I am convinced from my experiences that a four-cylinder, 20-h.-p. light weight machine is the car for a physician. My 1910 car has traveled 12,000 miles since March 28, 1910, and has not been tied up one day from any fault or defect of the car. My repairs, tires and gasoline bills have been very light. As a matter of general care for winter use, the car was varnished and engine overhauled in November, 1910. It was found to be in excellent condition. New parts cost $3.88. One set of tires that came on car have not worn out. I bought one new tire and am using an old tire, that I had run 1,500 miles on another car. This constitutes my tire experience for over 12,000 miles.

I own an electric vulcanizer, and as soon as a cut to the canvas of the tire is found, I vulcanize it. I also keep the tires pumped to a good riding condition, using the same pressure all the time. I pump my tires—front 30x3, to 40 lb. pressure and rear to 50 lb. This tire is 30x3½. This pressure is not quite as high as advertised by tire manufacturers, but I varied their pressure to suit weight and easy riding qualities.

My car with its own weight and its load is about the weight the tire schedule states the tires will carry and not be overloaded. Many cars have tires so small in proportion to weight of car that the tire is carrying nearly the full capacity without passengers. A well-inflated tire will prevent punctures, blow outs and rim cuts. As the rear tire has the traction work and greatest strain, it should be stronger than the front. I go 20 to 22½ miles on a gallon of gasoline. We have good and bad macadam roads and some of the worst sand roads in New England, and I run over them all. My car (89) is running sweetly and quietly now. It is a dandy to climb hills on the high speed.

B. F. Tefft, Jr., M.D., Anthony, R.I.

ANALYSES OF AUTO EXPENSE

THE AUTO MUCH CHEAPER THAN THE HORSE

A CLOSE observer of autos for a number of years, I have studied the various types and noted the expense of operating and keeping them in repair. I have read the previous Automobile Numbers of The Journal with great interest. Last spring, while in Chicago, I visited a number of factories and inspected the construction of a number of the small autos now on the market. I wanted to find a reliable machine suitable for a physician in a small place where the roads are poor, one with which he could make most of his calls, and without more cost than that of a team.

Fig. 16.—Here **is an** ideal illustration for the Automobile Number. It shows the doctor, his car and his residence. Dr. J. B. Carrell at the side door of his residence in what he calls "the prettiest town in eastern Pennsylvania," Hatboro. There may be those who will dispute his assertion—but all will agree that the automobile is a splendid means of seeing the beauties of nature,

Fig. 17.—Car and summer residence of Dr. B. F. Tefft, Jr., Anthony, R. I., with the dear old flag flying overhead.

I selected a two-cylinder, 14-h.-p., air-cooled motor buggy (61), with 36-inch cushion tires, which I have been using nine months. My expenses to date have been as follows:

Gasoline	$14.60
Oil	4.00
New batteries	1.60
Repairs	50
Livery hire	3.00
Total	$23.70
Average per month	2.63

This is so much cheaper than a horse that there is no comparison. I have no trouble with over-heating, as many suppose to be inevitable in air-cooled machines. I ran it sixty miles on a hot day last August without any trouble.

A GOOD CAR FOR HILLS AND COUNTRY ROADS

We have many hills and some of them very steep, but with my friction transmission I climb all of them without any trouble. The road clearance of 13 inches enables me to get over ridges and rough places that would bother the ordinary type of car. The riding over rough roads is not so nice as with pneumatic tires, but my cushion tires never give me any trouble or expense, except to replace them in a few years with new ones.

Another point I wish to remind the prospective purchaser of is the cost of repairs. Before purchasing a car he should know what the repairs are going to cost, as repairs are going to come sooner or later. Some car owners in my town have been robbed by companies when they were forced to purchase repairs that could not be obtained elsewhere.

W. W. McRae, M.D., Corinth, Miss.

THE AUTOMOBILE CHEAPER THAN THE HORSE

THE most valuable asset a person has is time, and every one who does not appreciate its worth will be found among the great army of losers who inhabit this earth. We hear much of the conservation of our natural resources, but little of time lost. Physicians who think realize that the major part of their working hours are spent in going from office to patient, from patient to patient, and from patient to office again.

Fig. 18.—Dr. C. P. Brown and wife in front of his house at Spring Lake, Mich.

HONOR TO THE FAITHFUL HORSE

In days long gone by the medicine man trudged about from place to place; later his good friend Dobbin was his burden bearer, and still later, in the shafts, he faithfully performed his work for his "victuals and clothes." God bless Dobbin for the good he has done, and still does for humanity.

Dr. Joseph B. Walter, in his beautiful poem, "The Old Doctor Slept," says:

> So mid sickness and pain, and misfortunes and wounds,
> He had daily gone forth on his unending rounds.
> Through the storm and the sunshine, the cold and the heat,
> In his fight for life he'd oft suffered defeat;
> But sometimes to the hearts of the watchers brought cheer,
> Saw their smiles break, like sun-rays, through the black clouds of fear,
> When some day, by some couch of some sufferer—at last
> He could say: "You may hope, for the crisis is past."

It was "Jess" who made it possible for the kind doctor of "The Bonnie Brier Bush" to go on his errands of mercy among the poor, and "Jess" even now has work to do, at certain seasons, in rural districts. Electricity, steam, and confined gas explosions have relieved the horse of much burden and cruel labor, and the future will be better for him.

Without doubt the automobile is a saver of time, and to-day thousands of physicians use it in their work, but thousands hesitate to purchase a machine, because they are led to believe by the makers of high-priced machines that the moderate priced one is not substantial, and will not stand up, and that the expense is too much for a poor doctor to afford.

For some years I stood on the brink, thinking of cost to buy, cost to keep, dangers to myself and fellow-man and my ability to control it. June 1, 1909, the deed was done when I bought an automobile (81) for which, fully equipped, I paid $675. The experiences I had, I presume, were very much like many others, so let that pass; but I will say that it has far exceeded my most sanguine expectations. From the start I have kept an accurate account of all expenditures and mileage, so what follows is not conjecture, but hard, cold facts. In nineteen months I have run my car 10,000 miles, over average roads, at a speed of from 20 to 30 miles per hour, and apparently it is as good to-day as when it left the shop.

My expenses follow:

Gasoline, 626 gallons, at 14 cents	$ 88.63
Oil, 24 gallons, at 45 cents	10.80
Tire expense	83.30
Repairs, tools and sundries	80.44
Total	$263.17

Average daily mileage	17½
Average mileage for gallon of gasoline	16
Average mileage for gallon of oil	417

Average cost of gasoline per mile (Or 8/10 of a cent, or 8 mills)	$0.008863
Average cost of oil per mile (1 mill)	0.001080
Average cost of gasoline and oil per mile (About 1 cent)	0.009943
Average cost of tires	$0.008330
Average cost of repairs, tools and sundries per mile	0.008044
Total average cost per mile (Or about 2⅔ cents per mile)	0.026317
Depreciation in market price of auto	$337.50
Average of depreciation per mile (Or 3⅓ cents per mile)	0.033750
Total average outlay per mile (Or 6 cents per mile)	0.060067

This appears like a high cost per mile, and on the score of economy apparently condemns the machine, but it must be considered that the machine is as good for work as ever, and to the owner is worth its first cost.

Fig. 19.—Dr. Charles Haase of Elmira, N. Y., and his motor car (93), which cost him $127.50 to maintain for one year, with a mileage of between 5,000 and 6,000 miles.

We must not forget that it would take two horses and equipments to do the work the auto has done, and then it would be slowly and poorly done; in fact, much of the work done by the auto would not and could not be done by the horses. I have increased my receipts not less than $40 per month with the auto; I have had much more time in my home and office; have had time for literary work as never before; have given my wife and friends many pleasant rides about our beautiful country; have satisfied my patrons as never before, and have made my work easier, and more enjoyable than with the horse.

Exclusive of tires, the machine has cost me as follows:

Rear-axle brace	$1.25
Repairing brake-rod	.75
Timer and spring	.55
Drive pinion and shaft	6.00
Thrust wheel	1.00
Total	$9.55

I was allowed $6 of this amount for drive-pinion and shaft, the factory considering it deficient in material, although it had run over 8,000 miles; thereby making a charge of $3.55 for 10,000 miles, or 355/10000 cent per mile.

When a machine that cost 675/1000 of a thousand dollars shows such an exhibit as this, and after having a coat of varnish looks like new, runs like new, and practically is new, it is time for the clackers to cease their clacking that "a machine costing less than one thousand will not stand up."

Now as to the comparative cost of traveling 10,000 miles with horse and with automobile in a period of nineteen months.

Cost of two horses	$300.00
Cost of two carriages	300.00
Cost of two sets harness	50.00
Cost of sundries	25.00
Total	$675.00
Cost of hay (19 months) for two horses	$250.00
Cost of oats (19 months) for two horses	280.00
Cost of shoeing (19 months) for two horses	75.00
Cost of repairs (19 months), carriage, etc	50.00
Total	$555.00
Average cost per mile for 10,000 miles (Or 5½ cents)	$0.055500
Depreciation in outfit in 19 months	200.00
Average depreciation per mile	.02
Total average cost of horse per mile (Or 7½ cents per mile)	0.075500
Total average cost of auto per mile	0.060067
Average per mile of horse over auto	0.015433

Estimating the depreciation of horse and auto according to market valuation (fancy, not fact), I find the horse motor costs 1½ cents per mile more than the gasoline motor. I find *actually* little depreciation in either horse or auto, and, such being the case, I find the auto practically costs 2⅔ cents per mile, and the horse 5½ cents per mile, a difference in favor of the auto of almost 3 cents (2.9 cents) per mile, in 19 months, a saving of $291.83, which, added to the $760 extra income by using auto, makes a showing of $1,051.83 in favor of the auto, which seems to me very satisfactory.

J. B. Carrell, M.D.,
Hatboro, Pa.

A BEAUTIFUL TOUR THROUGH NEW ENGLAND

I send a picture of my car (94) standing in front of my residence. It has done, since I began running it in April last, many thousands of miles of service. If I had the time at my disposal I could give you some interesting descriptions of some of the runs it has made, as we motored last summer all through the White Mountains and other interesting sections of New England. We went through New York, Waterbury, Conn., Lenox, Mass., through the Berkshires, on to Manchester, Vt., over the famous Peru Mountains, by way of Sunapee Lake, and up into the White Mountains, New Hampshire, to the famous Profile House, Bretton Woods, and on from New Hampshire into Maine, Poland Springs, and down the coast by way of Portland, Newcastle, Newburyport, Boston, across to Saratoga, into New York, on to Richfield Springs, and from there the run was made back to Baltimore through various and interesting sections which loomed up on the way.

It was a means of enabling me to see beautiful sections of our country and bits of scenery that I had no idea existed. We could easily accomplish in a day's run 160 miles with all comfort, and I found the car an exceptionally satisfactory one, doing its work most efficiently, without ever thinking of balking or hesitating for a moment at any obstacle that we came across. We went over some pretty steep mountains; the up-grades were enormous, and the car never hesitated for a moment and there was never a balk on our run.

It is the only car I have had any experience with, and I regard it as an exceptionally comfortable, easy-going car, and I have gotten the greatest amount of pleasure and satisfaction out of it. I use it both for work and pleasure, principally for pleasure, as my work is operative and hospital work; I utilize it more for recreation than for actively getting about in my work.

Frank Martin, M.D., Baltimore.

THE AUTOMOBILE AND ITS REAL COST OF OPERATION

Automobiles first began to be of practical use about 1900, when the little steam cars made their appearance. In those days it was necessary to work one's passage—pump air in the air tank, take on water every few miles, and do a thousand and one things unheard of and unknown to the driver of to-day. At that time I wore a beard, and am frank in saying that it was always short—not through the inability of youth or the kindly offices of the scissors, but owing to the fact that it used to get singed about twice a week, regular, when lighting up. And the speed and power of those decade-ago cars was not much to boast of, for I can remember a three-hour trip between Washingtonville and Newburgh in Orange County, N. Y., a distance of but twelve miles. It was a case of tie down the safety valve, wait at the foot of hills until there were about 300 pounds of steam, then rush at it and—get stuck half way up. Most of the time the summit was reached by steam plus hand-power, one fellow pushing and the other running the car. Of course, we had fun in those days; when starting out it was always with a delightful feeling of uncertainty as to just when and how we would return. A ten-mile run without trouble was a rarity.

Fig. 20.—Car of Dr. Frank Martin, Baltimore, standing in front of his residence.

MOTIVE POWER COMPARED

Since then I have been the possessor of fourteen cars—steam, electric, gasoline—some good, some bad, some indifferent, all of them, at times, a great pleasure; also a disappointment. The steamer is easy to handle, can climb hills like a streak and can be run at any speed from two miles an hour up without shifting gears. Likewise, it has its disadvantages, among which are time consumed in getting up steam, difficulty after a little wear in holding steam, trouble in filling up with water, and lastly, danger from freezing and danger from fire.

Electric cars possess certain advantages: quietness, simplicity of operation, readiness to go at all times (when charged) and smoothness of running. The disadvantages are: limited radius of operation, slowness, difficulty in climbing hills and lack of power in heavy going. Battery troubles are scarce when the car is new, but after being in use for some time attention is frequently needed and riding soon becomes a sore disappointment as well as a heavy expense.

Gasoline cars, for the physician, are perhaps the most suitable, generally speaking. They can be started instantly, and are always ready to go when they are right. There is an abundance of power, speed and ability to go practically anywhere. And even these cars have their disadvantages—noise, repairs and difficulty in starting in cold weather. The question of the pleasure to be derived from extended trips, touring, etc., are all in favor of the gasoline car. I know of no better or more wholesome fun than running a motor car; and as a time saver it can't be beat.

EXPENSE OF RUNNING A CAR

As a general proposition it may be said that gasoline costs from one to two cents a mile, lubricating oil from one-half to one cent a mile, and tires from two to ten cents a mile, with, perhaps, a fair average of four cents; so that the actual cost per mile in running expense is about six to seven cents. Garage charges vary from ten to twenty-five dollars a month, and then come *repairs*. This is a subject on which it is hard to render an approximate opinion—so much depends on the car itself, the operator, road conditions and speed at which the car is driven; also the ability of the owner to make minor repairs and adjustments. However, from experience, would say the average, to put it at its minimum, would be from one cent a mile up (and it is pretty much *up*).

DEPRECIATION

Depreciation varies in the widest degree. I am perfectly safe in saying that during the first year it averages about 40 per cent., the second year 20 per cent. and the third year 20 per cent. more, or 80 per cent. in three years. Of course, much depends on the class of car bought and the factory back of it. Any car that is giving satisfaction is not for sale, as a rule, and when a car is for sale, it is for good and sufficient reasons, which can usually be found by buying the car and running it.

What is the average life of a motor car and what parts wear out first? is a question frequently asked. Some wear out in one part, some in another, and many wear out all over at about the same time. It depends much on, first, the driver, and second, the construction and material in the car. I have owned some cars that, at the end of 10,000 miles, were completely worn out, and others that did not reach that condition until 20,000 miles had been traveled. It depends largely on the material in the car and the price paid for it. Manufacturers will tell you that a car should be overhauled thoroughly every 5,000 or 10,000 miles. That is, in the main, true. Some cars, however (according to testimonials), have been run up to 20,000 and 25,000 miles before having a thorough overhauling. My own experience has been that there are so many good miles, so many indifferent miles, and so many rotten miles (if I may be allowed the term) in any car, varying with the class of car, the speed at which it is run and the character of the roads over which it travels. Generally speaking, when a car has had 15,000 to 20,000 miles it is pretty well "all in"—not meaning that it won't run, but it won't run cheerfully—and when you have a machine that is laboring and requires more or less constant nursing and tinkering to keep it running, there is only one remedy—get rid of it and let the other fellow do the fixing.

HORSE AND AUTO COMPARED

How does the cost of a motor car compare with that of horses? This much-mooted question depends for its answer, first, on the number of miles to be traveled and, second, the rate of speed required. If you run but twenty-five to thirty-five miles a day, two horses are cheaper than one automobile. Above that, I believe the debit is on the side of the motor car. Of course, everyone knows that a light and simple machine is much cheaper to run than a high-powered one. Likewise, it is not as pleasant to ride in, nor anywhere near as efficient.

I was amused at a certain advertisement I saw some time ago entitled "Horse vs. Automobile," in which it was shown, according to their figures, that the cost per mile of operating expense of an automobile was about half that of a horse. The man that wrote the "ad." was an artist at figures—his only trouble was that he left all the important items out.

In putting in his depreciation of motor car he figured just about one-third of what the depreciation really is on that special car. If your work requires but twenty miles a day, the automobile is not so cheap as the horse.

TIRES: SIZE, INFLATION AND CARE

Of vital interest to every motorist and prospective motorist is the tire question. As a general proposition, on most cars, the tires put out by the manufacturers are too small. They make the tire of the right size with a good margin of surplus for the car empty, but when the car is loaded with its quota of passengers, top, accessories, etc., the tires are not nearly heavy enough for the load. Most cars are equipped with tires that are too light.

Inflation plays an important part in the life of any tire. As a general proposition, in city running, the tires should be pumped "hard" so that when the car is standing empty there shall be no flattening. In warm weather and for touring, keep them just hard enough to allow a slight flattening, as there is more heat generated under these conditions and there must be room in the tube for expansion. The amount of deflation necessary can soon be learned by experience. Try stopping your car after a brisk run of ten or fifteen miles on a hot day and examine your tires. They should then be inflated so that there is no flattening when standing. Watch your rims for rust and see that they are clean. Also, don't keep your tires on an oily or dirty floor as it is bad for the rubber. I have always found it policy to have on hand a couple of extra tires so that when I find a tire with a cut in it I can take it off and have it vulcanized. Don't run with a tire that has cuts in it, as the dirt, water and grease coming in contact with the canvas soon destroys the fabric. When the car is not to be used for a week or two, jack it up and partially deflate the tires. When changing a tire don't be afraid to use plenty of soapstone both between the shoe and tube and also between the tire and rim. A good plan, when a car is not properly balanced, is to use new shoes on the rear wheels for two or three thousand miles and then change them to the front. Brakes, improperly used, will soon wear out tires. Learn to stop gradually, using your brakes as little as possible.

Lately I have been using tires that are known as "seconds," and from experience have found them to give just about as much service as "firsts," at about one-half the price. Where a new shoe 34 x 4 would cost $36 to $46, seconds have cost me only $19 to $28.

I itemize the cost of running my last two cars:

EXPENSES ON CAR (S4) USED MARCH 16, 1909-AUGUST 24, 1909

March 24, garage	$ 29.45
April 1, horn	4.50
April 13, repairing tires	4.75
April 28, repairs	3.75
April 29, gasoline	2.10
April 30, garage	36.10
June 7, repairing tires	15.00
June 10, gasoline	1.60
June 10, repairs	2.50
June 16, repairs	1.20
July 1, repairing tires	6.00
July 3, tire	30.29
July 17, repairs	5.79
July 19, repairs	10.47
July 22, repairs	50.00
July 27, gasoline	1.60
July 28, repairs	13.88
July 31, springs	25.00
August 3, tires	7.50
August 5, repairs	17.43
August 9, top	70.00
August 10, tires	9.75
August 10, repairing tires	8.38
August 11, repairing tires	10.79
August 14, tires	35.24
August 24, repairs	8.73
Total	$411.65

The total, $411.65, divided by 7,000 (number of miles run) equals $0.058 per mile. From April 30 to date of sale of car, it was kept in my own garage, which accounts for there being no garage charges. Under the heading of garage are included storing, cleaning, gasoline, oil, changing tires and minor repairs.

EXPENSES ON CAR (S5) USED AUGUST 30, 1909, TO DATE

Sept. 30,'09, extra tube and shoe	$ 49.80
Oct. 5, garage	10.00
Oct. 14, tire covers and holders	9.00
Oct. 19, top	80.00
Oct. 19, garage	21.00
Nov. 1, garage	29.35
Nov. 3, repairs	6.13
Nov. 18, tire repairs	2.25
Nov. 18, horn	6.90
Dec. 6, insurance	30.00
Dec. 6, tire repairs	2.25
Dec. 8, repairs	5.00
Dec. 10, garage	23.77
Dec. 11, tire repairs	12.50
Dec. 14, garage	30.52
Jan. 10, 1910, repairs	25.00
Jan. 22, garage	15.05
Feb. 21, tires	27.00
Feb. 26, tires	27.00
Feb. 28, garage	28.00
March 5, repairs	8.73
March 5, tires	59.25
March 5, repairs	2.25
March 11, repairs	9.75
March 18, new springs	28.00
March 20, repairs	11.00
March 23, repairs	32.00
March 31, garage	25.25
April 30, garage	33.20
May 23, tires	33.00
May 23, repairs	14.70
May 24, tire	27.00
May 31, garage	48.53
June 3, repairs	4.30
June 4, tires	28.00
June 6, repairs	50.00
June 25, repairs	18.00
June 30, garage	37.50
July 6, repairs	6.00
July 31, garage	29.45
Total	$946.43

This total, $946.43, divided by 15,500 (number of miles run) equals $0.061 per mile.

The foregoing statements are made up from checks paid out for items called for by the stubs. I have no record of the cash paid for road expenses such as gasoline, oil and the expenses incidental to touring, of which I have done a great deal. In giving these figures I have only gone back to 1909, but they are a fair sample of what will be the approximate cost per mile. The depreciation of values I have not taken into consideration. These two cars were satisfactory as to road capability, speed and power, and carried me over many a mile of delightful touring.

BUY A GOOD CAR

My advice to any beginner is—DON'T BUY A CHEAP CAR. You can't expect something for nothing, and the first cost of an automobile is the smallest item. Also, don't expect a car to last forever—it won't. And, if you want to know what your car will be worth a year hence read the advertisements of second-hand cars in the daily papers. The depreciation on a car costing $2,000 will run about $1,000 the first year, whether used or not, which means an expense of about $3 per day for depreciation. You might as well ride and get something for that $3—you have to pay it out anyway.

Don't buy a car unless you can afford $1,000 a year for a small car or $2,000 a year for a good one. The running expenses are going to be far more than any beginner realizes. Besides depreciation and that unknown factor, "extras," one must remember always the cost per mile of gasoline, oil, repairs and tires. My cheapest car on operating expense cost me 9¼ cents per mile. Of course, I will admit to being a fiend at running. From Oct. 1, 1909, to July 1, 1910, I motored 15,500 miles, and during this time was laid up three weeks with a cracked tibia and periostitis and five weeks with a broken arm. My average running has been about 2,000 miles a month and, as a pretty close record of expenses has been kept, the figures given are practically correct.

In conclusion, let me say that motoring is a king among sports and that a man can get around more rapidly with a machine and have more time to himself than by using any other known means of transportation. Motoring also is a great siren that calls him from his work out, out,—into the sunshine and God's open country; and it frequently repays him manyfold the cost in perfect health and brighter thoughts.

William H. Nafis, M.D., Trenton, N. J.

PHYSICIANS AND SPECIAL SPEED PRIVILEGES

PHYSICIANS DO NOT NEED SPECIAL SPEED PRIVILEGES

THE question of granting special speed privileges to physicians has long been a subject of discussion in New York City. The claim is made by some that a physician hurrying to a patient should not be governed and controlled by the speed ordinances of the city in which he lives, or, to put it in other words, that he should be privileged to drive as fast as he sees fit in order to reach the patient promptly. That the universal following out of this rule would lead to enormous abuse cannot be denied. In this city most machines are driven at a rate of speed between ten and twenty miles an hour, although in some parks the speed limit is eight miles an hour. The present rate of speed for machines would seem sufficiently rapid for most people, especially when one considers the fact that in the days when horse-driven vehicles were in use by the profession certain privileges, such as being allowed to go through processions or being allowed right of way in a crowded street, were asked for, but no one ever thought of asking permission to gallop his horse through town as is done by the fire engines. It would be necessary to do this in order to exceed the present average speed of fifteen miles.

NEED FOR HASTE IS RARE

An identification card is given to owners of automobiles in this city, which enables them, if they are arrested for fast driving, to be released on the identification card and later to appear before a justice, but when one considers the enormous amount of travel by physicians owning automobiles and realizes the small number of arrests of doctors for speeding, it is evident that they are permitted to go ahead at such speed as is proper. Most men, if hurrying to a case, do not hesitate to go as rapidly as is necessary. The pedestrian still has some rights in this world, and extreme speed in crowded city streets is not desirable. It would not be to the advantage of the city to have irresponsible chauffeurs speeding through the streets because they had secured the right to do so as physicians. Those who drive their own cars might not abuse the privilege, but there is a large number who have paid chauffeurs, and the latter are not averse to reckless driving, especially if they are not restrained by speed laws.

THE AUTO PROMOTES SOCIALISM

Physicians should not ask for special privileges unless some real necessity exists for the request, and it does not appear, from conversation with a large number of doctors who are driving about the city daily, that such a request should be made. Special class privileges invariably excite distrust and antagonism among the masses, and it has been said by some students of economics that the automobile has done more to promote socialism in the world than anything that ever came before it. Socialism, in a way, may be proper, but when it means the antagonism of the masses against the classes, it is not to the benefit of the community.

WISNER R. TOWNSEND, M.D., New York.

REPRESSION OF SPEED ABUSE

THE Physicians' Motor Club of Philadelphia is not desirous of giving any ridiculous or undue privilege regarding speed to the physician, but, by a complete and active organization of the motor driving medical men, we hope when the proper time comes to get some sane legislation for the physician, assisting him to secure the right of the road, which privilege was accorded even in the rural districts many years ago.

As an organization, not only do we discourage fast and reckless driving among our members and others, but we have a special discipline committee which is active in curbing any efforts at speed practice which a new member might be inclined to indulge in. The efficient work done by this committee is best shown by the fact that out of two hundred members there have been only three members during the past year who received notices of speed violation, and in each case the physician was excused as the breach was committed for good and sufficient reason.

We take this opportunity of expressing our gratitude to the Superintendent of Police, Captain John B. Taylor, who through his lieutenants has extended to our members all possible police courtesy consistent with the laws of our state.

Each member of the club is furnished with a front and rear sign. These signs are neither sold nor given to the members, but are leased. This places them in our permanent possession, thus preventing their misuse. A member's card is also furnished which can be shown on request to any police officer.

The work of the club is handled by committees, whose duty it is to take care of each member regarding every detail pertaining to his motor car, from the saving from the purchase price down to the buying of the smallest accessories. The services of an attorney are furnished without charge to each member.

Lectures and demonstrations are provided for in conjunction with smokers, on which occasion actual working parts, including even the whole motor and transmission set up and running, are shown by experts.

We take this opportunity to express the hope that similar organizations will be formed in different parts of the country, particularly in the state of Pennsylvania. We have an active and associated membership and we hereby extend an invitation to any motor driving physician in the state to become affiliated with us and to help the good cause along, as well as receive personal benefits. Benefits of a commercial nature can be secured by those men who are too remote to attend our meetings. At the annual meeting, the club endorsed the sterling work of the state and national organizations and expressed its desire to become affiliated with them.

J. GURNEY TAYLOR, M.D., Secretary.

THE RIGHT OF WAY FOR PHYSICIANS

AT a meeting of the Physicians' Motor Club of Philadelphia, according to the newspaper reports, the Superintendent of Police of that city stated that, although there was no law on the point, he had instructed the policemen to give physicians and their motor cars the same precedence as is accorded to ambulances and patrols. The attorney for the club spoke in appreciation of the cooperation that existed between physicians and policemen, because of the many occasions when they are brought together in accidents. He urged that the members of the club take no improper advantage of the favors that were given them.

The custom of favoring physicians riding in an automobile is not limited to Philadelphia, but prevails practically everywhere. It is merely a continuation of the favor that has always been shown the physician, even when his motor conveyance was the "one-hoss shay." It is only right that when he is going on an errand of mercy to relieve the sick and suffering the physician should be favored—but only at such times—and even then it is very seldom that time is so important that it is necessary to go beyond the speed limit.

As a class, physicians appreciate this and have due regard for the rights of others, but there are exceptions. Like ordinary mortals, the physician is tempted to go at a high speed whether it is necessary or not, and the fact that he has privileges should make him all the more careful that the privilege is not abused.

In Baltimore a physician was fined for speeding, and made a plea to have the fine set aside because he was on his way to attend an injured person. The judge refused the request and emphasized the point that an automobile is a dangerous instrument, and that if a physician is allowed to exceed the speed limit on the excuse that he is going to relieve someone sick or injured he may kill someone else before he reaches his destination.

In Chicago last week a similar trial with a similar plea on the part of the physician was made, but happily without effect, the judge commenting:

"You physicians have no more excuse for endangering life than any one else. Twelve years ago you were satisfied enough to go 10 miles an hour with a horse and buggy. Now you want to go 60."

It is well for some of us to pause and take note of these opinions. It is exceedingly rare that a call is so urgent as to justify a high rate of speed.

THE SONG OF THE SCORCHING FIEND

With a snort and a snore, and a muttering roar, and the pulse of a bounding heart,
No bit nor rein would her mettle restrain as she quivers and quakes for the start;
And the thrill of her power throbs through her frame
As the call of the road rings loud
For the joy of a race at a murderous pace with the dust in a trailing cloud—
Ho, ho! In a mountainous trailing cloud!

I spring to the wheel of my automobile—my shivering thoroughbred—
With a kick and a shake I feel the brake as I straighten her out at the head;
Then throttle and spark, with a clutch rubbed light,
And the road trails out behind;
Now in with the clutch to the final notch—and away on the wings of the wind—
Ha, ha! On the wings of the whistling wind!

Past vale and height, in a glad mad flight, and as free as a hurricane;
The roar and the roll sing to my soul like the trumpet's martial strain;
And the honk of the horn is the siren call
That is borne of the motor-lust,
And my humor is grim as I chuckle at him whom I fell in the stifling dust—
Ha, ha! Overwhelmed in the choking dust!

For what do we care for pain or prayer—my automobile and I?
There's nothing to feel in guts of steel, nor conscience to reason why;
And the cooing babe is the meat of the wheels
No less than the worm-worn dust;
For what is the squirm of a human worm in the light of the motor-lust—
Ho, ho! Of a gladdening, maddening lust!

So on we fly, through curse and cry, and a people's vengeful wrath,
But the blood we squeeze from the hearts of these only lays the dust in our path;
For what cares a man for the death he deals
So long as the motor spins?
We're off and away to the end of day, where the infinite race begins—
Ha, ha! Where Hell's red race begins!

J. W. Jervey, M.D., Greenville, S. C.

DO NOT BUY TOO HEAVY A CAR

My first car was a 25-h.-p. car (40), with toy tonneau and pneumatic tires (41). It had a planetary transmission, with two speeds forward and one reverse. The tires were 32 x 3½ in., and the machine, equipped, weighed 2,500 pounds. During seven months of continuous use the car was in the shop only once, for a slight repair on the magneto, and I had no tire trouble whatever.

The principal objections to the machine were the excessive weight per horse-power, rendering it almost impossible to take the heavier grades on high speed, and the character of the transmission. The tires also were a trifle small for so heavy a load, and, for professional use, the touring body was simply an incumbrance. I sold it to a brother physician (who reports that it has given excellent service during the past year), and purchased the car which I am now driving (42). It is called a "30" but develops 43 actual horse-power, with a special runabout body, large search lamps (43), and pneumatic tires (44) on demountable rims.

This car I consider an ideal one for a physician's purposes, especially on city streets or on rock roads. I have now driven it over 3,000 miles, and, except for collision accidents, it has never given me a moment's trouble or inconvenience. The tires are 36 x 4½ in., and a spare one, mounted, is carried on the right running board. The gasoline tank, which has a capacity of 30 gallons, is sufficiently elevated to ensure a good, steady feed, and a leather-covered, water-proof trunk on the rear end of the car gives ample storage room for tools, side curtains and extra equipment. The machine is fitted with a wind-shield (45), and a speedometer (46), both of which are eminently satisfactory, and the demountable rims I have found a great convenience.

Early last winter I purchased a so-called "frost-proof hood-cover" (47). This appliance is of no greater value than an ordinary lap-robe, which can be bought for less than half the price of the patented cover.

Richard L. Sutton, M.D., Kansas City, Mo.

AN EARLY AUTOMOBILE USER

Some interesting discussion, or rather comparison of facts, may be started by my assertion that I was the first physician in the United States who made use of an automobile in his daily practice.

A "horseless carriage" (109), as it was then called, was ordered in January, 1897, and delivered to me at Springfield, Mass., where it was made, in June of the same year, as I proposed to become familiar with its habits and constitution away from home by running the rig from Springfield to New York City. This journey I accomplished in five days, the distance being about 147 miles by the road I used. Perhaps I may show that I was learning to my heart's content during those days and nights—for I was often caught far from my destination by nightfall—when I mention that I made seven miles the first day and ninety miles the fifth day.

This machine was equipped with a two-cylinder, four-cycle engine of about 4 inches diameter and 5-inch stroke, and the transmission of the power to the countershaft was by four belts, which ran on idle pulleys when out of gear, and were shifted by a wire cable attached to the steering lever.

Those who run the modern automobile can form little idea of the difficulties, now become absurd in the dimness of the long ago, which nevertheless were real enough then and not so amusing.

SPEED: SEVEN MILES A DAY

The confidence with which I started from the factory that fine afternoon with a companion who had never seen an automobile before, and the calm certainty with which we determined to take dinner at Hartford that night—twenty-eight miles away—still make me smile. Alas! at 11 p. m. we found ourselves only seven miles on our way, with a fine, steep sandy hill behind us, an even finer, steeper and more sandy hill in front of us, and below us a small bridge spanning a slow stream, from which arose some of the most business-like mosquitoes I have ever slapped. Here we did all the things we had been told to do when the rig stopped, and said all the things we had been told not to say when we left home. It was not, however, until all the insects had been fed or killed that we finally started again, quite without any apparent reason, as I remember. The top of the hill took us to Windsor Locks, where the saloon was closing, and we obtained a little dry bread to eat and a room of wonderful heat to sleep in.

One of the difficulties was to find the road required, as no one would try to answer questions but insisted on asking all kinds of absurd things about the auto. Well I remember one old lady who came near while I was lacing one of the belts. The night was hot and the room very scant in which to work. I was keeping what temper I had with me. She looked at the front wheels, where the red side of the oil lamps cast a light on the tires. "Well," said she, "you must sure have been going awful fast; I see your front wheels are red hot."

ASTONISHMENT TO THE COUNTRYSIDE

Another serious matter was the trouble with the driver of an ordinary vehicle and his horse. The former would drop his reins, also his lower jaw, and let his eyes pop almost out with astonishment. Meanwhile the horse had executed a few shuffles, and then a quick turn on to the sidewalk, where he would leave various parts of the vehicle or its occupants. In due time I was visited by the owner and asked to pay for the repairs. This I never did, holding that I had a right to the use of the road and was not responsible for the actions of the other man or his horse. Also, I saw that the time would come when my position would be to some extent a standard for the actions of future users of both autos and horses.

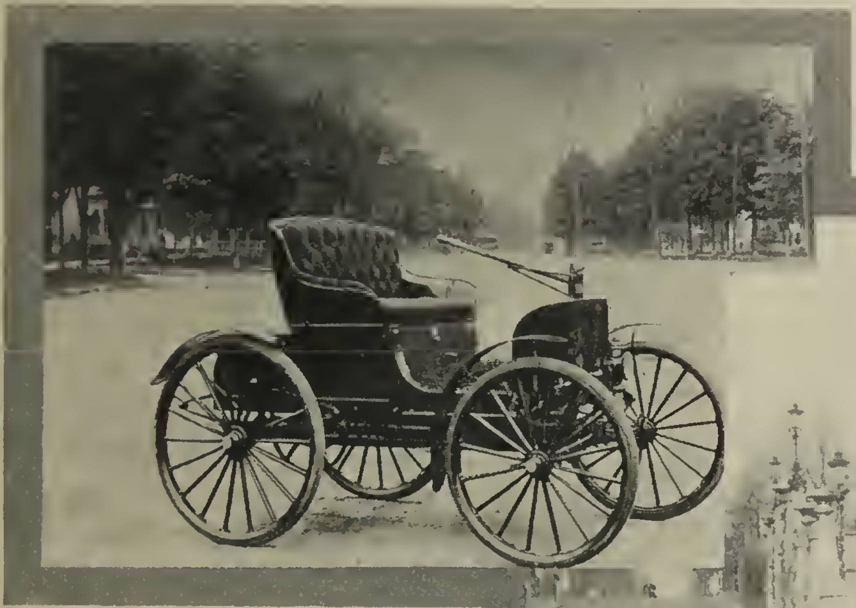


Fig. 21.—The pioneer motor-car described by Dr. Henry Power, Spokane, Wash.

This machine was not, as may be imagined, good enough to be a real economy to me in my practice, yet I stuck to it, and later on, by making improvements and changes of a more or less radical nature, I obtained considerable use, and even more pleasure, out of it. In 1902 I sold it and since that time have had several other machines (110*), all better than the first, but not by any means without defect.

SUGGESTIONS TO MANUFACTURERS

One of the great consumers of time is the breaking of bolts and screws which are intended to hold together important parts of the mechanism. To replace these often takes a long time, on account of difficulty in reaching their heads, or in removing the broken shank of the screw. It is an open secret in the iron trade that the very poorest quality of steel is used in the manufacture of nearly all "cap screws" and bolts. Also it is well known that where screws enter iron which is to be heated or subject to the action of water, the thread should be well lubricated with some graphite mixture, which, being a long-lived lubricant, will allow the screw to be removed without difficulty when required.

The great item of tire replacement depends so much on the total weight of the automobile that I regret to see the new models each year larger and of greater weight than the year before. The excuse that they will better stand road strains is unusual, since the strains are a direct result of the weight. Cannot the grasshopper jump farther than the elephant? Briefly, our manufacturers should look more to the distribution of strains and the reduction of weight in those parts which never break, than to the increase of those parts which do break. This, with better material, will go far to reduce cost of upkeep. On the side of the user, the items of lubrication, the tightening of loose parts and the full inflation of tires are among the things most frequently neglected.

So much has been written about construction of the garage that I will make only one suggestion, and that is that it be built with a generous skylight, as there are many parts of the mechanism which can be reached only when one stands in one's own light if windows be the sole source of light.

HENRY POWER, M.D., Spokane, Wash.

THE BEST COUNTRY CAR

ENGAGED in country practice, I frequently make long drives. After an experience with three types of cars, I have come to the following conclusions:

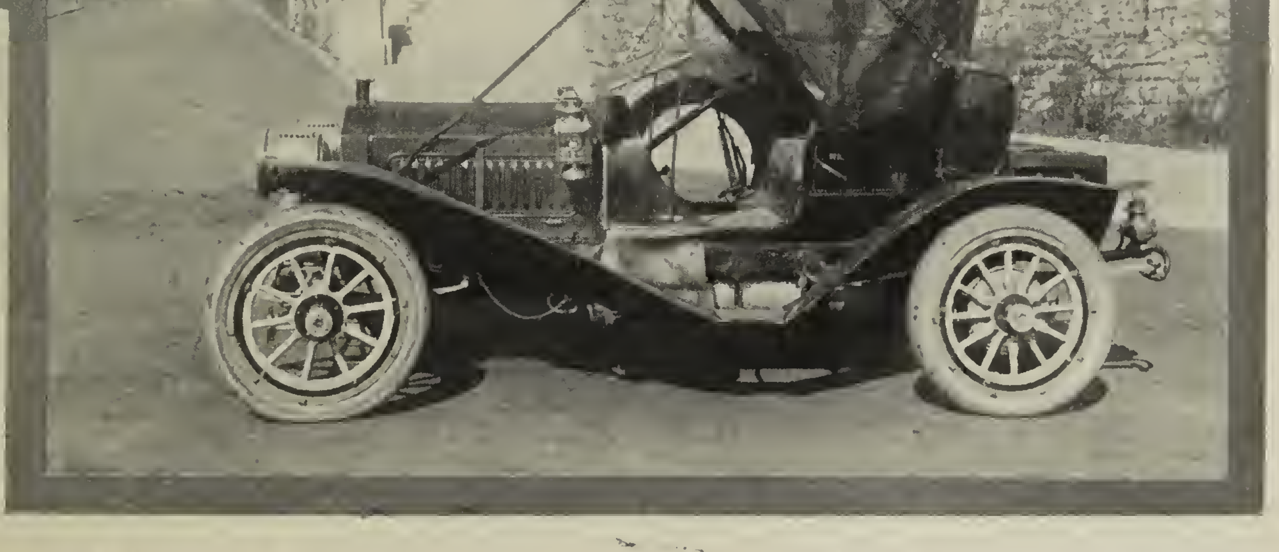


Fig. 22.—The car of Dr. P. L. Sutton, with view on the Paseo, a fine drive in the residence portion of Kansas City. The two cars shown on this page present a great contrast—not alone in the periods they represent in automobile development, but in other respects as well.

1. A solid tire auto buggy is only suitable for fine paved streets or city use, and is not at all adapted for the country on account of the excessive vibration.

2. The pneumatic tire, medium grade, two- or four-cylinder cars give fair service and satisfaction, but, on account of the excessive vibration of these types of engines, they cause rapid deterioration of engine and tires and require frequent repair.

3. The six-cylinder car (38) is the ideal car. A small six-cylinder is more desirable than a large four-cylinder, and costs about the same. They cause less vibration, and the less the vibration the longer the car and the tires will last, and also the more pleasurable and comfortable the riding. It does not use much more fuel than a two- or four-cylinder car, and the expense of upkeep is so low that it will more than compensate for any extra fuel that it may require.

L. T. A. HOTTENDORF, M.D., Randolph, Utah.

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* Key to names of cars will be sent on receipt of a stamped, self-addressed envelope.

A SYMPOSIUM ON THE TIRE PROBLEM

SOME GOOD TIRE ADVICE

FOR six years I have used automobiles (101) and for three years I have been president of a very active automobile club, in whose rooms I lunch with about fifty other enthusiasts several times a week. Opinions that I shall express, rather dogmatically on account of limited space, have been formed from my own experience and from these numerous "heart to heart" talks with other owners.

There is no perfect automobile. There is no best manufacturer. There are many good ones. All automobiles sell for rather more than they should. The relative prices are about right. I mean a $4,000 automobile costs the manufacturer about twice as much as a $2,000 automobile and about four times as much as the $1,000 car. Some of the cost of the high-priced machines is in the finish and adds only to the appearance. Much of it, however, is in the material and the workmanship. Whether it is cheaper to buy a cheap machine and run it only one year, or to get an expensive one and run it four or five, the industry is too new to have yet demonstrated. The enthusiast will always prefer a high-class machine, just as the enthusiastic angler wants the best rod and most perfect reel he can buy. No one who has driven a six-cylinder car for any length of time will ever be satisfied with one of fewer cylinders, any more than will a man who has had a four-cylinder automobile be satisfied with an old "one lunger."

The biggest item of expense in the upkeep is the tires. There is no way to get around it in the city. In the country one might get along with solid tires. In the city they rattle the machine to pieces, cause crystallization of the steel in the axles, and would certainly lead to the bad habit of carrying your kidneys, liver and other abdominal organs down in the pelvis if you rode much in a machine equipped with them. Patent coverings for tires make them rot. Patent fillings for tubes make solid tires of them. It does not pay to have a tire retread. The best way to manage the tire question is to select one of the well-known makes—they are all about alike—and stick to it. Do not change one for another. You will be like the family who is constantly changing physicians. Buy a tire a little larger than your machine is equipped with by your dealer. When your tire shows serious signs of wear, send it back to the factory and take what you are allowed for it and get a new one in its place. Much time, trouble and profanity is thus saved. Demountable rims are a great comfort. They are worth what they cost.

C. L. Bonifield, M.D., Cincinnati.

ALWAYS STUDY THE INSTRUCTION BOOK

IT IS an established fact that the busy physician should own a car, and the question at issue is the care and usage to get the best service. Next to the mechanism of the human body, they are the first on the list of inanimate self-propelling devices, and having such a collection of perfectly moving parts they are as yet not made "fool-proof," and consequently should be treated as if alive. Often one sees the "happy-go-lucky" fellow sell his horse, to which he gave only half attention, and buy a machine and give it poor care, then curse the company that made it and try another, with the same result. Some car companies publish books of instructions on how to operate and maintain a car, but the purchaser fails to read it. In a few days he thinks he has trouble. He goes to the "garage man," who is not a finished machinist but simply an amateur, and his plan is to show you that he knows more about the car than the man who made it, and he begins to adjust this and that and finally says that it is all right now, but suggests that you don't neglect bringing it back when it goes wrong, as it did this time, or you may have disastrous results. At the end of the month he sends his bill; if the same work was done on your buggy by a blacksmith it would cost only one-fourth as much. The physician who spent his early days on the farm, as a rule, is a mechanical genius and has little trouble; when he does he can adjust the car as he did the reaper or binder. Usually the car runs right when it is sent out from the factory, so learn its tones, and by auscultation you can diagnose three-fourths of your troubles. I find this true with my car (67). At the first abnormal sound, stop and investigate.

SAVE MONEY BY SAVING TIRES

Driving fast over rough roads causes two-thirds of your troubles. Turning corners too fast is another, as the machine is acted on by centrifugal force. Oiling at irregular intervals is injurious. Be governed by your speedometer as to how often you oil and fill your gasoline tank and radiator. Speedometers should be put on all machines for this reason if for no other. It is the idea of many that speedometers are put on to show you how fast the machine can go, but the factory don't mean it that way. Tire troubles can be avoided a great deal by keeping off of roads built of cinders. They contain the rusty nails. Buy the best brand of tires and keep them tight. When they are worn out get new ones; revulcanizing don't pay. Often you hear of cars not having power enough, but it is the fault of the man driving. Lack of power is diagnosed by the motor knocking when going up grade. In most cases knocking is due to pulling the gasoline throttle open too far and flooding the motor (overfeeding), or ignition takes place too soon. Use as little gasoline as possible and regulate the speed by the spark lever.

I could write many "don'ts," but since factories are sending out books of instructions with each car that take up details in full, such writing is unnecessary. To sum up: Know your machine, care for it as if alive and study the instruction book. Be your own mechanic and motorneer.

A. J. Clay, M.D., Hoopeston, Ill.

MORE SUGGESTIONS CONCERNING TIRES

THE greatest expense connected with the upkeep of a car is the tire; but, as with other expenses, it will vary with the thought and care given the tire. The pneumatic tire is an expensive luxury—or necessity—at the best. Some day a wise man will come along and invent a satisfactory substitute; meanwhile there are certain things that bear on the tire expense which it is well to keep in mind. The first and most important factor is that the tire should be strong enough for the load it has to carry. The larger (heavier) the tire, the less ultimate expense, and the more satisfaction. In buying a car, therefore, if an option is given on two sizes of tires, get the heavier. For instance, if the standard tire equipment of a certain car is 34 x 3½, option being given of a 34 x 4 at the added expense of the difference in the price of the tires, do not try to save on this initial expense. The heavier tire will be much cheaper in the end, and the satisfaction and peace of mind will be very great. The tire cannot be too strong for the load it may have to carry; the load may be too heavy for the tire.

Do not have different weight tires for the front and back wheels. In the majority of cars the back tires have to carry the greater weight, and so, theoretically, they should be heavier than the front ones. But in such cases it would be necessary to carry two extra tires, and this is a nuisance. Tire makers advise one who buys a new tire to put it on the rear wheel, transferring the old tire to the front wheel. This is sensible; much more so than carrying two tires.

KEEP TIRES TIGHT

Keep the tires pumped up tight. These words ought to be pasted on the dashboard, or on the front of the radiator, so that they would stare one in the face every time one starts the car. Proverbially, nothing is freer than air; it is a money saver when forced into the inner tube. This, of course, requires some muscular effort, but it is effort worth while. It gives life to the tire. This is a fact that too many automobile owners apparently do not appreciate; or if they do, they do not act on their knowledge. If you are in the happy circumstance that you employ a chauffeur, do not depend on him to keep the tires pumped up. Watch the tires yourself. See that the car never starts out unless every tire is fully expanded. Remember a tire is not sufficiently inflated if it does not stand up round under a load. A tire run partially flat is always bunching up a fold of rubber and fabric just ahead of the point of contact with the ground, to its destruction. Do not run on a flat tire, even for a short distance; better take it off and run on the rim. Skidding and running in street car tracks or in ruts, it is needless to say, are productive of injury to the tires. A rusty rim should strike terror to the heart of the autoist. It rots the canvas and cuts the edges. A little elbow grease (but no other kind of grease, of course) and a little paint provide the remedy.

Fig. 23.—Dr. J. W. Cram, Colerain, Mass., in his car in front of his house. In the background are the Massachusetts hills.

Fig. 24.—Dr. A. J. Clay, Hoopeston, Ill., leaving his residence to make his morning calls. Snow, six inches, and mercury at zero.

Theoretically, the tire may be pumped to the bursting point; practically, the bursting never takes place—at least, not from overinflation. In extremely hot weather and with long, fast driving, the air in the tire that was pumped up to the limit at starting may expand and burst some of the fabric, if not the tire itself. This, however, happens so seldom that it is best to forget the possibility. The tire may be pumped so hard that there is no resiliency or comfort over rough roads. Forget this also. Theoretically, tires may be pumped too hard; practically, they never are too hard for the tire's good; at least, the harder the tire, the less its surface touches the road and the less the wear and tear.

KEEP TIRES IN GOOD REPAIR

We have said that the tires were the greatest upkeep expense. We might add that they are the source of the greatest anxiety connected with running a car. In the daytime, when the weather is good, and one is not in a hurry, it is not a difficult task, with the modern detachable arrangements, to change tires in case of a blow-out or puncture; but in bad weather, during the night, or when one is in a hurry, then it is a decidedly different matter. It is under such circumstances especially that anxiety on the tire proposition will mar one's pleasure or peace of mind. Avoid all this by keeping the tires in good condition. When a tire has reached the giving-out stage, get rid of it. Here, for the physician, economy is a relative matter. It does not pay for him to take chances of delay on an emergency call. A collapsed tire may mean even the loss of a life, and often a financial loss in more ways than one. It does not pay to retread tires which have reached the giving-out stage. Take them back to the agency or factory, trade them for new ones and accept for the old ones what you can obtain. This plan may cost a few dollars more each year, but how much more satisfactory! How much less anxiety!

In this connection another matter is worth mentioning. Do not use tires of different makes. Stick to one good kind. Do not have two, much less four, different kinds of tires on your car. It looks bad. But, more important, if one adopts the plan of trading in the worn tires for new ones, the trade will be more satisfactorily made if it is merely an exchange for the same make of tires. Do not act on the recommendation of some one that such and such a tire is the best. There is no "best." If the tire you have is a standard make, compel yourself to believe that it is the best, or at least that there is none better. Retreading is a delusion and a snare; it does not pay. When a tire has reached the stage that it needs retreading, it has reached the stage at which its "life" is gone—probably it would be better to say "body." It is not economy to retread the casing when its rigidity is lost. It will not "stand up," but will give on the sides. Many who have had experience with retreading advise against it. Better trade in the old tires for what you can get.

AN ARDENT MOTORIST

THE use of the automobile has been to me, as it must be to every physician, a great advantage in practice, besides being a source of health and pleasure. At the time of getting my machine (88) May 20, 1910, I was suffering from an infection resulting from a scratch received while operating. The car was, during the two months of my convalescence, a delightful means of recreation. My touring included a trip of 500 miles, in the early part of September, through the northern part of Ohio. Our route carried us through the hilly portions of Knox, Holmes and Wayne counties, the level country across the northern part of the state to Delphos, and over the well-piked roads between there and Columbus.

Fig. 25.—Another serviceable car for country use.

SAVE TIRES BY PICKING GOOD ROADS

I have run the car probably half the time myself and have found great pleasure in doing so. An owner will, as a rule, be more careful of his car than a chauffeur is likely to be, and hence will have fewer accidents, less expense for repairs and longer life for the machine. My garage is on my own property. This is quite an advantage, as one can be assured that the car will be well cared for; besides, one has it ready at hand when it is wanted. I have been fortunate enough to run the car, up to the present time, 5,000 miles on the original tires and without a puncture. The escaping of punctures has been, of course, largely a matter of good luck; yet I think it was due, in part, to care in driving, the avoidance of market streets where there are liable to be nails and other pieces of metal, the steering clear of glass which may often be seen ahead of the car, and slowing down at busy streets, on crossing street-car and railroad tracks, and on turning corners.

SAVE TIRES BY KEEPING CARS ON JACKS AT NIGHT

In the early use of the car I made the mistake, that probably many others make, of letting the tires run too flat on the assumption that a softer tire will be easier on the engine and body of the car, without realizing that one may greatly injure his tires by so doing. As a result of not keeping the tires well pumped up, in the early months of its use, I had two side blow-outs on our tour. The car was at that time carrying five passengers and several suit cases. Running with this load on from fifty to sixty pounds pressure instead of the eighty recommended by the manufacturers of the tires resulted in the above accident. Since that time I have kept the tires well inflated, maintaining pressure constantly between seventy and eighty pounds, and have had no more blow-outs or other tire trouble. I have always been careful in driving the car, and instructed others running it to avoid glass or other objects that seem liable to damage tires. Perhaps one-half of the time the automobile is rested on jacks at night. I am inclined to believe that it adds materially to the life of tires to take the weight off of them when not in use.

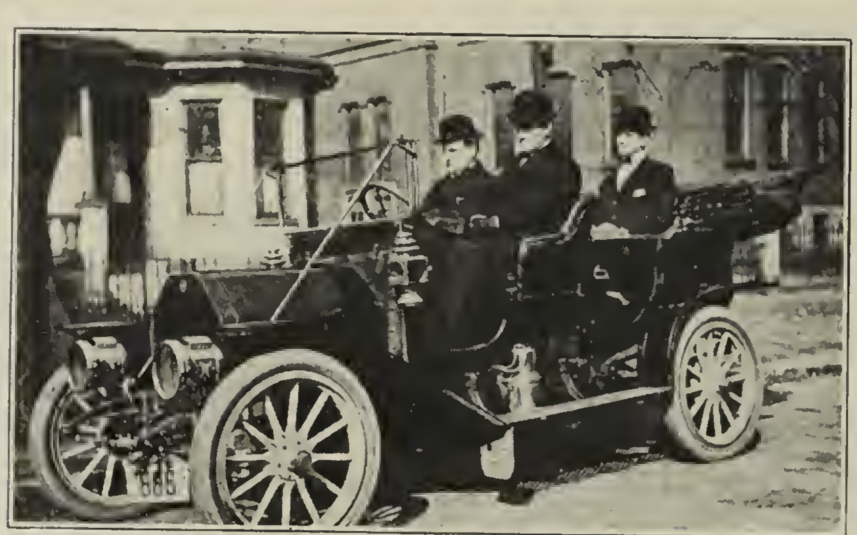

Fig. 26.—Car of Dr. James U. Barnhill, Columbus, Ohio, who is in the left front seat.

EXPENSE ACCOUNT

My total expense for repairs has been not to exceed $30, and this expense was due, in part, to accidents and oversights incident to inexperience. The expense of maintenance has been: for oil $14, for gasoline $64.80 (11¼ miles per gallon). This is exclusive of incidentals, the running, and care of machine. The fact that my work lies chiefly in the central part of the city, in going from office to hospitals, and often along the busiest thoroughfares, with frequent stopping and starting, slowing down and speeding up again, accounts for the low mileage per gallon of gasoline. On the trip from Columbus to Wooster, a distance of 88 miles over a very hilly road each gallon of gasoline carried us seventeen miles. In trips to neighboring towns the mileage has been from 12 to 16 miles per gallon.

Having a warm garage has made it unnecessary for me to use the usual amount of antifreezing mixtures in the radiator. I have only used one gallon of alcohol and no other means of preventing freezing, except that in the early part of the winter I had the water drained off on the coldest nights, and have had no trouble whatever with the radiator. The only device I have used for starting the engine in cold weather has been to put a small quantity of gasoline into the cylinder pet-cocks. By placing a blanket over the engine I have succeeded in keeping it warm enough to start readily, even after standing an hour or two.

STARTING DEVICE NEEDED

I think it would be a great boon for physicians, as well as for all other drivers, if some practicable starting device could be invented. Not only is the cranking of a machine an inconvenient and awkward-looking procedure but it is the occasion of many accidents. To my own knowledge, within eight months in this community, physicians have sustained two hernias and one fractured arm from cranking machines. Let us hope it will not be long till this much needed improvement will be supplied.

HEATING THE CAR IN WINTER

A lattice floor in front of the seat, with the apron beneath the engine closed, has proved to be a source of great comfort in cold weather; the heat coming up under the lap robe keeps the feet, lower part of body and even hands constantly well warmed, so that one never gets chilled, even though out on long trips; in fact, the farther the machine runs the more efficient is this warming device. Side lights may be made much brighter by adding 10 per cent. of gasoline to the coal oil used in the lamps.

The expense of the machine need not exceed the keeping of two horses, while the former will do much more work than the latter and in less time, meeting the emergency of hurry calls to the great advantage of patient and physician. The automobile has become, to the physician, a necessity, and its time-saving power has furnished him needed recreation and opportunity for more study and higher proficiency in professional work. J. U. Barnhill, M.D., Columbus, Ohio.

THE SOLID TIRE SUITS ME

I AM driving a solid-rubber-tire machine (97*) for the third year and think it excellent for durability and dependableness. It is a surrey type of vehicle with all the extras, such as top, wind-shield, extra lamps and generator, as well as rear doors. My top is in good shape, as are also the genuine leather cushions, in spite of rain, snow and mud. I will probably have to have the body and wheels repainted for the first time next year.

A full set of four new solid rubber tires which I had put on this spring did not cost as much as one single pneumatic tire would have cost. One set of solid rubber tires ran me about 5,000 miles and would last another few thousand miles for a truck, but they get hammered down (not worn out) after they are used 4,000 or 5,000 miles, and then lose some of their easy riding qualities.

Though I have a solid-rubber-tired machine, yet my breakage and upkeep has been no more than some of my neighbors' pneumatic tire equipped cars, and I account for this by the fact that my machine is light in weight (considering long wheel base) and my springs, though heavy enough, are yet light enough to be resilient and oscillatory. One gallon of gasoline will run me from ten to twenty miles, according to the roads and the load. One quart of oil will run me from sixty to 120 miles, according to speed, heat of day, etc.

My auto is a four-passenger car, yet I not only use it as a business car for day or night visits, but also as a touring car. Last summer I took my wife and two children on a 500-mile trip. My car is light, hence with a small 18- to 20-h.-p. motor I have all the power I need and speed that suits me. I have driven it as far as 150 miles in a single day in June, so it is certainly an air-cooled motor that does cool. I find no hills here which I cannot climb on high speed. But, like any other car, I probably could get in hub-deep mud or sand, where I might need help to get out; but with the sand I meet here I have no trouble, and in ordinary mud, my solid tires cut down to solid footing, and I can pass the higher powered pneumatics on the road, as they slip or skid, unless they have their chains on. I think every man who drives his own car should study thoroughly its general mechanism. I have so learned my car that I now think I must break something or they will not pull me in if I get stuck out in the country ten miles from nowhere.

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* The names of the automobiles are given in the "Key," a folder which will be sent to anyone who sends a stamped, self-addressed envelope.

Fig. 27.—The car of Dr. Willard W. Swarts, Auburn, Ind., with his office in the background.

If you have the right car and study it well, your auto troubles will be few from an economical standpoint. A two-cylinder car is the best, as your troubles are a half less than with a four. If you have served four years as M.D. (Motor Driver) apprentice, instead of an M.D. (Medical Doctor), or have coin to burn and can hire a "show-four," then probably a four will be O. K. for you. My advice is buy a two, study and learn your car, and you will get attached to it as you did to your faithful old horse.

Willard W. Swarts, M.D., Auburn, Ind.

DEFECTIVE PARTS AND REPAIRMEN'S ROBBERY

I LIVE in a country town in the northwestern part of Massachusetts (illustration on page XXV). It is a country of many hills with steep grades, over which I have driven horses for twenty years in the practice of my profession. From about April 1 to December 1, I can use a carriage and, usually, the rest of the year a sleigh.

In the spring of 1909 I yielded to the representations of the automobile agent and purchased my first car (99), thinking I might do my work more quickly and have more time for rest and recreation than falls to a country physician who does his work with horses. As one of my neighbors was the agent, I decided to buy one of his cars, a 20-h.-p., 2-cylinder car, which was delivered to me about May 1, 1909. I took a few lessons from the agent, studied the machine carefully, and in a few weeks felt fairly well acquainted with the management and running of it.

For about three months the car ran well, and then one day, without any warning, one connecting rod came off the crank shaft and broke the crank case. This was shipped to Boston and returned in about a month. The local agent, with the assistance of a man who had taken a course at an automobile school, put the engine into the car and we tried to run it. After running a few miles, there was so much pound to the engine that we ran it into a garage seven miles from home and asked the repair man to locate the knock. He worked at it for two or three days and only succeeded in making it worse and decided that he could not help the trouble. Then we telephoned to Boston for a man to come and adjust the engine; he readjusted the new connecting rod, which was the cause of the trouble. After this I had the use of the car for a few weeks by making several trips to Springfield, fifty miles away, to have that connecting rod tightened as often as it worked loose. After a while I learned to do this myself and to time the magneto, which had to be done each time the connecting rod was fixed.

By this time I had received the various bills for repairs which, in all, amounted to nearly a hundred dollars. I put in a protest to the company that the cause of the first trouble was an imperfectly fastened connecting rod and asked them to make it right and, after much argument on both sides, they gave me the new piston and connecting rod—price about $12—and I paid the balance of the charges. I now found that in making these repairs in the Boston shop the connecting rod had not been scraped to fit the crank, which had caused all the trouble after the engine was returned to me.

In October, while returning from Springfield, where I had been to have the connecting rod adjusted again, as I reached the city of Holyoke I heard a big knock in the crank case. I stopped the car instantly and telephoned to the agent of the company in that place. He came and towed the car to his garage, where he found that the crank case had spread apart where it had been welded, so that the lubricating oil had leaked out and the babbitting had melted in the connecting rod bearing. This made it necessary for myself and wife to stay all night and all the next day in Holyoke while the crank case was patched and the rod babbitted. This bill was $25. On this repair job, also, the new babbitting was not scraped to fit the crank and in a short time began to work loose and needed constant adjusting, which I did myself and, in this manner, got through the remainder of the season, which lasted that year till December 15, when I put up my car for the winter.

Fig. 28.—Dr. O. S. Werner, Lindstrom, Minn., in his new car (37).

March 15, 1910, I took the car to Holyoke to have that connecting rod babbitted again. This job cost me another $25, but it has stood the year through.

I began to use the car last season about April 15, and had but little trouble till about July 1, when the repaired crank case again spread so that it would not keep the lubricating oil, and I did not dare to trust it longer. I now had the agent of whom I bought the car order me a new crank and gear case, to be delivered to a well-known garage in Greenfield, Mass., ten miles from my home, where they advertised to do first-class repair work. I heard their head repair man tell the agent that they could put in the case all right. I took the car to them and patiently waited a month for the repairs to be made, expecting that when they were done the car would run as good as new. I received the car about August 1, with a bill of $40 for their labor. They claimed it was a most difficult thing to fit the old gears to the new case, but that it had been done; and I paid the bill, expecting that now everything would be satisfactory. As soon as I began to run the car, however, I noticed an unnatural grind in the gears which they said would quiet down in a few days. It did not quiet down but increased, and in about a month I began to have trouble in changing speeds, and in a short time could not shift them at all. I took the machine back to the garage, where they found the front end of the transmission shaft so badly worn as to necessitate a new one. We ordered a new one and I waited another two weeks for that to come and be put in place. The repair man said he could not see why the shaft had worn out so quickly. (I had my opinion, which I did not give, nor did I pay that bill.) I tried the car again and in a short time had trouble again shifting gears. The last experience was repeated and I took back the car to the garage, but decided not to have them experiment longer with it, so I had the engine taken out and shipped to the company's home plant.

Another long delay and the engine was returned to the garage with a new case and new gears. They made no charge for the case but sent a bill of $34 for gears and labor. The repair man at the garage put it into the car and I took the machine home about November 15 and used it till December 1, when we had a heavy fall of snow and I put it away for the winter.

The garage now had a bill of over $40, which, added to the charge from the company, made a bill of about $75, which I decided not to pay till I had taken up the matter with the company. I now wrote the home office my experience, from first to last, and they replied that as I had had so much trouble with the car and as they found they could not satisfactorily babbitt the case sent me in July, they would give the garage credit in full for the bill sent for gears and labor. They were unable to find cause for the defective case sent me in July, but admitted it was defective and were willing to do what they could to make it right. I have not paid the garage the balance of their bill, but have put in a protest that they should have known there was something wrong with the crank and gear case when they found the old parts would not fit it, and should have notified me or the company before working on it. As it is, they have caused me great expense for work that was good for nothing but to wear out the transmission and my patience.

My car is a good hill climber. When in good order, it has never failed in the low speed to climb any hill where the wheels could get hold, and when it was all right it was a pleasure to run it; but my experience with repair work has been such as to make me thoroughly disgusted, and I sometimes think I will sell the car and go back to horse flesh entirely for doing my work. However, I shall try it one more season, hoping for better results.

I have also had considerable tire trouble, as the hill roads require a frequent use of the brakes, which increases the wear on the tires. I carry an extra tire, two inner tubes, a repair kit and blowout patches, so that I have always been able to get home without coming on the rims. Most of our roads are dirt roads; there is very little macadam in the territory over which I ride.

I paid for my car, fully equipped with top, speedometer, storm front and five lamps, $1,150. From a financial point of view, my experience is that using an automobile is a very expensive method of doing business with cars at the price they were when I got mine. The interest on the money invested, the shrinking in value of the machine, the repair men's robberies, the cost of tires and upkeep, have made it an expensive affair for me. Still—when she *does* go—it makes life worth living and I like a car.

John W. Cram, M.D., Colerain, Mass.

EXPERIENCE WITH A CHEAP CAR

For a man who can afford to select his car without regard to price or who can spare even $2,000, the choice of an automobile is without serious difficulties. Many, however, do not feel free to invest over $1,000 in a machine that will depreciate at least one-third in a year, no matter how little it is used.

I drove for two years a two-cylinder, 10-h.-p. machine (39) at an average cost of less than $20 a month, including all expenses—gasoline, oil, tires, painting, insurance, etc.

In the fall of 1909 I began to look for a new car. I had an excellent offer for my old car in trade for one costing $2,000, but did not want to invest that amount if a car costing half as much would do my work. I decided to buy a car which could be used either as a runabout or a four-passenger touring car with ten-pound tire equipment, so the tire expense ought to be low if the runabout only was used. It had ample power for its size. It cost but $900. It was made by a responsible firm that had always made good cars and that had the reputation of standing back of its product. I bought this car for cash, keeping the other car in reserve.

The folly of my choice was demonstrated almost before the car came into my possession. Apparently everything had been sacrificed for the sake of a low selling-price. The car was poorly designed, poorly made and poorly assembled. To give details of the things that were wrong would fill pages. Suffice it to say, that during the first two months of my ownership the car was in the repair shop over half of the time, and finally the engine was absolutely ruined through failure of the oiling system to do its work.

A new engine was furnished and installed by the makers, but so poorly was the work done that much of it had to be done over, at my expense. The new engine was little better than the old. Enormous quantities of oil were necessary to keep it going at all, and this, of course, meant constant trouble from carbon. Bills from repairs alone were larger than the total upkeep of the old car, while oil for the new cost more than gasoline for the old.

Therefore, I say, in view of my own experience: Beware of the low-priced car. Look at it with suspicion and insist on absolute proof of efficiency before you buy. There may be, and probably are, excellent cars to be bought at a low figure, but they are mighty hard to find.

Frank W. Snow, M.D., Newburyport, Mass.

AN AUTOMATIC STARTING DEVICE

Very frequently the one who runs an automobile has very forcibly brought to his attention the need of some better method of starting his automobile. Of course, it is a nuisance to be compelled to crank the engine; often one must dismount in mud or water, or in a crowded street.

But more emphatically does the driver realize the danger when a back fire in the engine throws the crank back and the driver's arm is bruised and even broken. The large number of broken arms from this cause reported in the daily papers bears witness to the frequency of this accident. In at least one automobile the engine is started from the driver's seat, and doubtless inventors are working on other devices for the same purpose. One such invention was recently described in the *Scientific American*. It consisted of the storage of energy by the engine in a strong spring. When a catch was released by the driver, the recoil of the spring started the engine.

All automobilists will welcome the adaptation of some such device to the motor-car, provided that it does not add too much complicated mechanism.

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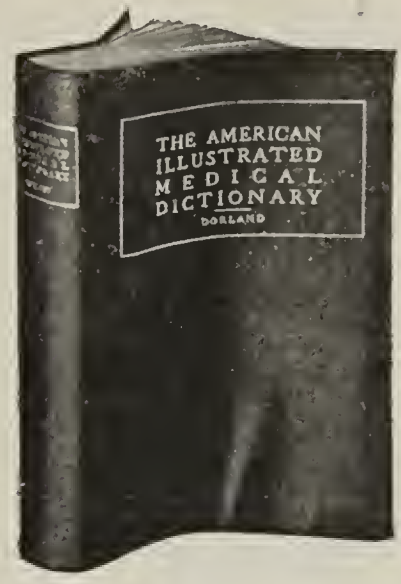

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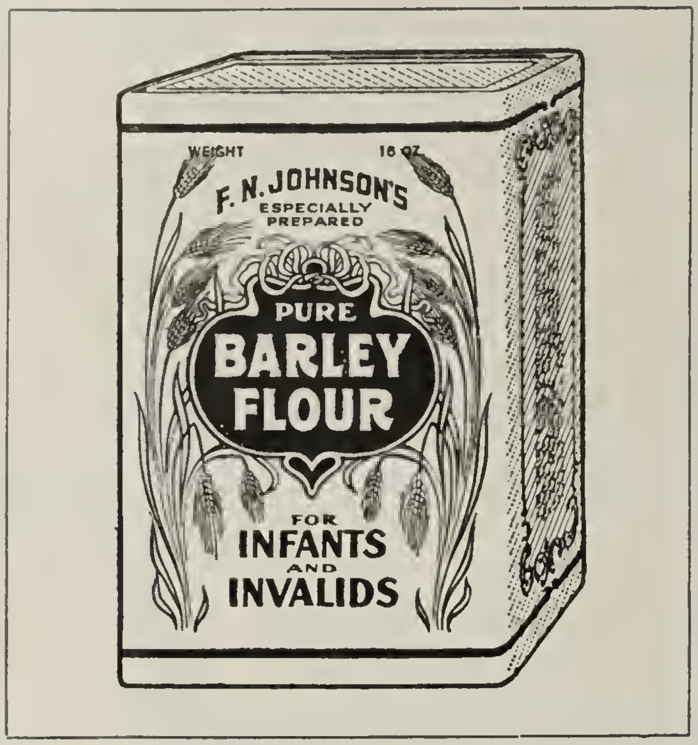

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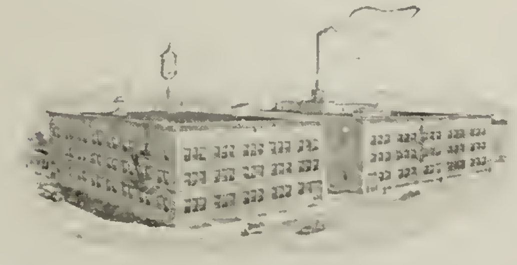

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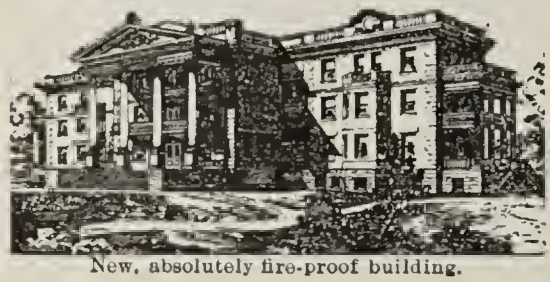

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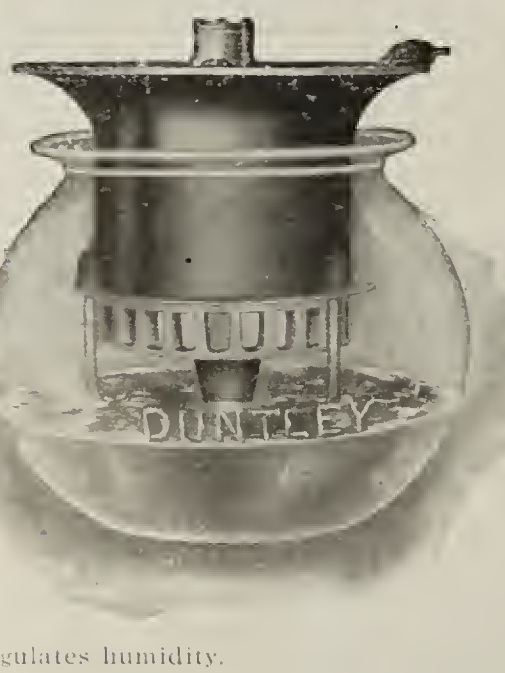

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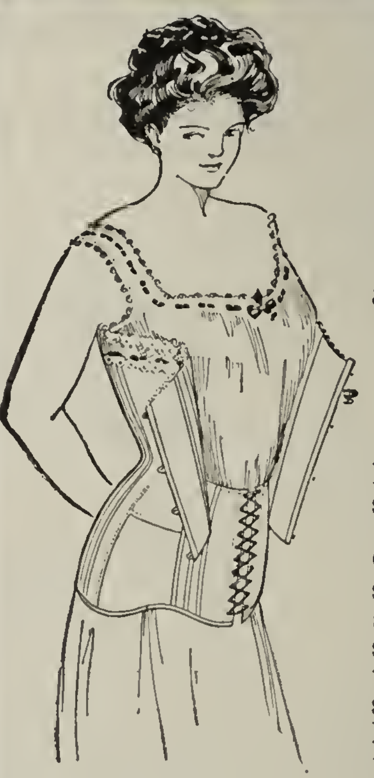

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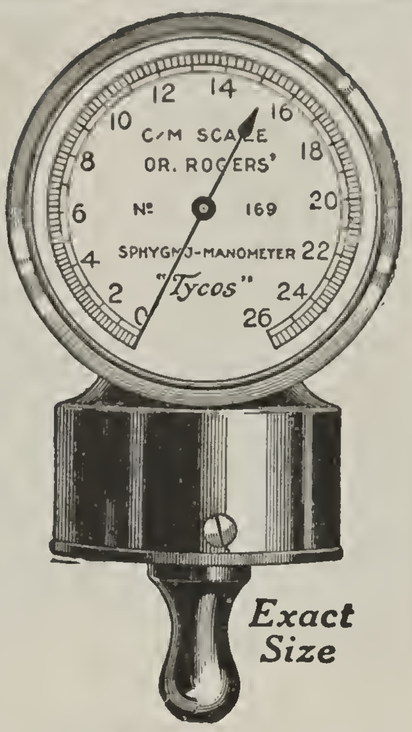

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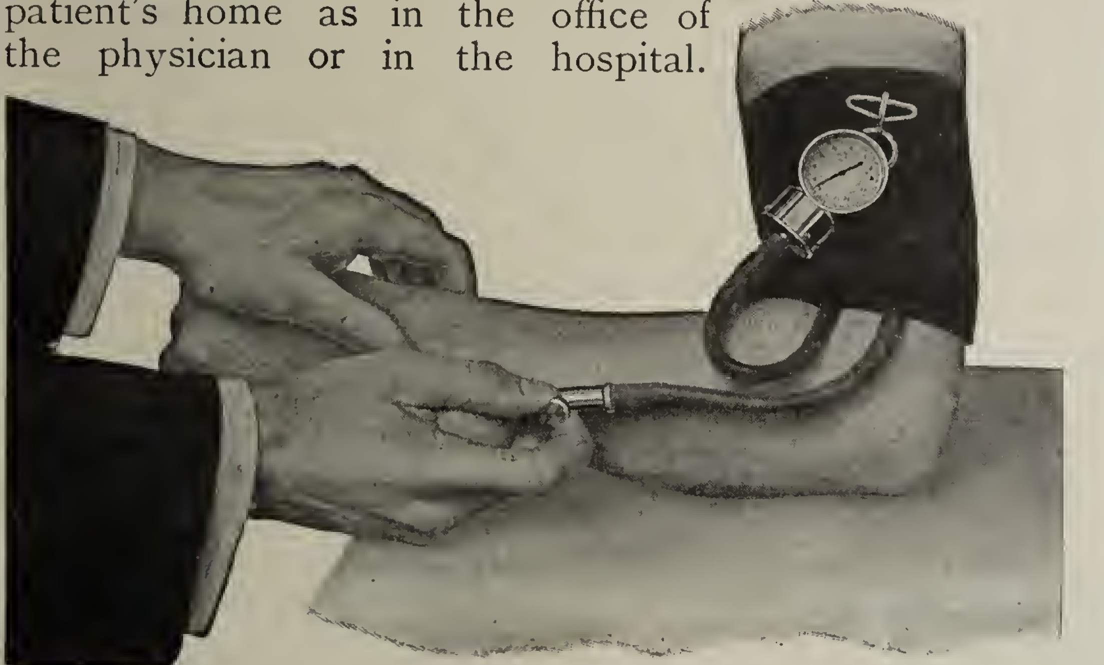

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Safety device keeps it from falling out of case
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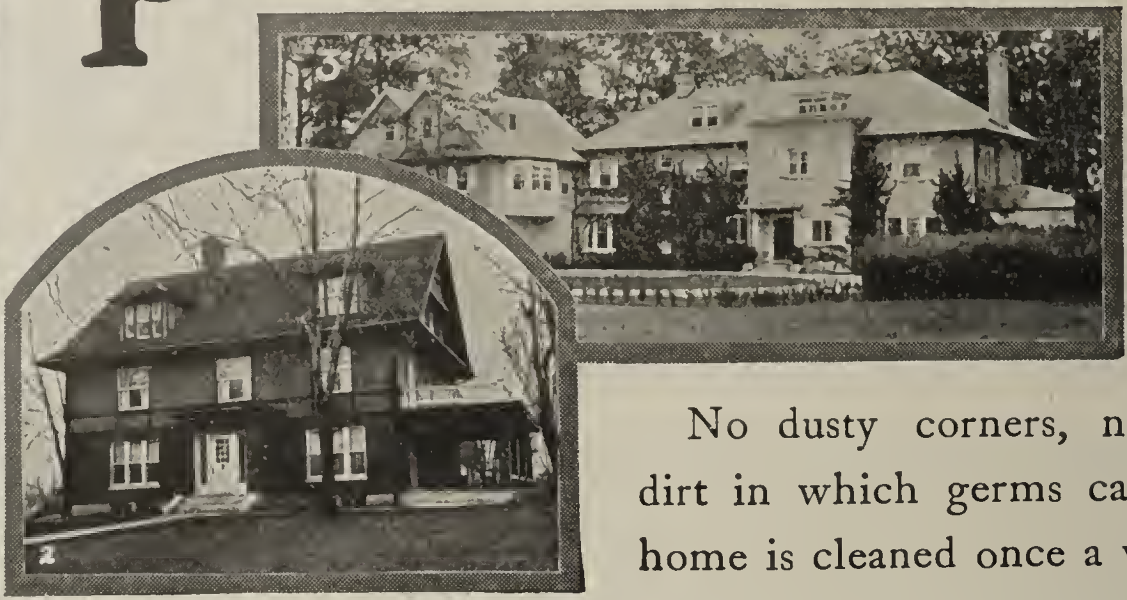

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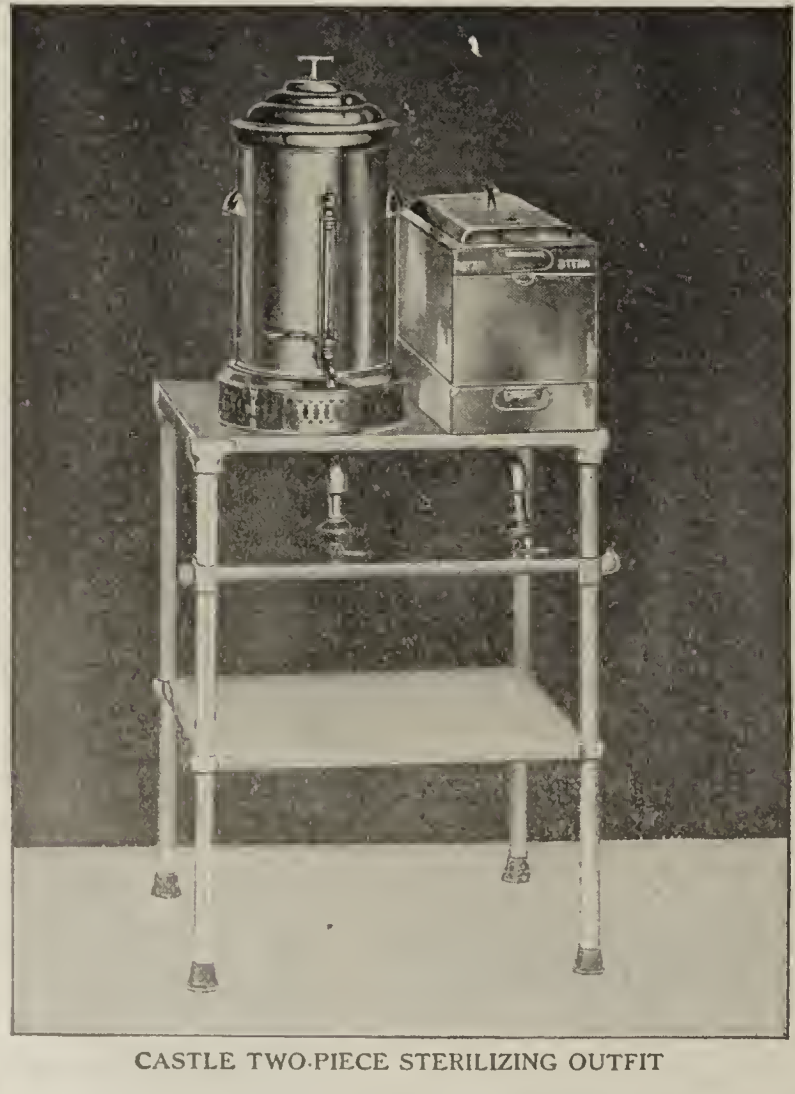

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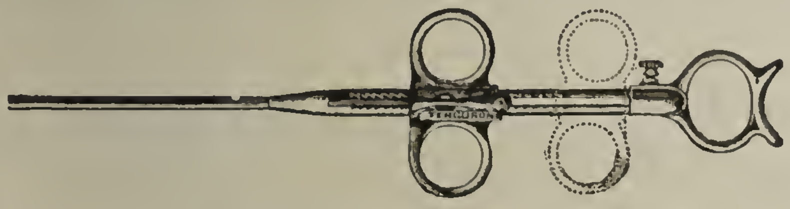

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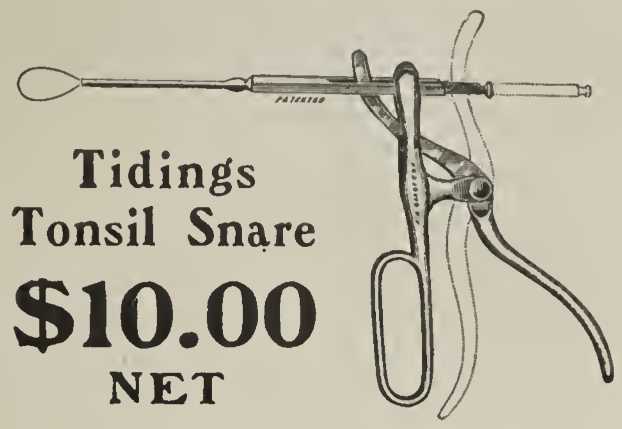

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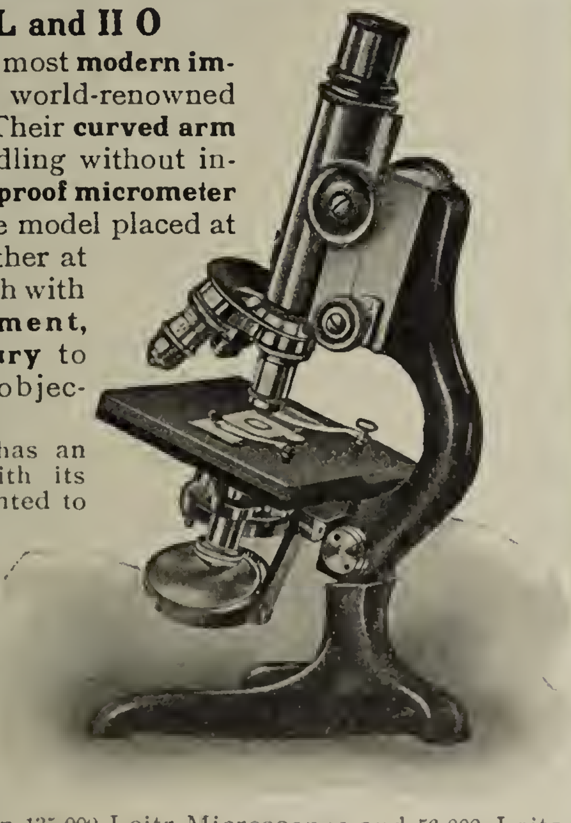

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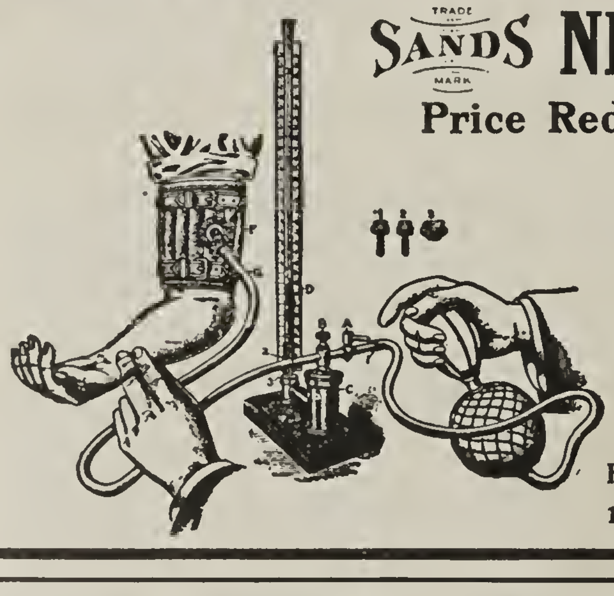

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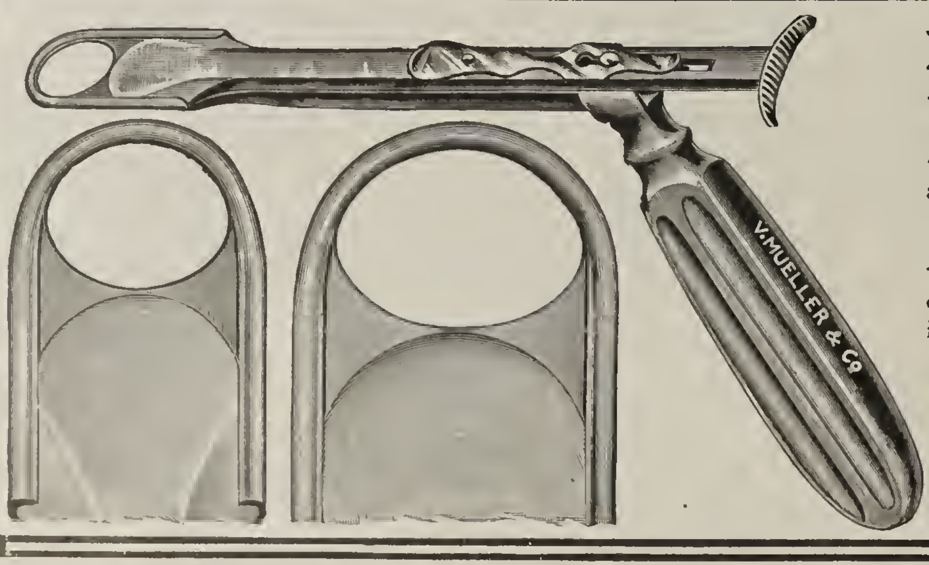

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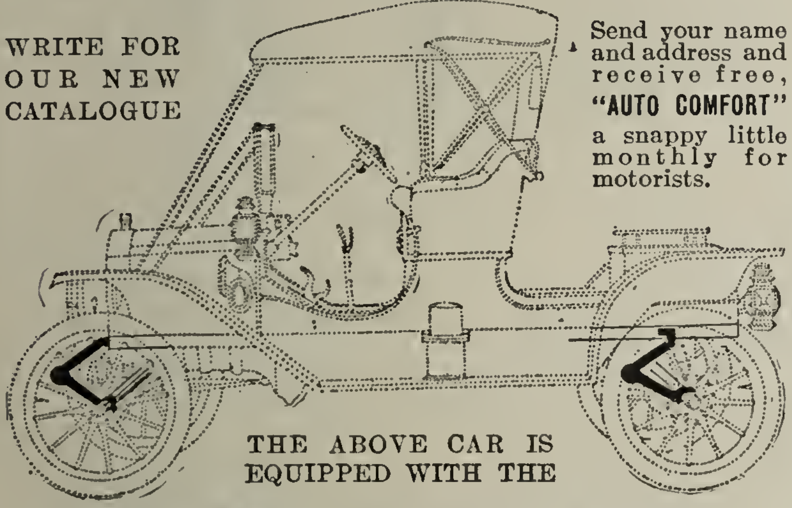

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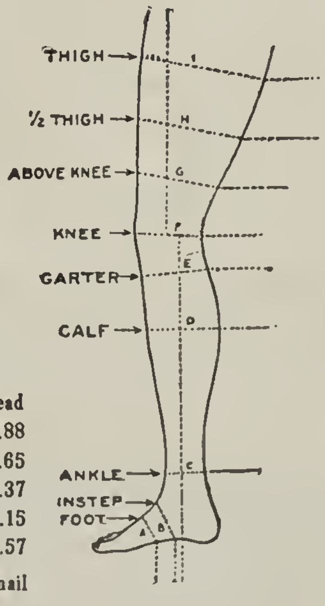

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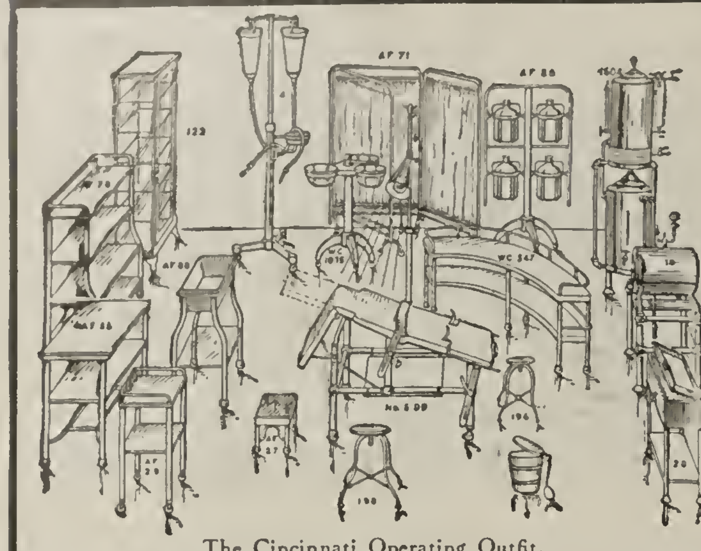

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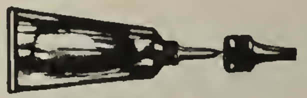

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WANTED — PARTNERSHIP IN COLORADO, Wyoming or any state bordering Canada from Michigan west, with physician having general or surgical practice with enough work for two and increasing, having hospital advantages; prefer active rather than retiring partner, of whom will purchase half of equipped business; can fully satisfy as to partnership qualifications; correspondence solicited. Add. 1062 H, % AMA.

SITUATIONS WANTED

WANTED — POSITION AS PHYSICIAN and surgeon to a railroad, mining or other company; preferably in the northwest; by a regular graduate; eighteen months' general hospital training; three years' general practice; and New York postgraduate last year; will furnish A1 references as to ability and character. Add. 1015 I, % AMA.

WANTED—PHYSICIAN, EXPERIENCED, German-American, desires position for himself and wife as traveling companions to invalid of either sex; wife, although not a graduated nurse, has had considerable experience and is fully competent to look after every want. Dr. E. Christiansen, 15 S. Hoyne Ave., Chicago, Ill. I

WANTED — A COMPETENT YOUNG woman, registered physician and graduate nurse, seeks an assistantship; prefers California; possesses trained ability, energy and excellent personality; best references; only first-class propositions will be considered. Add. 1040 I, % AMA.

WANTED—BY A REGISTERED NURSE of experience and ability, position as superintendent of small hospital or sanitarium, or assistant in larger institution; six years' experience with nervous and mental cases; would take place as superintendent of nurses. Add. Miss L. C. Catlin, 505 W. State St., Jacksonville, Ill. I

WANTED—WOMAN PHYSICIAN, GRADuate of Class A college, year 1906, with one year's experience each in general hospital work and one of the most up-to-date state hospitals for the insane, and two years in private practice, would like a salaried position. Add. 1087 I, % AMA.

WANTED — BY REGULAR PHYSICIAN with hospital experience and one year's work abroad in medicine and surgery, salaried position in California or Mexico; one with opportunity for additional practice preferred. Add. 1079 I, % AMA.

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WANTED — SITUATION AS SUPERINtendent or supervising nurse of general hospital by graduate nurse of large hospital; has had six years' experience in institutional work and postgraduate course. Add. 1078 I, % AMA.

WANTED — SITUATION AS INTERN; have four months' hospital experience; also several months' general practice; aged 23, single, of good habits, moral, willing worker; best references; speak German; care more for experience than salary; can come at once; middle west preferred. Add. 961 I, % AMA.

WANTED — BY PHYSICIAN, POSITION as anesthetist with one or more surgeons; can give refrences; am now doing general practice, but would prefer specializing. Add. 904 I, % AMA.

WANTED—PHYSICIAN, AGED 27, MARried, 15 months' hospital experience, 2½ years' experience in large mining camp, wishes contract practice or position as assistant to busy physician and surgeon; would consider institutional work; references given and required. Add. 905 I, % AMA.

WANTED — POSITION, AS ASSISTANT physician in a tuberculosis sanitarium; age 28, married (wife a graduate nurse); have had one year's experience in sanitarium work, 2½ years' general practice; willing to go to any state reciprocating with Illinois; references furnished. Add. 1024 I, % AMA.

WANTED—YOUNG MAN, AGED 30, WITH three years' experience in eye, ear, nose and throat work, would like a position with some well-established specialist; can give best of references. Add. 1074 I, % AMA.

WANTED — TEMPORARY POSITION — Locum tenens or assistantship; graduate of first-class medical school; A.B. degree; two years' hospital work; experienceed in major surgery and general practice; would connect with mining company, etc.; single, aged 28; registered in Illinois, but willing to qualify in any state. Add. Dr. E., % C. A. Jann, 6240 Rhodes Ave., Chicago. I

WANTED — POSITION AS LOCUM TENens or assistant, until Nov. 15, 1911, by a University of Minnesota graduate; northwestern states preferred. Add. Dr. Z., 3 Highland Ave., Minneapolis, Minn. I

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WANTED — SALESMEN FOR RECENTLY patented instrument as side line; nearly all doctors buy; large commission; no money required. Write, giving present employment and territory covered, T. H. Humphreys, Kissee Mills, Mo. J

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(Continued on next page)

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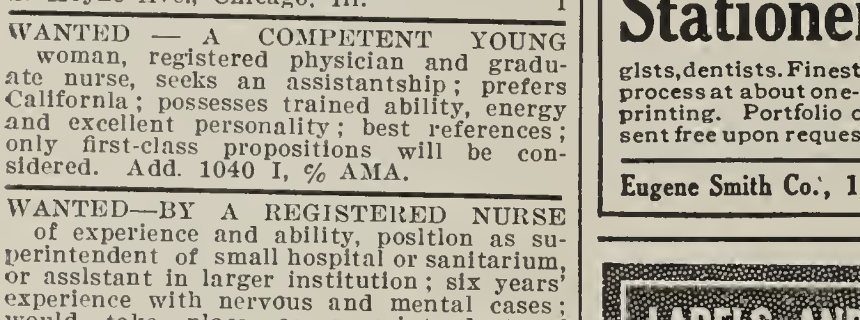

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31x3½	.... 15.00	4.00	35x4½	.... 25.00	6.25
32x3½	.... 15.00	4.25	36x4½	.... 25.00	6.50
34x3½	.... 16.00	4.25	34x5	.... 21.00	6.75
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WANTED — PHYSICIAN AND SURGEON in Western Wisconsin; town of 350; large practice; in growing agricultural country; collections good; recent graduate with one or two years' internship preferred; Scandinavian preferred but not necessary; good place for energetic man; country well settled; large territory; do not answer unless you mean business. Add. 1083 J. % AMA.

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(Continued on next page)

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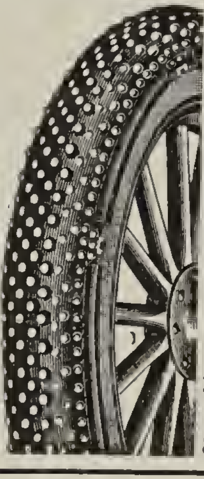

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FOR SALE—ILLINOIS—$2,000 COUNTRY practice in heart of one of the best farming and dairying districts in state; two town lots, 7-room dwelling, 3-room office, barn and outbuildings; no competition; collections first-class; rare opportunity; price, $1,500; must act quick; best of reference. Add. S. C. Vaughn, M.D., Woburn, Ill. L

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FOR SALE—ILLINOIS—WESTERN PART —$2,000 unopposed country practice; rich farming community; collections good; for $2,500, price of 7-room house, 2-room office, large barn and grounds; excellent chance for a good doctor; answer at once if you mean business. Add. 1051 L, % AMA.

FOR SALE—CENTRAL ILLINOIS—LEADing practice in town of 3,500; German and American people; competition light; collections average about $6,000 yearly; modern 7-room house, hot water heated, nicely situated; residence property alone cost $4,300; office furniture, instruments and drugs; sell all for $4,500 cash; if looking for something good, here is an excellent opportunity; good reasons for leaving; adventurers and those without cash need not reply. Add. 1088 L, % AMA.

FOR SALE—CENTRAL ILLINOIS—$2,000 cash practice free to purchaser of 6-room house and 2-room office; large barn, etc., optional; good horse and buggy, office furniture, drugs; town of 700, all American, and rich country; price, $1,200; any reasonable terms; want to quit. Add. 1100 L, % AMA.

FOR SALE — INDIANA — NORTHERN part; $3,100 practice; collections 95 per cent.; modern residence, barn, office, drugs and good equipment; well located; large territory; competition light; practice easily transferred; good town of 600; fine lake, summer resort; high school; good roads; price, $3,000; $1,000 cash; a bargain for some one; best reasons for leaving. Add. 1054 L, % AMA.

FOR SALE — LONG ISLAND — $3,500 practice; beautiful section; new 10-room house, steam heat, hot and cold water; rent, $21; fine roads; little competition; good reason for selling; horse, carriage and drugs, etc.; price, $600 cash, or properly endorsed notes. Add. 1076 L, % AMA.

FOR SALE—MARYLAND—ESTABLISHED practice; r. r. village; good roads, people, school and churches; income $1,600 to $1,800; collections excellent; thorough introduction; farming and dairying section; near national capital; 6-room house, office, barn, outbuildings; price, $4,000, $2,500 cash, balance mortgage; don't write unless you have money and mean business. Add. 1095 L, % AMA.

FOR SALE—DRUG STORE IN ST. LOUIS —An exceptionally fine opportunity for physician; high-class store doing splendid business; opportunity of a lifetime for right man. For full particulars add. P. O. Box 1524, St. Louis, Mo. L

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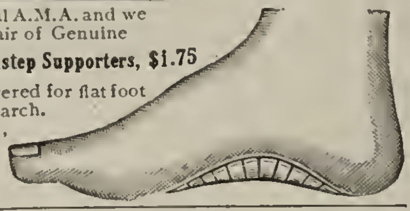

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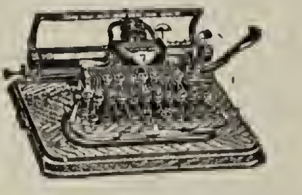

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(Continued on next page)

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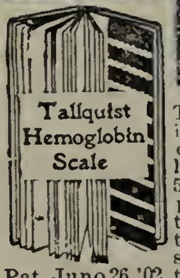

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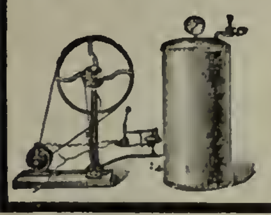

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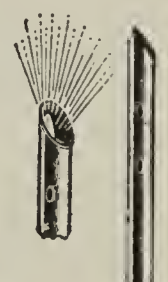

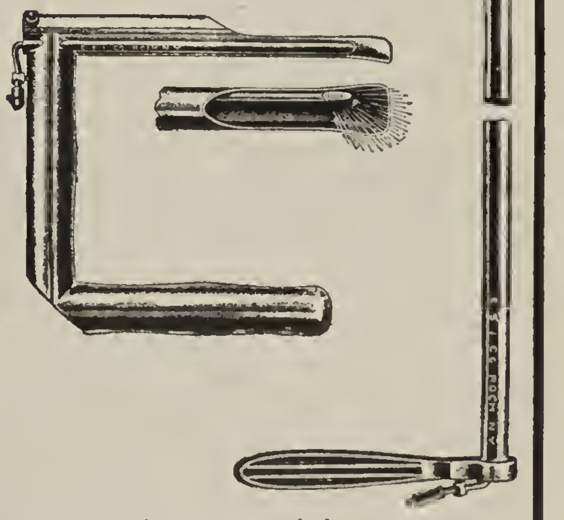

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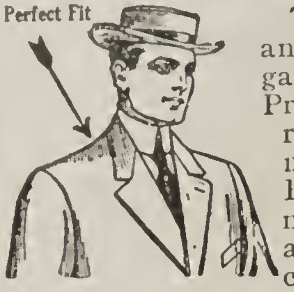

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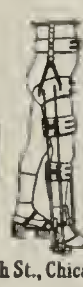

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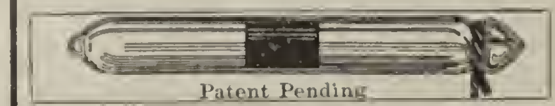

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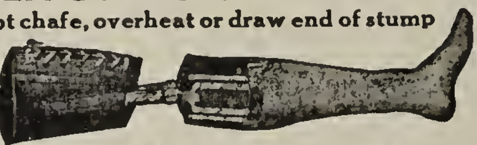

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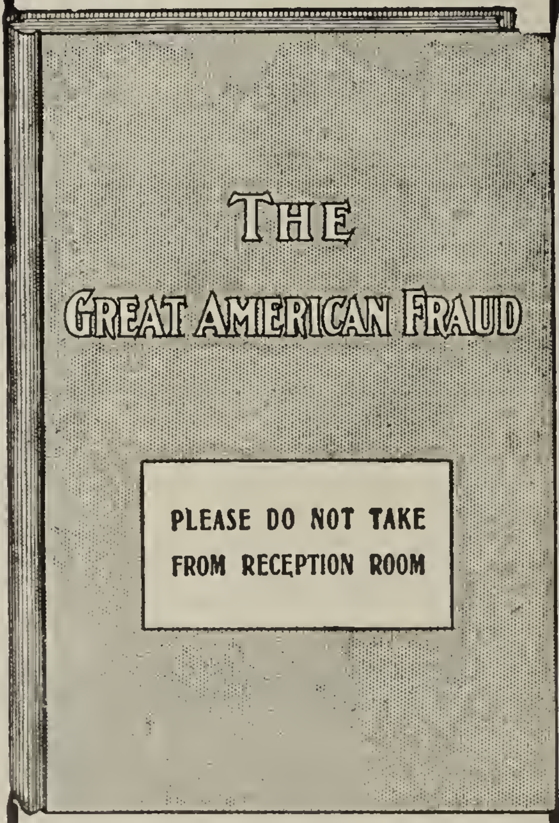
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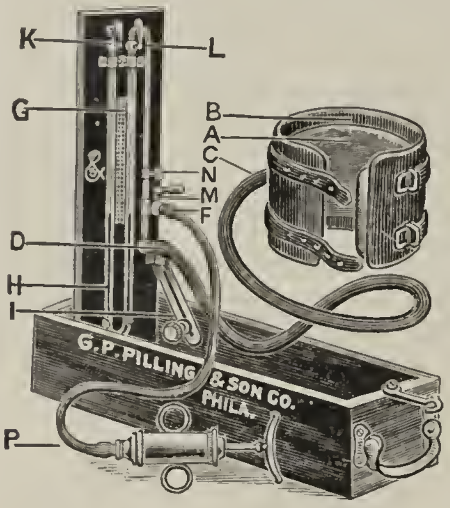
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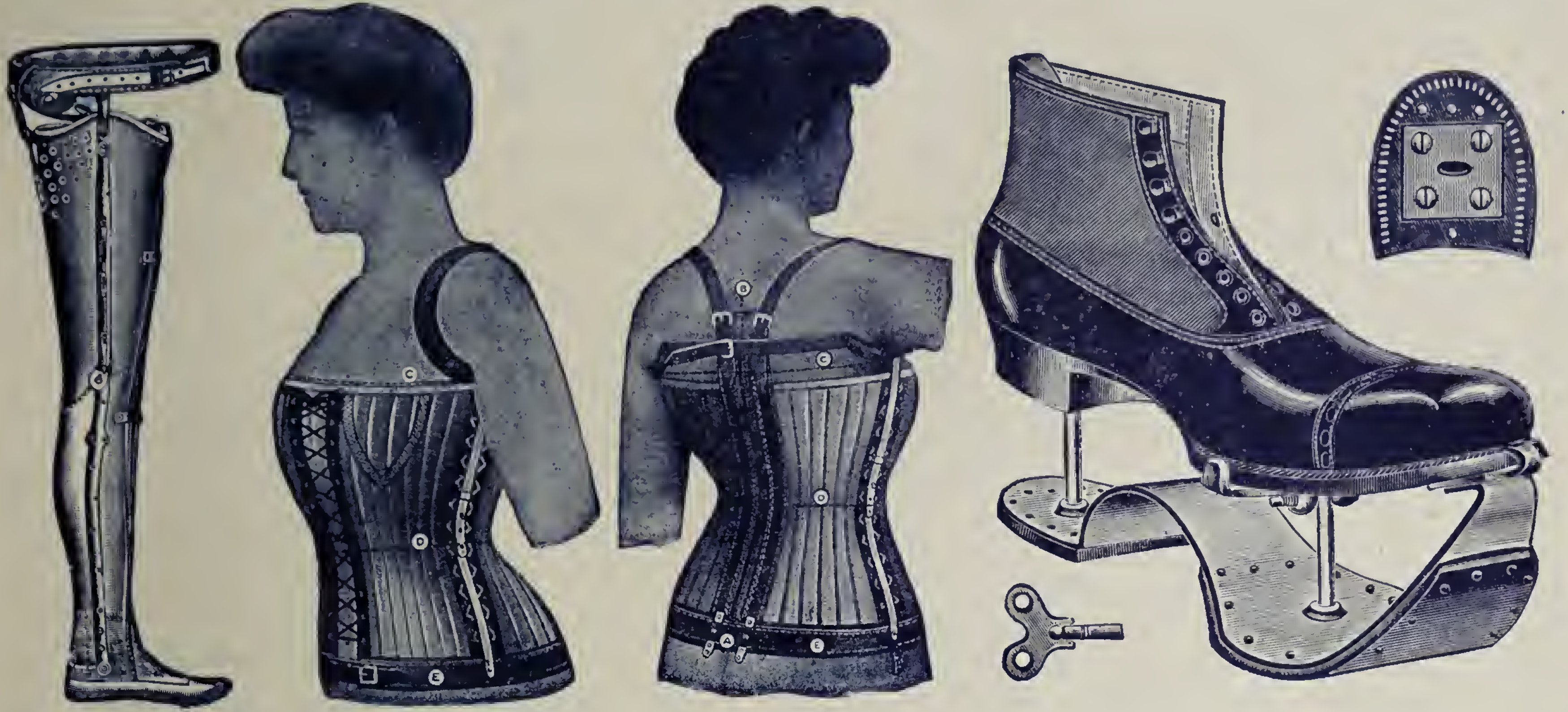

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